= WebGR =

Web services for support of growth and reproduction studies

FISH/2007/07 Lot 1

Final Report

Mar 30, 2010

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Executive summary

The objective of the WebGR project is to develop a set of web services to support the organisation and data analysis of calibration workshops, both for age and maturity information, implemented in a coherent tool installable as a website. WebGR is an open source, web browser based Intranet application and can be accessed using Firefox (http://firefox.com) version 3.0 or higher with flash plug-in version 10 or higher. Only authorized access is permitted and WebGR provides self-registration with e-mail confirmation. The website consists of a repository of images, a set of web forms to run a calibration exercise on-line, a reporting module with the most common statistical analysis and import/export modules to manage images and results.

A workshop is defined as an event that has several calibration exercises which may have distinct objectives and involve distinct experts. Each calibration exercise is a loop of individual annotations and group discussions from which a final set of annotations should arise, constituting the reference set for that calibration exercise. From the distinct sets of calibration exercises references the workshop shall choose the reference collection for the workshop. The reference annotations become the raw material of the training exercises.

Users may have distinct levels of expertise, beginner, intermediate or expert and also indicate if they produce data for stock assessment. Registered users upload images and linked metadata to the database. Workshop coordinators set up workshops and calibration exercises using selected images within the database. Users then annotate the images within a calibration exchange and the workshop coordinator or workshop manager will generate a report with images and analysis. Users compare, annotations, discuss annotations and produce results.

A Calibration exercise starts with individual annotations for a set of otoliths and ends up with group-made references during a group discussion. There is a common objective of coordinating the interpretation of the criteria used for age classification. WebGR helps to determine different and common interpretations on time.

When a workshop is complete, the statistical analysis, reporting and export functions of WebGR are used to create and disseminate reports. The results are extracted in a standard format that can be easily sent to scientists doing assessments. The usage of WebGR to carry out calibration workshops will promote the application of sound statistical analysis to design the experiment and compute workshop results. The calibrated classification of otoliths and gonads is subsequently used to compute catch-at-age matrices and maturity ogives which are important input parameters to stock assessment models, ultimately influencing fisheries management advice.

Having a uniform system to organize calibration exercises will contribute to improving the quality of the parameters based on basic fisheries data collected under the scope of the Data Collection Regulation (DCR; EC Reg. 1543/2000, EC Reg 1639/2001, EC Reg 1581/2004). The software has a creative commons license (Open Source) to promote transparency, technology transfer and peer review; and will allow the scientific community to get involved in further developments, like linkage to statistical analysis engines, or any other specific features.

The WebGR consortium provides the Internet service in http://webgr.azti.es . This server is maintained by the consortium and the service is provided freely but without any warranties.

1 – Introduction

1.1) Background

Age and maturity stage are important biological parameters used in the calculation of growth rate and spawning stock biomass. Therefore, the quality of these input data plays a vital role in management of fish resources. Although fish ageing commenced in the 1800s, it was not until the 1980s that procedures for age determination were found to be susceptible to significant errors (Hancock, 1992; Beamish and MacFarlane, 1983). Errors in age estimation can be caused by accuracy and/or precision issues (Campana, 2001) and they have to be detected and quantified. Accuracy refers to the closeness between measurements and their true value. Precision is defined as the variability in the age readings. Within and between age reading laboratories there will inevitably be disagreements between age readers. Within age reading laboratories re-reading control collections at regular time intervals help to ensure consistency between readers and over time, while agreed and validated collections assist age readers to calibrate their age reading method.

Maintaining consistency within and among interpreters and laboratories implicated in assessment of fish stocks is a continuous and never-ending process that needs quality control monitoring. This is possible through calibration exercises and workshops on calcified structures to estimate precision and relative/absolute bias in the age estimations from readers based in different ageing laboratories.

Over the past decade, regular calibration exercises and workshops focusing on fish ageing have been carried out around the world (Hancock 1992, Paul 1992; Eltink, G., 1994, 1997, Morales Nin et al 2002, CARE: Committee of Age Reading Experts). In Europe, Concerted Actions (i.e. EFAN and TACADAR) supported by European Commission from 1997 to 2006, aimed to develop, conduct and coordinate collaborative research (Appelberg et al., 2005) in order to ensure that quality control of age estimation becomes a routine process. International advisory bodies such as ICES have also recognized the importance of age estimation. Furthermore, there are several European regulations which require age and maturity data, such as the Data Collection Regulation (DCR), the Water Framework Directive (WFD) and the Regulations concerning biodiversity. The DCR recommends that age reading and maturity workshops become mandatory to ensure the quality of data used in the analytical assessment of fish stocks. The scientific role of the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS) strengthens this purpose (ICES, CM 2008/ACOM:29). Thus scientists who read otoliths to estimate the ages of individual fish, have carried out calibration exercises and workshops for many years to fine-tune their age interpretations of fish within individual stocks or species (EFAN Final Report and TACADAR Final Report; Newton, 1998; ICES ,1997, 1999, 2004, 2006, 2007a, 2008a,b,c;, 2010a,b; Piñeiro et al., 2009). Calibration workshops have also been recently extended to cover the identification of fish gonad maturity stages (ICES 2007b)

In recent years, the combination of digital images of otoliths and gonads available in the laboratories and development of specific software, together with Internet technologies as a tool for communication have increased the potential to greatly improve both training and calibration exercises. Compared to all previous effort dedicated to conduct calibration exercises, the use of these new services and facilities that minimize the time consumed and the economical costs represents a big change.

A specific networking site such as the Web Service on Growth and Reproduction, which is freely available, will allow scientists from different laboratories to stay connected and interact on a specific field. The implementation of such web services was reclaimed by the Scientific community (PGCCDBS, 2006) to i) allow better organization of workshops, in particular for those not experienced on these exercises, ii) promote cooperation between scientists during the workshop and

between workshops and iii) promote training of both experienced and inexperienced scientists.

1.2) Objectives

The objective of WebGR is to develop web services to help fisheries scientists to organize calibration workshops for otoliths and gonads classification, and provide means to analyze the results of such exercises.

These services will be bundled in a single software package distributed under an Open Source license. The final product will be an Open Source software package that can be installed on a web server together with a technical report and a user's manual. Having installed WebGR, the users will be able to create their own websites with the common features to support calibration exercises, like Workshops on Age Reading and Workshops on Maturity Staging; namely, store images, annotate images by several scientists, run statistical analyses on the results and produce reports.

1.3) Overview

WebGR is constituted by a database and a web application to access the database. The database has been developed in order to contain and administer images and information on growth and reproduction structures (otoliths and gonads) to support international exchanges and workshops conducted on age and maturity determination.

The most common exercises carried out during the aforementioned workshops are counting growth rings in otoliths (Figure 1), or classifying gonads (Figure 2). WebGR provides a web application that makes such tasks easy and fast. Practically, once a Workshop has been defined, individual scientists upload images and the relevant information about the individual. Images in the WebGR repository are grouped or classified by workshop (species, date, area, etc.) and the images selected for inclusion in a workshop are accessible to all the participants, within the calibration exercises set for that workshop. Several scientists annotate each image. The annotations include fields for the classification (age x or maturity stage y, etc.), observations, scientist identity, etc. This information is stored in a database so that the statistical analysis of the results can be performed and/or the results exported.

Figure 1: Annotating an otolith in WebGR

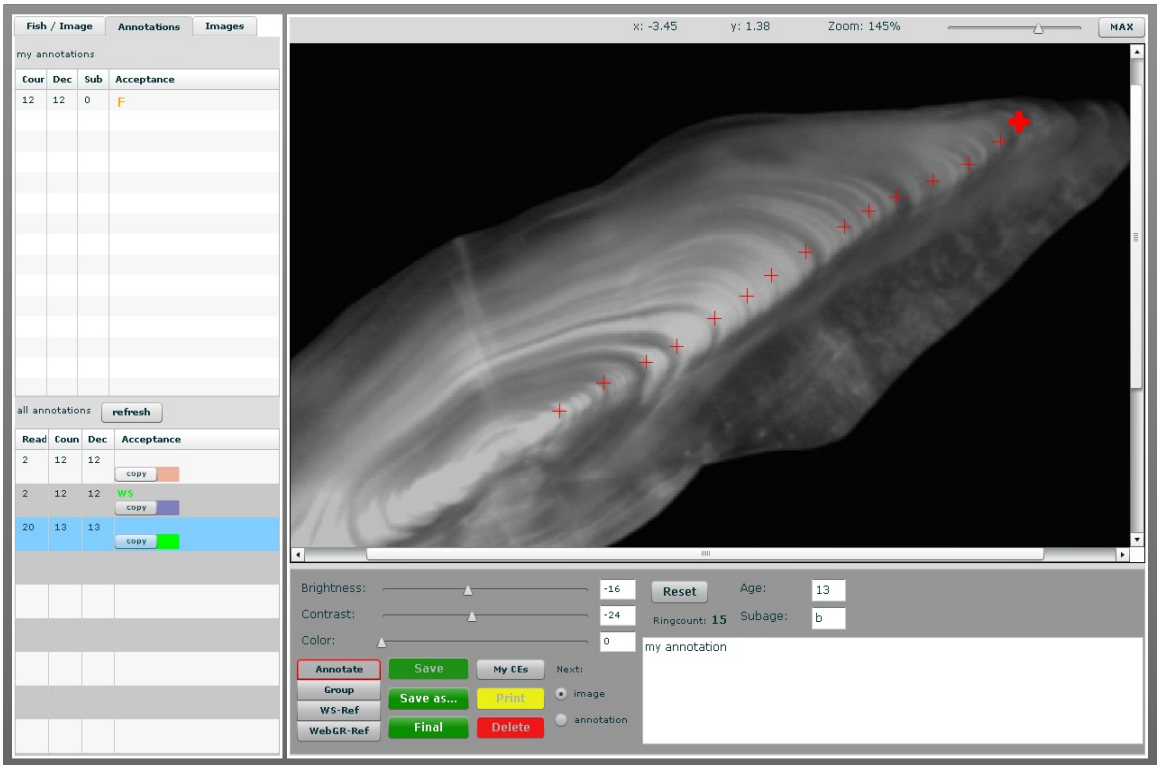

Figure 2: Annotating a gonad in WebGR

WebGR can be used as a tool for training purposes, such as browsing images, reading experts' annotations and simulating a calibration exercise. Through WebGR inexperienced marine biologists can read otoliths or gonads and compare their results with the experts'.

WebGR can be used to manage collections of images and can become an important repository of processed biological structures with clear advantages for the scientific community.

The use of Open Source software will allow the scientific community to get involved in further developments and makes all images and annotations public. There is considerable potential for alternative applications, *i.e.* other processes where data are derived from human observations, such fish egg or larvae identification and underwater TV shellfish surveys.

WebGR is potentially part of a solution to the persistent problem of uncertainty in biological data.

1.4) Tender consortium

The project was executed by a Consortium of European Institutions, covering all coastal areas (Figure 3), with distinct skills and background relevant to WebGR's development. Members are Laboratório Nacional de Recursos Biológicos – IPIMAR (Portugal) – Consortium leader, The Agri-Food & Biosciences Institute (UK), AZTI Foundation (Spain), Federal Agency for Agriculture and Food (Germany), Johann Heinrich von Thünen Institute (Germany), Hellenic Centre for Marine Research (Greece), Instituto Español de Oceanografia (Spain), Institut français de recherche pour l'exploitation de la mer (France), Wageningen IMARES (The Netherlands), Institute of Marine Research (Norway), Institute of Marine Research (Sweden) and Italian Society for Marine Biology (Italy).

Figure 3: Consortium members

During the lifespan of the project several scientists and developers were involved both at the Design Meeting held in Lisbon and in the Training Workshop held in Athens: Ernesto Jardim (IPIMAR, chair), William McCurdy (AFBI), Iñaki Quincoces (AZTI), Holger Friedrich (BLE), Norman Rauth (BLE), Ingmar Pforr (BLE), Ulrich Berth (vTI), Aikaterini Anastasopoulou (HCMR), Vassilopoulou Vassiliki (HCMR), Chrissi Mytilineou (HCMR), Ioannis Dokos (HCMR), Eugenia Lefkaditou (HCMR) (Not a consortium member, participated only in the Workshop), Carmen Piñeiro (IEO), Kélig Mahé (IFREMER), Erlend Moksness (IMR-NO), Rajlie Sjoberg (IMR-SE), Francesca Vitale (IMR-SE), Matteo Murenu (SIBM), Ingeborg de Boois (IMARES), Petter Fossum (IMR-NO) (Participated only in the Workshop), Mark Etherton (CEFAS) (Not a consortium member, participated only in the Workshop).

1.5) How to train in 4 steps

The following text demonstrates how to run a training exercise quickly and can be used to run a quick test on WebGR.

Step 1) Start new training calibration exercise

Go to the menu and press “Start new training calibration exercise”, choose the expertise you're looking for from the menu and from the list of image sets provided press “Create training calibration exercise“.

Step 2) Annotate images

After step 1 one should be in the annotation interface ready to annotate the first figure in the list. One may choose to change image on the tab “Images” located on the left side of the screen. Use the mouse to identify rings and set the age chosen in the box. Save your annotations and when finished press the “Finalize” button.

Step 3) Compare your readings

In the “Compare” tab on the left side of the screen one will see how many reference annotations exist in the system. Choose whichever you'd like to compare with and the marks will be displayed on the image overlaid with yours.

Step 4) Export your work

At last one may export the image(s) with one's annotations and the reference annotation chosen, or may export the statistics regarding the exercise executed.

1.6) Dissemination

Dissemination effort were carried out targeting the fisheries scientific community by presenting and demonstrating WebGR in several conferences and meetings. The WebGR team as participated with oral presentations and posters in:

- Planning Group on Commercial Catches, Discards and Biological Sampling, 2-6 March 2009, Montpellier, France. (http://www.ices.dk/reports/ACOM/2009/PGCCDBS/PGCCDBS 2009 .pdf)
- MEDITS meeting Limassol (Cyprus), 6-7 April 2009.
- The Fourth International Symposium on Fish Otolith Research and Application, Monterey, 23-28 August 2009. (https://tundra.iphc.washington.edu/ios/)
- ICES Annual Science Conference, Berlin, 21-25 September 2009. (http://www.ices.dk/iceswork/asc/2009/)
- Workshop on Age Estimation of European Hake, Vigo, 9-13 November 2009
- Center for age analysis’s meeting, Lysekil (Sweden), 2 December 2009
- AFBI Fisheries and Aquatic Ecosystems Branch, ‘open to all’ lunch time seminar series; WebGR – A Solid Foundation for Fish Stock Assessments, Belfast, 03 December 2009.
- IPIMAR internal research meetings, Lisbon, 14 January 2010
- Planning Group on Commercial Catches, Discards and Biological Sampling, 1-5 March 2010, Lisbon, Portugal.

1.7) Future actions

WebGR is finalized with regards to the objectives set by the tender. However, there have been several requests to implement new features in WebGR as well as extend it to other subjects. It is the intention of the Consortium to keep working on the maintenance and improvement of WebGR. In particular:

- A small budget was allocated to sort out any bugs that may be found during 2010.
- A small budget was allocated to implement a procedure to measure the distance between rings.
- A R package is being designed to implement statistical analysis of workshop results.

A strong effort will be made to promote WebGR to the scientific community (see section 2.2).

2 Using WebGR

2.1) WebGR requirements

Application

To work properly with WebGR Firefox (version 3.0 onwards) Adobe Flash Player (version 9.0 onwards) is required. Other web browsers may not display properly and some features may not work at all. For proper operation of *e.g.* alert boxes, Javascript is recommended.

Server

To install WebGR it is necessary to have a operating system that supports Apache (>= 2.2.11), PHP (>= 5.2.8) and MySQL (>= 5.1.30 Community Server), *e.g.* Windows or Linux. For administration phpMyAdmin 3.1.1 is required, and for account confirmation e-mails a mail server with mail transport possible over SMTP, Port 25. The Apache web server must be configured with mod_rewrite and a virtual host.

The server requires about 200 Mbytes while the WebGR application itself requires about 50 MBytes. The required drive space depends on the number and size of images you want to store and use. Calculate image volume twice because a working copy and thumbnail is made.

2.2) Service for the scientific community

WebGR targets the scientific community dealing with marine biology research in the areas of growth and reproduction, in particular those based in Europe. However as an open source project everyone can download the software, install and use it.

There are two main usages foreseen by the Consortium, (i) local installations in Institutes to manage national collections of photographs and train technical personnel and scientists, and (ii) Internet wide installations to support large international calibration workshops. Regarding the first the code and documentation are available and any doubts should be forward to the Consortium. For the second the Consortium decided to provide the service and acquired a server where WebGR was installed.

The server is located in http://webgr.azti.es. Before using the service scientists will have to register. In the case of workshop coordinators the user will have to ask the system administrator to upgrade the account to workshop manager before starting a workshop. See section 1.4 for a quick example.

An extensive use of on-line tools is being made, in particular mailing lists, file sharing, on-line documentation editing and video. The WebGR site can be found in http://webgr.berlios.de where on-line source of information for users and developers and software distributions can be found.

The Consortium plans to inform all RFMOs about these services in order to promote WebGR.

2.3) Using WebGR for calibration workshops

Using WebGR

The user's manual (Annex I) introduces users to the concept of WebGR with guidance on the quick start training exercise, the training calibration exercise and making an annotation. It also introduces users to the facilities for annotating images, for comparing annotations with other readers' annotations and it provides a function to search for calibration exercises, fishes, images or users and workshops.

Calibration Workshop Design

The WebGR workshop paradigm is based on the hierarchical structure of the workshop, where objectives like age or gonad calibration of several stocks may exist simultaneously and require the comparison of readers at distinct levels (*e.g.* stock assessment input providers). Each calibration exercise is organized in a sequence of individual and group classifications that can be carried out for as long as necessary. In some cases, the first individual exercise is sufficient. In other cases, a workshop may require several group discussions followed by individual exercises to ensure correct interpretation. During an age calibration workshop for example, the participants may be required to read the ages of 5 or 6 sets of images, each set having been designed to identify or resolve a specific problem relating to the age reading of that particular species and/or fish stock.

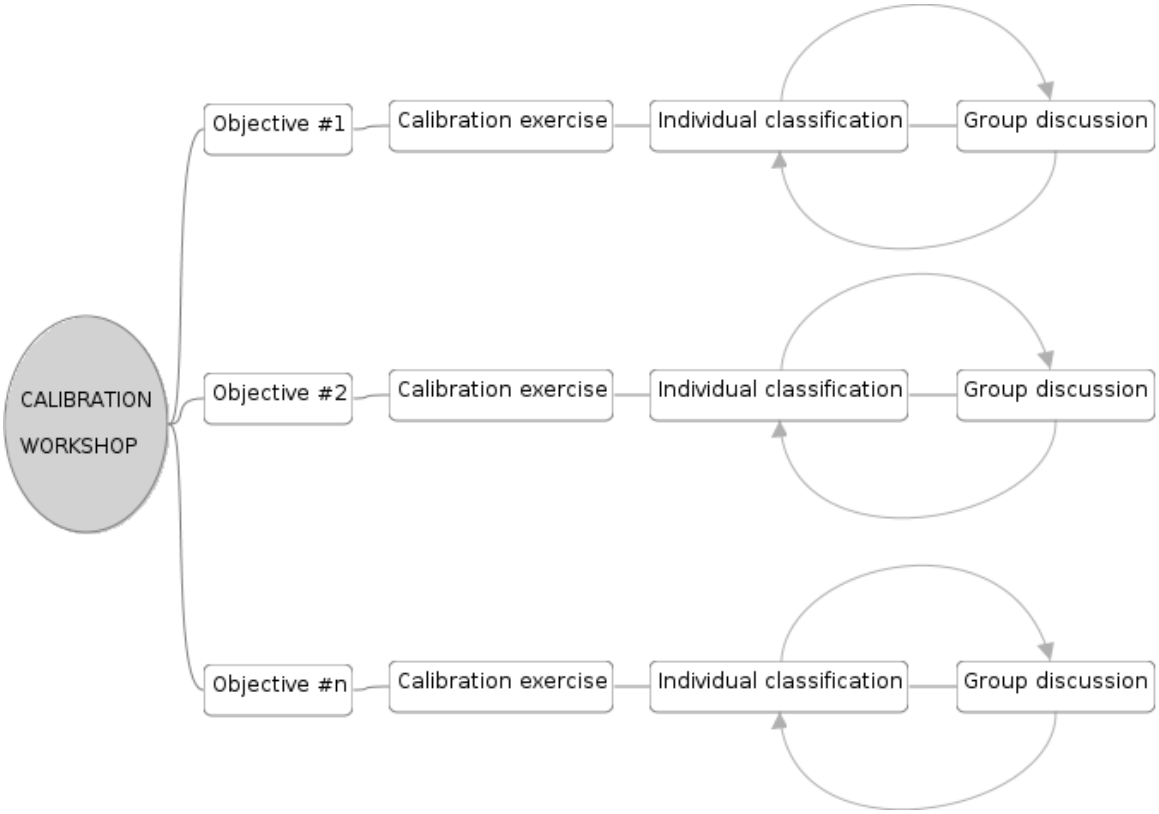

Figure 4: Calibration Workshop Design

Training Exercise

WebGR allows the user to make trial or provisional annotations to assist in the interpretation of the otolith. The crosses can be edited (add crosses or remove them by scrolling over the crosses and clicking). After this the user only has to click the ‘Update’-button to update the annotation. After creating a new annotation the user is able to announce it to a group so that all other users can see and discuss it.

The user clicks ‘Finalize’ to announce the annotation (Figure 5). Clicking ‘Save’ allows the user to see his/her first annotation in the list. With clicking on the annotation the user can reload it in his/her workspace.

Figure 5: Announce the annotation

The ‘Save’ button creates a new annotation (Figure 6) and “update” overwrites the current annotation. To compare and copy other reader’s annotations, the user first clicks the annotation which he/she wants to compare. To compare select the tab ‘Compare’(Figure 7).

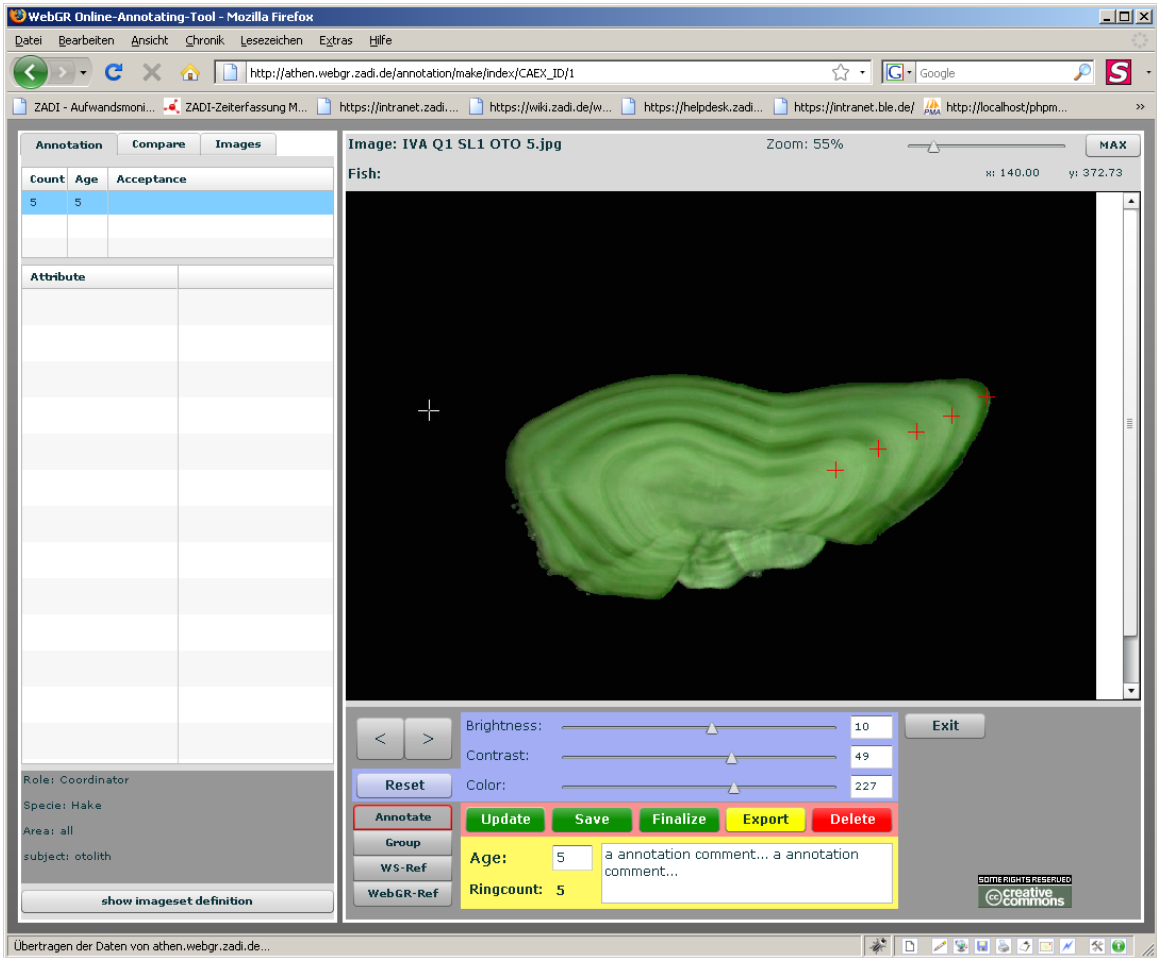

Figure 6: Saved annotation

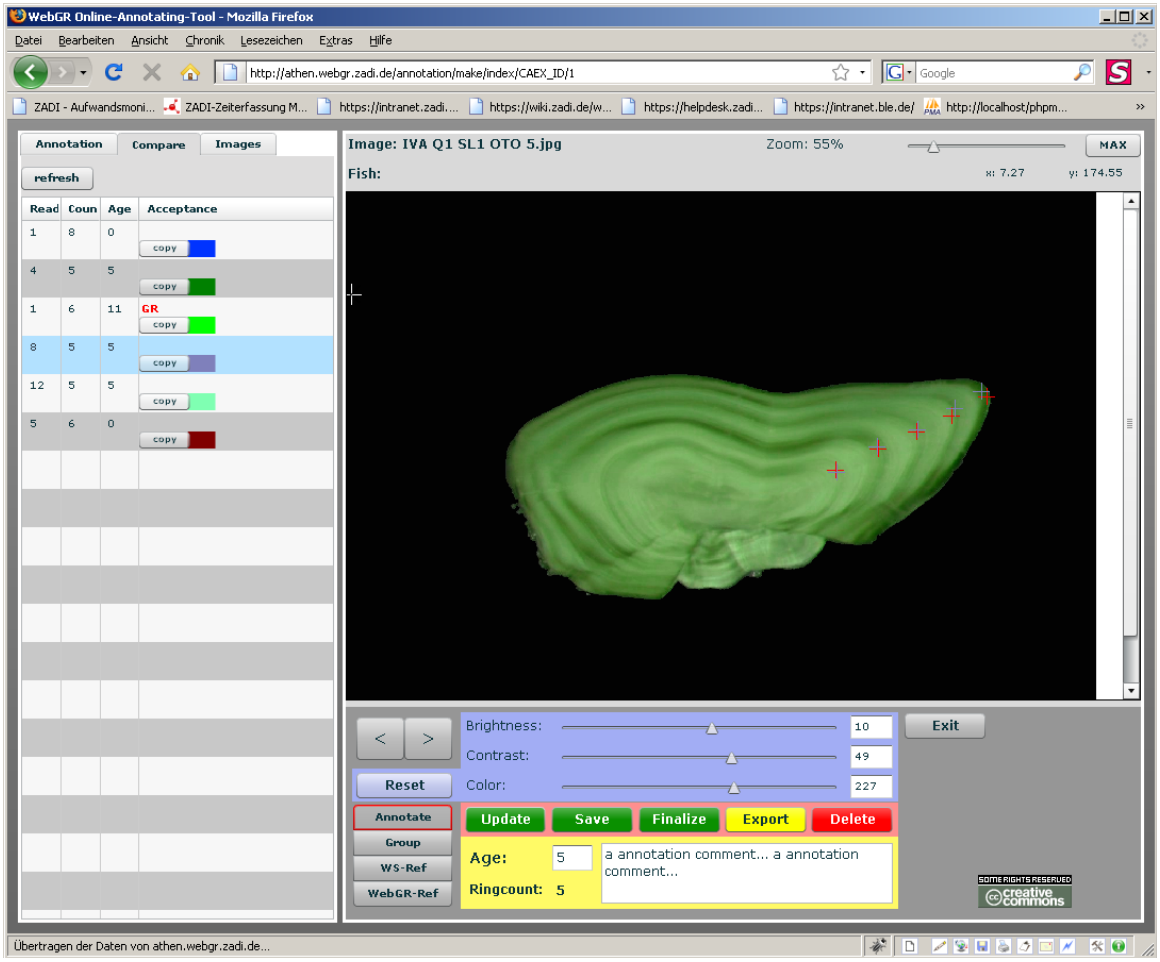

Figure 7: Compare annotations

Users can also copy an annotation from any other group member and work on it by clicking the 'copy' button inside the 'all annotation' list. The user can save it as his/her own annotation without deleting the original one. Annotations can also be browsed. Click 'Browse annotations' to load a set of images with annotations into the annotation interface. You can only show images and annotations but you can not create new annotations or change existing annotations.

Setting Up a Calibration Workshop

The Workshop manager section of this report describes how to start an account and how to start a workshop. The workshop coordinator must ask WebGR administration to upgrade his/her account to workshop manager. Individual scientists will upload images and metadata that are representative of the materials used for stock assessment, as these are encountered in day to day work and over time the WebGR database will become amply populated with the images required to run calibration workshops on a wide range of species. In the interim, workshop coordinators can continue to use existing network contacts to invite participants who may be interested in a particular workshop, to upload relevant selections of images and metadata prior to the commencement of the workshop. Local institutes need to be encouraged to upload images on a regular basis to maintain the effectiveness of the WebGR database. The workshop coordinator will select an appropriate number of the uploaded images (species, date, area, etc.), for inclusion in a workshop and choose a sub-set of these images as the first calibration exercise within the workshop. Afterward this calibration exercise will be made available to the invited participants.

Age calibration workshop coordinators currently use the list of age readers in the European Age

Readers Forum (EARF), to invite age readers who work on the designated combination of species and area. The EARF is currently hosted on the ICES Sharepoint site. http://groupnet.ices.dk/AgeForum/default.aspx. The users' manual (Annex I - User's manual) provide detailed instructions on the upload of individual images, batches of images and metadata. Currently graphic formats GIF, JPG, PNG are supported. In every case the original uploaded file will be stored on the file system of the server. Due to restricted processing and network capabilities on the local clients, the image dimension is in each case shrunk to 1.3 mega pixels. Annotations are stored as XY coordinates and displayed on top and the original image remains unaltered. The user's manual describes the process of IrfanView software (v3.98), to convert files into other image formats. The original files, e.g. TIFF-files, will not be overwritten. IrfanView is freeware for non-commercial use: http://www.irfanview.net/. IrfanView also runs under Linux (a free Unix-type operating system developed under the GNU General Public License), with Wine (free software - GNU Lesser General Public License).

Protocols for Age Structure or Gonad Interpretation

Protocols are a vitally important part of this scientific work and provide guidance based on the best available knowledge. A protocol is used to define the processing and goal of a calibration exercise. A protocol has a descriptive name. Users can see and call this protocol file in their calibration exercise list. Errors in classification can be caused by failure to follow the agreed protocol or using a protocol that has not been validated. The user's manual describes how to edit and upload protocols.

Joining a Calibration Workshop

Every registered user has 'reader' status and this enables users to be invited to join a calibration workshop. Participants must also have indicated their expertise (e.g. which species/stocks and age reading or maturity) before they can be invited to join a calibration workshop. New users simply register on-line by selecting their institute from the pull down list and providing their e-mail address. The system sends an e-mail to the given e-mail address and the participant clicks the link inside the mail to provide confirmation. After the confirmation, clicking any function on the menu, e.g. 'My user data' (see user's manual) permits log-in into WebGR with the user's new account. Users can check their personal expertise there. The data manager or administrator can add expertise at any time and will do so in order to create new calibration exercises for new expertise. The user's manual provides guidance on editing expertise. The expertise is a combination of area, species and type of structure, *e.g.* gonad or otoliths. Three stages are available for each expertise: Beginner, Intermediate and Expert. The expertise also indicates if the user is involved in stock assessment or contributes data (ages, maturity stages) for stock assessment for the indicated species and area.

Participating in a Calibration Workshop

Searching for 'My workshops' (see user's manual) provides a list workshops that the individual users is participating in and clicking on 'My Calibration exercises'(see user's manual) displays a list with all calibration exercises the user is invited to participate in, or all the training exercises previously started by that user. The user selects the appropriate workshop or calibration exercise and clicks 'annotate' to start the annotation interface. The user's manual provides detailed guidance on annotations. The Workshop manager (Start new workshop) section of the user manual shows how to start a calibration exercise and how to annotate an image. The user selects the first image (e.g. otolith or gonad) in the calibration exercise and annotates the image.

Search Facility

The search function provides a diverse range of searches depending on the search attributes e.g. calibration exercises, fish, images or users. Detailed guidance is provided in the user's manual. In some search results one and the same object can be found multiple times. This results in multi-selected or multi-checked attributes, *e.g.* a fish sample could have many examining institutes, where the sample has been used in an otolith exchange. Users can search a certain fish or a group of fishes by one ore more attributes (*e.g.* physical attributes like length and weight). In an image search the search filter contains fish and image attributes, so there are more possibilities to specify the search. In addition to a fish search the user can filter attributes like resolution, black/white or color images. It is possible to search for a special expertise to get a list of the users with the required knowledge.

In most cases result lists from successful searches can be ordered by clicking the heading of the attribute. In some columns of the dataset the data is clickable when presented as a link, *e.g.* written in blue or purple. Before and after the result rows actions like edit or delete can be shown as clickable links.

Figure 8 shows the result list for calibration exercises. The first column shows the available actions that depend on the object and the authorization in WebGR. The shown workshop's name is clickable and leads the user to the workshop details. The protocol is also clickable and opens the protocol file.

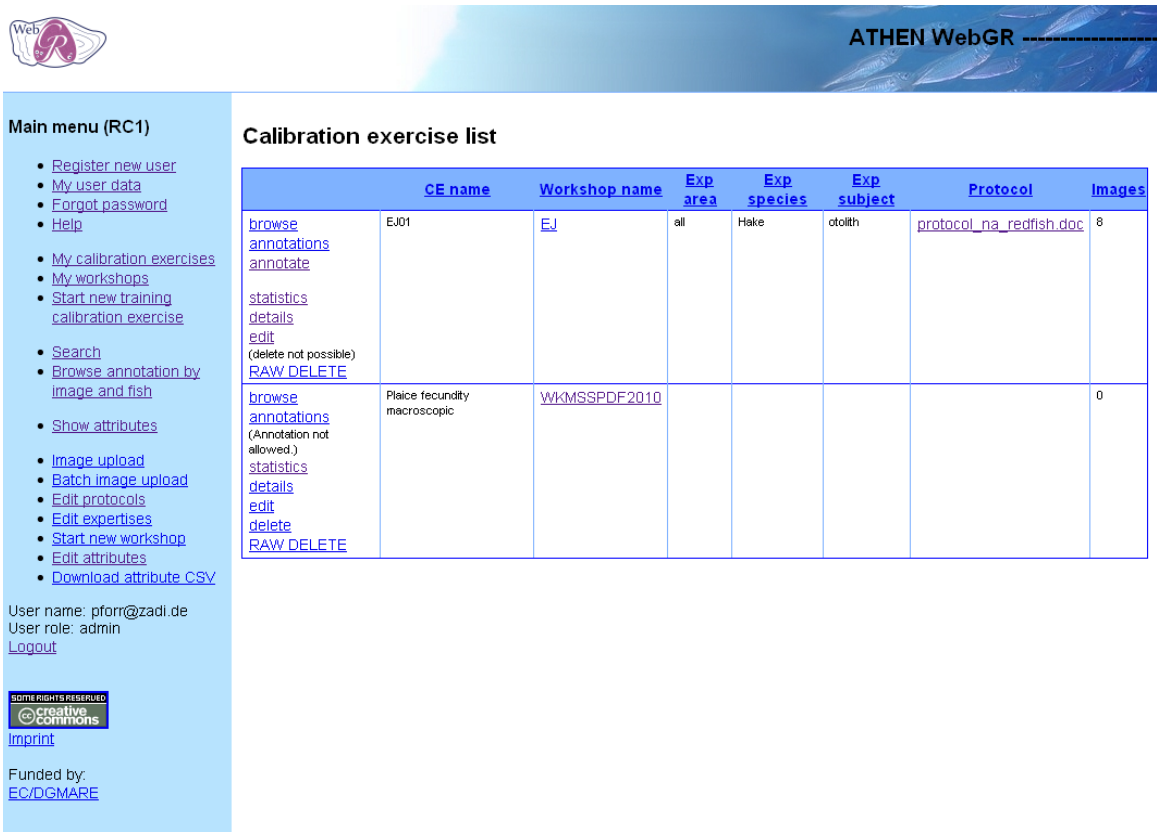

Figure 8: Search result list for calibration exercises

Figure 9 shows the result list for images. The thumbnail is clickable, too, and opens the image in a new tab of the browser. With the check boxes one can select certain objects and execute an action for all selected objects like adding the users to the participants list of a calibration exercise (Figure 10).

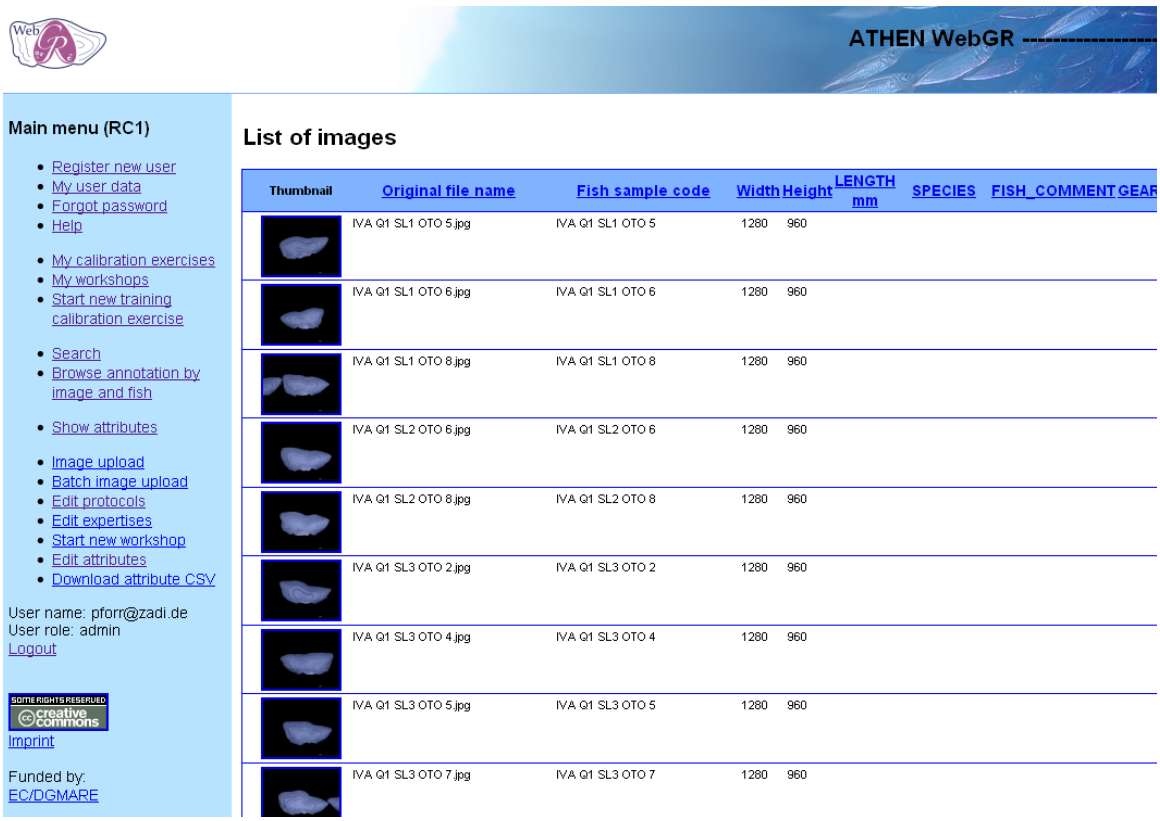

Figure 9: Search result list for images

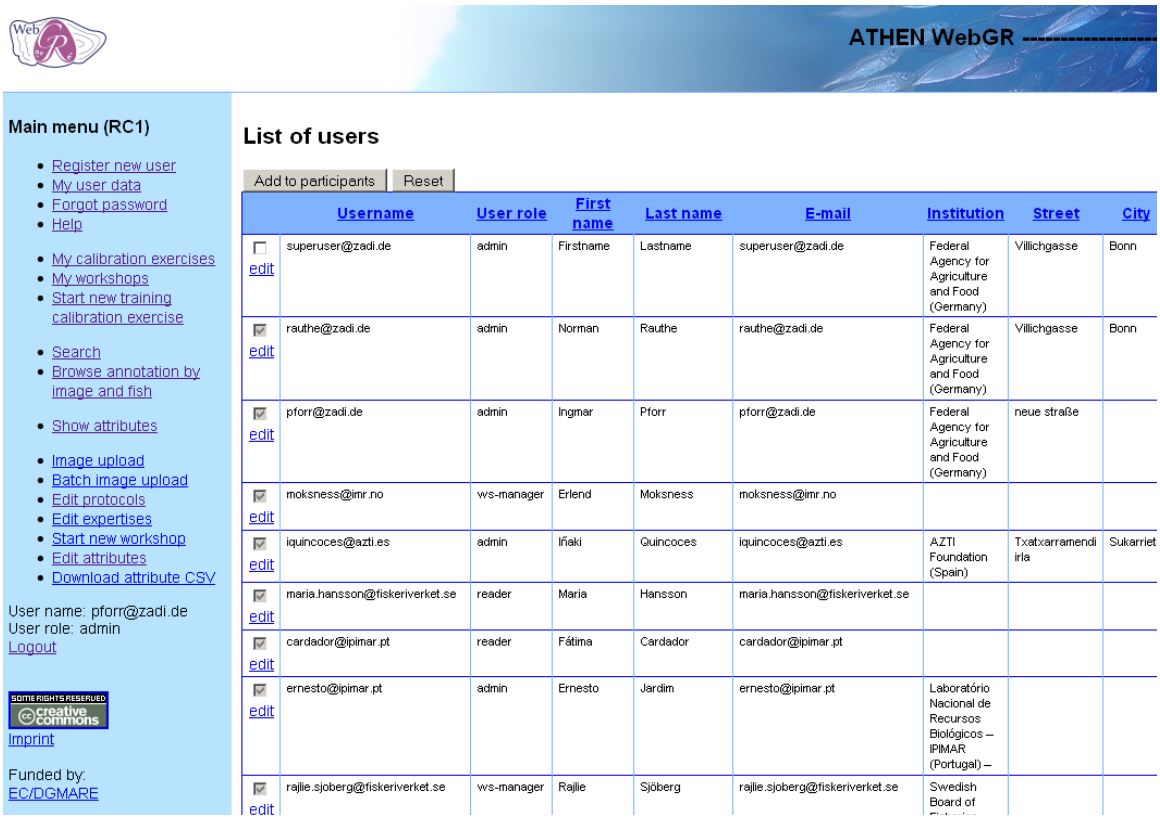

Figure 10: Search result list for users

Annotating Images and Recording Age or Gonad Stage

In a calibration exercise, users cannot see the annotations of other users until all users have completed their annotations. In the case of fish gonad maturity stage calibrations, the image of the gonad and if required, the image of the histological section are examined and the maturity stage, *e.g.* immature, maturing, mature, spent, can be recorded. WebGR can record maturity sub-stages, but only maturity stages will be reported as outputs in the report of a workshop.

In the case of an age calibration workshop, images of otolith cross sections and whole otoliths can both be used. The first image is selected and the user starts the annotations by choosing 'annotation' and just clicking on the image. Each mouse click will create a red cross (Figure 11), and the number of crosses the user makes on the image is counted (Figure 12).

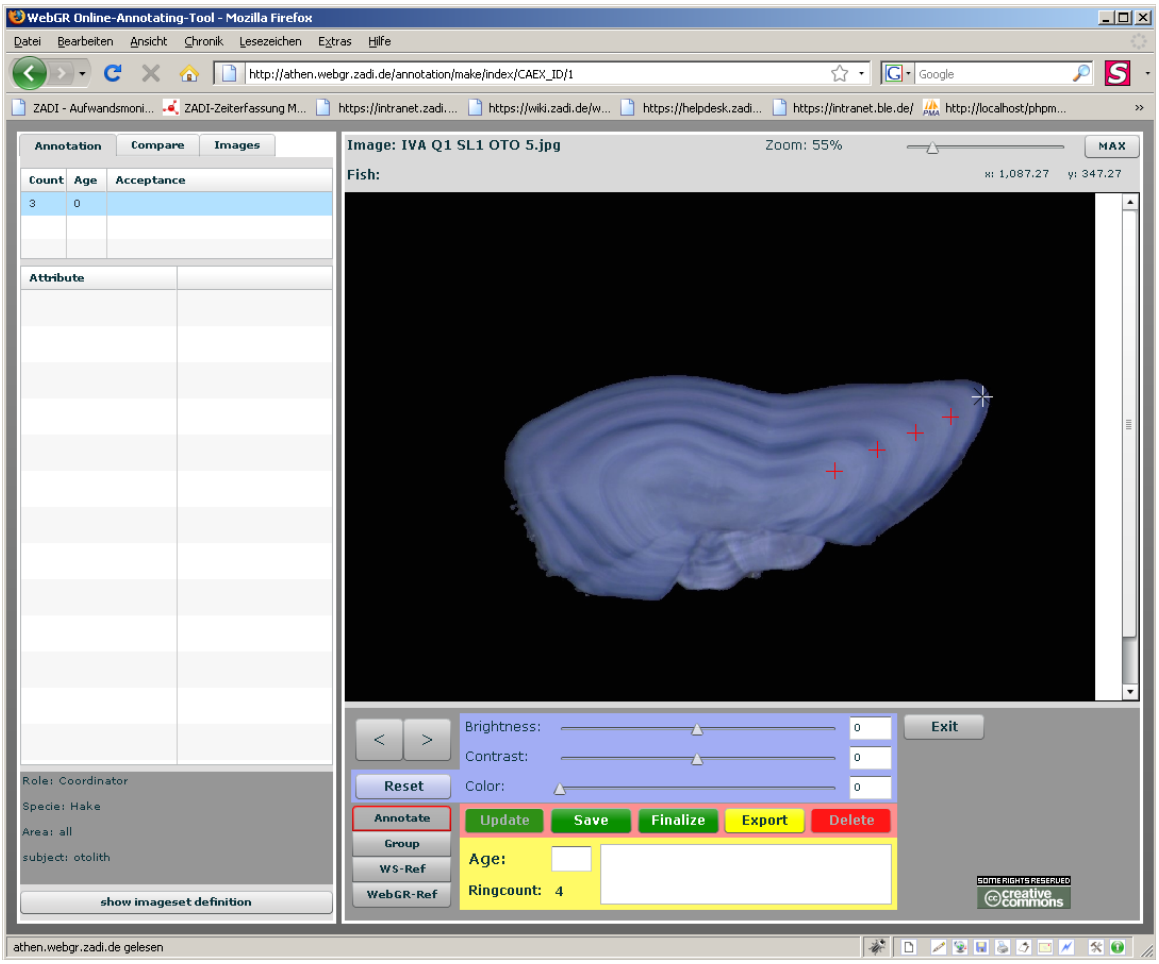

Figure 11: Make an annotation

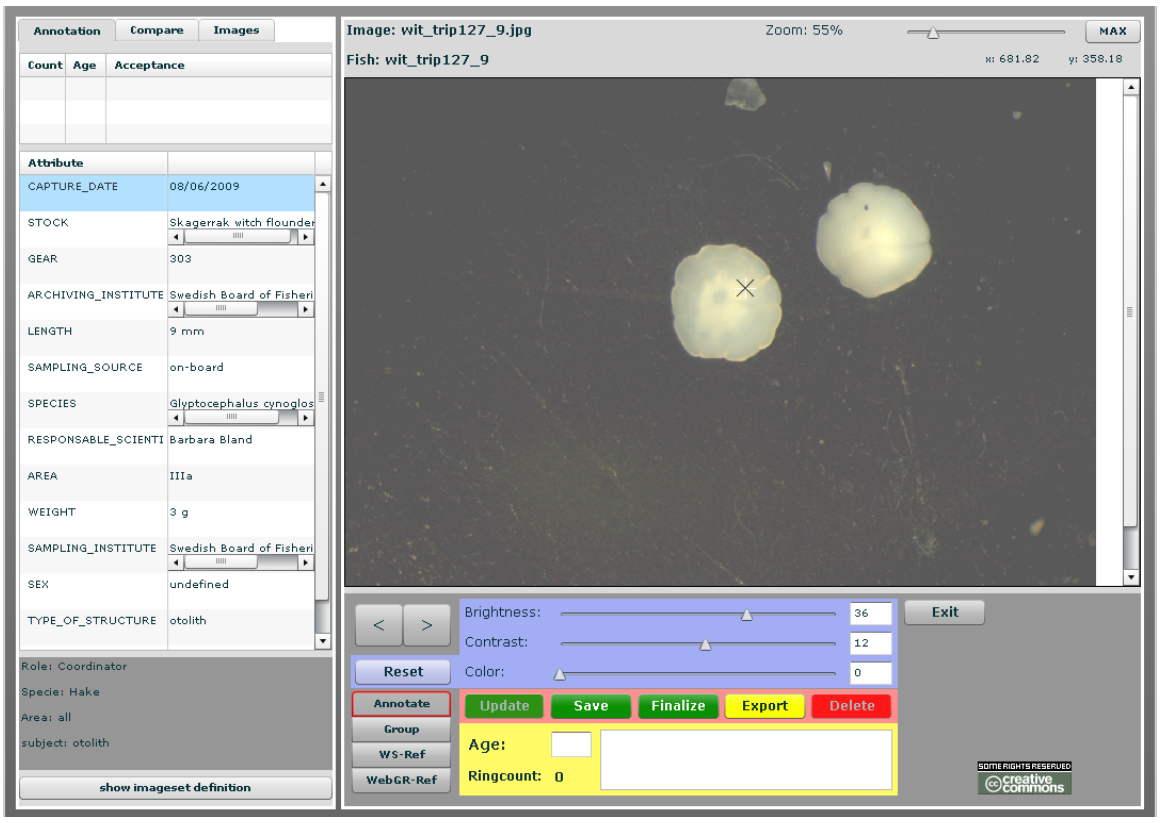

Figure 12: The annotation interface with explanations

The centres of the crosses should be placed on the edge of the annuli that are adjacent to the next opaque zones. An annulus is a translucent zone within an otolith that is considered to represent one year's growth. The concept of a 'birthday' is used for many species and for most NW Atlantic species the birthday is 01 January. The age is recorded as 'age group' and gives the year class (year of birth) when the 'age group' is subtracted from the date of capture. There are occasions when there is an annulus on the otolith edge that is not counted, as the fish was caught before the birthday (e.g. fish caught in December). This is why the user is required to type in the age of each otolith and any comments on the age or image. The brightness, contrast and color of the image can be adjusted to help the user to see more details on the otolith image.

An image can be annotated several times during a calibration exercise, but only the final decision will be taken into account. When the user has reached final decision, he/she can click on the "Finalize" button and the letter "F" will appear beside the age, under the column "Acceptance". The assessed final age/maturity stage can still be modified, by clicking again on the "Finalize" button during a further annotation. The finalized assessment marks the end of the calibration exercise.

Completion of a Calibration Exercise

The workshop manager / CE coordinator can start and stop calibration exercises; Key, expertise, comparable and image set, must be set to the needs of the calibration exercise. Calibration Exercises with incomplete settings will not be shown.

Calibration exercise statistics

The calibrated classification of otoliths and gonads is subsequently used to compute catch-at-age matrices and maturity ogives which are important input parameters to stock assessment models, ultimately influencing fisheries management advice. The workshop manager / CE coordinator clicks

on statistics in the designated calibration exercise to view the statistical tables. The statistical reports include:

- annotations
- list of the participants
- list of the images and the connected fish data
- definition of the calibration exercise

The statistical table of the annotation shows all readers and images involved in the calibration exercise.

Figure 13 shows statistics computed using a calibration exercise annotations. Under the readers' number one can see the expertise level and if he/she is involved in (or provides data to) stock assessment. At the end of the table the group value (the value all readers gave the image collaboratively) is shown. The results at the right side show the average percent error, the coefficient of variation, standard deviation and variance. These values are aggregated for fishes, so in case one looks at two images from the same fish, they are the same. The results at the bottom show the single readers' absolute mean of distances to the mean of the image values. At first all annotations of the calibration exercise are shown but it also possible to filter by readers' expertise level.

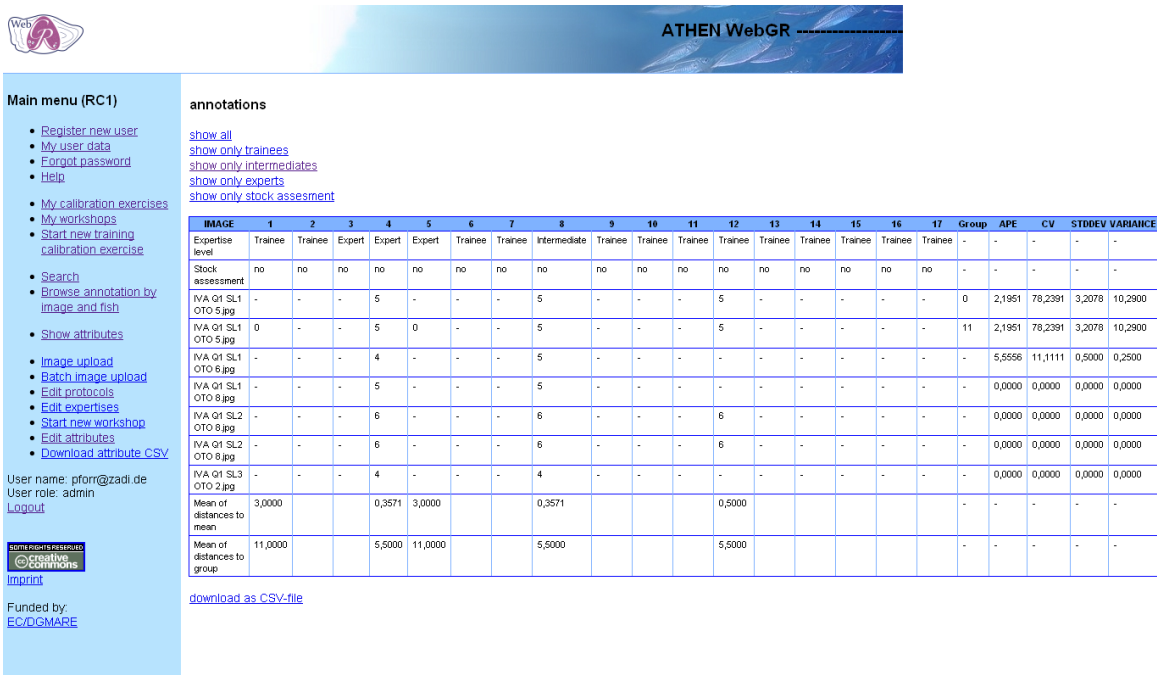

IMAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Group	APE	CV	STDDEV	VARIANCE
Expertise level	Trainee	Trainee	Expert	Expert	Expert	Trainee	Trainee	Intermediate	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	-	-	-	-	-
Stock assessment	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	-	-	-	-	-
IVA Q1 SL1 OTO 5.jpg	-	-	-	5	-	-	-	5	-	-	-	5	-	-	-	-	-	0	2,1951	78,2391	3,2078	10,2900
IVA Q1 SL1 OTO 5.jpg	0	-	-	5	0	-	-	5	-	-	-	5	-	-	-	-	-	11	2,1951	78,2391	3,2078	10,2900
IVA Q1 SL1 OTO 6.jpg	-	-	-	4	-	-	-	5	-	-	-	-	-	-	-	-	-	-	5,5556	11,1111	0,5000	0,2500
IVA Q1 SL1 OTO 8.jpg	-	-	-	5	-	-	-	5	-	-	-	-	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL2 OTO 8.jpg	-	-	-	6	-	-	-	6	-	-	-	6	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL2 OTO 8.jpg	-	-	-	6	-	-	-	6	-	-	-	6	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL3 OTO 2.jpg	-	-	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
Mean of distances to mean	3,0000			0,3571	3,0000			0,3571				0,5000						-	-	-	-	-
Mean of distances to group	11,0000			5,5000	11,0000			5,5000				5,5000						-	-	-	-	-

Figure 13: Statistics of calibration exercise annotations

Within the statistical tables by clicking on 'download as CSV-file' it possible to download the results as a Comma-Separated Values-file to be processed with Spreadsheet software like Calc or Excel or statistical software.

Workshop and WebGR reference images

Besides selecting the final annotation, the user can set the annotation level higher if he/she has the appropriate access (workshop coordinator or workshop manager). The next step would be a group discussion where all final annotations from the participants can be seen. One of the annotations is selected, perhaps slightly changed, and set to the group reference (workshop coordinator or

workshop manager). This process of bringing the annotation up to the next level can be continued. One can define the reference for the whole workshop and furthermore for the whole system, i.e.a WebGR reference (workshop manager). WebGR will only make the annotations available with the previously used protocol (formerly named key) and expertise.

Table 1 shows and explains the different annotation levels, the goal of the level and the possible kinds of annotations visible in the "All annotations list". So if the user is in annotation level "Annotate" he/she can select an annotation and give to it the state "Final". If the user is on the annotation level "Group" he/she can also select an annotation and give it the state "Group". With increasing annotation level less available annotations are seen.

Table 1: The different annotation levels, the goal of the level and the possible kinds of annotations. The allowed action is shown bold.

Annotation level	**Goal**	**Annotations**		
		Type	**Explanation**	**Number**
Individual	Personal: Make **final annotation** for image in CE	**Final**	**Final annotations of this CE for each image by each reader**	**0...n**
		Group	Group reference of this CE	0...1
		Workshop	WS-reference of CEs within this workshop with same key & expertise as CE	0...1
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
Group	Group: Make **group reference** for image in CE	Final	Final annotations of this CE	0...n
		Group	**Group reference of this CE**	**0...1**
		Workshop	WS-reference of CEs within this workshop with same key & expertise as CE	0...1
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
WS-ref.	Group: Make **workshop-reference** for image for this key & expertise	Group	Group references of CEs within this workshop with same key & expertise as this CE	0...n
		Workshop	**WS-reference of CEs within workshop with same key & expertise as this CE**	**0...1**
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
WebGR-ref.	Group: Make **WebGR-reference** for image (system-wide) for this key & expertise	Workshop	Workshop references of image with same key & expertise as this CE	0...n
		WebGR	**WebGR reference of image with same key & expertise as this CE**	**0...1**

Advantages of Using WebGR to Run a Calibration Workshop

- The ability to run calibration exercises online will make the organisation of Workshops more efficient and economic.
- The usage of WebGR to carry out calibration workshops will promote the application of sound statistical analysis to design the experiment and compute workshop results.
- Annotations are stored as XY coordinates and displayed on top and the original image remains unaltered.

- WebGR also provides better anonymity for individual age workers.
- WebGR can be used to manage collections of images at individual institutes if installed locally.
- Facilities for on-line training and other uses such as public information on fish ages and the lower level of access required for this, can also be provided.
- WebGR will promote sound statistical analysis in age calibration and generate reports with images and results.
- WebGR will facilitate the generation and more rapid distribution of statistical information on the precision of fish age data

It is anticipated that this will have a direct impact on the estimation of uncertainty in the catch-at-age, weight-at-age data and abundance estimates. Hence WebGR is potentially part of a solution to the persistent problem of uncertainty in biological data.

A set of answers to frequently asked questions is provided at the end of the users' manual.

2.3) How to install WebGR

The WebGR code can be downloaded from http://webgr.berlios.de/ through the development website http://developer.berlios.de/projects/webgr/. Download the latest WebGR PHP package, the WebGR Flex Package is not required for deploying the application. Documentation can be downloaded from http://developer.berlios.de/docman/?group_id=8643. Extract the package and follow Annex II. After install go to the WebGR install folder on your browser, *e.g.* http://webgr/install/, and follow the installation script. Now the installation is complete and you can login as superuser or register new users.

The WebGR application itself requires about 50 MBytes. The required drive space depends on the number and size of images you want to store and use. Calculate image volume twice because a working copy and thumbnail is made.

3 Development

3.1) Open Source development and Creative commons license

OpenSource definition

There are several key references to understand what Free/OpenSource software means. A simple search in Google gives the following definition "*Any software whose code is available for users to look at and modify freely*". However this definition bypasses the philosophical issues about Free/OpenSource software. Richard Stalman of the Free Software Foundation (http://www.fsf.org) is considered the person behind the concept of Free Software, in the text "The Free Software Definition" (http://www.gnu.org/philosophy/free-sw.html) refers to the subject as "*Free software is a matter of liberty, not price. To understand the concept, you should think of "free" as in "free speech," not as in "free beer"*. Free/OpenSource software raises a lot of concerns about intellectual property, responsibilities, etc. These problems should be tackled by licensing the software and defining rules for others to use, distribute, change, etc. The GNU Public License (GPL) is an example but many others exist. A comprehensive list can be found at (http://www.gnu.org/licenses/license-list.html).

With regards to scientific work the OpenSource philosophy is similar to peer review, allowing peers to review, check and comment the implementation of models and procedures. On the other hand is a way of promoting cooperation, technology transfer and maximize the limited programming

resources available. It must be added to these frameworks that most projects have public funding and the property of these project's results are, at least in part, belonging to the society.

Developing an OpenSource Project

With regards to developing OpenSource projects Eric Raymonds in his book "*The Cathedral and the Bazaar*" (http://www.catb.org/~esr/writings/cathedral-bazaar/) describes two different ways of OpenSource development. The "*Cathedral*" style, where software is

"[...] *carefully crafted by individual wizards or small bands of mages working in splendid isolation, with no beta to be released before its time.*"

and the "*Bazaar*" style "[...] *a great babbling bazaar of differing agendas and approaches* [...] *out of which a coherent and stable system could seemingly emerge only by a succession of miracles.*"

One of the main differences between this two styles is the way users are integrated in the project. The Cathedral style looks at users like people who are just interested in having a good program that suites their needs. The Bazaar style tries to integrate users inside the project promoting their participation in different levels, from simple users to co-developers, whatever task their are interested.

Raymonds summarizes the Bazaar approach by the "*Linus Law*":

"*Given enough eyeballs, all bugs are shallow.*"

WebGR uses a Bazaar style of development, centered on the user and their needs. Future developments will stand on the same ideas and hopefully the community will join the efforts to make WebGR a standard tool for calibration tasks.

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3.2) Design

Functional entity model

The functional entity model describes the relevant objects and their relations from the scientist point of view (Figure 14). It's important for the Developers to understand what the scientists really need and established a good working interface between the two groups.

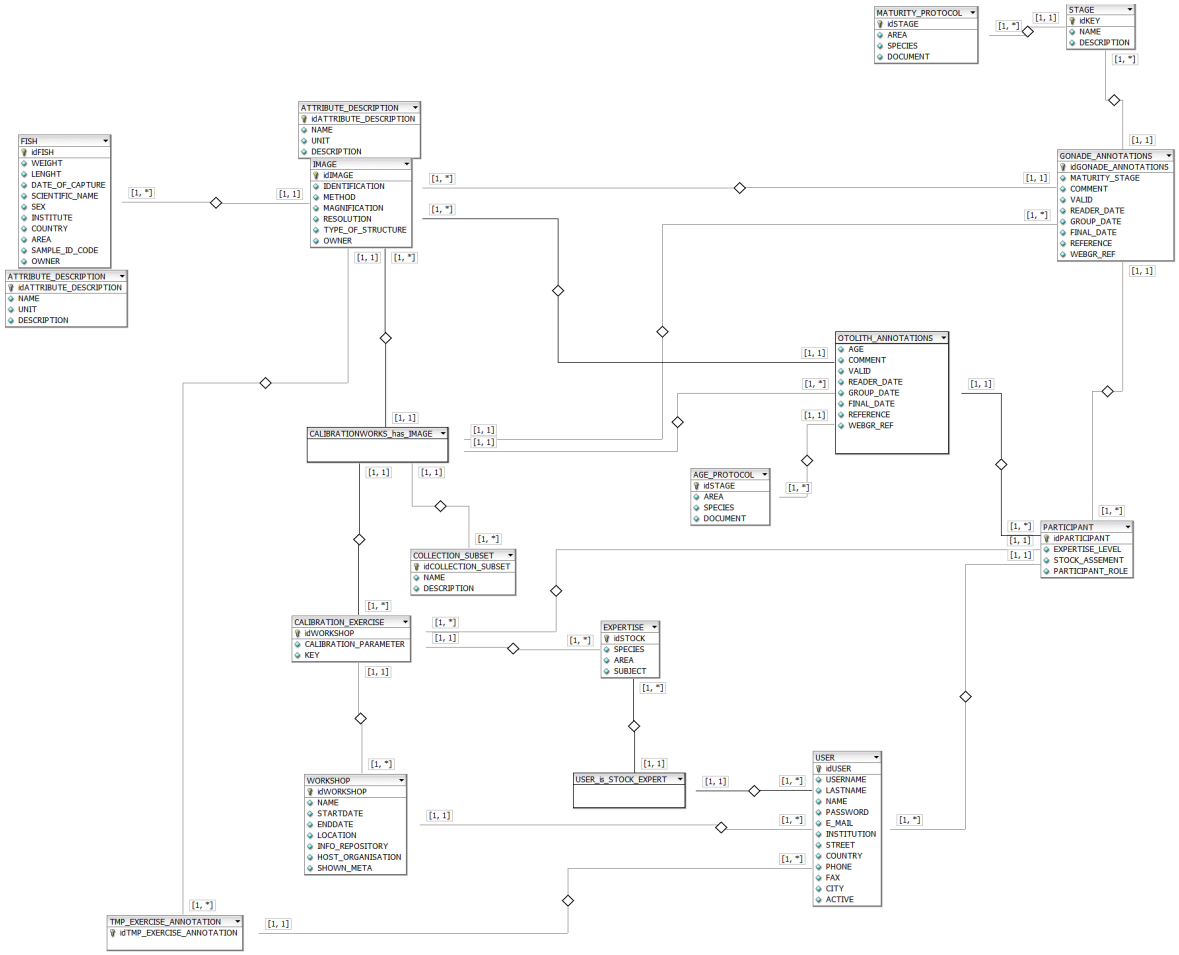

Figure 14: WebGR's functional model

Database model

The database model based on the functional entity model and describes the necessary database object and their relations (Figure 15). It helps every new potential developer to understand, how the data is stored into the database. The database model is available as an xml-file for the open source modeling program dbDesigner4 at the berlios.org project site.

The database model uses the eav ("Entity-attribute-value") principle. It allows users to define

attributes to his object respective images. The scientist has a maximum of flexibility to use his own individual datasets.

The batch import module supports an attribute mapping between the user's attributes and the system's attributes which should be a part of commonly agreed set of the participating scientists.

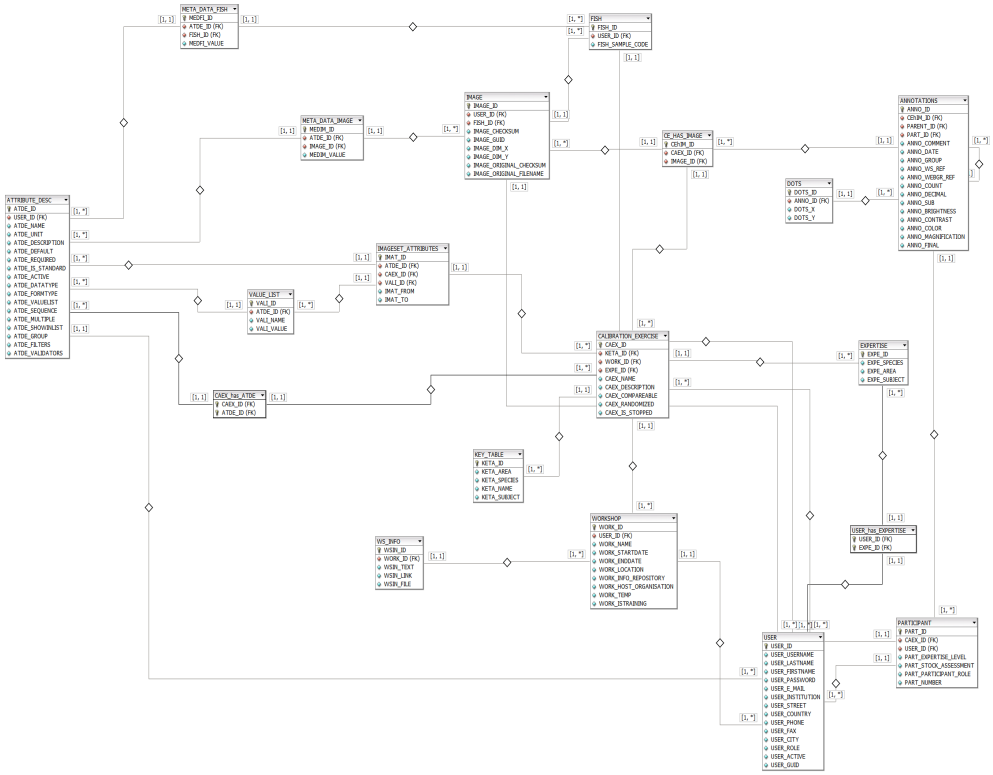

Figure 15: WebGR's database model

System architecture

The basic principle follows the client server architecture for Internet applications (Figure 16). The architecture allows, administrators to serve the systems just with open source components. The user don't need to install any software on its own Computer. He just needs an up to date browser.

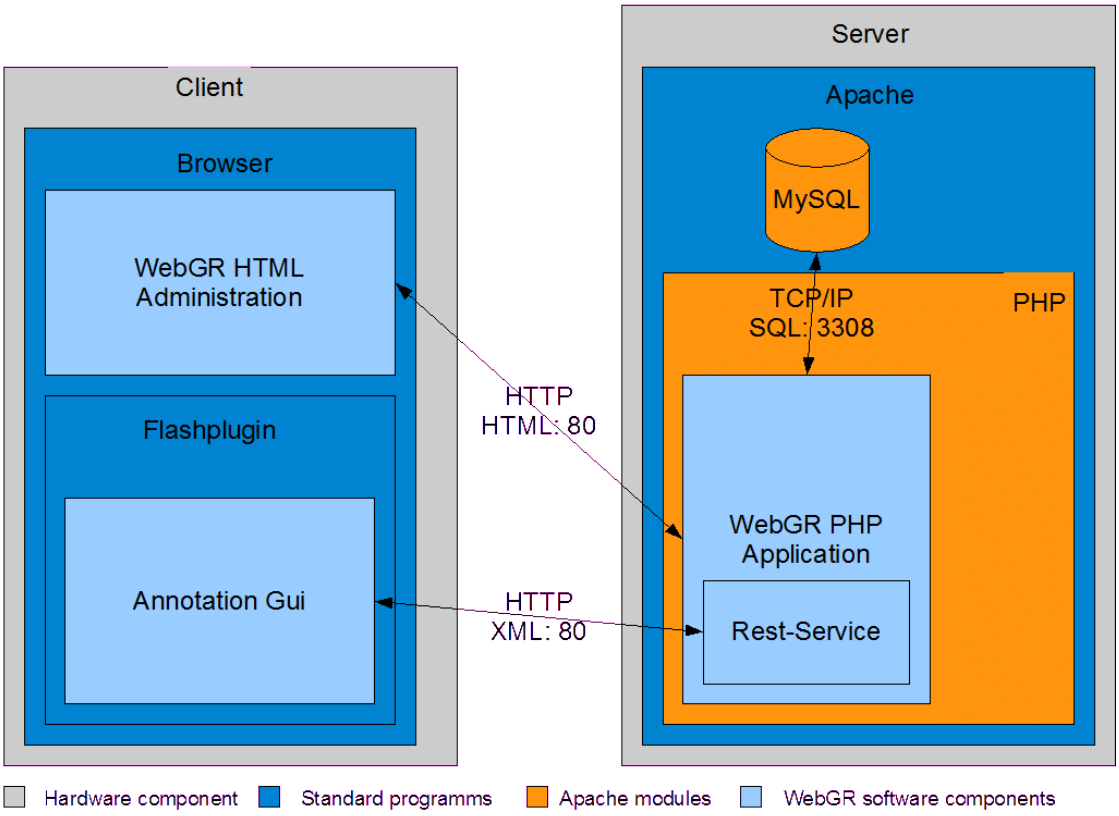

Figure 16: WebGR's architecture

3.3) Tests

First Testing iteration was developed over the beta version at Athens meeting with 17 potential users from 11 of the participant institutes working for 4 days with the beta version of the software.

Two methodologies were used:

1. Trying to make the usual operations expected to be done in the normal use of the software
2. To split in subgroups and have a deeper look at the different application interfaces and functionalities in order to identify bugs or missing features.

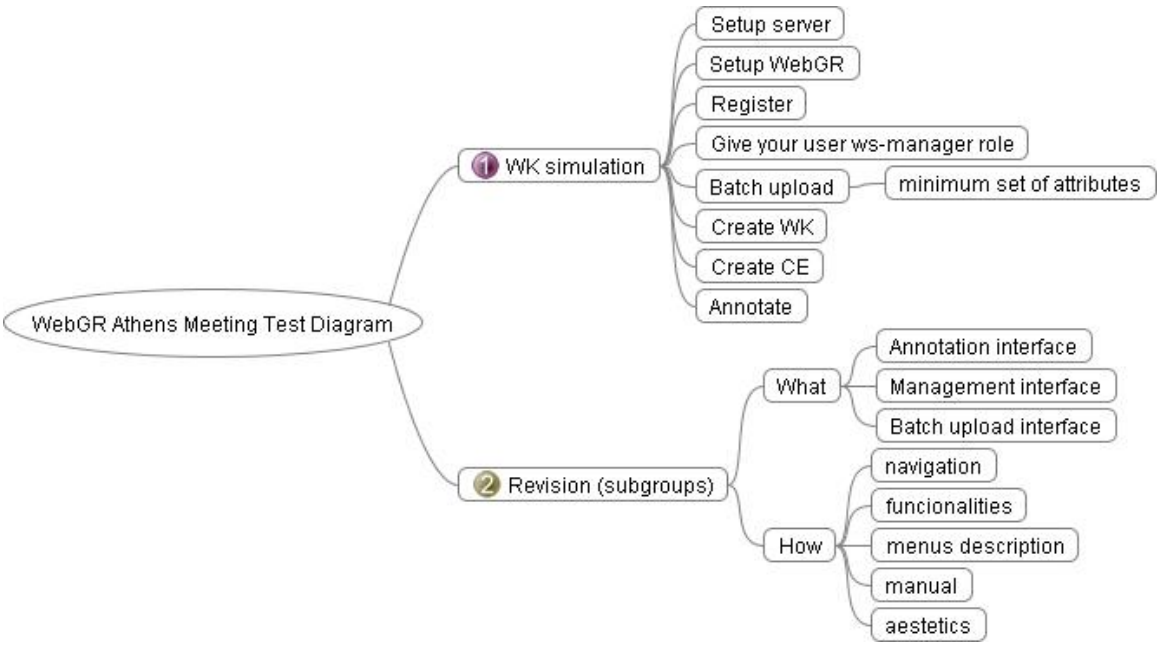

Figure 17: WebGR's test diagram for the beta version

A complete list of the bugs and desired features found is presented in Annex III.

After inclusion of Athens meeting accepted recommendations/requirements and fixing bugs into the software, the RC1 version was deployed at a new server and was exhaustively tested by Test team with the following task share for more than one month

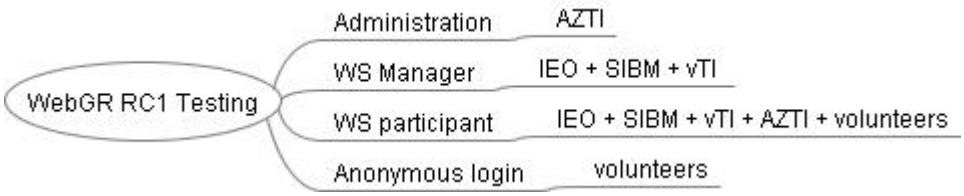

Figure 18: WebGR's testing for release candidate

All the features in each compartment were tested and the bugs found and the current states of them are presented in Annex III too. The two testing iterations gave the results showed in table 2.

Table 2: Summary of tests executed

	Identified Bugs	Fixed bugs	Missing Features	Accepted Missing Features	Desirable Features	Accepted Desirable Features
Beta version testing	14	14	10	8	40	16
RC1 version testing	15	13	2	2	15	0
TOTAL	29	27	12	10	55	16

4 References

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Annex I - User's manual

WebGR user manual
version 1.0a

Table of contents

Applications' web address

You can find the Beta version of WebGR - Web services for support of Growth and Reproduction Studies under the URL:

http://preview.webgr.zadi.de/

The web address is dependent of your installation of WebGR, so your contact partner will be your local system admininstator.

- Start your browser Firefox version 3.
- Enter the adress. After that the WebGR application website should be visible.
- For further using make sure the latest Flash plugin is installed.

User groups and rights

The user rights are divided into two levels of availability. The first level is the user level. A user is true for the whole application. The second level is the participant level. A participant is only true for one calibration exercise.

User role rights

group 1 (guest)

- can visit public part (start page, contact or Terms of service)
- create own new account (user)

group 2 (reader)

- succeed rights from guest
- login into the non-public part
- make temporary annotations / private calibration exercise
- search for images, annotations or fish

group 3 (data manager)

- succeed rights from reader
- upload, edit and delete own image files and fish data
- edit own fish and image optional parameter
- administrate the keys (maturity, stage)

group 4 (workshop manager)

- succeed rights from data-manager and coordinator
- edit own workshop settings
- declare WebGR reference annotation for his expertise

- create new calibration exercise

group 5 (admin)

- succeed rights from each workshop manager and data manager
- administrate the whole application
- administrate users / user roles
- start new workshop and set a new manager

Participant role rights

The participant role rights are always limited by the expertise of the user; these roles deal only with participants.

group 6 (trainee)

- succeed rights from reader
- create and edit own annotations
- read all workshop results
- declare group accepted annotations

group 7 (expert)

- succeed rights from trainee
- upload, edit and delete own image files and fish data

group 8 (coordinator)

- succeed rights from data manager and expert
- administrate participants (add, remove participants and admin their role membership)
- declare calibration-exercise annotations
- upload information files (pdf-files, links)
- edit own calibrations settings
- declare WebGR reference annotations

Guest

Figure 1: Start screen and registration form

Register and login

You have to click “Register a new user” to create a new account (see Figure 1).

After filling the form click “Submit”. The system sends an e-mail to the given e-mail address. You have to click the link inside the mail for a confirmation.

After the confirmation click any function on the menu, e.g. “My user data” and log-in into WebGR with your new account (see Figure 2).

Click on “My user data” to change your personal settings and password if you want to.

Reader (Quick start/Training exercise)

Every confirmed user gets the status „Reader“. Now you can be invited to calibration exercises.

In the meantime you can search the database for fishes and images and run training calibration exercises.

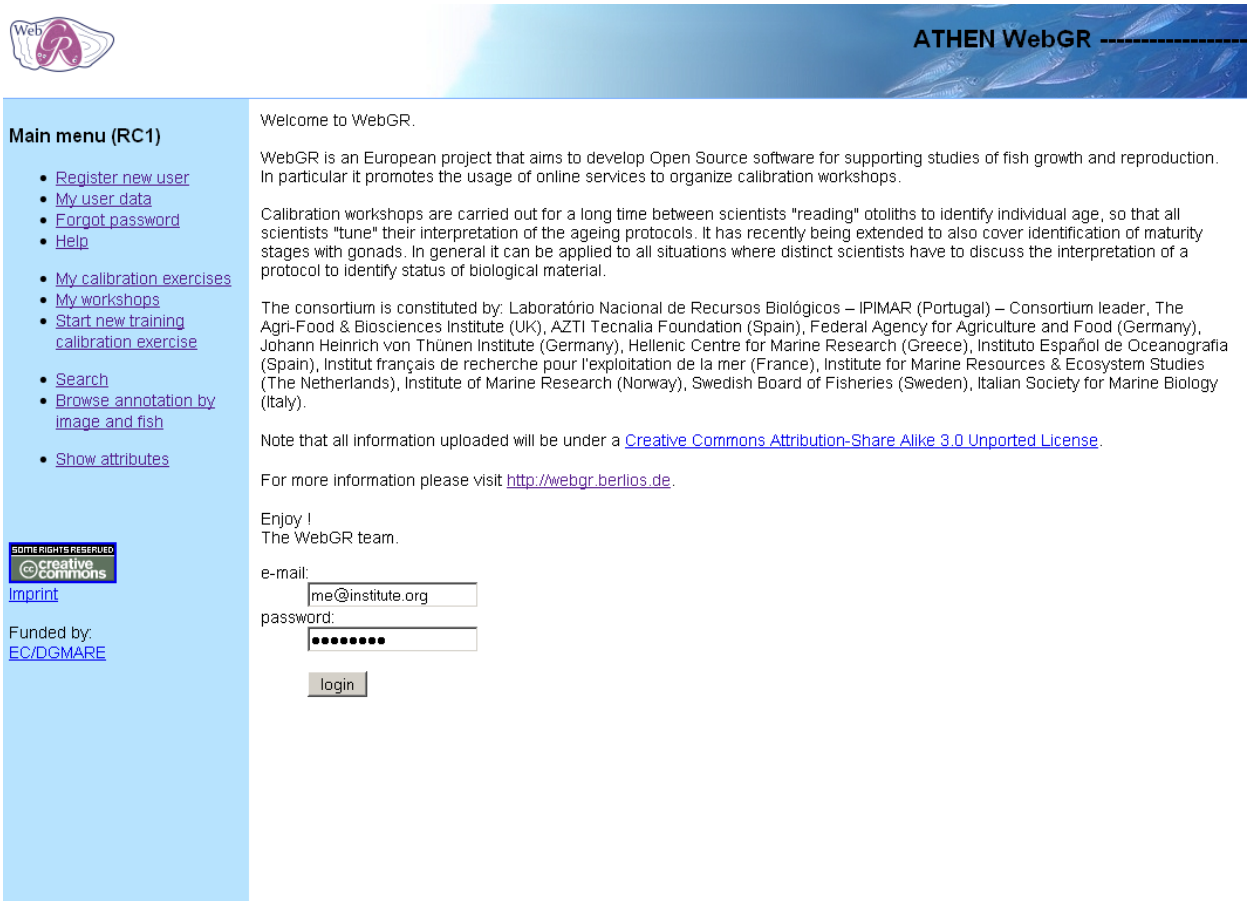


Figure 2: Log-in into WebGR

Training calibration exercise

Choose the training calibration exercise you want to look at (see Figure 3).

Note: If you want to continue an old exercise click on “My calibration exercises”. You will see it in the list.

Figure 3: Select training calibration exercise

You get a list of image-sets grouped by protocol, where you can create training calibration exercises. Choose one training calibration exercise (see Figure 4).

Note: If there are no references for a expertise, then a training calibration exercise is not available per definition.

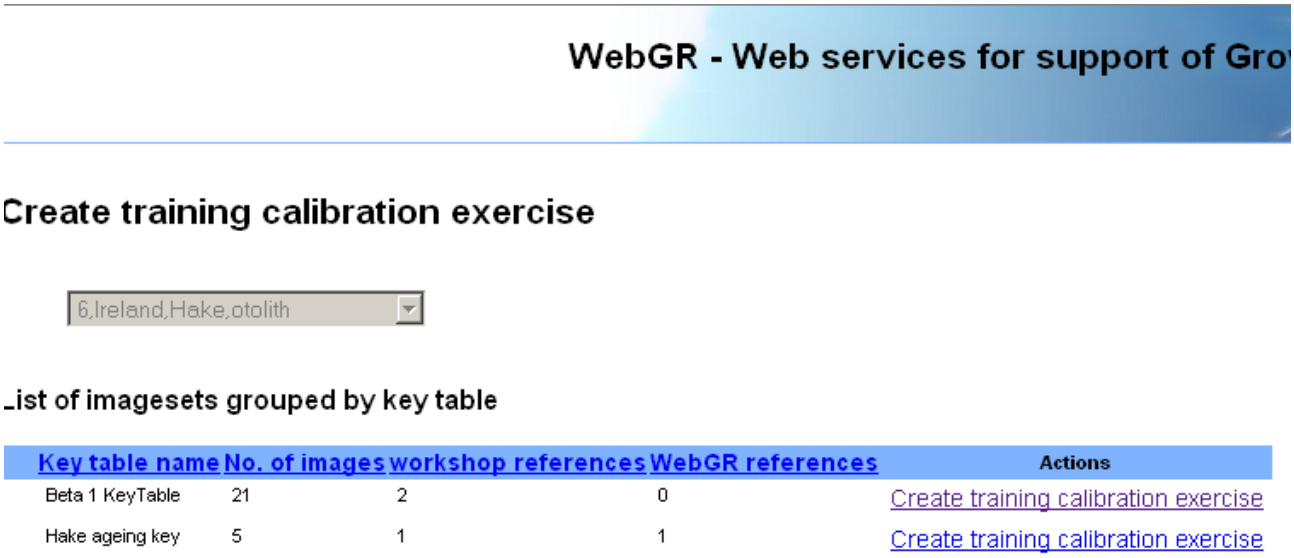


Figure 4: List of image-sets grouped by key table

Make an annotation

Now you can start the exercise inside the annotation interface (see Figure 5).

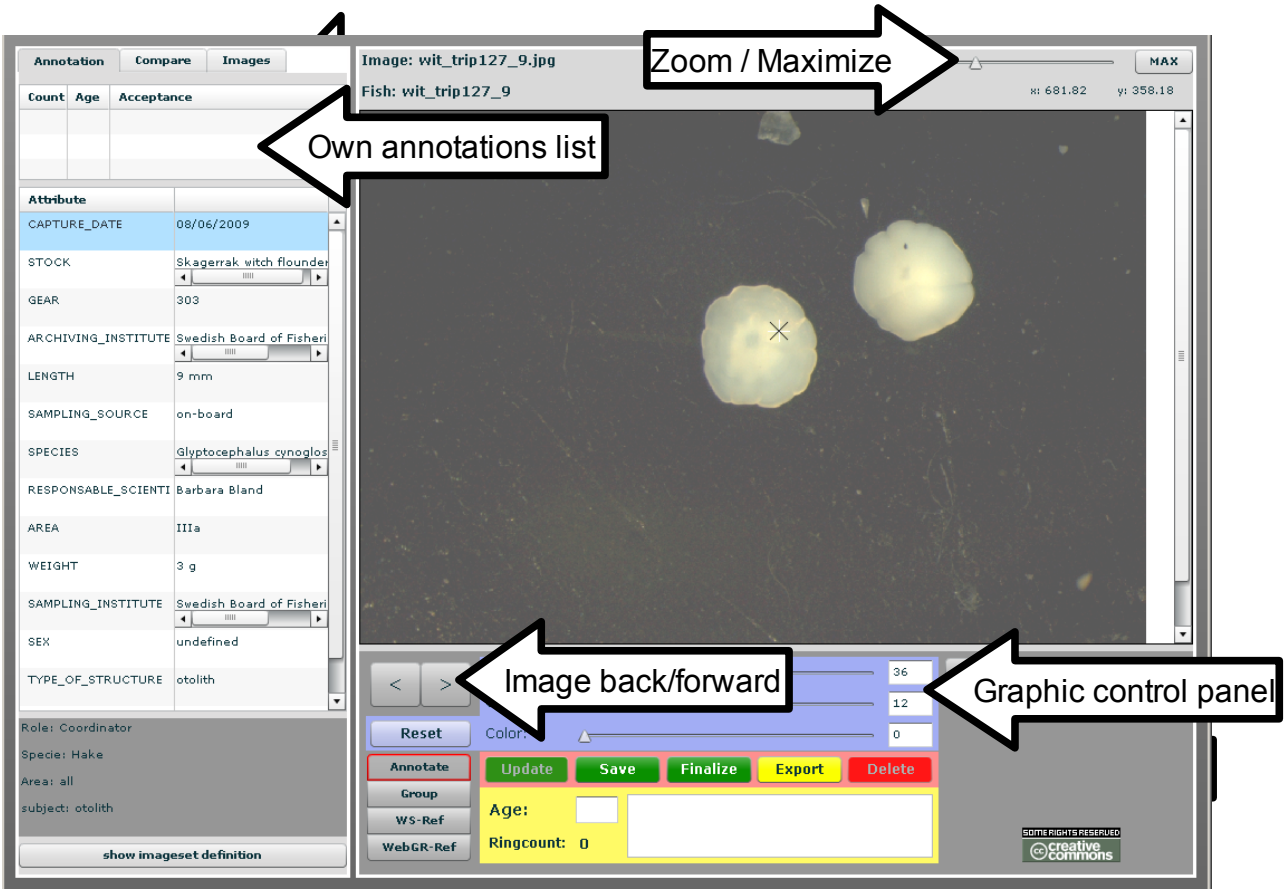


Figure 5: The annotation interface with explanations

You start your annotations with choosing “annotation” and just clicking on the image. You will see a red cross. (see Figure 6). The number of dots you make is counted (see Figure 5, textual input).

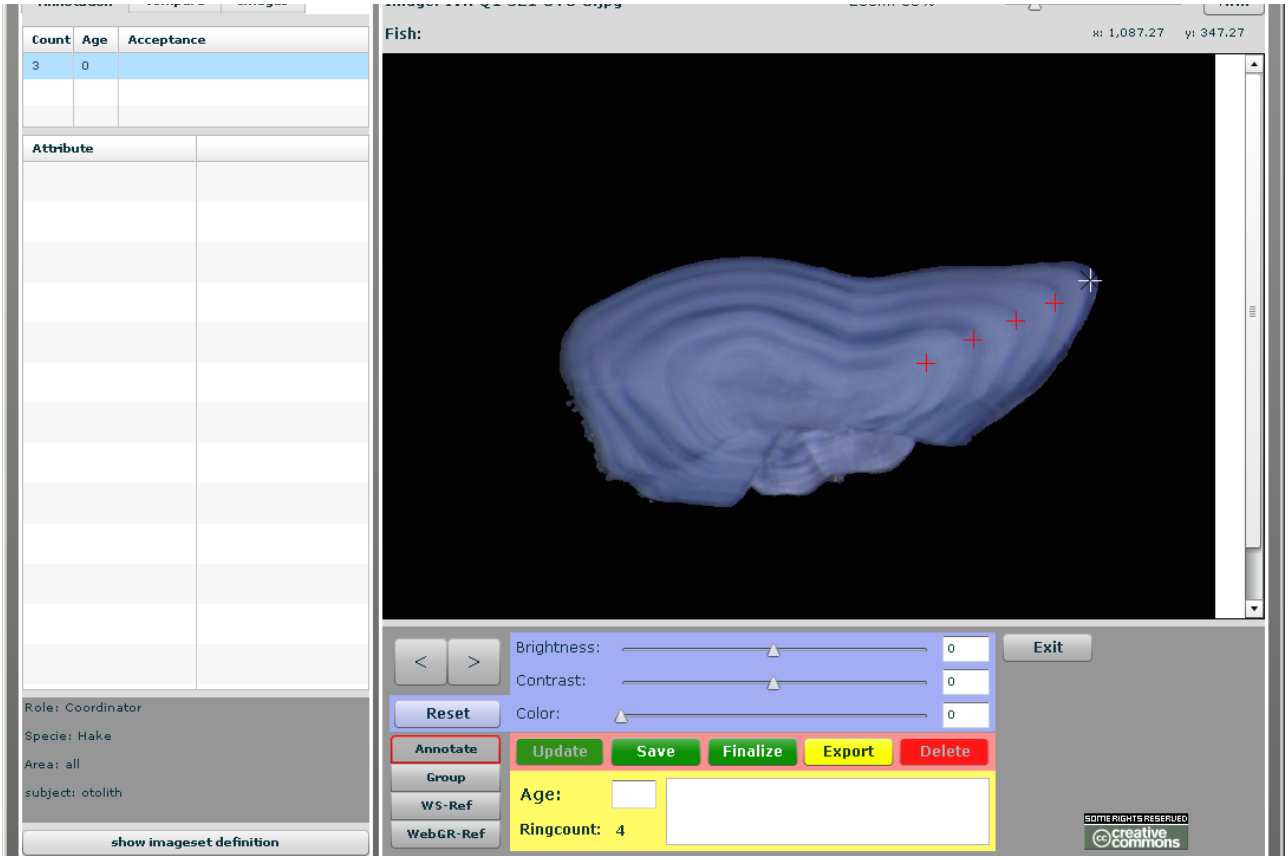


Figure 6: Make an annotation

You can change brightness, contrast and color to see more details (see Figure 7).

Figure 7: Changing brightness, contrast and color

Type in the age and comments (see Figure 8).

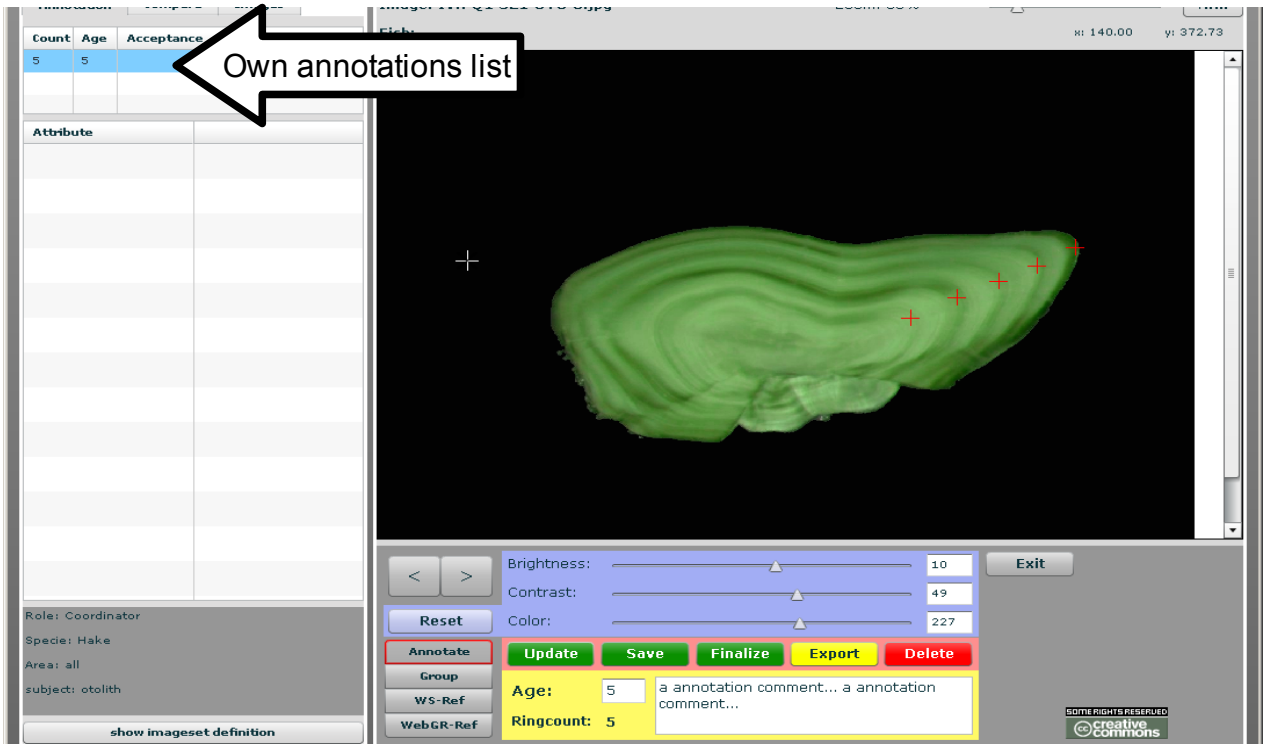


Figure 8: Saved annotation

Click “Save” and you can see your first annotation in the list. With clicking on the annotation you can reload it in your workspace (see Figure 8).

You can edit the dots (add crosses or remove them by scrolling over the crosses and clicking). After this you only have to click the “Update”-button to update the annotation.

If you don't want to edit the old annotation just click “Save” and a new one will be created.

- Save creates a new annotation.
- Update overwrites your own current annotation.

All this functions are available in the standard calibration exercises, too.

Compare and copy other readers annotations

First click your annotation which you want to compare.

To compare select the tab “Compare” (see Figure 9).

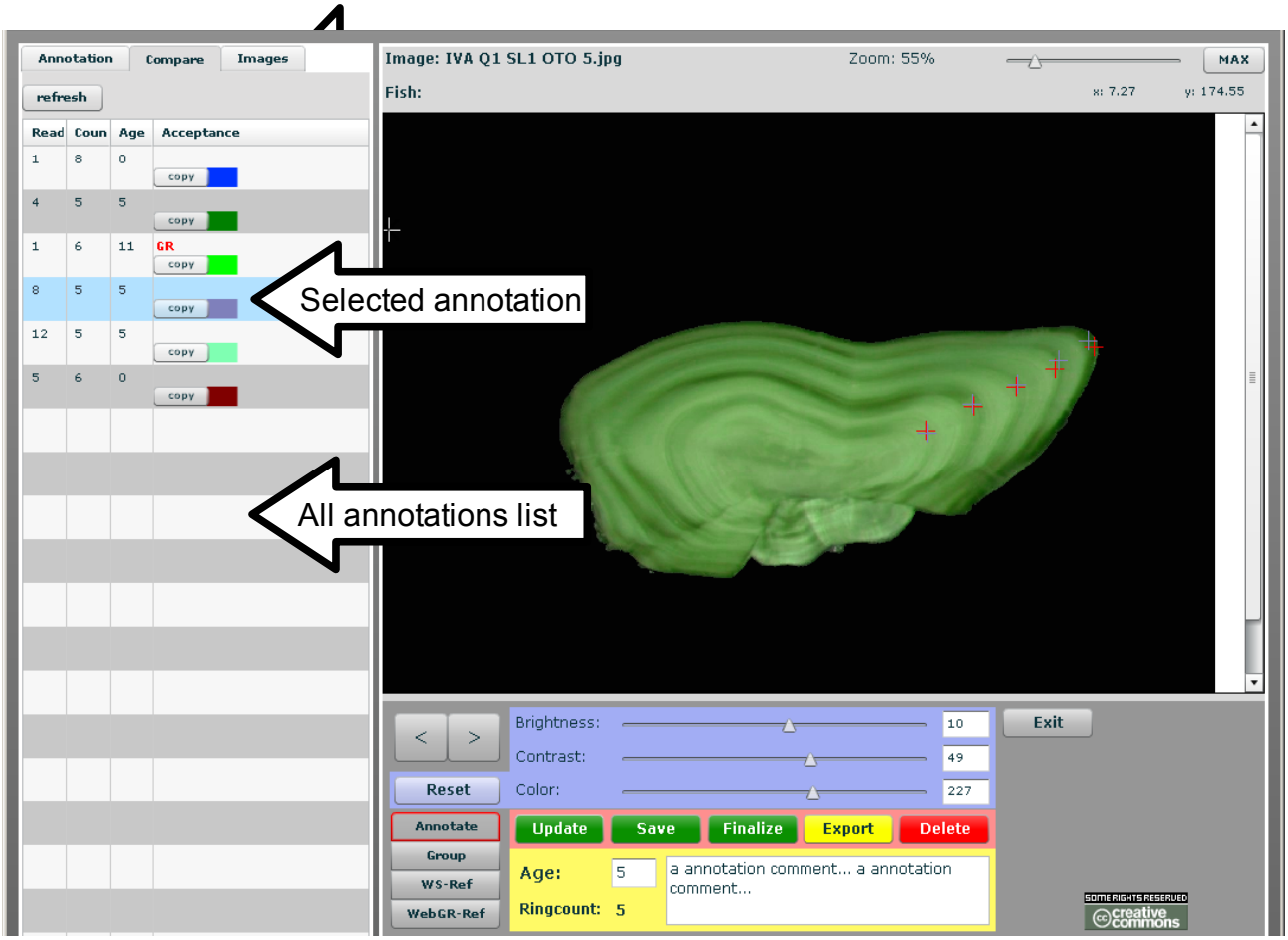


Figure 9: Compare annotations

Click another annotation. You can control-click to select several annotations.

If you want to modify your own or another public annotation from the “all annotations” list click the “copy”-button in this row. All settings are loaded now. Modify the annotation and click “Save” to create a new annotation. Go back to tab “Annotation” to see that you have a new annotation.

All this functions are available in the standard calibration exercises, too.

Note: If you want to discuss or compare with other users you must join a group (more about this at chapter “User”).

Leave the training

Click „Exit“.

If you leave the training your exercises will be saved and you can start it the next time by clicking on “my calibration exercises”. This list contains all your exercises. All your data and Workshops are available at the start screen, too (see Figure 10).

My user data

You can check your personal expertises here. Click the expertises and then click „Submit“.

The data manager or administrator can add expertises at any time and will do so in order to create new calibration exercises for new expertises. Please return to here to update your knowledge skills.

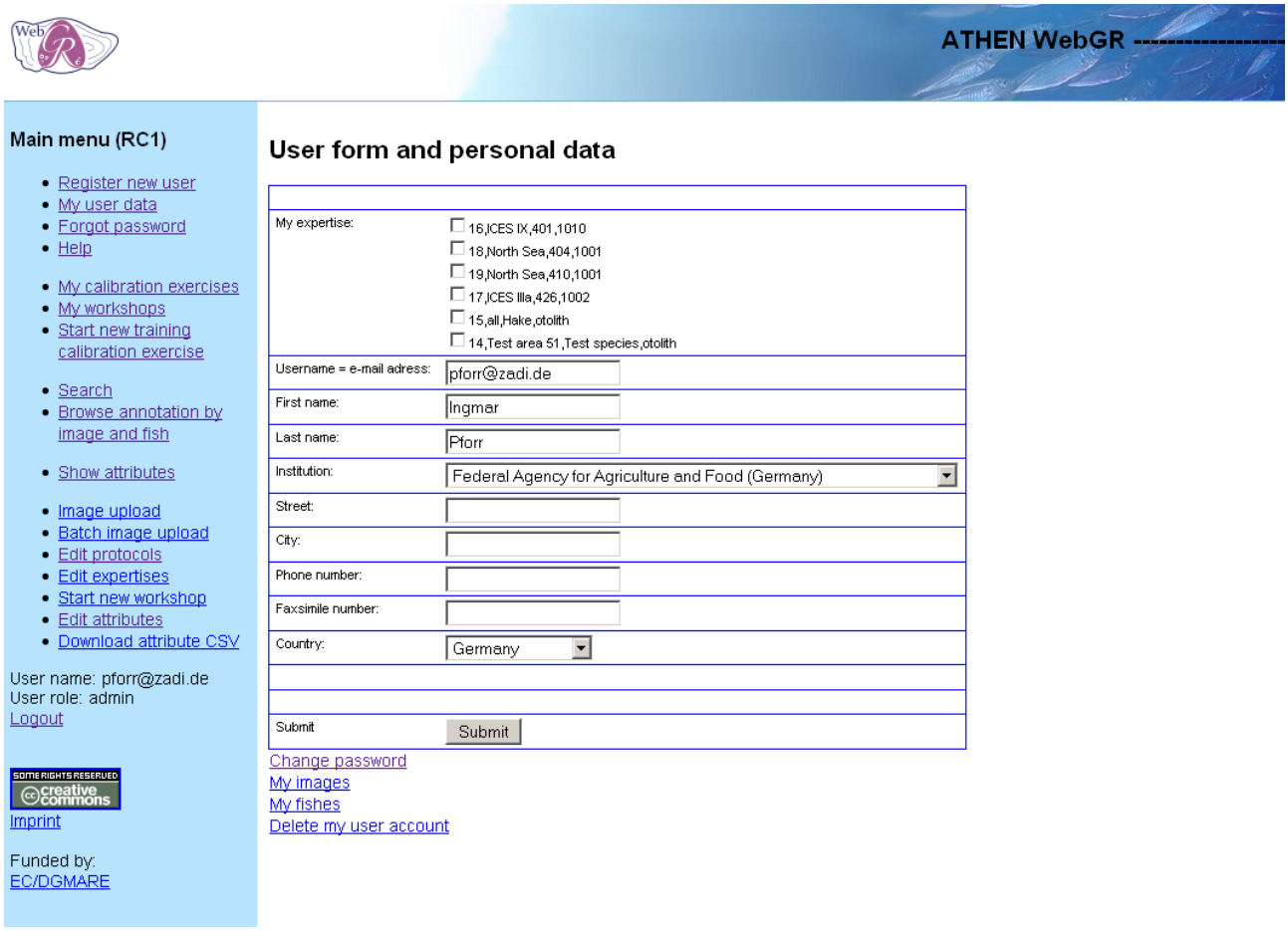


Figure 10: User data functions

From here you can search the images that only you uploaded and the fish data sets that only you created.

You can change your password.

You can delete your user account. The data that you provided will be stored anonymously.

Search function

Additionaly a search function is applied for you. Here you can search for calibration exercises, fishes, images or users.

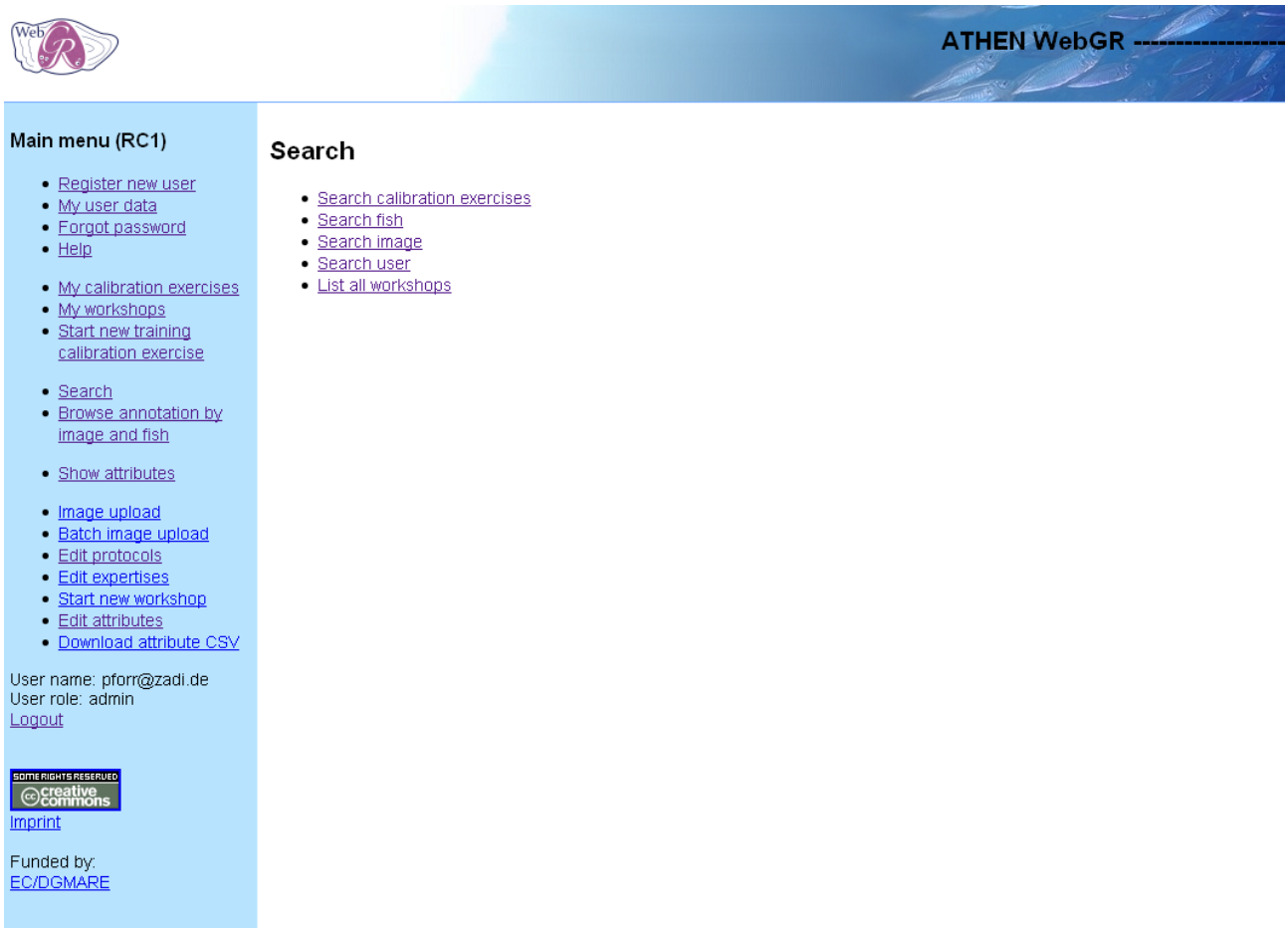


Figure 11: search functions

In detail you have the possibility to contain your search with appointing the search attributes.

The attributes you can choose are different for the diverse searches. You can choose between a search for “and” and “or”. You can also contain your search by enter limitate subjects or select the Institutes you want to search in.

In the other searches are also functions to specialize your search application (see Figure 15, Figure 16 and Figure 17)**.**

General usage of search forms

Text fields

Placeholders and wildcards are not supported. MySQL's LIKE is used with wildcards before it and behind it.

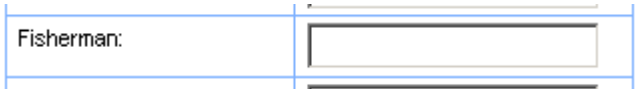


Figure 12: Simple text search field

Example: The expression „part“ finds „appartment“.

Ranges

Type in a FROM and a TO value. This is defined with **greater than or equal** and **less than or equal to**.

To get just one value type in the same FROM and TO value.

Note: To function properly, the entries in the database and in the search fields must have the same format.

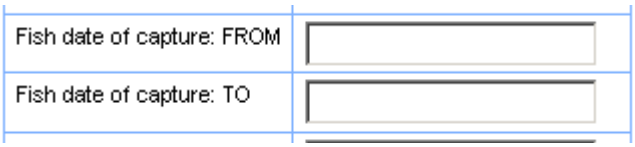


Figure 13: FROM and TO text search fields

Multiple search selects

Checkboxes and multi select boxes offer the ability to search for objects with attributes with value lists. For usability reasons only checkboxes (see Figure 14) are used.

Inside of an attribute there is always an OR-combination used, that means, only one of the checked value list entries has to be found.

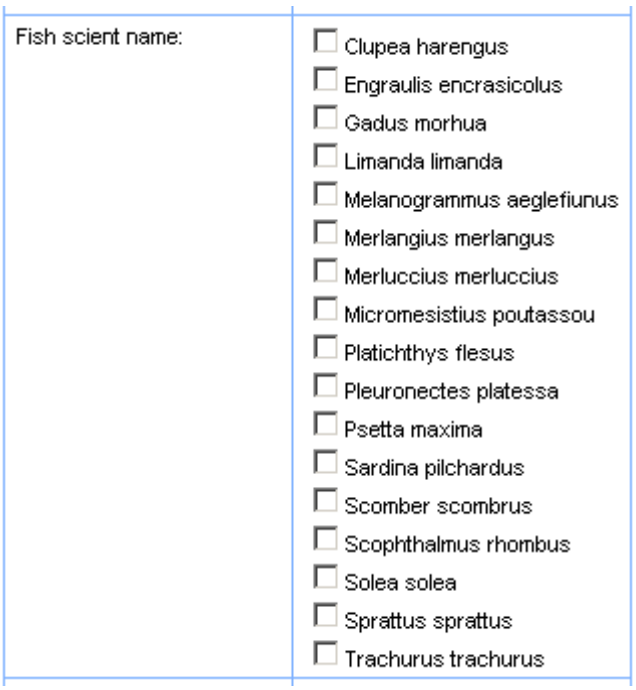


Figure 14: Multicheckbox search field

In the example fishes are found either of species „Clupea harengus“, „Engraulis encrasicolus“ or

„Gadus morhua“. This is also the case for multi value attributes.

Note: In some search results you will find one and the same object multiple times. This results from multiselected or multichecked attributes, e.g. a fish sample could have many examining institutes, which the sample has passed in an otolith exchange.

Search fish

Here you can search a certain fish or a group of fishes by one ore more attributes. E.g. physical attributes like length and weight can be used here.

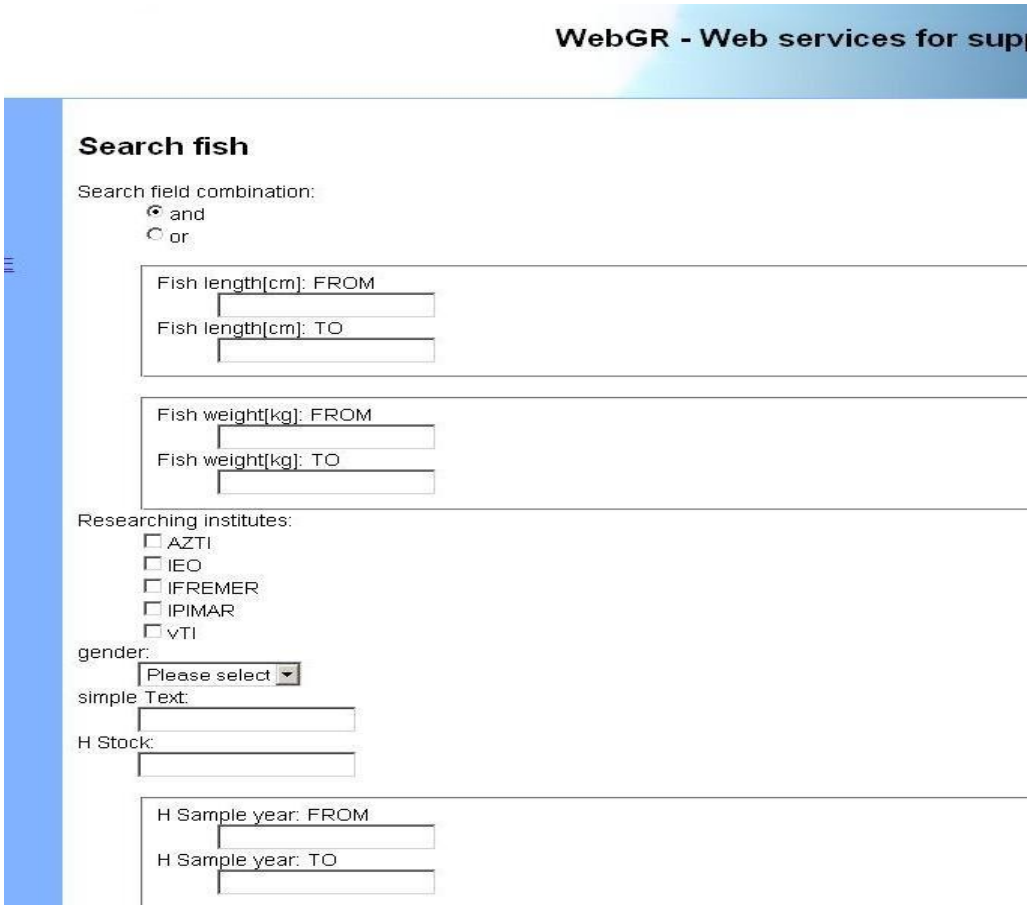


Figure 15: Search for fish

Search image

In an image search the search filter contains fish and image attributes, so there are more possibilities to specify your search. In addition to a fish search you can filter attributes like resolution, black/white or color images and so on.

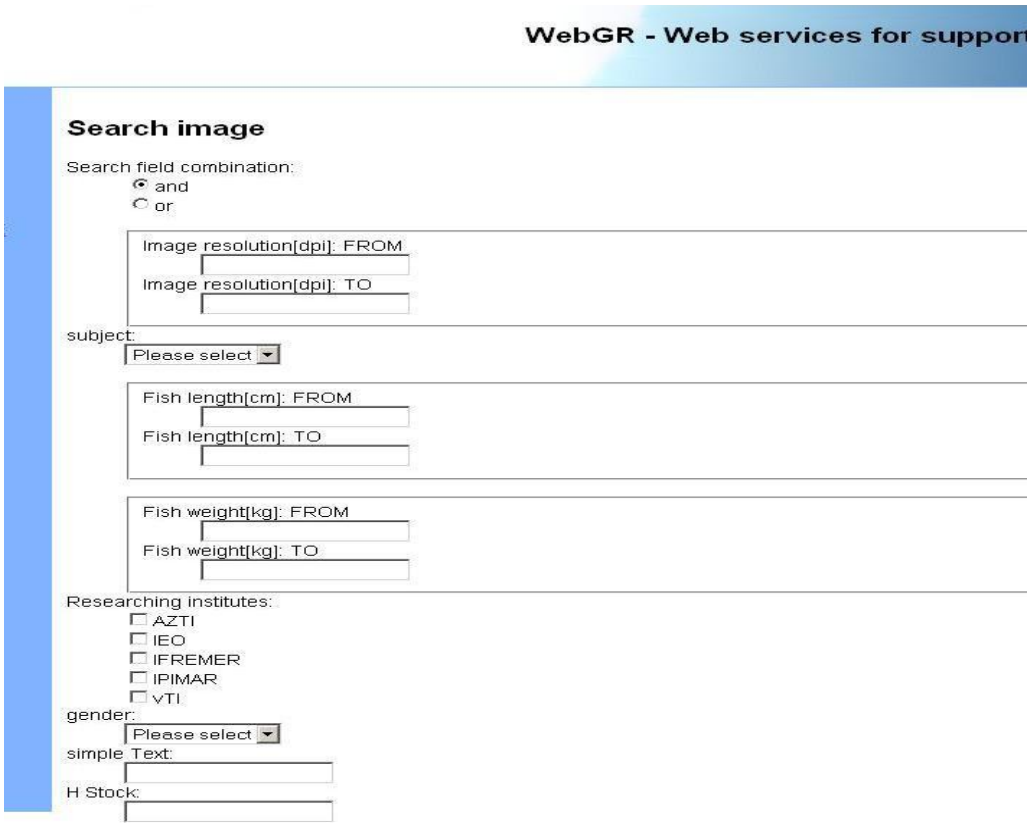


Figure 16: Search for image

Search user

It is possible to search for a special expertise here to get a list of the knowledge carriers.

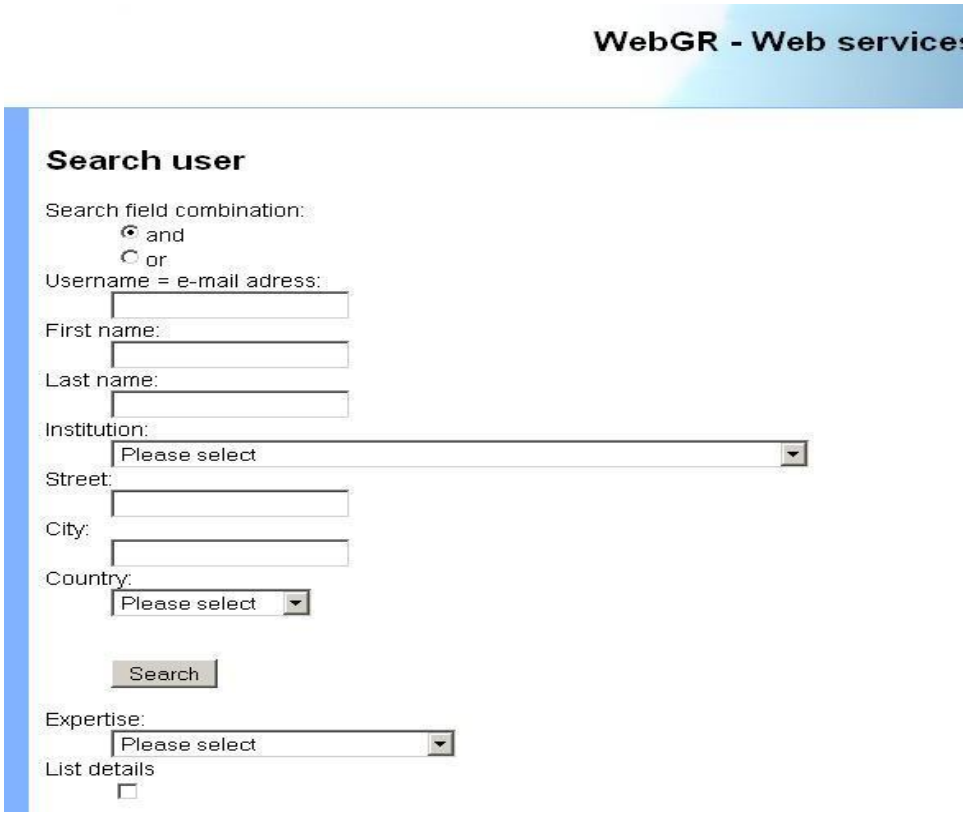


Figure 17: Search for user

Check details if you want to list the personal expertises of the users in addition.

Due to aggregation of these values ordering of this field is not possible.

The search result lists

In most cases result lists from successful searches can be ordered by clicking the heading of the attribute.

Figure 18: Search result list for calibration exercises

In some columns of the dataset the data is clickable when presented as a link, e.g. written in blue or purple.

Before and after the result rows actions like edit or delete can be shown as clickable links.

The Figure 18 shows the result list for calibration exercises. In the first column you see the available actions that depend on the object and your authorisation in WebGR. The shown workshop name is clickable and gets you to the workshop details. The protocol is also clickable and opens the protocol file.

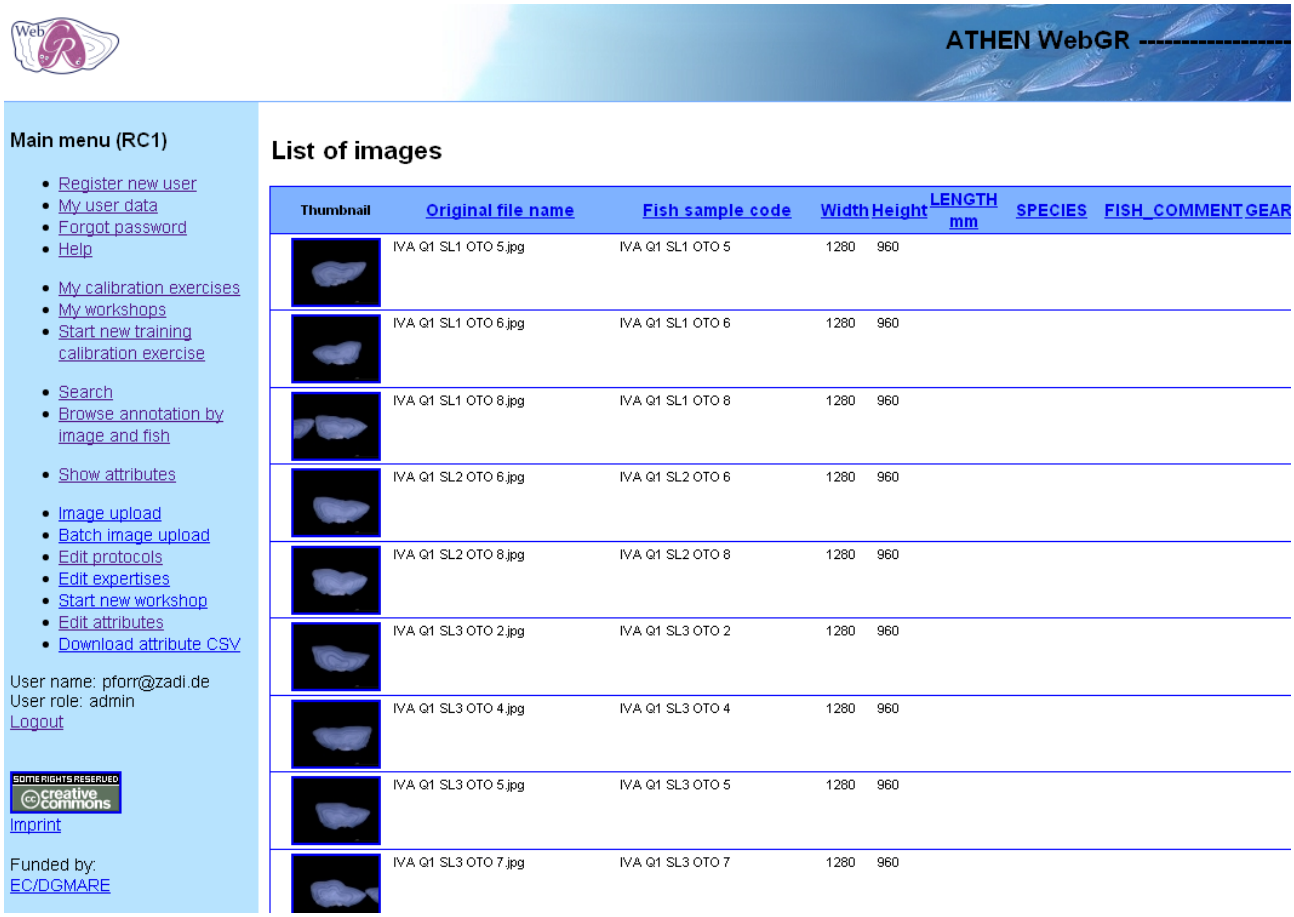


Figure 19: Search result list for images

Figure 19 Shows the result list for images. The thumbnail is clickable, too, and opens the image in a new tab of the browser.

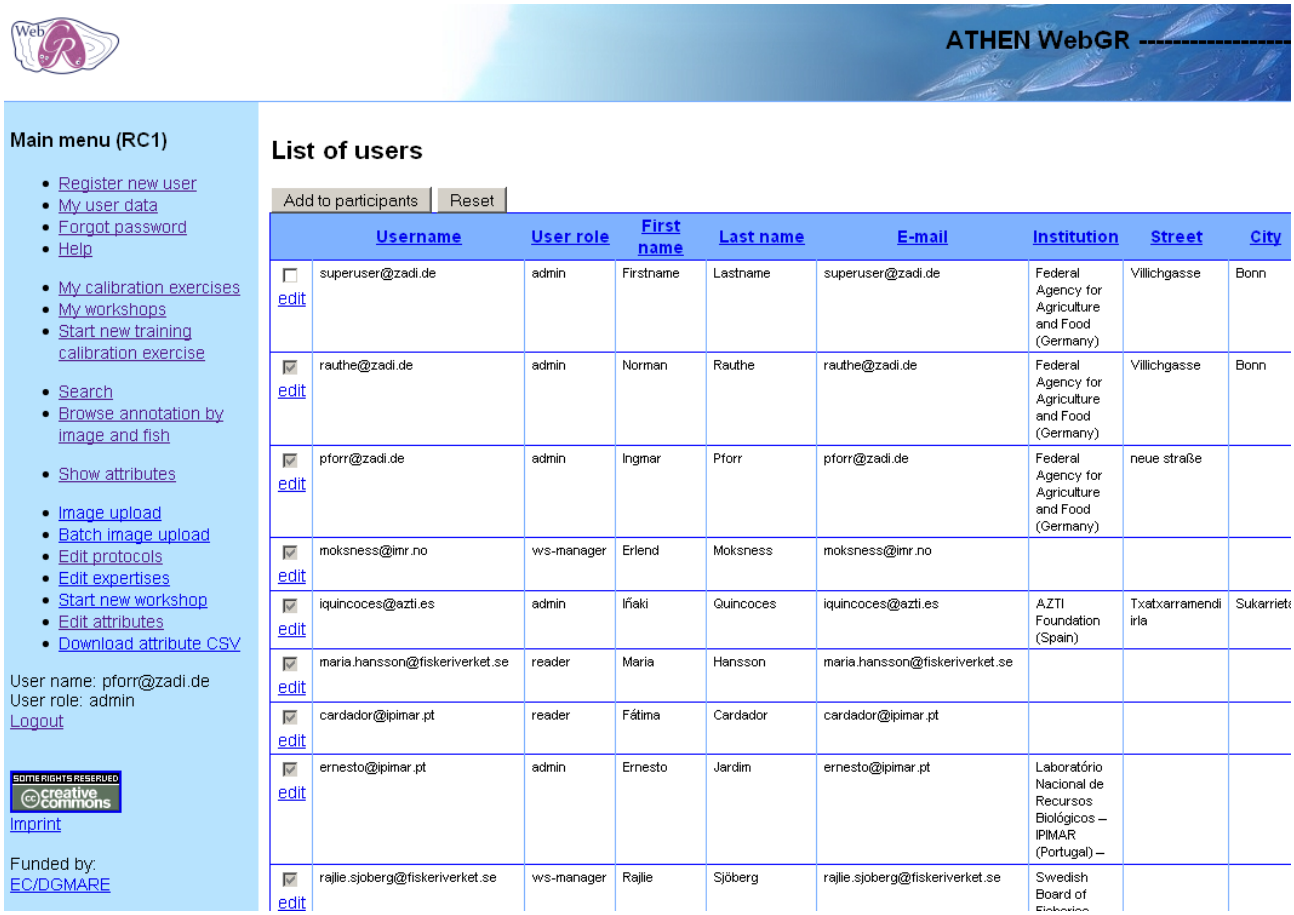


Figure 20: Search result list for users

In case you use a search in context of an action like add participants radio buttons or check boxes are available in front of each row. With the check boxes you can select certain objects and execute an action for all selected objects like adding the users to the participants list of a calilbration exercise (see Figure 20).

Workshop list

You can search for workshops with „My workshops“ and „Search“→ „List all workshops“.

To show the information about a workshop, click „info“ in the designated workshop row.

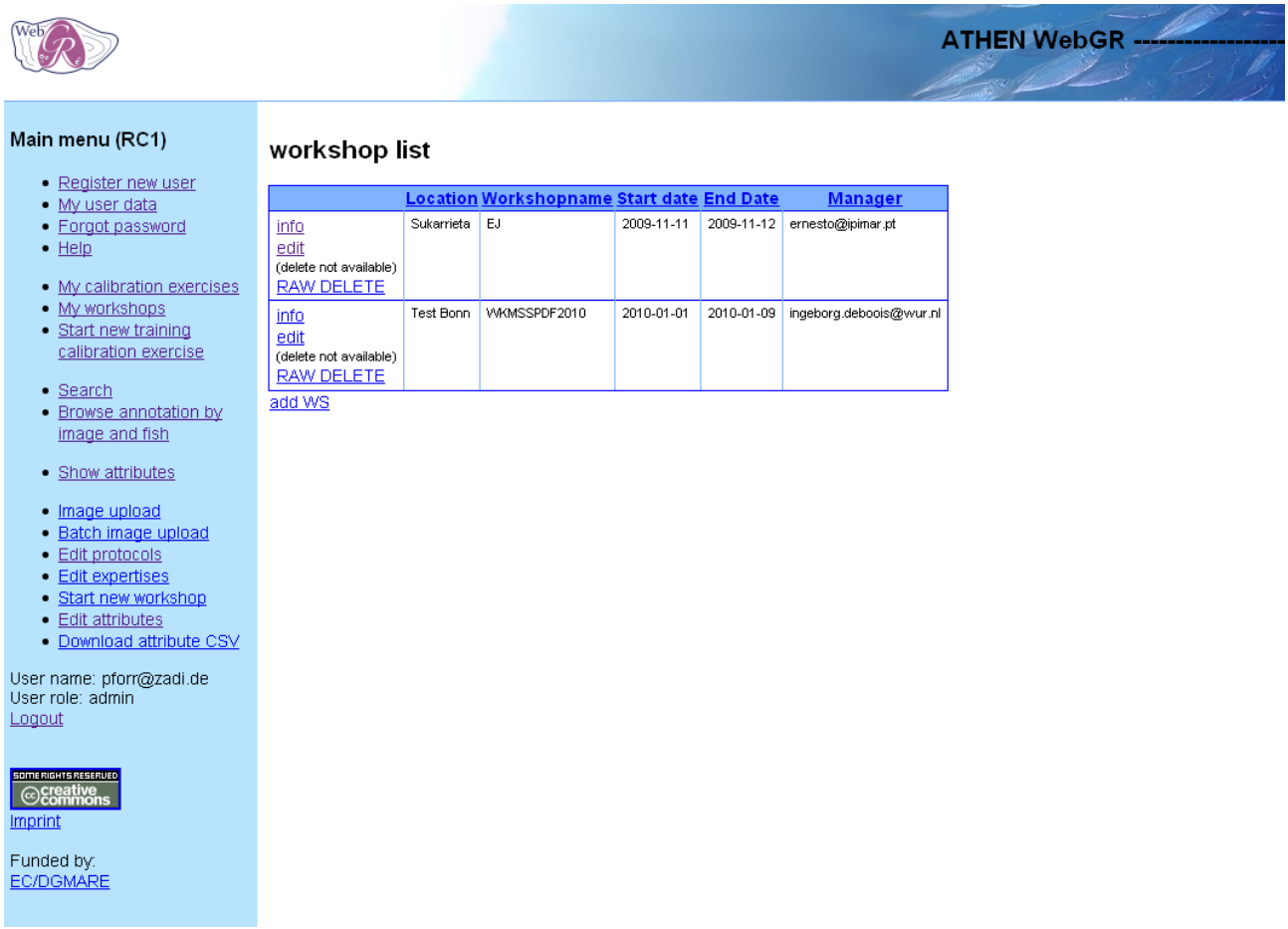


Figure 21: Workshop list

My Calibration exercises

By clicking on “My calibration exercises” you see a list with all calibration exercises you are invited in or all your training exercises you started before.

Click “annotate” to start the annotation interface. See Annotations.

Click “browse annotations” to show the already available annotations. See Browse annotations.

Calibration exercise statistics

Click on statistics in the designated calibration exercise row to view the statistical tables. The statistical reports include:

• annotations

• list of the participants

• list of the images and the connected fish data

• definition of the calibration exercise

Within the statistical tables click „download as CSV-file“ to download a Comma-Separated Values-file to process with Spreadsheet software like Calc or Excel or statistical software.

The statistical table of the annotation shows all readers and images involved in the calibration exercise.

IMAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Group	APE	CV	STDDEV	VARIANCE
Expertise level	Trainee	Trainee	Expert	Expert	Expert	Trainee	Trainee	Intermediate	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	Trainee	-	-	-	-	-
Stock assessment	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	-	-	-	-	-
IVA Q1 SL1 OTO 5.jpg	-	-	-	5	-	-	-	5	-	-	-	5	-	-	-	-	-	0	2,1951	78,2391	3,2078	10,2900
IVA Q1 SL1 OTO 5.jpg	0	-	-	5	0	-	-	5	-	-	-	5	-	-	-	-	-	11	2,1951	78,2391	3,2078	10,2900
IVA Q1 SL1 OTO 6.jpg	-	-	-	4	-	-	-	5	-	-	-	-	-	-	-	-	-	-	5,5556	11,1111	0,5000	0,2500
IVA Q1 SL1 OTO 8.jpg	-	-	-	5	-	-	-	5	-	-	-	-	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL2 OTO 8.jpg	-	-	-	6	-	-	-	6	-	-	-	6	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL2 OTO 8.jpg	-	-	-	6	-	-	-	6	-	-	-	6	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
IVA Q1 SL3 OTO 2.jpg	-	-	-	4	-	-	-	4	-	-	-	-	-	-	-	-	-	-	0,0000	0,0000	0,0000	0,0000
Mean of distances to mean	3,0000			0,3571	3,0000			0,3571				0,5000						-	-	-	-	-
Mean of distances to group	11,0000			5,5000	11,0000			5,5000				5,5000						-	-	-	-	-

Figure 22: Statistics of calibration exercise annotations

Under the readers' number you see the expertise level and stock assessment.

At the end of the table you see the group value (the value all readers gave the image collaboratively)

The results at the right side show the Average percent errror, the coefficient of variation and standard deviation and variance. **These values are aggregated for fishes**, so in case you look at two images from the same fish, they are the same.

The results at the bottom show the single **readers'** absolut mean of distances to the mean of the image values.

At first all annotations of the calibration exercise are shown. You are able to select only trainees, intermediates or experts or only readers values that have stock assessment.

Annotations

Make annotations

After creating an new annotation you are able to announce it into a group so that all other users can see and discuss it (see Figure 23). Click „Finalize“ to announce the annotation.

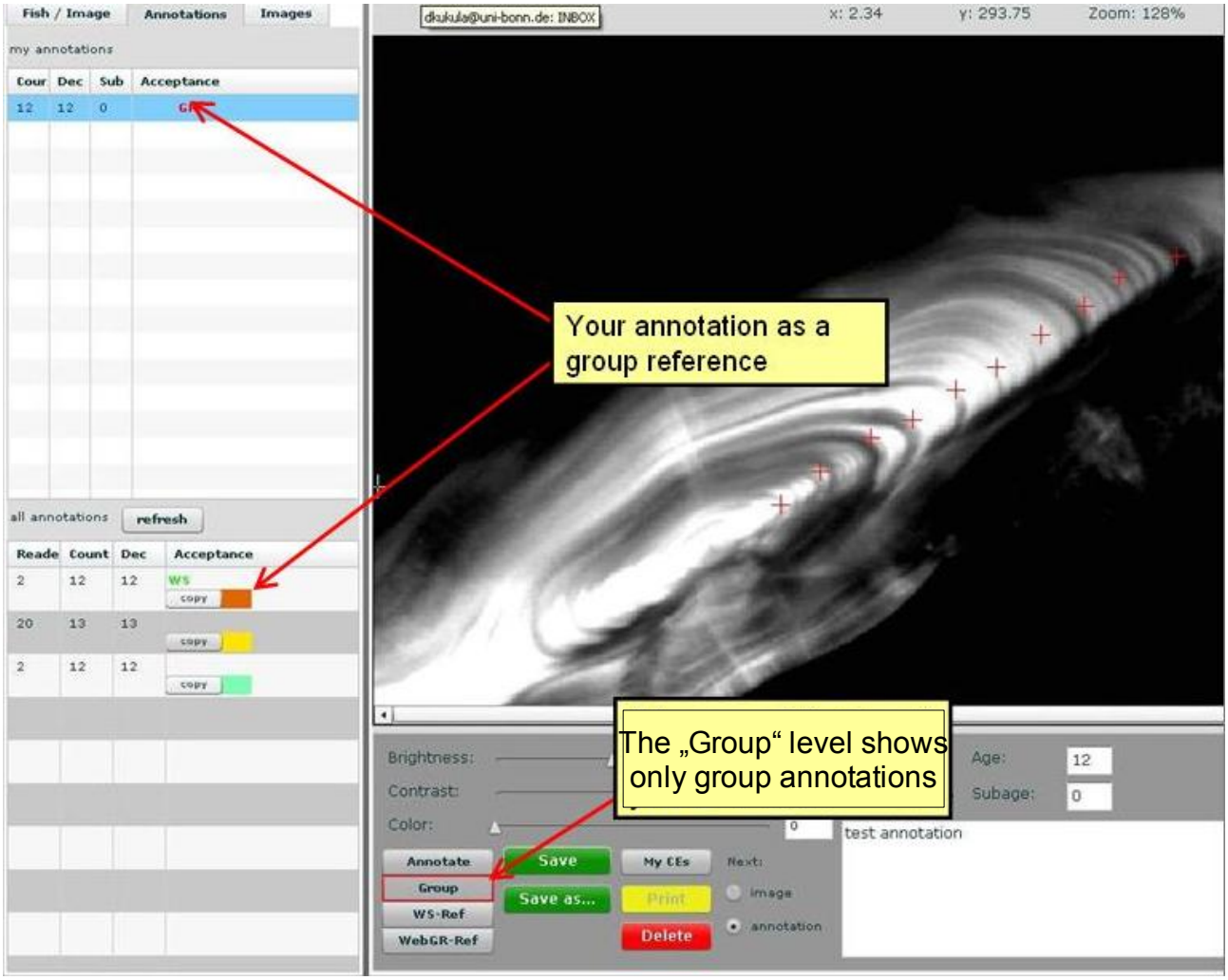


Figure 23: Announce the annotation

You can also copy an annotation from any other group member and work on it by clicking the “copy” button inside the „all annotations“ list. Now you can save it as your own annotation without deleting the original one.

Annotation levels of a calibration exercise

- The calibration exercise defines the protocol and expertise.
- If the calibration exercise is set to non-comparable, the group reference/workshop-reference/WebGR reference modes are not available and the „all annotations list“ is not shown. The calibration exercise can be changed to comparable in the meantime.

The following table shows and explains the different annotation levels, the goal of the level and the possible kinds of annotations.

Annotation level	**Goal**	**Annotations**		
		Type	**Explanation**	**Number**
Individual	Personal: Make **final annotation** for image in CE	**Final**	**Final annotations of this CE for each image by each reader**	**0...n**
		Group	Group reference of this CE	0...1
		Workshop	WS-reference of CEs within this workshop with same key & expertise as CE	0...1
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
Group	Group: Make **group reference** for image in CE	Final	Final annotations of this CE	0...n
		Group	**Group reference of this CE**	**0...1**
		Workshop	WS-reference of CEs within this workshop with same key & expertise as CE	0...1
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
WS-ref.	Group: Make **workshop-reference** for image for this key & expertise	Group	Group references of CEs within this workshop with same key & expertise as this CE	0...n
		Workshop	**WS-reference of CEs within workshop with same key & expertise as this CE**	**0...1**
		WebGR	WebGR reference of image with same key & expertise as this CE	0...1
WebGR-ref.	Group: Make **WebGR-reference** for image (system-wide) for this key & expertise	Workshop	Workshop references of image with same key & expertise as this CE	0...n
		WebGR	**WebGR reference of image with same key & expertise as this CE**	**0...1**

Browse annotations

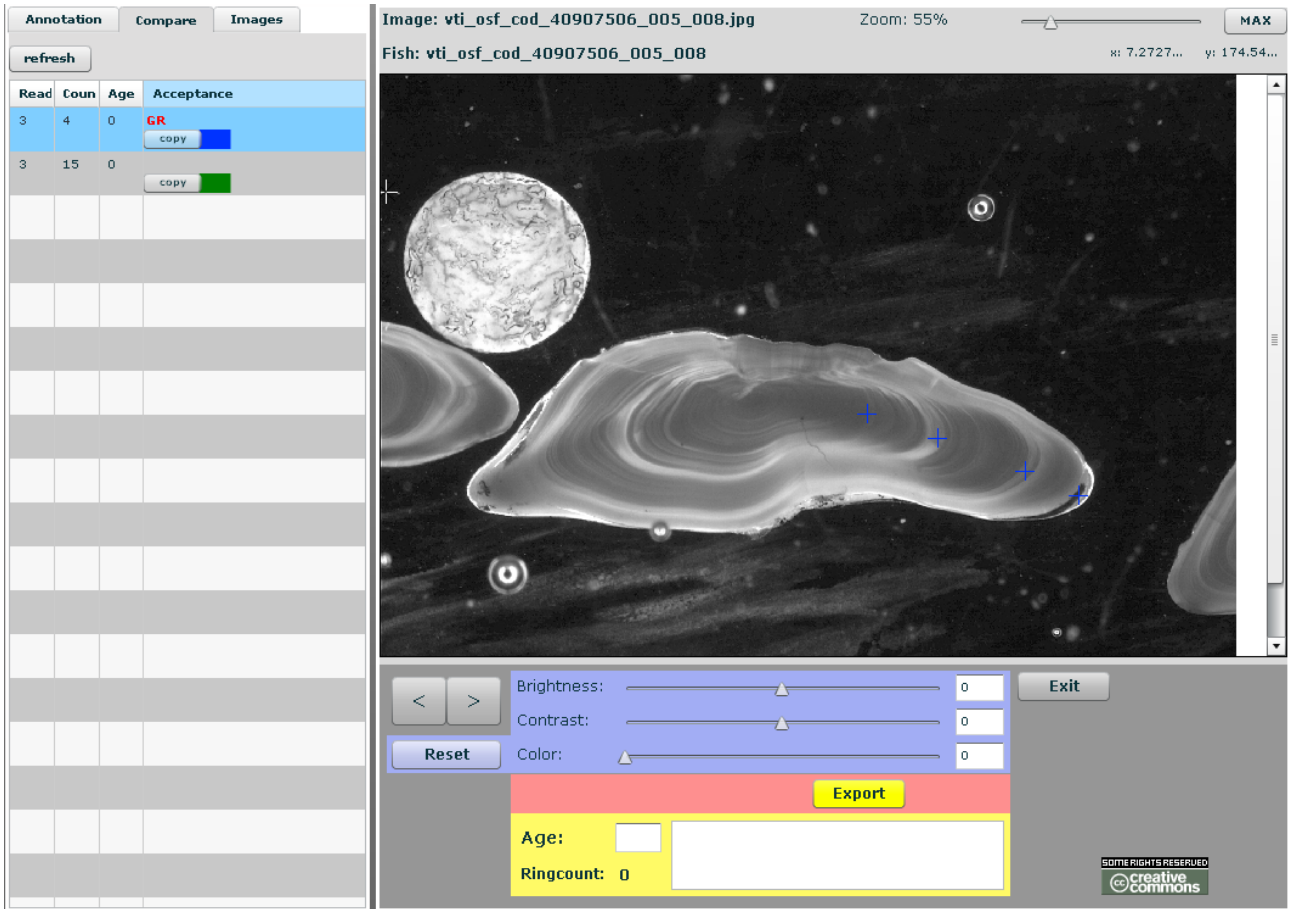


Figure 24: Browse annotations

Click „Browse annotations“ to load a set of images with annotations into the annotation interface.

You can only show images and annotations but you can not create new annotations or change existing annotations.

Data manager

The data manager succeeds all rights from reader. Additional functions are: upload, edit and delete own images files and fish data, edit own fish and image parameter and also administrate the expertises and protocols (see Figure 25).

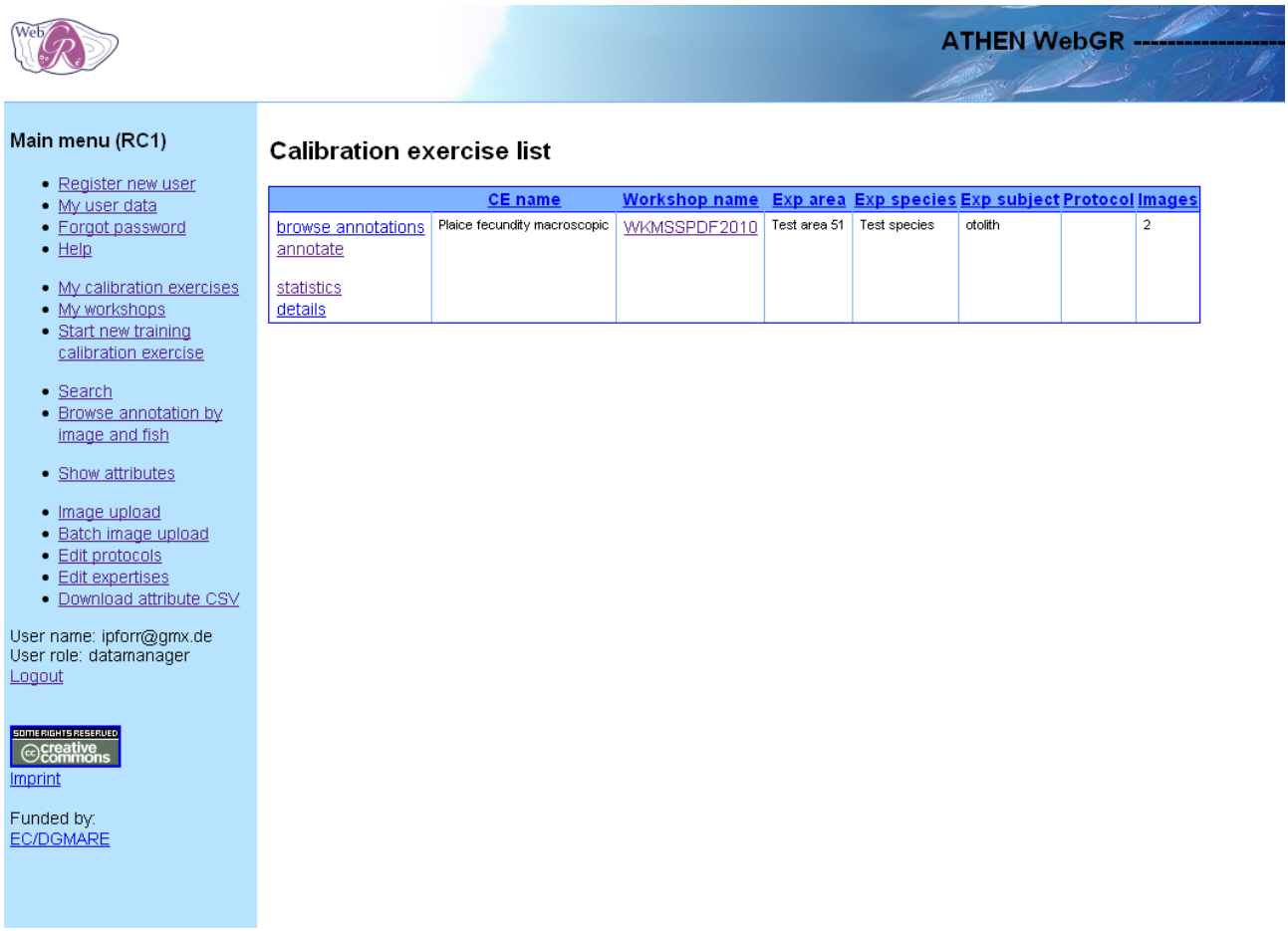


Figure 25: Additional functions for data managing

Show attributes

Click on show attributes to get a list of all attributes that are available in the system. Fish and image attributes are available in the edit forms, the search forms and the result lists, so they have a huge effect on the system.

Figure 26: Attribute descriptor list

Click on „show details“ to get the details.

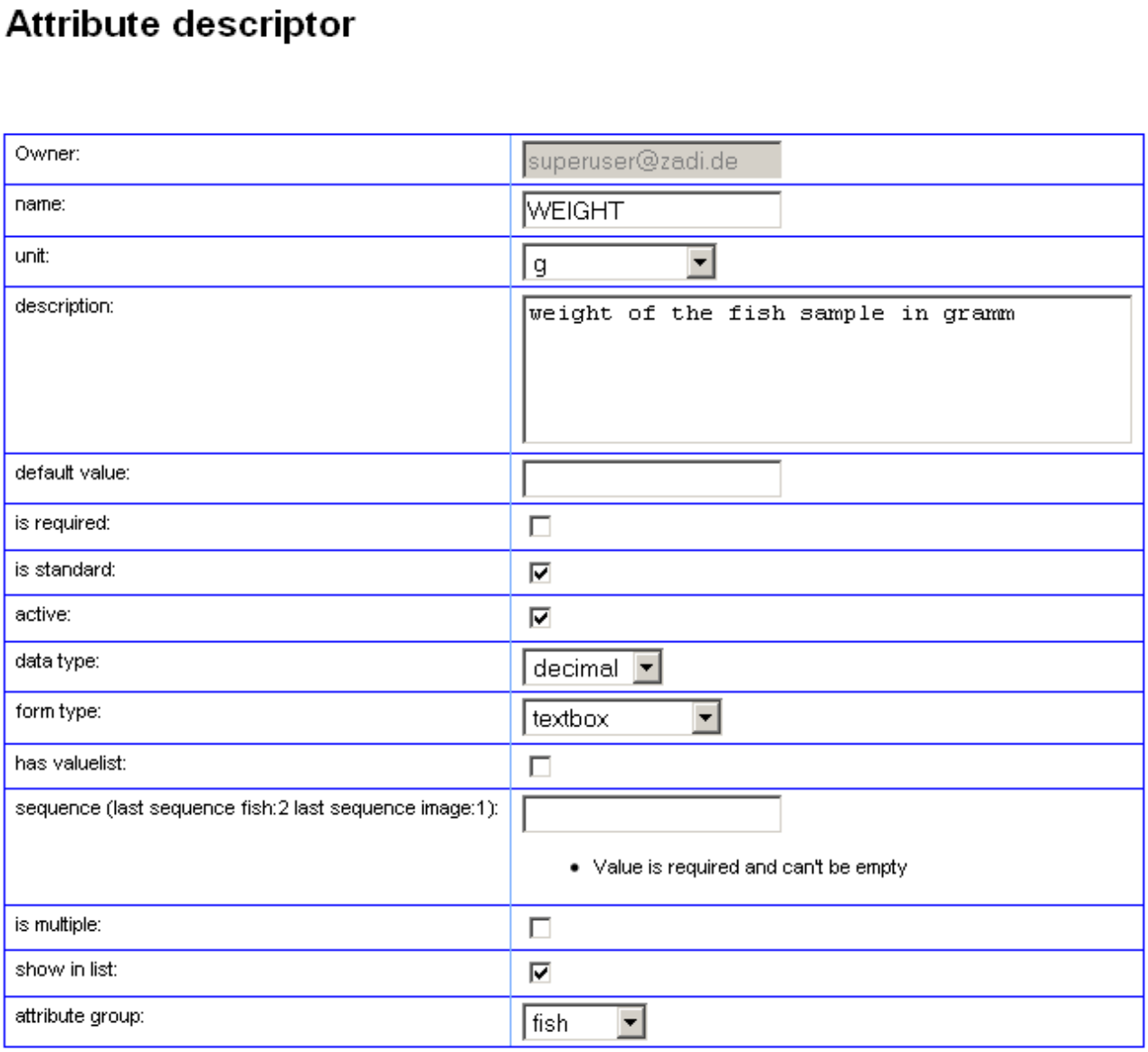


Figure 27: Details of attribute

Note: If the value that you want to import for a specific attribute is not listed here, the import for this datarows is not possible.

It's possible to edit the details and edit and add entries to the value list, if you have sufficient rights. See edit attributes.

Download attribute CSV file

It's possible to download a blank CSV file with only the available attributes as headings.

Click „Download attribute CSV file“.

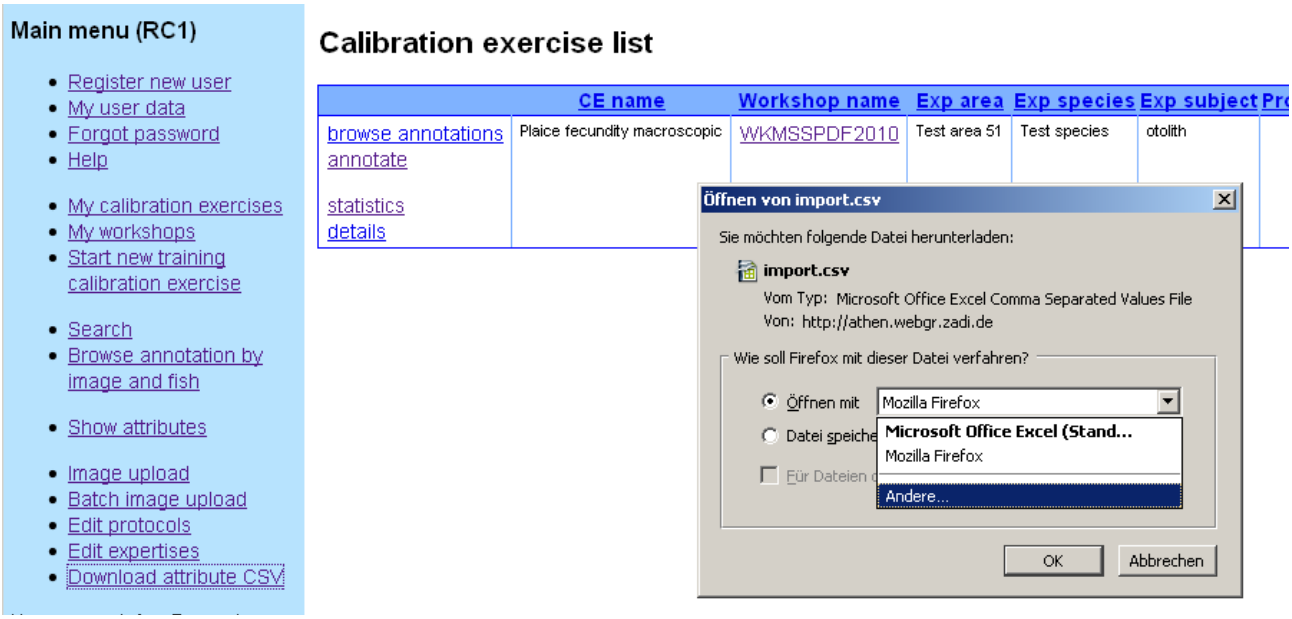


Figure 28: Operating system dialog "Open file"

A dialog box opens. Select „other...“ in open with selectbox.

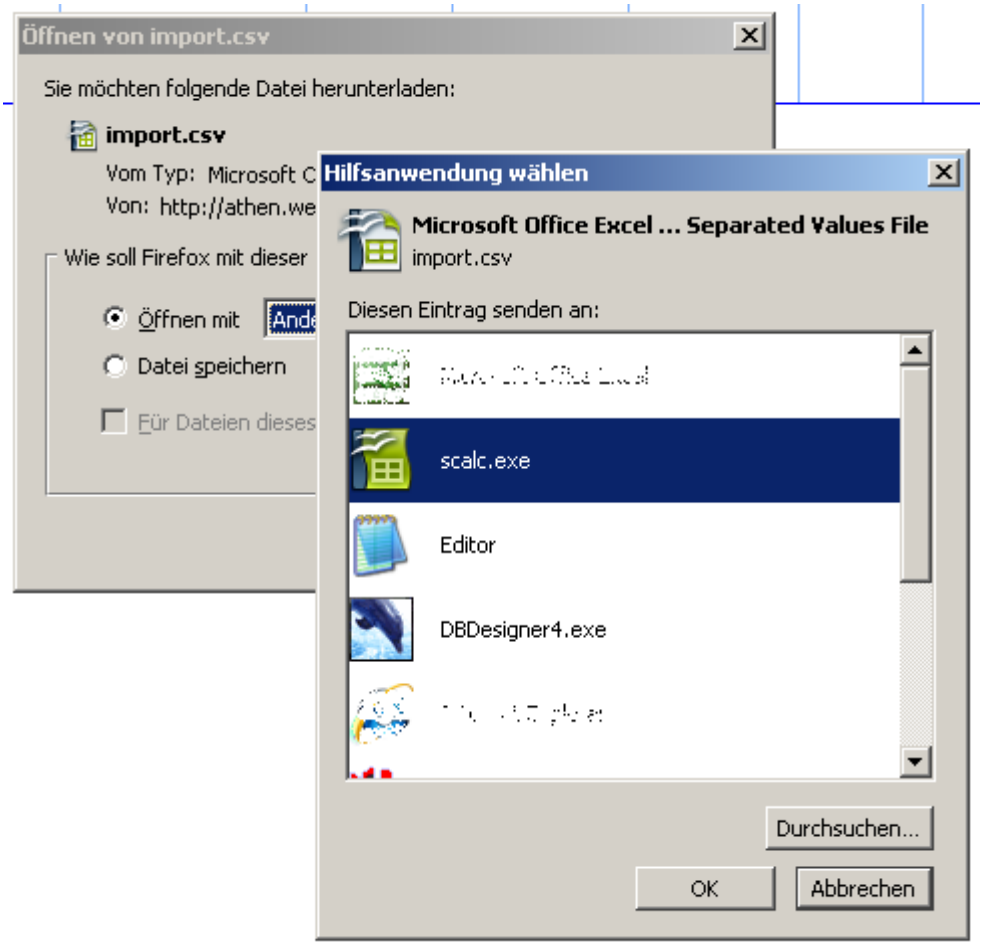


Figure 29: Operating system dialog: "Select help application"

To open the file with OpenOffice Calc select „scalc.exe“ and click „OK“. Click „OK“.

OpenOffice starts. Choose characterset „Unicode (UTF-8)“, leave everything else and click „OK“.

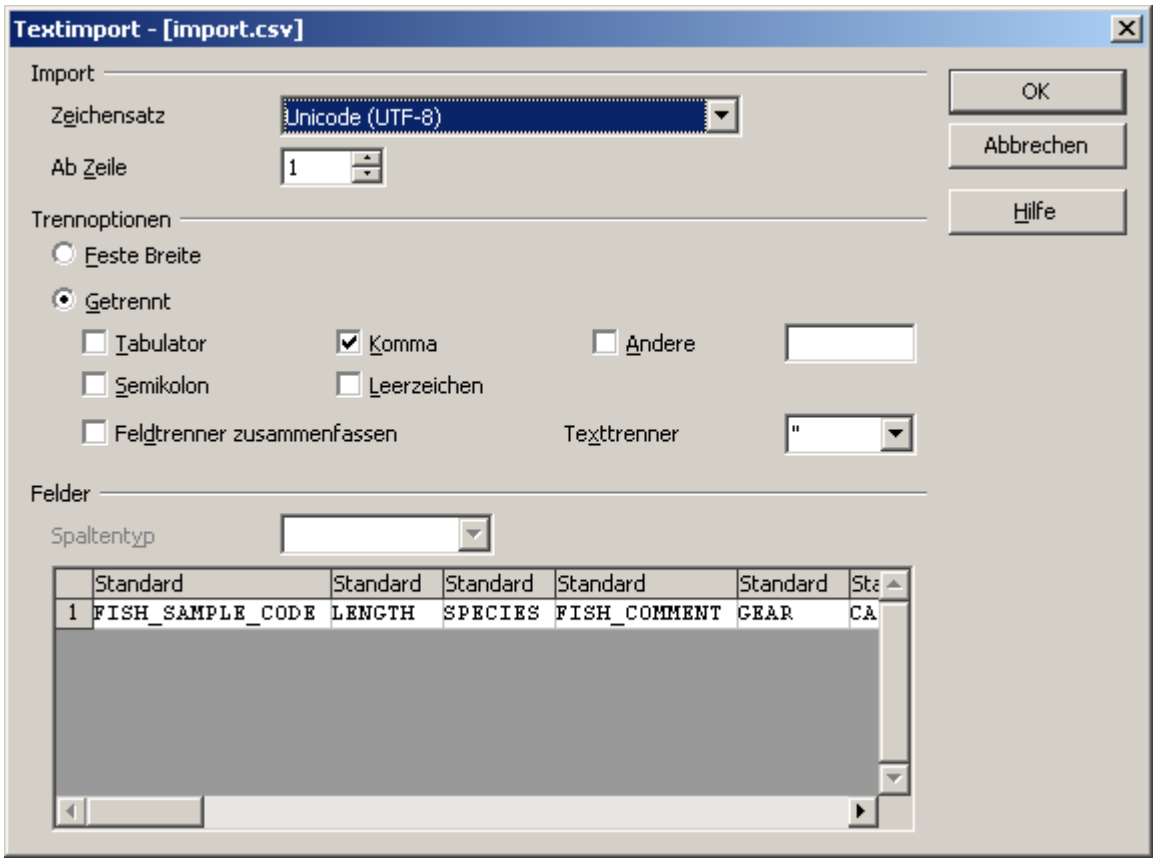


Figure 30: OpenOffice text import

The file opens.

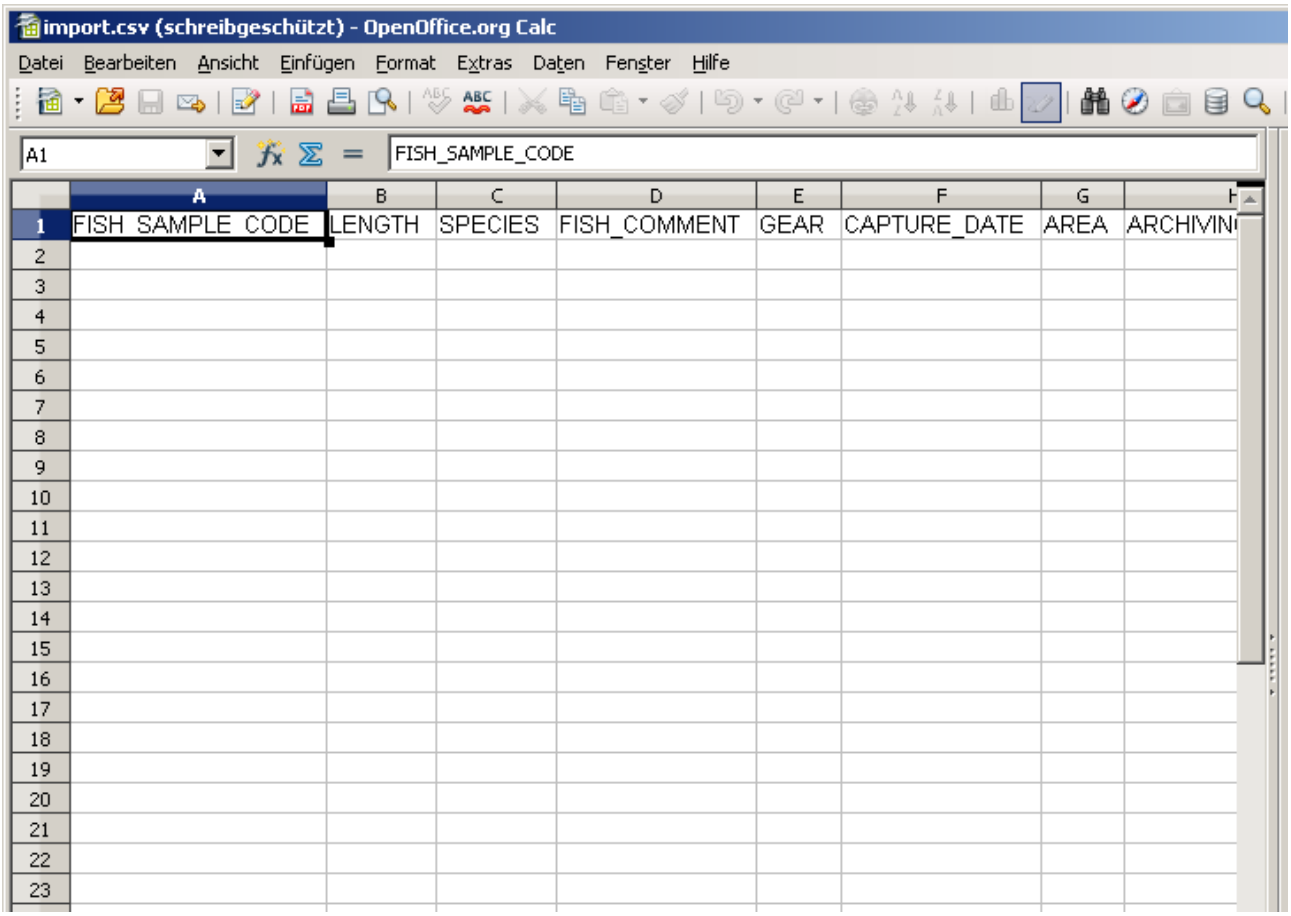


Figure 31: OpenOffice CSV file

Save the file under another name to edit it.

Image upload

Currently graphic formats GIF, JPG, PNG are supported. In every case the original uploaded file will be stored on the file system of the server.

Select an image on your drive with „Search...“-button. The file open dialog starts and you can select one file and go back to the form. You can upload up to 4 images at once with this buttons. All images will be assigned to the same fish, that you specify over the fish sample code.

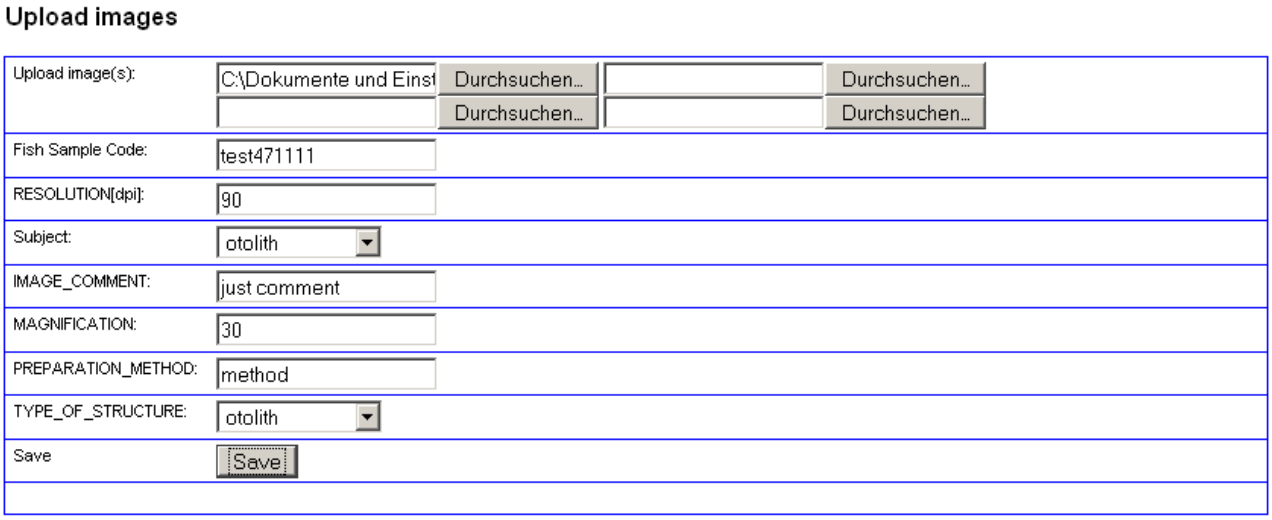


Figure 32: Upload images

In the form all (active) image attributes are available to fill out.

Type in the existing **fish sample code** exactly as you used it before. Or type in a new fish sample code. Select the image files you want to upload. You can add several files at once.

Select the **subject** and **type of structure** of the image. If you need more subjects, subjects can be added over the attribute descriptor.

Fill out the other image attributes. If you need more attributes, they can be added over the attribute descriptor.

Please give as much information as you and others would need for searching and finding the image later.

Click the „Save“ button. If the fish sample code is not in the database, you will be prompted to add a new fish (see Figure 33).

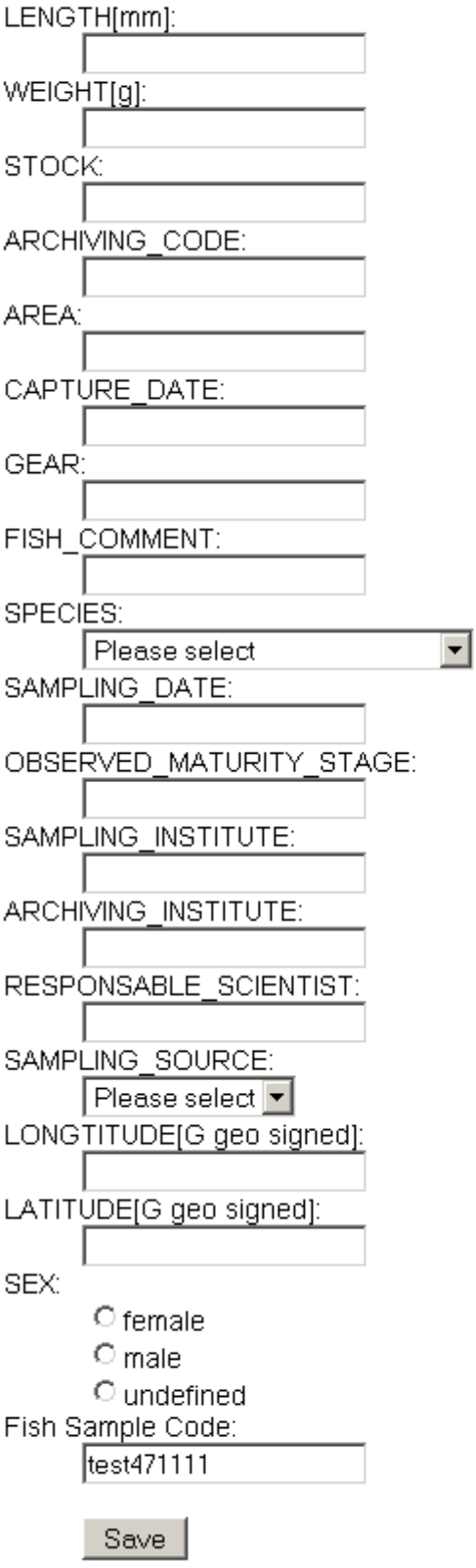


Figure 33: Add/edit fish form

Please give as much information as you and others would need for searching and finding the fish later.

Batch image upload (import)

With the import functionality you can import fish data, image data and image files at once.

You can create data in the system without using the forms. This batch import could need preparation of your existing data. This basically means reformating the data in a spread sheet, e.g.

- renaming of headers to match the system
- deleting of unit or percent signs in the value cells
- adding required columns and data.

The import procedure contains:

- creation of CSV file
- upload of CSV file and images
- before import check
- import of data and image files
- after import check

Upload

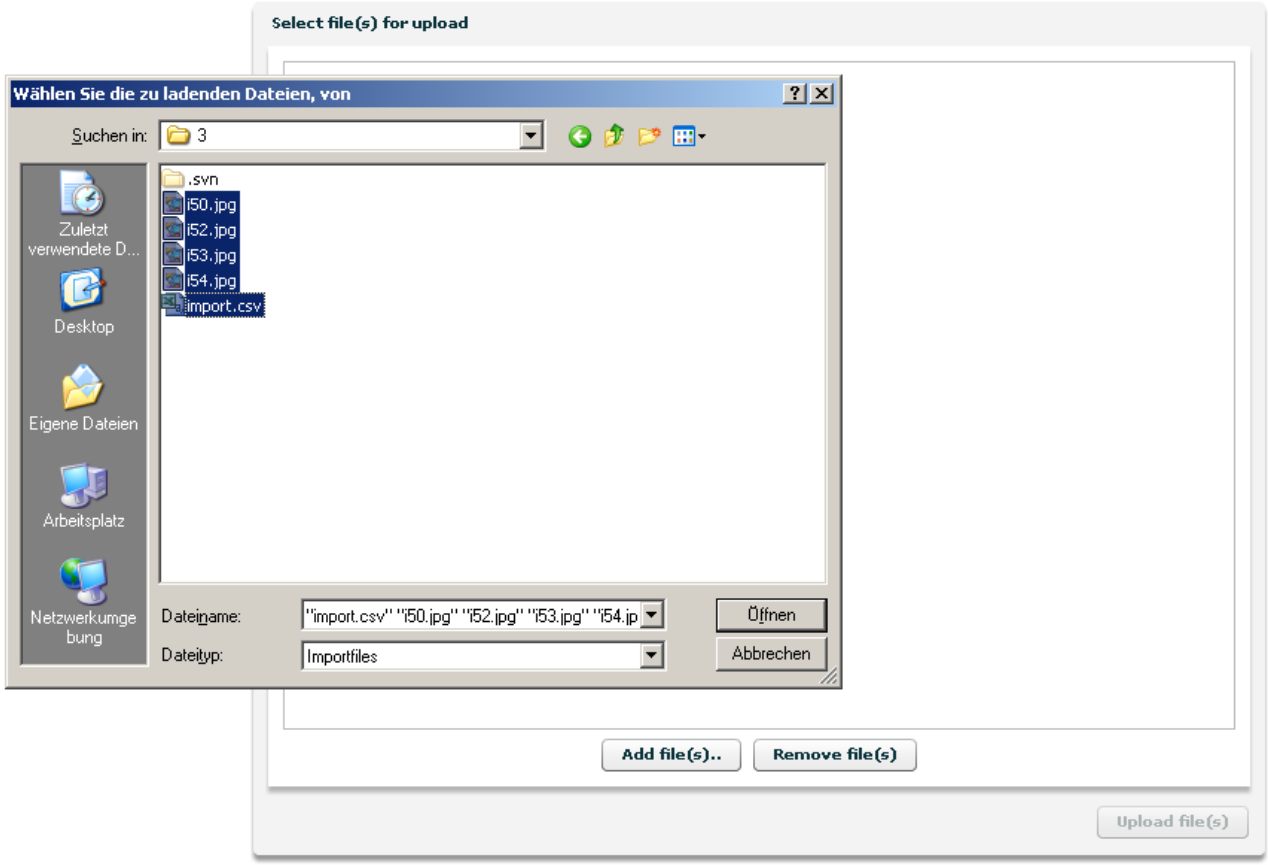


Figure 34: Select files screen from operating system (here Windows)

1. Generate the files (see below)

2. click „batch import“ to start the procedure
3. Click „Add file(s)...“
4. Operating system screen: Navigate to your source directory and choose your files to upload (import.csv and image files).
   Note: You can select multiple files with control-click (= select single element) and shift-click (= select all elements until...).
5. Click „Open“.
6. The files are in the list now; select and click „Remove file(s)“ if you selected too much files.
7. Click „Upload file(s)“ to upload the listed files.

Manual association of CSV file columns to system attributes

For the manual association of CSV file columns to system attributes you can choose the destination field in a table.

For supporting the association the select boxes are preset where there are equal column names provided in the CSV file.

Select the destination attribute (system) for each of the source attribute (file).

Note: For more information about the attributes click „show attributes“ before your import. If you need more destination attributes, the Admin can add new ones to the system.

If you want to ignore the column (e.g. a temporary column for calculations or a value not needed in the system) leave the select box on „--ignore--“.

A assocation setting is not storable.

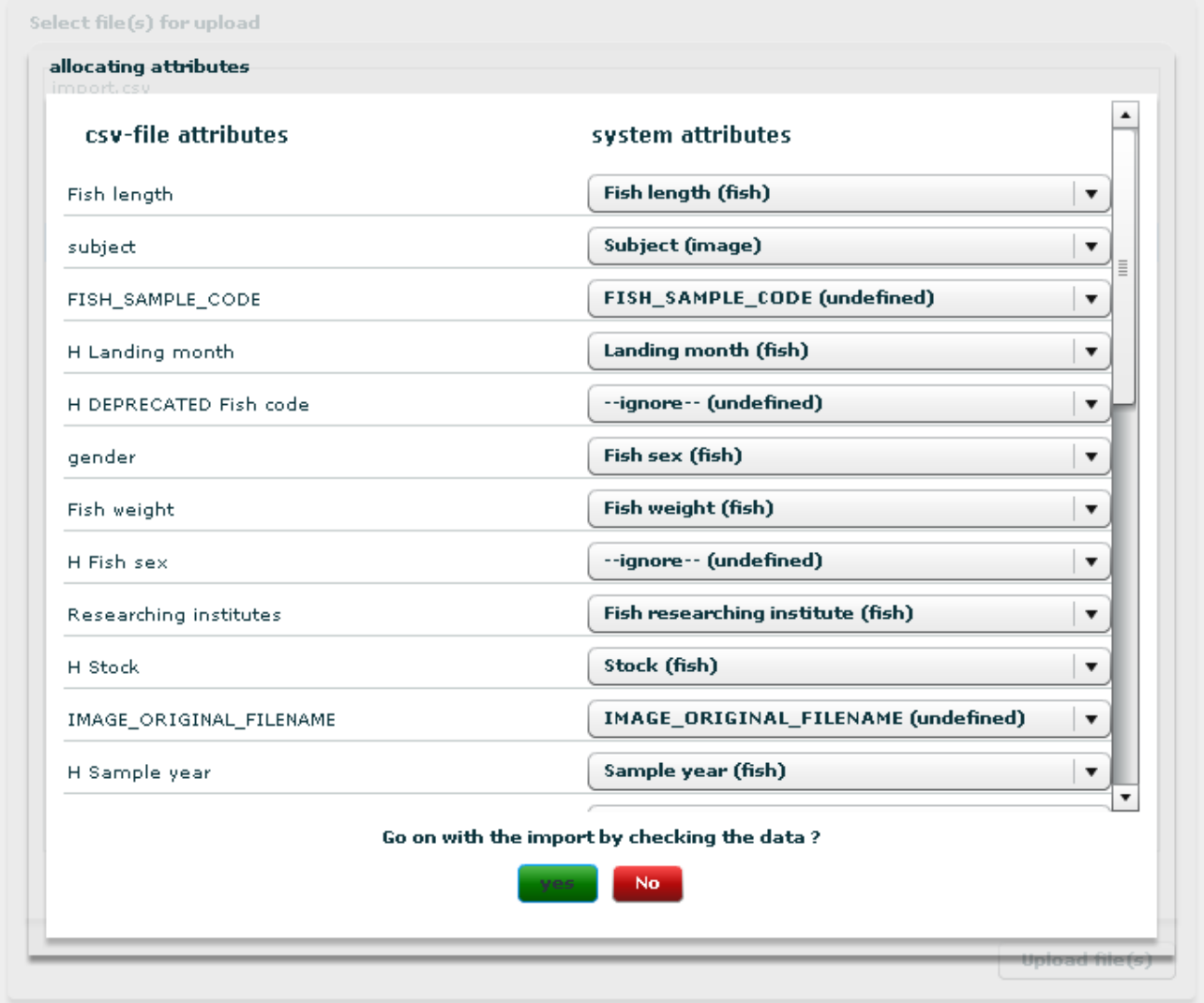


Figure 35: associate CSV file columns to system attributes manually

System checks before import

The several checks with the CSV file and the image files will be reported to the user. There are different boxes for different fields.

If an **initial error** occurs (invalid CSV file) there will be a message.

If an **error** occurs you will see which check has this erroreous data in the result code. Erroreous data columns and rows will not be imported.

If an **warning** occurs the data will be processed but perhaps the user expected something different.

If the results code states **success**, the specific check was all successful.

Import

If the test results showed no error, you are able to click „Import“.

Only valid datasets will be imported.

Click „Exit“

Important: Once imported fishes/images will not be extended. That means if you upload datasets again, e.g. with more columns or information provided, the data of existing datasets is neither overwritten nor extended. Unintentionally imported fishes and images must be deleted before importing again.

In case of image data and image files you will get a warning, if images for the specific fish (identified over FISH SAMPLE CODE)

- are already existing
- are existing with the filename provided.

For the start you can

- generate a blank spread sheet with the current attributes (all required and optional fish and image attributes)
  - use „Download attribute CSV“
- look up the available attributes and value lists in the system.

Conditions for an import

An import set consists in a CSV (character separated values) file and corresponding image files.

CSV file

For detailed information about the CSV file look at Creation of a character separated value file (CSV) suitable for WebGR.

Image files

Supported image formats:

- JPEG
- GIF
- PNG

Currently TIFF is NOT supported. Either NOT supported is Photoshop or other graphic utility program files.

Image size: Images can be very big (several megabyte and megapixel), the images will be shrinked.

Image file names: Theoretically image names can be repeated in another import, but this is not recommended for identifying and export reasons.

Converting other image formats with IrfanView

We suggest, you use IrfanView (we use version 3.98 here) on Windows to convert the images to copies in JPG-format, all at once automatically. The original files, e.g. TIFF-files, will not be overwritten.

(IrfanView is able to rotate single images and read much other image file formats, too.)

It's freeware for non-commercial use, please download under: http://www.irfanview.net/

IrfanView is running under Linux, too, with Wine.

1. Start IrfanView.
2. Click "File"->"Batch Conversion".
3. Navigate into image directory; you should see all the image files in the list container.
4. Click "Use this directory as output" to store the jpg-images in the same directory, so you won't have to create another one.
5. Choose Output format: "JPG - JPEG Format".
6. For highest quality click "Options".
7. Click the slider setting "Save quality" to outer right to 100, leave all other settings.
8. Click "OK".
9. Finally click "Start" and the images will be converted.
10. After the conversion is finished, close IrfanView.

Creation of a character separated value file (CSV) suitable for WebGR

Software and CSV file specifications

- Use spreadsheet software or editor of choice; it must be able to export UTF-8 (e.g. OpenOffice Calc, Notepad2).
- First row must contain headers.
- Further rows must contain the data.
- Save under specific file name (not test1.csv)

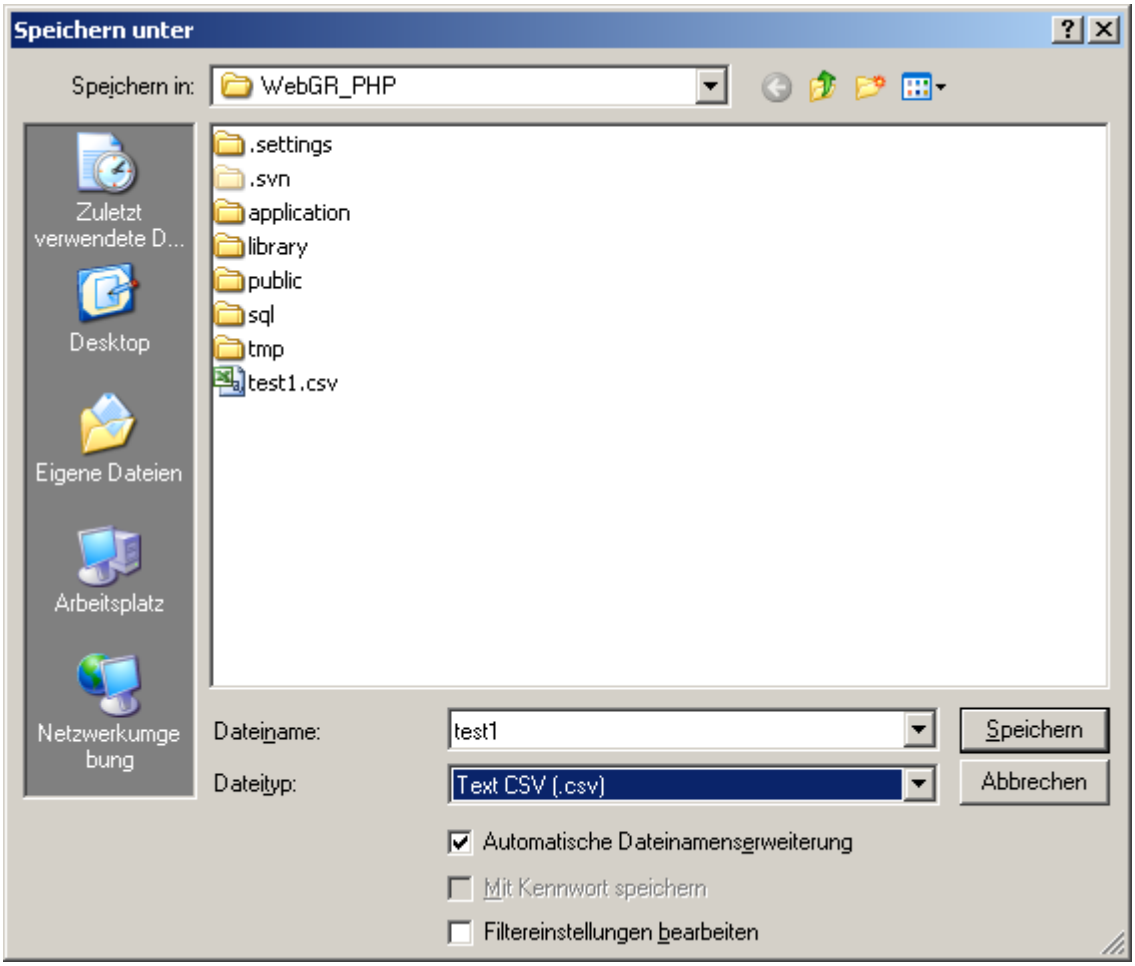


Figure 36: Operating system: Save as...

- choose CSV.

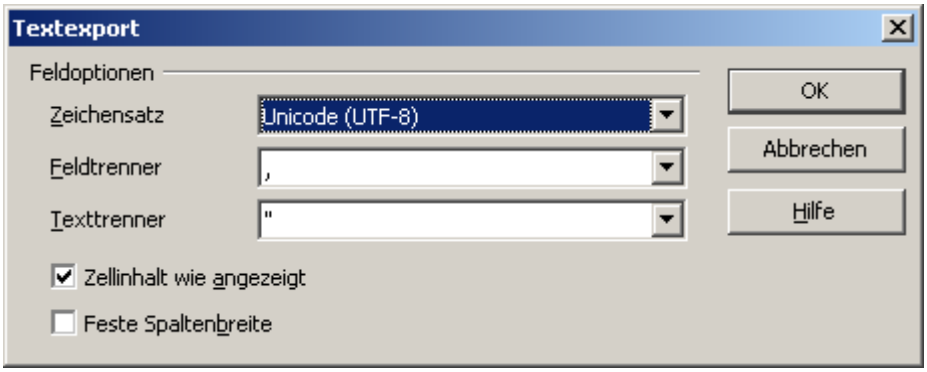


Figure 37: OpenOffice CSV save settings

- File name must be import.csv
- CSV file (character set) must be UTF-8 coded (as is the application scripts/database).
- Field separator must be comma (,).
- Text delimiter (enclosures) must be double quotation marks (“).
- Check „cell content as presented“.
- Click OK

Further CSV file specifications

Note: If you use OpenOffice Calc, you don't need to know this, because this is handled in the spreadsheet software.

After one dataset line break is used.

Line break within a cell content is only possible, when the cell content is enclosed within text delimiters.

For line break allowed control characters are LF (Unix systems etc.) or CR LF (Microsoft Windows systems etc.).

For NULL no character is written. Example: 4711,, means „4711“, NULL, NULL.

Data headings

For the possible headings click „Show attributes“ in WebGR.

1. The image file names must match the entries in column IMAGE_ORIGINAL_FILENAME.
2. The fish sample code must be in the column FISH_SAMPLE_CODE.
3. The CSV headers must match data columns in the system for fishes and images in the system.
4. The CSV headers must be unique

It's possible to have completely other headings in the CSV file (straight export from other system). Either you rename them to match the WebGR schema or you associate them manually inside the import.

Datasets

For the attribute details on click „Show attributes“->“show detail“ in WebGR.

- Date format: YYYY-MM-DD (a MySQL standard)
- Date time format: YY-MM-DD HH:MM:SS (a MySQL standard)
- Time format: HH:MM:SS (a MySQL standard)
- Latitude/Longtitude format: G (decimal)
  - right: -10.0987
  - wrong: -10 5.922
  - wrong: -10 5 55.3
  - wrong: S 10 1.016 W 10 5.922
- Decimal separator sign : . (point, like 9876.54) (a MySQL standard)

- Thousands separator sign: NOT USED
  - right: 1000000
  - wrong: 1 000 000
  - wrong: 1,000,000

1. The data fields (cells) for select fields (e.g. subject) or multiple select fields must match existing value lists for the given attribute. This can require to transform coded data from source coding to destination coding. If the value is not required it can be left empty.

   Examples:

   1. „1“ = female or „f“ = female ==> „female“
   2. „GR“ or „Griechenland“ ==> „Greece“
2. The cells for numbers must only countain a number, no unit, percent signs, degree signs, quotation or double quotations signs, monetary signs or other additional information.
   - right: -19.9
   - right: 19.90
   - wrong: -19.9°
   - wrong: EUR 19.90
3. The cells for numbers must be in the right destination unit, e.g. gallon, hektoliter must be transformed to liter, miles to kilometer, cm to mm.
4. The cells must be in the right coding standard, if there is an coding standard assigned with the attribute, e.g. Area could have coding standard from ICES/NAFO.
5. The datasets have to be valid against the image and fish attributes (like in the context of a form). E.g. a required value can not be empty.

Example:

1.a) data in spread sheet presentation (extract):

H Sample year	H Fish length	FISH_SAMPLE_CODE	Fish length	simple Text	IMAGE_ORIGINAL_FILENAME	subject
2000	19	50	19	test beta3 1	i50.jpg	otolith
2000	17	52	17	test beta3 2	i52.jpg	otolith
2000	15	53	15	test beta3 3	i53.jpg	otolith
2000	14	54	14	test beta3 4	i54.jpg	otolith

Table 1: import data in spread sheet presentation (extract)

1. b) same data in CSV representation:

```
"H Sample year","H Fish length","FISH_SAMPLE_CODE","Fish length","simple
Text","IMAGE_ORIGINAL_FILENAME","Image resolution","subject"
2000,19,50,19,"test beta3 1","i50.jpg","otolith"
2000,17,52,17,"test beta3 2","i52.jpg","otolith"
2000,15,53,15,"test beta3 3","i53.jpg","otolith"
```

```
2000,14,54,14,"test beta3 4","i54.jpg","otolith"
```

2. corresponding uploaded files:
import.csv

i50.jpg

i52.jpg

i53.jpg

i54.jpg

All the conditions will be tested before any data is imported to the system. The results are reported to the user.

If a dataset with a new image and an existing fish – checked with fish sample code – is read, the fish data is ignored, only the image data will be imported for this row. It's not allowed to overwrite existing fish datasets within an import.

An detailed import closing report will be available.

Technical details of import

First conditions are tested.

checks the CSV and prepares the datasets for import, and gives detailled arrays back for single steps for further processing and report

1. checks the CSV file column against uploaded files
2. checks the header
3. checks the columns with value list entries and changes from strings to IDs
4. splits and checks the datasets against given fish and image format
5. checks the fish and image datasets against datasets already in the database

Second files are read and imported.

Edit protocols

Note: In earlier versions „protocols“ where named „key“ or „key table“.

With this feature you can upload protocol files (e.g. PDF). You can select one protocol file in a calibration exercise. Users can see and call this file in their calibration exercise list.

A protocol is used to define the processing and goal of a calibration exercise. A protocol has a describing name.

Click „Edit protocols“ to see the available keys.

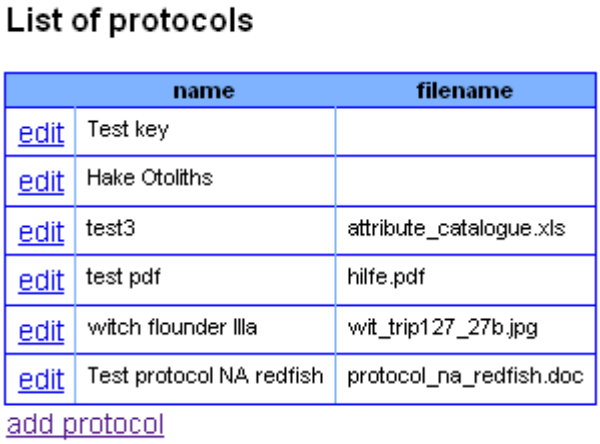


Figure 38: List of protocols

Click „edit“ in designated key row to edit the settings.

Or

Click „add key“ to add a new key.

After completion click „Save“ button. Click „Cancel“ button to cancel your settings.

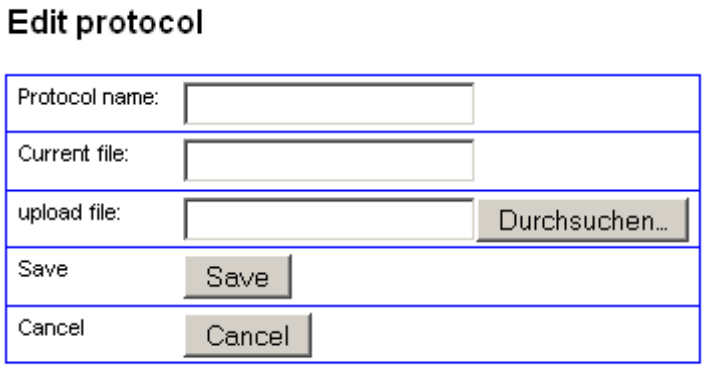


Figure 39: Edit protocol

Edit expertise

The expertise is a combination of

- area
- species
- subject respectively type of structure

Every user can have expertises. Expertises are related to a species, an area and a subject.

3 stages are available: Beginner, Intermediate and Expert.. See „my user data“ for selecting personal expertise.

Click „edit expertises“ to see the available expertises (see Figure 40).

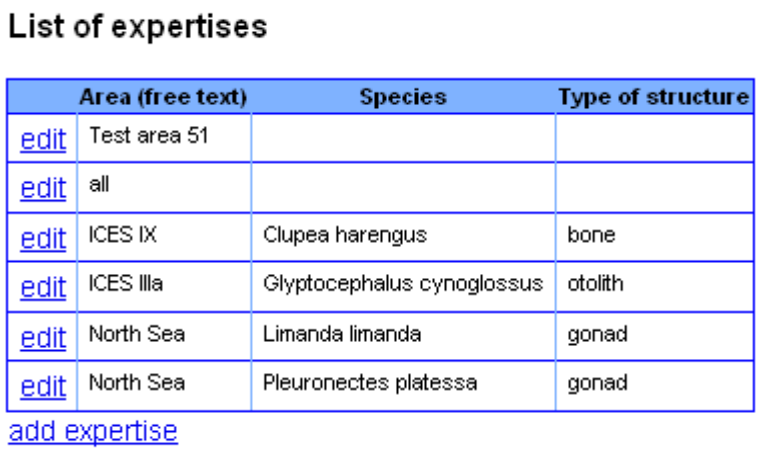


Figure 40: List of expertises

Click „edit“ in designated expertise row to edit the settings. Or click „add expertise“ to add a new expertise.

After completion click „Save“ button. Click „Cancel“ button to cancel your settings (see Figure 41).

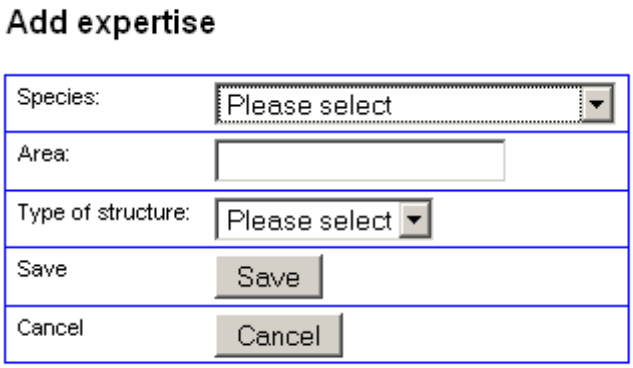


Figure 41: Add/edit expertise

Workshop manager

Workshop

Start new workshop

A workshop is an event where a group of people discuss the criteria used to classify a biological structure, commonly otoliths or gonads, with the aim of getting a better agreement among them for one species.

A calibration exercise may be followed by a workshop and further calibration exercises will take place within a workshop. Only the administrator is allowed to start a new or delete a workshop and set a new manager.

Click „start new workshop“.

Figure 42: Add workshop form

Fill out the form.

The available items in the selectboxes (e.g. Location, shown in Figure 42, and Institution) can be extended by the admin.

The default workshop manager is you. to select another user.

- Click on „change ws manager“
- Click „Search user“ → (if necessary enter filter criteria) → „Search“ button.
- Click the radio button next to the user in the designated user row.
- Click „set as workshop manager“. You are redirected to the workshop edit form.

After completion click „Save“ button.

Workshop information

To show the information about a workshop, click „List workshops“ → „info“ in the designated workshop row.

Calibration exercise statistics

Click on statistics in the designated calibration exercise row to view the statistical tables.

See calibration exercise statistics.

Link repository

Click on „add link“ to add a new web link for the workshop for additional workshop information.

File repository

Click on „add file“ to add a new file for the workshop for additional workshop information. Enter a desciption, select a file and click the „Save“ button.

Start new calibration exercise

The following chapters describe how to set up a calibration exercise including the main settinigs, the participants and the definition and building of a image set.

Main settings

Click „List workshops“ → „edit“ in the designated workshop row → „start new calibration exercise“.

Enter a name and description and click the „Save“ button. Now you can edit the details.

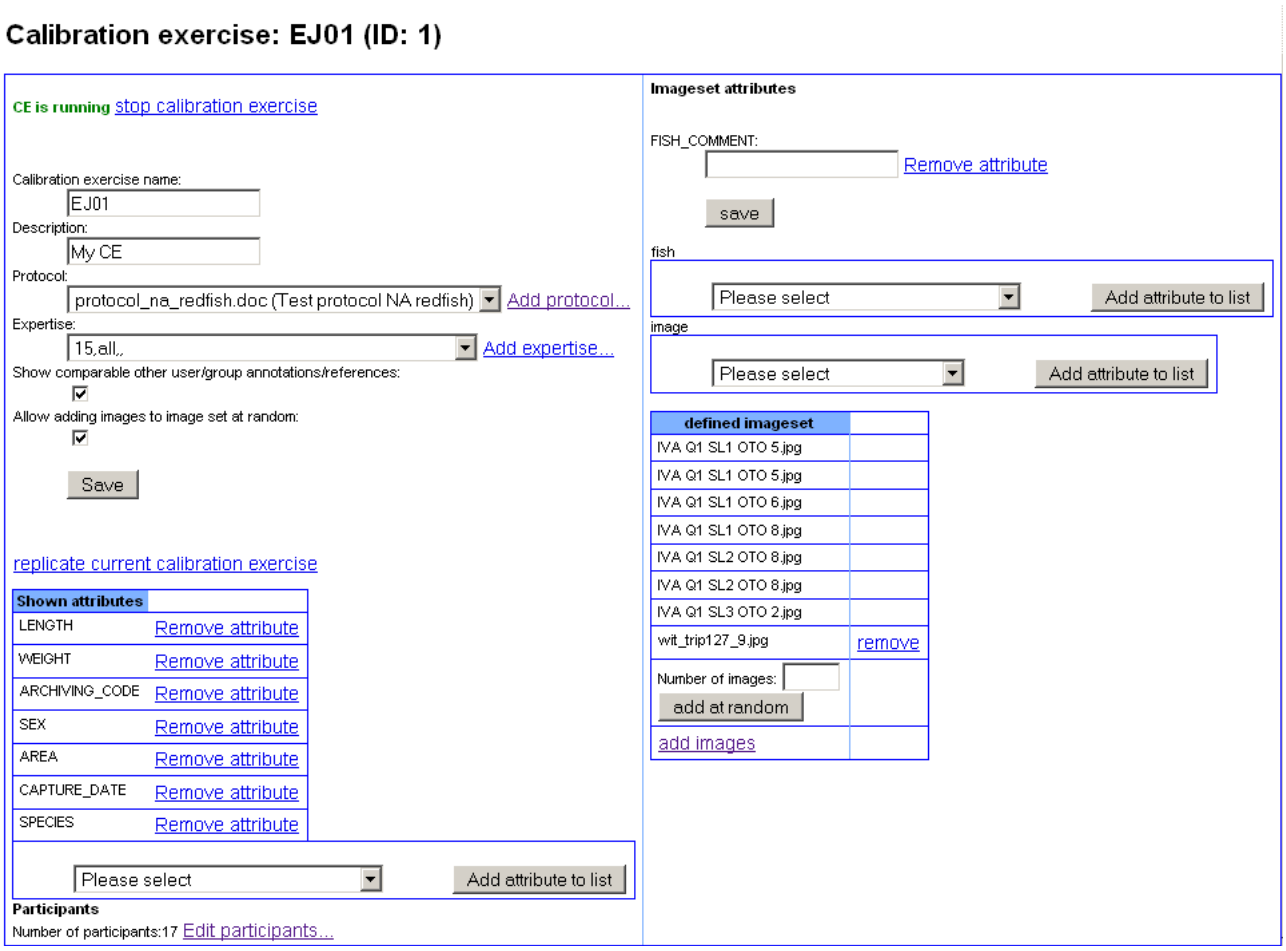


Figure 43: Edit calibration exercise form

- Choose an existing protocol or add a new protocol. See edit protocol.
- Choose an existing expertise or add a new expertise. See edit expertise.
- Check „Show comparable other user/group annotations/references“ if you want to show the other users annotations in the annotation interface or do not check if it's a blind test.
- Check „Allow adding images to image set at random“ if you want to be able to add images to the image set at random.
- After completion click „Save“ button.

Shown attributes

Select the attribute you want to show in the annotation module. Click the „Add attribute to list“ button. To remove a certain attribute again, click „Remove attribute“ next to the designated attribute.

Participants

To add, edit or remove participants click „Edit participants...“.

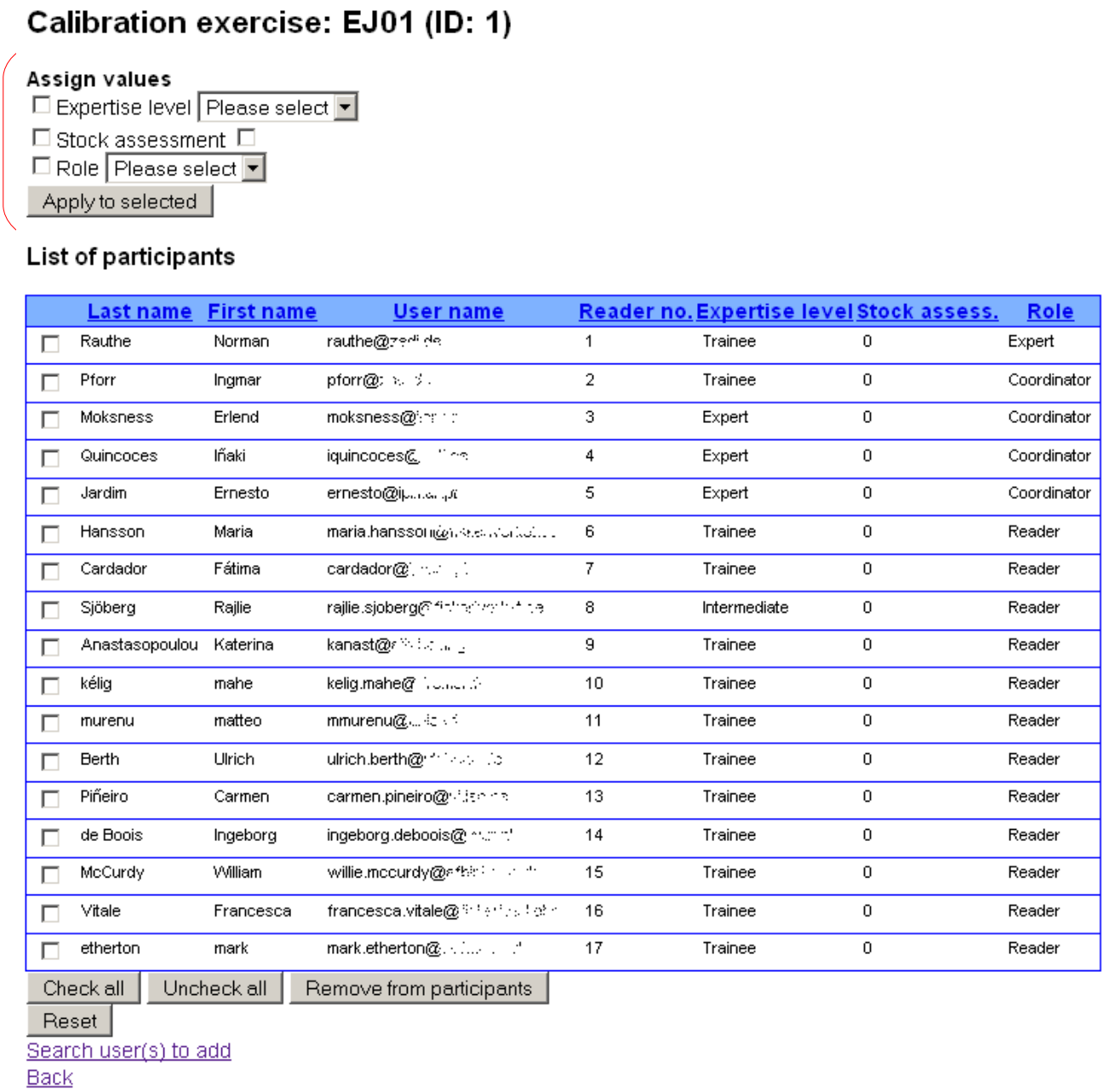


Figure 44: Edit participants form

Add participants

Click „Search user(s) to add“ → (if necessary enter filter criteria) → „Search“ button

Check the boxes next to the users in the designated user rows. Click „Add to participants“ button.

Remove participants

Check the boxes next to the participants in the designated participant rows. Click „Remove from participants“ button.

Assign values to participant(s)

With this special form you can apply settings to all checked participants at once.

1. Check the boxes next to the participants in the designated participant rows.
2. Check the attribute boxes next to the attributes you want to assign/reassign. Select values for the attributes.
3. Click the „Apply to selected“ button. Note: Current values for the participants will be overwritten.

Click „Back“ to go back the the calibration exercise details.

Imageset attributes

The imageset is the selection of images for an calibration exercise. Only these exercise specific images will be available in the annotation module.

List of images

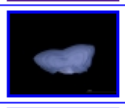
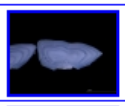
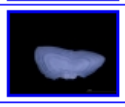
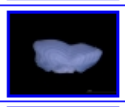
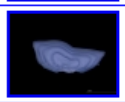
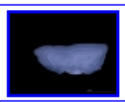
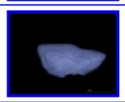
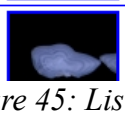
	Thumbnail	Original file name	Fish sample code	Width	Height	LENGTH mm	SPECIES	FISH_COMMENT
☑		IVA Q1 SL1 OTO 5.jpg	IVA Q1 SL1 OTO 5	1280	960			
☑		IVA Q1 SL1 OTO 6.jpg	IVA Q1 SL1 OTO 6	1280	960			
☑		IVA Q1 SL1 OTO 8.jpg	IVA Q1 SL1 OTO 8	1280	960			
☐		IVA Q1 SL2 OTO 6.jpg	IVA Q1 SL2 OTO 6	1280	960			
☑		IVA Q1 SL2 OTO 8.jpg	IVA Q1 SL2 OTO 8	1280	960			
☑		IVA Q1 SL3 OTO 2.jpg	IVA Q1 SL3 OTO 2	1280	960			
☐		IVA Q1 SL3 OTO 4.jpg	IVA Q1 SL3 OTO 4	1280	960			
☐		IVA Q1 SL3 OTO 5.jpg	IVA Q1 SL3 OTO 5	1280	960			
☐		IVA Q1 SL3 OTO 7.jpg	IVA Q1 SL3 OTO 7	1280	960			

Figure 45: List of images, images already assigned have readonly check mark

1. Select fish or image attribute and click „Add attribute to list“ button.
2. Enter or select value(s) for the attribute. In the case of simple number fields (integer/decimal) you are able to enter FROM and TO value for ranges with larger

than/equal and smaller than/equal. For the exact value enter the same value in the FROM and TO field.

3. Click „Save“ button to save the imageset attribute settings.
4. In case you want to have more attributes combined repeat 1.-3.
5. Click „add images“ to add images for the now defined imageset.
6. Check the boxes next to the images in the designated image rows.
7. Click „add images“ button.

Click „remove“ next to the image you want to remove from the imageset again. This function is not available for images that have annotations already.

Click „remove attribute“ next to the attribute you want to remove from the imageset attributes again.

Calibration exercise final notes

Please make sure you set key, expertise, comparable and imageset to your needs. Calibration Exercises with incomplete settings will not be shown.

The workshop manager / CE coordinator can start and stop calibration exercises.

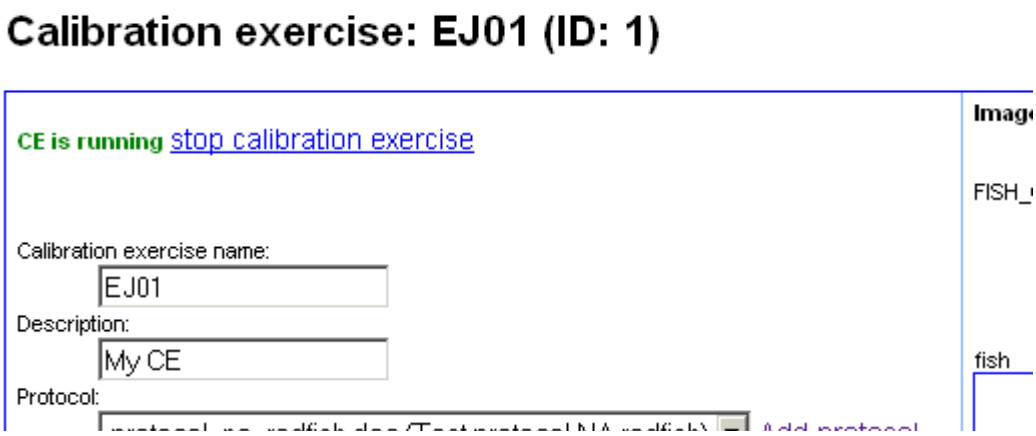


Figure 46: start/stop state in calibration exercise

If a calibration exercise is started, it is not possible to delete the calibration exercise.

If a calibration exercise is stopped, it is not possible to make annotations. However the reading of annotations is possible.

Administrator

The administrator can parametrise the application to the institutions needs. It is possible to add attributes, add and edit value lists, that are used for the search and edit forms within the application.

Preface

For security reasons, the **BACK BUTTON OF BROWSER** isn't allowed in all forms.

Login and logout

Click on any menu item to login. Login with your username = e-mail address and personal password. The password is stored encrypted, so it's not possible to read out, only to reset.

Click on „Logout“ below the menu items to logout.

Preparation

Edit user

To set a new role to a user you have to edit the user. Click „Search user“ → (if necessary enter filter criteria) → „Search“ button, click „edit“ in designated user row, choose role in role select and click „Save“ button. Choose data-manager or ws-manager.

If necessary, click **BACK BUTTON OF BROWSER** twice and repeat.

Edit attribute descriptor

Attributes

Attributes are used in many places in the application...

- if you add or edit an image or fish (edit form)
- if you search an image or fish (search form)
- in the calibration exercise
  - as saved list („show attributes“)
  - as saved filter form with saved filter values („imageset attributes“)
- in the search result (result table)
- in the import

To add or edit meta data fields to image or fish, click „Attribute description“. Attributes can be used and seen in search and edit forms.

Click „edit“ in designated attribute row to edit the settings. Or Click „add attribute descriptor“ to add a new attribute descriptor.

Detail	Description	Restriction, constraint Admin has to take care
owner	Only owner and admin can change/delete the attribute.	
name	The used name in input, forms and tables.	
unit	A unit for the attribute value (see unit).	
description	The discription	
default value	Enter a „default value“ for a prefilled form field.	
is required	Check if field has to be filled out in edit forms.	
is standard	Check if field has high priority in form (is shown first). See sequence, too.	
active	Check to allow general usage (if attribute is shown in search/edit forms/result tables).	
data type	The data type	integer if select, multiselect, radiobuttons, multicheckbox boolean if single checkbox
form type	The input type resp. form element **in edit forms** *Use single checkbox for YES/NO selection.* *Use radio button for single selection from long list.* *Use multicheckbox for multiple selection from long list.* See Form elements.	select, radiobuttons if value list multiselect, multicheckbox if value list and is multiple
has valuelist	Decide wether attribute has free value (open) or certain defined values (closed).	on if select, multiselect, radiobuttons, multicheckbox off if text, textarea, checkbox
sequence	The sequence number in forms and tables. See is standard, too.	1=highest... 999999...= very low, 0 = lowest, number can be used multiple times.
is multiple	Object has multiple values for this attribute.	
show in list	Decide wether **search result table** shows this attribute/value.	
attribute group	The object which the attribute belongs to. E.g. the fish form, the image form	fish, image, system

After completion click „Save“ button.

Units

„UNIT“ is an special system attribute that is available for all attributes and that shows up after the attributes in forms. One attribute can have only one unit.

Value lists

If the attribute has an value list (box „has valuelist“ is checked), you can edit the possible values.

Click „Add value list“ or „Edit value list“. Edit the current values and click „Update“ button. Or enter new entry and click „Add“ button.

After completion click „Back“.

Further preparation

For further steps see the chapters for editing protocols (page 74) and editing expertises (page 75).

FAQ

- Pictures are of low quality on my screen, difficult to see rings
- did you try zooming?
- For Image Q1-17_1 nothing happens if I press copy WS
- two things can cause this. For the first there are no annotations made in the reference and for the second the annotations where exactly at the same positions as your annotations. But there is also a bug, for some situations the program makes automatically a annotation at the point 0,0
- How do I return to the main page after finishing?
- click “My CE”

-Search gives error message: Nothing found! There are no results for your search.

-Try less filters.

What does a certain input field mean?

Please ask the administrator about the definition of the meta data.

- What happens if I press ‘Save as’? There is no option to define any name, so why is the button ‘Save’ not available? –we assume that save is only to save an existing annotation and save as is meant to save a new annotation. Why do we need two buttons? In both cases we overwrite an annotation – an empty one or a filled. If this can be combined in one button this would be nice.
- "save as" means save as new annotation and "save" means update the current annotation

- What happens when using the refresh (all annotations) button?
- this function is only interesting for long-lasting CE sessions, then you have the possibility to see instantly the new annotation from the other readers which have been made in the meantime.

- Do we have the possibility to test the higher permission levels? E.g. are we able to upgrade a final reading to a workshop agreed annotation? The coordinator is able to manage this, please ask them.

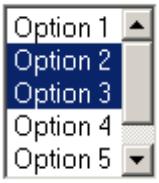
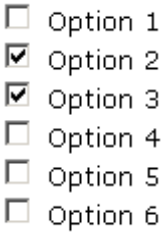
- Is it possible to see my personal information (e.g. permission levels etc.) without having to leave the calibration exercise?
- On the bottom of the first tab “fish / image” you see your participant role. What other information do you want to see?
- How can we close the session and return to the menu? (now we use ‘back’ but this is not the way we think is appropriate).
- its ok, but you can use the button “My CEs”

- Permissions: If someone is in a calibration exercise, this person should not be allowed to see

the reference annotation because otherwise you'll never have a proper calibration exercise.

- You can setup this in the CE administration interface.

Form elements

Purpose	Graphical example	Edit form	Search form	Result list form
Check yes or no	I have a car: 	Checkbox (single)	Checkbox (single)	1=on or 0=off/not set
Free text field, also for numbers, dates, times	First name:	Textbox	Textbox FROM Textbox TO	Text
Free text field with line break	The cat was playing in the garden.	Textarea	Textarea	Text
Select one value from a set		Select	Multicheckbox	Value list value
	Male:  Female: 	Radio button (easier than Select, but more space required)	Multicheckbox	Value list value
Select multiple values from a set		Multiselect	Multicheckbox	Value list value, multiple rows, normal attributes are repeated / one row, multiple attributes are grouped
		Multicheckbox (easier than Multiselect, but more space required)	Multicheckbox	

Abbreviations

Specific project WebGR abbreviations
CE = calibration exercise
CS = calcified structure
TE =
WS = workshop (formerly used in WebGR)
WK = workshop (used in real life)

General project abbreviations
berliOS = Berlin Open Source, as seen as domain name in URLs, communication plattform for users, developers, and service providers of open source software
BLE = Bundesanstalt für Landwirtschaft und Ernährung
CSV = Comma (/Character) separated values
FK = Foreign key
GUID = Globally unique
ID = Identity (number/key)
PDF = Portable document format
PK = Primary key
URL = Unique resource locator
ZADI = as seen as domain name in URLs: Zentralstelle für Agrardokumentation und -information (former government institute, integrated as Gruppe 42 (group 42) into the Bundesanstalt für Landwirtschaft und Ernährung)

Annex II - WebGR installation and setup manual

WebGR installation and setup manual
version 1.0c

Table of contents

Preface

This manual is written for IT administrators. The information and instructions are short written and you are not instructed which program you use to edit a text file, extract a ZIP archive, access the file structure on a server etc.

Technical requirements

Server

- Operating system: must support Apache, PHP, MySQL, e.g. Windows, Linux

- Apache version >= 2.2.11
- PHP version >= 5.2.8
- MySQL version >= 5.1.30 (Community Server)
- for administration: phpMyAdmin 3.1.1

- for account confirmation e-mails: a mail server, mail transport must be possible over SMTP, Port 25

Drive space

The server requires about 200 MBytes.

Application and libraries:

The application itself requires about 50 MBytes.

Application data:

The required drive space depends on the number and size of images you want to store and use. Calculate image volume **twice** because a working copy and thumbnail is made.

Client

Firefox version >= 3.0

Adobe Flash Player version >= 9.0 (needed for annotation interface, file upload)

Javascript recommended (needed for some functions, e.g. alert boxes)

Web server setup

You have 2 possibilities to setup your webserver. For the first you already have an virtual or physically host and aren't able to modify the httpd.conf file. In that case you have to create and .htaccess file in your root and public folder which establish a rewrite of the requested URL. The second possibility manage this all only in the httpd.conf of the apache web server. Which method will be the best for you and where you'll find the files, please ask your admins.
All examples that follow use mod_rewrite, an official module that comes bundled with Apache. To use it, mod_rewrite must either be included at compile time or enabled as a Dynamic Shared Object (DSO). Please consult the Apache documentation for your version for more information.

Create the rewrite rule and a virtual host

Please ask your adminstrators for help.
At the first make sure that the module “mod_rewrite“ was loaded by your apache. If not, ask your administrator how to enable this module.

Create .htaccess files

Make sure that .htaccess overwrites definitions from Apache's httpd.conf. Without the web server will ignore your new files and the system won't run.

Below is a sample `.htaccess` file that utilizes mod_rewrite. It is similar to the virtual host configuration, except that it specifies only the rewrite rules, and the leading slash is omitted from `index.php`.

```
RewriteEngine On
RewriteCond %{REQUEST_FILENAME} -s [OR]
RewriteCond %{REQUEST_FILENAME} -l [OR]
RewriteCond %{REQUEST_FILENAME} -d
RewriteRule ^.*$ - [NC,L]
RewriteRule ^.*$ index.php [NC,L]
```

There are many ways to configure mod_rewrite; if you would like more information, see Jayson Minard's Blueprint for PHP Applications: Bootstrapping.

Modify the httpd.conf

---

just for windows based systems:
Edit C:\WINDOWS\system32\drivers\etc\hosts
You see
`127.0.0.1 localhost`
Add the line
`127.0.0.1 webgr`

Save and close

For Windows based Systems:
Edit C:\xampp\apache\conf\httpd.conf
OR C:\xampp\apache\conf\extra\httpd-vhosts.conf

For Linux based Systems
/etc/apache2/sites-enabled

Add at the end or to your existing virtual host configuration

```
<VirtualHost my.domain.com:80>
    ServerName   my.domain.com
    DocumentRoot /path/to/server/root/my.domain.com/public
    RewriteEngine off
    <Location />
        RewriteEngine On
        RewriteCond %{REQUEST_FILENAME} -s [OR]
        RewriteCond %{REQUEST_FILENAME} -l [OR]
        RewriteCond %{REQUEST_FILENAME} -d
        RewriteRule ^.*$ - [NC,L]
        RewriteRule ^.*$ /index.php [NC,L]
    </Location>
</VirtualHost>

------------------------------------------------
```

Restart Apache

You should reach the application over http://webgr/
This requires that the index.php and the other source code is available at the mentioned "DocumentRoot" (see above).
(Source: http://www.php.de/tutorials/42725-virtual-hosts-vhosts-einrichten-unter-windows.html)

Edit php.ini

Set the resource limits

- memory_limit = 128M (used for large image matrix calculations) OR
- ini_set is allowed

Set the File uploads

upload_max_filesize = 64M
This depends on the maximum image file size you want to use.

Installation

The process is described for a XAMPP configuration running on Windows XP.

Attention: In doubt please make backups of the files mentioned.

MySQL database

Use the standard installation, except:

- choose encoding UTF-8
- InnoDB engine is needed

Use phpMyAdmin to administrate the database

- Add new user, user name „webgr“, host „%“.
- user needs rights for insert, update, delete, select, create views etc.

- create database, name is „webgr“

Firewalls

Make sure that the firewall between web server, database server, and especially mail server is setup correctly.

Download

Go to the WebGR index on the berliOS site.

http://webgr.berlios.de/

Click on Development and on development website.

Alternatively you can go to berliOS Developer directly:

http://developer.berlios.de/projects/webgr/

You can select your spoken language in the menu.

Select Documentation to get the manuals etc.

http://developer.berlios.de/docman/?group_id=8643

Select Files to list the downloads.

http://developer.berlios.de/project/showfiles.php?group_id=8643

As you can see, the berliOS internal ID for the project is 8643.

Download the latest WebGR PHP package.

You don’t need the WebGR Flex Package for deploying the application. This is just the isolated Flex source code.

The package includes following third party libraries:

- PHPIDS
- Zend Framework

The system admin could later update these to the latest version; however the delivered libraries are the ones used for development and testing.

Installation WebGR application

1. Extract the archive in htdocs directory of the web server

The strucure should like like this:

xampp/htdocs/webgr_php/application

xampp/htdocs/webgr_php/library

xampp/htdocs/webgr_php/public

xampp/htdocs/webgr_php/sql

2. Set read/write rights for directories:
   - public/images/*
   - public/import_logs/
   - public/infoFiles/ (files for workshops)
   - application/cache/*

   * means every set group owner and permissions recursively

3. edit the file _config.ini in the directory application/config

section APPLICATION:
application host set the application host for correct links in sent e-mail from WebGR
securityKey set the security key string for secure identification between server and flash client, e.g. „aslkjfk798sadf7897sdasadf“

section DB_CONNECTION
host set database management system host, e.g. „db1.zadi.de“
username set the username to access the database management system
password set the password to access the database management system

section MAIL_CONF
host set the host of your mailer, e.g. „mailer.orga.org“
username set a existing username to access the mailer
password set the password for this user to access the mailer
fromAdress set a valid FROM adress for mail transport, e.g. „webgr@institute.orga.org“

4. start the import of database over the browser:

- Start your browser
- Enter virtual host name and „/install“, e.g. „http://webgr/install“ into the adress field of the browser; the install script will be started.
- Enter the given security key (the one you have set in the _config.ini before) in the form and press „submit“.
- The structure (tables and views) will be created.
- Some data (value lists) will be inserted.

5. Try to login as

username: superuser@zadi.de

password: superuser

6. change the superuser's password

Important: Click „My user data“ → „change password“ to change this password.

Operation

How to make backups:

Stop the application server.

Stop the database server.

Export the database.

Save the directory application/config to have a backup of the config files

Save the directory public to have a backup of the image files, workshop files, protocol files and log files.

Start the DB server.

Start the application server.

Annex III - Tests report

A.3.1. ATHENS MEETING TEST REPORT - WEBGR BETA VERSION

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Login menu on the management interface
Observations:	When opening the system management interface no login menu is showed.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Solved**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Workshop Manager search tools
Observations:	Add general search button and then have the option to choose if searching for fish, image, user, CE, WS (is not in the list at this moment).
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Browse annotation tool
Observations:	Browse annotation tool does not work, when pressed prompt the login page
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Attribute descriptor list
Observations:	What does institution stand for (a description is wished for)? We need clarification about the difference between institution and institute.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Solved**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Attribute descriptor list
Observations:	Type of structure: add scale, add vertebra, add fin rays, add bone
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Attribute descriptor list
Observations:	No capital letters and no use of spaces in the heading. Need to be consistent in use of spaces and underscores
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	High
Title:	WS Manager security privileges
Observations:	WS manager should be able to create a workshop (NOT TO DELETE!!!), the administrator should give the role of WS manager to a person) Answer from dev.: Do we really want that?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comments
Priority (Critical, High, Medium, Low)	Medium
Title:	WS coordinators security privileges
Observations:	there should be a possibility to enter a location which is not in the list and to enter an institute which is not in the list. Answer from Dev.: Already implemented over attribute/valuelist administration.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	High
Title:	WS coordinators tools
Observations:	Copy the edit function for the CE to My workshops for WS coordinators. In My workshops the WS manager should have an option to (1) create a new CE or (2) edit an existing CE.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	Medium
Title:	Database crosschecking for coherent data
Observations:	It is possible to input an end date before the starting date of a WS Answer from Dev.: Why shouldn't this be possible?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Manage
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Add expertise menu
Observations:	list of allowed values for expertise area and species and implement with a bottom down menu Answer from Dev.: If we want a list for the “area” then the attribute “area” has to be changed. At the moment its only a string because some uses combined area descriptions like “IIV,V”. Shall we change the attribute? This would effect the import as well, as no routine is implemented to add multiple values for one attribute. As well area would be no single select field, it would be a multiple select seen as list of checkboxes. Area code: Roman indicate ICES/NAFO Latin indicate GFCM But further going there could be limitations, so we could store the kind of Area code, too. Either in the same field, or in a new attribute.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	Critical
Title:	Bad query filling Location info of a workshop
Observations:	Location is not properly Imported in the workshop info. The hosting institute is now coming up as location
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	High
Title:	Lack of privileges of a CE coordinator
Observations:	When someone is coordinator of a CE within another person's WS, he has to be able to edit the CE. Suggestion: make an option in the My Calibration exercises table adding an extra column or with an extra button for a CE coordinator not being the WS coordinator.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	WS and CE duplicity
Observations:	It is possible to create two WS with the same name, on the same time in the same place. Also it is possible to create two CE with the same name for the same WS. Answer from Dev.: Which constraints exactly (unique WSname or unique WSname and Location)? We think for CE it's not really necessary.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	High
Title:	WS participant default role
Observations:	Every participant gets the role of coordinator when starting a new workshop. This means that everyone has many rights if someone does not change anything. Suggestion: leave this field empty as a default of if that is not possible, make everyone trainee
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Low
Title:	Name of output files
Observations:	When saving as a .csv all outputs get the same filename (filename.csv). Can this be changed into at least: annotations.csv, participants.csv, images.csv, exercise.csv etc?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Mana
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Low
Title:	WS coordinator status in a CE
Observations:	Is suggested to always add the WS coordinator into a CE as a member Answer from Dev. Really? If we do that the ws-manager is always analyzed in the statistics. Suggestion: We can extend the list, so that the ws-manager sees his workshop(s) even if he's not a participant in any of the associated calibration exercises.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	
Priority (Critical, High, Medium, Low)	High
Title:	Imageset definition through subsetting rules.
Observations:	In CE imageset definition the subsetting rules used to select images for a CE has to be stored and showed not the last selection made in the menu. Answer from Dev. Primarily we removed image subsets from CE Definition at the Montpellier-meeting. It wasn't the idea to change the image set definition later on. Suggestion: We could freeze the functionality after you add the first image.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Rejected, it was sorted out by the new design of the CE definition exporting.**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Implementation of a cross checking for database consistency.
Observations:	In CE imageset definition it should not be possible to have e.g. different species in the CE definition and in the imageset definition. The same applies for e.g. type of structure. This means some kind of cross checking
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 2009-10-29	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Differentiation between role and expertise of CE members
Observations:	Question: what is the meaning of the expertise level (100-200-300) in relation to the role (trainee, expert) Comment: as a coordinator of a workshop I cannot be a trainee or expert? The roles need to be comparable! Suggestion: put coordinator/member in Role, trainee/expert in Expertise level
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Name of batch import data file
Observations:	The name (import.csv) should not be fixed. A workaround could be to programme the application to know that the only file that is csv is the file with the data
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Imported data checking
Observations:	The file containing the data to be imported should be uploaded and analysed first for errors and format match
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Automatic sorting of imported images
Observations:	Images already upload should be shown in order to be replaced or excluded from the upload process Answer from Dev.: Really necessary? At which view exactly?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Association of data (csv) file columns to system attributes
Observations:	It is easy to fail when manually assignment done! - option 1: simple error message (column name required and given) - option 2: use a preset matching file and edit/correct it when the column match failed - option 3: store and reload a successful match
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Rejected, GUI for matching columns must be improved and only the mismatches are shown.**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	System checks before import
Observations:	The Result error code should be much clear: results Check Valuelist Cells Could be better to have a table with speaking error code (number too large; text expected; date expected .....) Or each error is displayed in a row/col matrix and shown by clicking the error points
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Import
Observations:	after the analysis of the data file (csv) show up: - which images are already uploaded in the system NO - ask user to discard/overwrite the matching images NO - opportunity to delete images without annotations ALREADY IMPLEMENTED, but not within Import; overwriting/deleting and importing should be separated, if possible. One cause is there is no UNDO mechanism. - should not be any way to upload more than one image with the same name NO after successful import show up: - all image lines uploaded YES OK ?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Problem importing image files with extension in capital letters
Observations:	Some computers running Windows Vista have the image files with the file extension in capital letters that the system is not able to import.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing features
Priority (Critical, High, Medium, Low)	High
Title:	Creation of a character separated value file (CSV) suitable for WebGR
Observations:	Give other options than using OpenOffice.org calc; it is not the only way to obtain a cvs (UTF8) file.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing features
Priority (Critical, High, Medium, Low)	High
Title:	Creation of a character separated value file (CSV) suitable for WebGR
Observations:	Separators must not be only semi colons (;) but comas or semi colons
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Import file specifications
Observations:	Include separator description in the manual
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	High
Title:	Attributes units specific
Observations:	The units used for each attribute needs to be clearly stated in the manual. Not in the manual (to depending on personal usage), only in the exportable dynamic attribute list.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Batch delete
Observations:	Needed a batch delete tool for administration purposes of the image database (only system administrator allowed to use it for security). Postponed to v 2.0
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Missing Features
Priority (Critical, High, Medium, Low)	High
Title:	Export attributes list
Observations:	Needed a function for exporting a file with the attributes list
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Warning when duplicated fish_id is inserted in database
Observations:	Warning on batch upload when the fish_id already exists to make sure people is uploading a second figure to the same fish.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Edit expertise set-up
Observations:	Edit expertise must provide a list of species and areas already on the database.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Reading axis
Observations:	Include a line to define the reading axis What's an axis? A line from the center of the otolith where to put marks for each ring
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v. 2.0**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Measurements in WebGR
Observations:	Include scale to allow for measurements
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v. 2.0**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Maturity stage selection
Observations:	Set-up a drop down menu for maturity key For which view exactly?
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v. 2.0, depends on KEY module to be revised.**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General (Set-up)
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Database connection of users
Observations:	Script to create database (there is a problem with user "webgr", it does not connect)
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	System sensibility to capital and small caps
Observations:	The batch upload should allow to upload files with capitals or small caps.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Rejected**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	Critical
Title:	Image subsetting criteria tool
Observations:	Criteria for selecting images is not working for all the allowed attributes.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	Critical
Title:	WK manager does not have access to CE
Observations:	This was also identified in previous comment. Either this permission is added to the WK manager or she/he is added automatically to all CE.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	CE not comparable message
Observations:	The permanent message :" this CE is not comparable yet " is very recurrent and it is not necessary.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Navigation buttons
Observations:	Next and previous images buttons would be necessary for the reader who are ageing fish
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Iñaki Quincoces

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Image formats support
Observations:	Support different file formats: Tiff, etc as many exchanges use this file format.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v. 2.0. Our main aim is to support open formats.**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General, Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`show last login in menu under user name/user role`
Observations:	
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`More links between objects`
Observations:	`Image list -> click on fish_sample_code to edit specific fish (link)` `Fish -> List images for this fish (link)`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`Checks improvement name of attribute`
Observations:	`check name of attribute: uppercase, underscore`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`Checks improvement case-insensitive`
Observations:	`case in-sensitive: filenames (not extension, is in work), attribute names`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`Checks improvement images`
Observations:	`image for this fish with exactly this name is already uploaded`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`Checks improvement image file management`
Observations:	`Check for image file duplicate`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`handle TIFF`
Observations:	`handle TIFF image format`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`possibility to save associations`
Observations:	`save and load the association settings system attribute / CSVfile column name`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Import
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`More automated image meta information from camera information`
Observations:	`get meta information from IPTC and/or EXIF`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotation
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`numbered dots`
Observations:	`numbered dots: dots in the annotation have unique numbers shown nearby` `maybe in the order of creation`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	Low
Title:	`value lists can be used again for another attribute`
Observations:	`--A: simple copy value list (redundancy in database)` `--B: use whole existing value list (changes take effect in every attribute which uses list -> Architecture-> value list has groups instead attribute descriptors!)`
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Postponed to v 2.0**
Date: 28.10.2009	**Last editor: Ingmar Pforr**

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	Welcome message on the start page
Observations:	When opening the system management interface a welcome message must be shown above the login. This message must make reference to contents license.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Management
Category (Bug, Comment, Missing Feature)	Missing Feature
Priority (Critical, High, Medium, Low)	High
Title:	License on all interfaces
Observations:	We need to add a small icon on all interfaces with the creative commons license we'll choose.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Batch upload
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Import check algorithm
Observations:	 The (2) branch is for version 2.0
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Key definition (key=protocol)
Observations:	Key should be at the workshop level and represented by a file. When starting a CE one can choose the key but not add a new key. The WK manager must guarantee that all protocols are uploaded before a CE starts.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Bug
Priority (Critical, High, Medium, Low)	High
Title:	Key should be renamed protocol
Observations:	Key should be renamed as protocol. This was a misunderstanding that came from “maturity key”.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Avoid acronyms
Observations:	Avoid using acronyms, some must be fixed ● GR = group ● WS = workshop = WK (this is the common acronym in ICES) ● CE = calibration exercise = (someone can suggest another ?)
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	High
Title:	Statistics export
Observations:	The exporting of data must include two rows with expert level and the stock assessment flag.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	General
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	High
Title:	Statistics computation
Observations:	The statistics must be computed by reader, comparing each annotation with the group annotation. Regarding the actual export is like including the statistics at the end of each column.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-23	**Last editor:** Ernesto Jardim

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Import)	Annotations
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Statistic/ annotation/download/ Exporting data checking
Observations:	The annotations file containing the data to download as CSV-file Present the readers as : 1,2,3,4,5 …. etc. which is confusing Recommendation: using better R1, R2, R3, R4,….to indicate the readers, which help in the understanding of the exported file CSV-file.
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-28	**Last editor:** Carmen Piñeiro

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Submit Button
Observations:	Submit Buttons of long forms to top of form to avoid scrolling
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Check Boxes to Combo Box
Observations:	Check Boxes for e.g. selection of species names to put into a Select Box (or later into a Combo Box, to allow entering new names?)
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Link buttons on the IMAGE and FISH list pages to the left
Observations:	Avoid horizontal scrolling with wide pages
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	comment
Priority (Critical, High, Medium, Low)	medium
Title:	Image and Fish lists display
Observations:	Image list contains a lot of info from Fish list and becomes very wide. Display the Image and Fish lists with important Image or Fish info and only a few columns from the other list to keep linked First column **in both** lists could be the thumbnail
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Announce video loading
Observations:	When going on the help pages an error (make an annotation) and very small progress bars are displayed This may on a slow computer be misinterpreted as hanging the system, therefore some written announcement should call the patience of the user
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Help page
Observations:	Text on help page a bit cryptic for the untrained user, explain better and more structured
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	high
Title:	Show value list, show detail
Observations:	Show value list First column must not be >>value list id<< but attrib_name (<> attrib description as entitled the column) show detail Headline must be Attribute descriptor: attrib_name
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Missing feature
Priority (Critical, High, Medium, Low)	Medium
Title:	Postal code missing
Observations:	User form needs a line >>postal code<< (zip code)
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	General style of headlines for pages or forms
Observations:	It is not necessary to write headlines as >>User form and personal data<<, better something like >>Your Personal Data<< My proposal here: **We should ask a native speaker to go through the headlines and make proposals for better ones.**
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

http://webgr.berlios.de	**WebGR Debugging, Comments, Missing feature template.**
Theme (General, Management, Annotation, Batch Upload)	General
Category (Bug, Comment, Missing Feature)	Comment
Priority (Critical, High, Medium, Low)	Medium
Title:	Search form design
Observations:	Search forms should be divided into three parts 1. range search as table with columns FEATURE|FROM|TO containing input fields for the range limits 2. select search as select (combo) box with multiple choices enabled 3. input field search with fields for free input like FISH_SAMPLE_CODE
Status (Reported, Assigned, In process, Postponed to v 2.0, Rejected, Solved)	**Reported**
Date: 2009-10-28	**Last editor:** Ulrich Berth

A.3.2. TEST REPORT-WEBGR RELEASE CANDIDATE 1 VERSION

WebGR Debugging template

NUMBER	CROSSREF.	REPORTER	LINK	NOTIFICATION	DEV
Bug #1		fravit [francesca.vitale@fiskeriverket.se]		If I try to edit the CE I get the following message:Fatal error: Call to a member function setDescription() on a non- object in /var/www/athen.webgr.zadi.de/htdocs/library/Ble422/Form/Dynamic.php on line 130	Dev. Reported closed 9. Dec 2009
Bug #2		fravit [francesca.vitale@fiskeriverket.se]		If I go on my user data -> my fishes (or my images) , the name of the species is missing in the list as it was not specified in the import file (which it is)	Dev. Reported closed 9. Dec 2009
Bug #3		iquincoces@suk.azti.es		If I try to start a new training Calibration exercise whatever expertise I select I get: List of imagesets grouped by key table Nothing found! There are no results for your search.	Seems to be no bug; create ws-refs and try
Bug #4	#1	iquincoces@suk.azti.es		If I try to edit the CE I get the following message:Fatal error: Call to a member function setDescription() on a non- object in /var/www/athen.webgr.zadi.de/htdocs/library/Ble422/Form/Dynamic.php on line 130	Dev. Reported closed 9. Dec 2009
Bug #5A	#2	iquincoces@suk.azti.es		If I go on my user data -> my fishes (or my images) , the name of the species is missing in the list as it was not specified in the import file (which it is)	closed, fixed, tested successful, Dec. 2009
Bug #5		iquincoces@suk.azti.es		Main menu --> Help --> Make an annotation --> Fatal error: Uncaught exception 'Zend_Controller_Dispatcher_Exception' with message 'Invalid controller specified (scripts)' in /var/www/athen.webgr.zadi.de/htdocs/library/Zend/Controller/Dispatcher/Standard.php:241 Stack trace: #0 /var/www/athen.webgr.zadi.de/htdocs/library/Zend/Controller/Front.php(936): Zend_Controller_Dispatcher_Standard->dispatch(Object(Zend_Controller_Request_Http), Object(Zend_Controller_Response_Http)) #1 /var/www/athen.webgr.zadi.de/htdocs/public/index.php(41): Zend_Controller_Front->dispatch() #2 {main} thrown in /var/www/athen.webgr.zadi.de/htdocs/library/Zend/Controller/Dispatcher/Standard.php on line 241	video tutorial will be available till February 15.

WebGR Debugging template

Bug #6	iquincoces@suk.azti.es		Main menu (RC1) --> Make a group discussion --> the annotation interface is the old one	video tutorial will be available till February 15.
Bug #7	iquincoces@suk.azti.es		Main menu (RC1) --> Batch image upload --> the interface in the tutorial is the old one	video tutorial will be available till February 15.
Bug #8	iquincoces@suk.azti.es		System is not able to add a guest user and says the user is already in the table of users but is not possible to find it in the users tables	Dev. Reported closed 9. Dec 2009
Bug #9	iquincoces@suk.azti.es		The system sends an e-mail for resetting password to the user described before	Dev. Reported closed 9. Dec 2009
Bug #10	iquincoces@suk.azti.es		After resetting the password is not possible to login with the new user (name kinkozes@gmail.com)	Dev. Reported closed 9. Dec 2009
Bug #11	ulrich.berth@vti.bund.de	http://athen.webgr.zadi.de/ce/statistic/images/CAEX_ID/21	header line weird commas and numbers???	can't repeat, eventually error was caused by bug, which was fixed in the meantime
Bug #12	ulrich.berth@vti.bund.de	http://athen.webgr.zadi.de/ce/search/myce/	browse annotations goes to welcome page	DEV: can't repeat, eventually error was caused by bug, which was fixed in the meantime
Bug #13	ulrich.berth@vti.bund.de	http://athen.webgr.zadi.de/workshop/edit/new/	WS name why only alpha numeric???	no bug

WebGR Debugging template

Bug #14	ulrich.berth@vti.bund.de	http://athen.webgr.zadi.de/ce/search/myce/	RAW DELETE of the ONE training exercise does not work (fatal)	DEV: works, use (second) RAW DELETE
Bug #15	ulrich.berth@vti.bund.de	http://athen.webgr.zadi.de/workshop/edit/new/	Block function of ENTER KEY (if one tries to enter a value intuitively, the next page appears)	no bug
Bug #16	ernesto@ipimar.pt	http://athen.webgr.zadi.de/annotation/make/index/CAEX_ID/25/	Going through the setting of a CE and after defining the attributes to be shown they did not show on the annotation GUI	The described behaviour below resulted from the ce settings: the expertise and protocol were not set; you will be informed now, if this is the case.
Bug #17	iquincoces@azti.es		Being administrator it's possible create a new WS and to choose a user with only reader rights (i.e. kinkozes@gmail.com) as WS-Manager BUT when login as the reader user and attempting to edit the WS the system shows the login screen.	If you set kinkozes@gmail user's role (search user -> edit) to ws-manager, the user should be allowed to edit the ws. We'll filter the low user roles in the choose ws-manager dialog now, so you don't get the readers there in future.

WebGR Debugging template

Bug #18	iquincoces@azti.es	An administrator can downgrade the rights of other administrator.	Not generally a bug. No fain grained conditioning as admin implemented.
Bug #19	ernesto@ipimar.pt	GUI for a gonad WK is the otolith GUI, which means it has "age" and counts rings. We've decided to have distinct GUIs is this a bug or a missing feature ?	fixed in v1.0.1
Bug #20	ernesto@ipimar.pt	If one inserts a character instead of a number on the field "age" of the annotations GUI, the system accepts the annotation but saves the age as zero. Please block this behaviour and provide a message saying it has to be a number. I can't check the gonad GUI but I suppose it should be the same.	changed now for standard GUI; in maturity GUI in field gonad's stage all characters still allowed
Bug #21	carmen.pineiro@vi.ieo.es	If the workshop manager who created a NEW WORKSHOP, with two CE, one for age calibration of otoliths and one for maturity calibration. Made a mistake creating another one: a. NOT POSIBLE TO CHANGE THE NAME of CE (but it is possible to do it for the administrator).	after you set the MUST fields protocol and expertise you can change name
Bug #22	carmen.pineiro@vi.ieo.es	If the workshop manager who created a NEW WORKSHOP, with two CE, one for age calibration of otoliths and one for maturity calibration. Made a mistake creating another one: b.b. NOT POSIBLE TO REMOVE THE wrong EXERCISE for the administrator.	fixed
Bug #23	carmen.pineiro@vi.ieo.es	It is possible to create two WKS with the same name, on the same time in the same place which is not good.	confirmed - not solvable now
Bug #24	carmen.pineiro@vi.ieo.es	It is possible to replicate current calibration exercise and having a list of CE. What is the reason for this possibility of replication. If you make a mistake it is not possible to remove it.	fixed, deleting possible now

WebGR Debugging template

Bug #25	carmen.pineiro@vi.ieo.es	There is any information on every label of the menu, to clarify the meaning of one option. So for example somebody can replicate the CE.	Tool tips (info when mouse over item) are not available. Replication will be in the next user manual. Deleting replicated (copied) exercises possible now
Bug #26	carmen.pineiro@vi.ieo.es	There should not be possible to modified the attributes once the exercise is running and it is possible.	CHANGED: the GUI was changed so no modification is clickable when CE is running
Bug #27	carmen.pineiro@vi.ieo.es	Adding attribute to the list such as the list below appeared a message of ***Fatal error***: *Uncaught exception 'Zend_Db_Statement_Mysqli_*: a. Preparation method b. Responsible scientist c. Location	fixed
Bug #28	carmen.pineiro@vi.ieo.es	the window of Please select is open just over the attributes already selected previously, this do not permit to follow your selection.	known cumbersome design – would need redesign
Bug #29	carmen.pineiro@vi.ieo.es	If the manager adds a new participant for the CE, the new participant do not have this information. It should be sent an email to inform the new participant this invitation to reply if he or she agree on this	to be discussed
Bug #30	carmen.pineiro@vi.ieo.es	In the assign values in the CE, there are two boxes for stock assessment, on the right and on the left,. This is not clear what is for. It should be better to have an option to select: yes or not	cumbersome design - would need redesign

WebGR Debugging template

Bug #31	carmen.pineiro@vi.ieo.es	Does not make well the selection of image to add to an CE when it was made a selection based on the species and type of structure for example otoliths from hake and cod. In the of images appear other species of otoliths and gonads also	improved and hopefully fixed now
Bug #32	carmen.pineiro@vi.ieo.es	If I go to Search CE and I select one of them, it come the message: *Fatal error:...*	fixed

Annex IV - Requirements report

- Requirements -

WEBGR

Project:	TENDER No FISH/2007/07 LOT: 1 - WEB SERVICES FOR SUPPORT OF GROWTH AND REPRODUCTION STUDIES (WEBGR)	
Project manager:	Ernesto Jardim (IPIMAR, POR) Dr. Holger Friedrich (BLE Ref. 422, GER)	
Create date:	11.11.08	
Last changed	30/03/2010 10:31:39 A3/P3	
status:	X	in process
		completed
V-Modell-Version	Version 1.2.1.1	

Directory

Introduction

The objective of this study is to develop a set of web services to support the organization and data analysis of calibration workshops, both for age and maturity information (WebGR). The most common exercises carried out during these workshops, like counting otolith rings or classifying gonads, and posterior analysis of the results in order to build age-length keys or maturity ogives, must be possible to do on line using WebGR services.

Background of the study
The systematic collection of reliable basic data on fisheries is a cornerstone to fish stock assessment and scientific advice and consequently for the implementation of the Common Fisheries Policy (CFP).
Having this in mind, the Commission took the initiative of introducing a process aimed at setting up a Community framework for the collection and management of such data as part of an integrated programme. This framework was designed in 2001 to consolidate and strengthen the existing data collection activities in the Member States.
Among the information collected by each member state are growth and maturity data that allow the building of e.g. catch at age matrices and maturity ogives, both extremely important for stock assessment and management advice. This information is collected by different institutions for each stock and the identification of otolith rings or classification of maturity stages has to be coordinated among the experts. Regular calibration exercises must be carried out to guarantee that all experts are classifying the observations on a consistent way.
Reference material has been developed to help organizing calibration exercises by several projects like TACADAR4 and EFAN5 and by ICES Expert Groups like the Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS)6. Moreover, workshops have been carried out during the latest years and the scientific community is reclaiming more calibration exercises as the number of species subject to assessment increase and the demand for precise advice raises (PGCCDBS, 2007). The implementation of web services was reclaimed by the Scientific community (PGCCDBS, 2006) to allow better organization of workshops, in particular for those not experienced on these exercises, promote cooperation between scientists during the workshop and between workshops; and promote training of both experienced and inexperienced scientists.

Initial Situation and Goals

User groups and rights

The Rights are divided into two Level of availability. The first level is the user level. A user is true for the whole application. The second level is the participant level. A participant is only true for one calibration exercise.

User role rights

group 1 (guest)
-can visit public part (start page, contact or Terms of service)

-create own new account (user)

group 2 (reader)

-succeed rights from guest
-login into the non-public part
-make temporary annotations / private calibration exercise
-search for images, annotations or fish

group 3 (data manager)

-succeed rights from reader
-upload, edit and delete own image files and fish data
-edit own fish and image optional parameter
-administrate the keys (maturity, stage)

group 4 (workshop manager)

-succeed rights from data-manager and coordinator
-edit own workshop settings
-declare WebGR reference annotation for his expertise
-create new calibration exercise

group 5 (admin)

-succeed rights from each workshop manager and data manager
-administrate the whole application
-administrate users / user roles
-start new workshop and set a new manager

Participant role rights

always limited by the expertise of the user, these roles deals only with participants

group 6 (trainee)

-succeed rights from reader
-create and edit own annotations
-read all workshop results
-declare group accepted annotations

group 7 (expert)

-succeed rights from trainee
-upload, edit and delete own image files and fish data

group 8 (coordinator)

-succeed rights from data manager and expert
-administrate participants (add, remove participants and admin their role membership)
-declare calibration-exercise annotations
-upload information files (pdf-files, links)
-edit own calibrations settings
-declare WebGR reference annotations

Physical user environment

The user needs a PC or Mac with a mouse and a connection to the Internet.

Functional requiements

Rating:
(must, high) → released by the beta version
(must, medium) → maybe in beta

(must, low) → released by the final version

Fish data

Default fish meta-data

Description	For each Fish default Meta-Data must be stored in the Database. The Sample-ID-Code must be unique. It's a combination of the institution ID and the individual Institution sample-code.

Chart (optional)

FISH

ColumnName	DataType	max length	NotNull	Default Value	Comment
WEIGHT	DECIMAL	8	NN		
LENGHT	DECIMAL	8	NN		
DATE_OF_CAPTURE	DATETIME		NN		
SCIENTIFIC_NAME	VARCHAR	50	NN		
SEX	VARCHAR	50	NN		
INSTITUTE	VARCHAR	50	NN		
COUNTRY	VARCHAR	50	NN		
AREA	VARCHAR	50	NN		
SAMPLE_ID_CODE	VARCHAR	50	NN		UNIQUE
OWNER	INTEGER	9	NN		

Rating	must	yes
	priority	high
questions		

Optional fish meta-data

Description	It is necessary to define afterwards optional Attributes for the fish data. There you can define the default value and whether it is required. Each of these Attributes has an owner who has created it. You can define a list of allowed values.

Chart (optional)

ATTRIBUTE_DESCRIPTION (Fish)

ColumnName	DataType	max length	NotNull	Default Value	Comment
NAME	VARCHAR	50	NN		
UNIT	VARCHAR	50			
DESCRIPTION	TEXT	255			
DEFAULT	VARCHAR	100			
REQUIRED	BOOL	1	NN	0	
OPTIONAL	BOOL	1	NN	1	
OWNER	INTEGER	9	NN		

Rating	must	yes
	priority	high
questions		

Deleting a fish		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	medium
questions		

Images

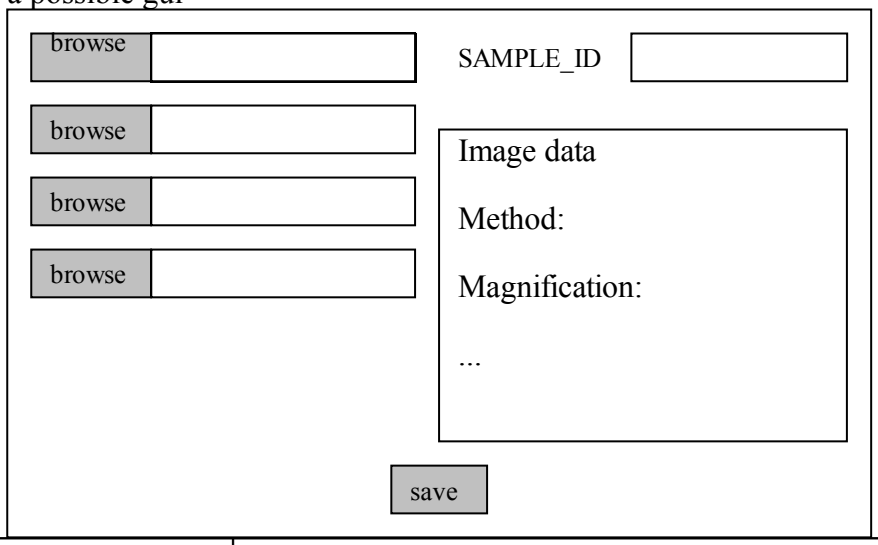
Default image meta-data		
Description	For each Image default Meta-Data must be stored in the Database. Many Images are allowed for one Fish.	
Chart (optional)	**IMAGE**	
Rating	must	yes
	priority	high
questions		

ColumnName	DataType	max length	NotNull	Default Value	Comment
IDENTIFICATION	VARCHAR	50	NN		
METHOD	VARCHAR	50	NN		
MAGNIFICATION	VARCHAR	50	NN		
RESOLUTION	INTEGER	10	NN		
TYPE_OF_STRUCTURE	VARCHAR	50	NN		
QUALITIY	VARCHAR	50	NN		
OWNER	INTEGER	9	NN		

Optional image meta-data		
Description	It is necessary to define afterwards optional Attributes for the image data. There you can define the default value and whether it is required. Each of these Attributes has an owner who has created it. You can define a list of allowed values.	
Chart (optional)	**ATTRIBUTE_DESCRIPTION (Image)**	
Rating	must	yes

ColumnName	DataType	max length	NotNull	Default Value	Comment
NAME	VARCHAR	50	NN		
UNIT	VARCHAR	50			
DESCRIPTION	TEXT	255			
DEFAULT	VARCHAR	100			
REQUIRED	BOOL	1	NN	0	
OPTIONAL	BOOL	1	NN	1	
OWNER	INTEGER	9	NN		

	priority	high
questions		

image upload		
Description	The data manager is allowed to upload images to the repository. For each image you upload, you have to declare the fish SAMPLE-ID-CODE. If the SAMPLE_ID_CODE doesn't already exist in the database, the system asks for the new fish data.	
Chart (optional)	a possible gui 	
Rating	must	yes
	priority	high
questions		

Batch image upload		
Description	-additional csv-file upload -to develop	
Chart (optional)		
Rating	must	no
	priority	low
questions		

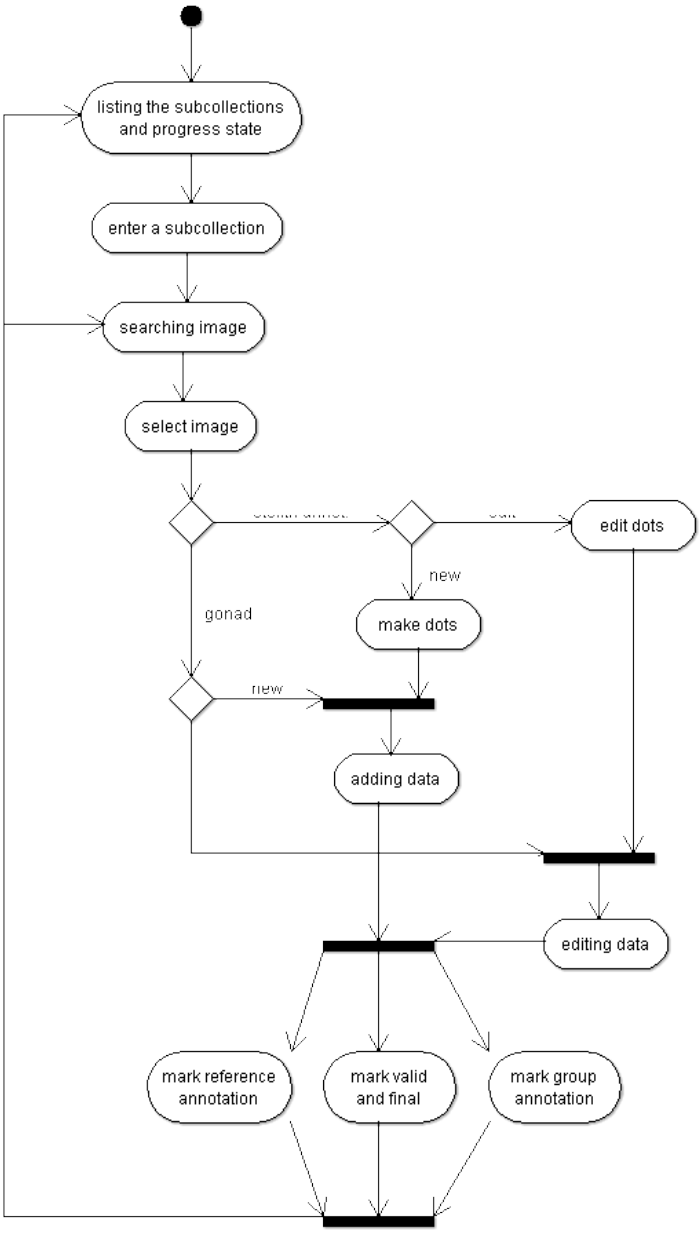
Deleting an Image	
Description	You can only delete own images, if no annotation has been made for this image. If so, only the administrator has the possibility to make a hard delete. After a hard delete you can't restore the data. to develop
Chart (optional)	

Rating	must	yes
	priority	low
questions		

Annotations

Online annotating tool		
Description	It's necessary to make the graphical otolith annotations online. This tool must provide the following functions. -making dots in different colours and size -must be able to work with layers -change brightness and contrast -zooming -changing the colour and hue -edit previous annotations -save the annotation data	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Making an annotation	
Description	An individual exercise where a collection of images of calcified structures (CS) or gonad images, is independently examined by each participant and the results are analysed to measure the precision (calcified structures), or the precision and accuracy (gonads), of the results. The images may also be accompanied by the original material (otolith preparations or gonad histological preparations). The following Chart describes the sequence of making an annotation.

Chart (optional)	

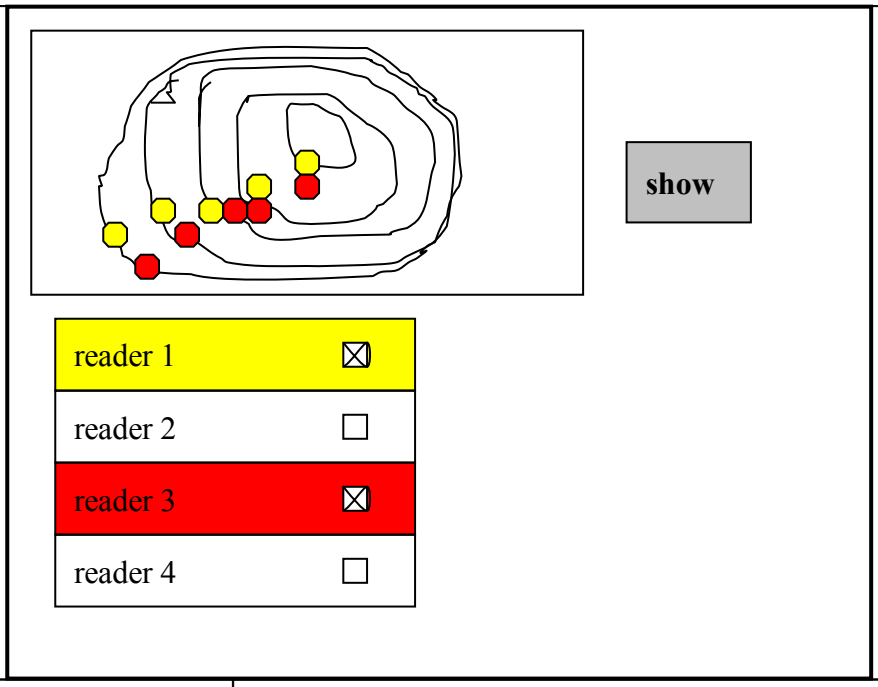
progress state: Shows how many pictures you already have annotated.

	GONADE/OTOLITH_ANNOTATIONS **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** FK_idPARTICIPANT — Foreign Key — NN FK_idKEY — Foreign Key — NN FK_idIMAGE — Foreign Key — NN MATURITY_STAGE/ AGE — VARCHAR / INT — 50 / 3 — NN COMMENT — TEXT — 255 VALID — BOOL — 1 — NN — 0 READER_DATE — DATETIME — NOW() GROUP_DATE — DATETIME FINAL_DATE — DATETIME REFERENCE — BOOL — 1 — NN — 0 WEBGR_REF — BOOL — 1 — NN — 0 STAGE — VARCHAR — 50 — NN SUBSTAGE — VARCHAR — 50	
Rating	must	yes
	priority	high
questions		

Edit an annotation and history		
Description	You can edit an exiting annotation and you save it. The System will store a new annotation with a relation to the based annotation.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Deleting an annotation		
Description	You can always delete your own not valid annotations. A “hard” delete is only available for the administrator.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Viewing Otolith annotations	
Description	At most 10 otolith annotations layers are comparable at the same time. There are specifiable by different colours. The selected annotations will be marked in the list below with the same colour as in the layer.

Chart (optional)		
Rating	must	yes
	priority	high
questions		

Keys

Age keys		
Description	Each Otolith annotation is based on an age key. An age key is the scale for your age determination. During an exercise the age key is fixed for all associated annotations.	
Chart (optional)	**AGE_KEY** **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** AREA / VARCHAR / 50 / NN SPECIES / VARCHAR / 50 / NN DOCUMENT / BLOB	
Rating	must	yes
	priority	high
questions		

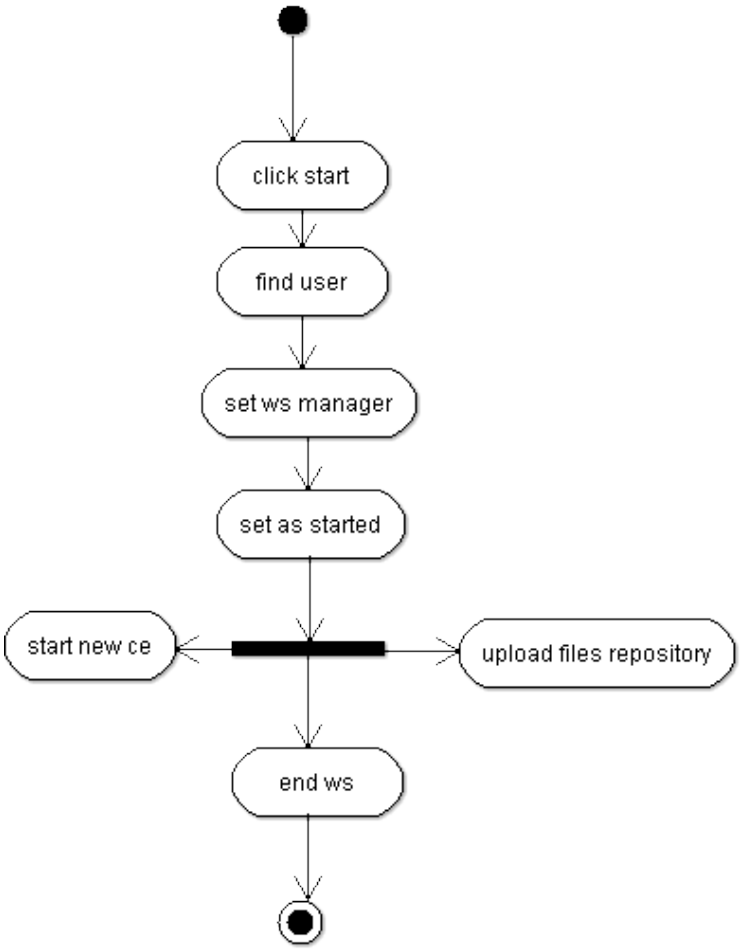
Maturity keys	
Description	Each Gonad annotation is based on a maturity key. A maturity key is the scale for your determination and subdivided in stages. During an exercise the maturity key is fixed for all associated annotations.
Chart (optional)	

	MATURITY_KEY					
	ColumnName	**DataType**	**max length**	**NotNull**	**Default Value**	**Comment**
	AREA	VARCHAR	50	NN		
	SPECIES	VARCHAR	50	NN		
	DOCUMENT	BLOB				
Rating	must	yes				
	priority	high				
questions						

Administrate keys		
Description	Only the administrator is allowed to add new, edit or delete keys. Referenced keys can't be deleted.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Workshop

Administrate a workshop	
Description	A workshop is where a group of people discuss the criteria used to classify a biological structure, commonly otoliths or gonads, with the aim of getting a better agreement among them for one species. A calibration exercise may be followed by a workshop and further calibration exercises will take place within a workshop. Only the administrator is allowed to start a new or delete a workshop and set a new manager.

Chart (optional)		

WORKSHOP

ColumnName	DataType	max length	NotNull	Default Value	Comment
FK_MANAGER	Foreign Key		NN		
NAME	VARCHAR	50	NN		
STARTDATE	DATETIME		NN	NOW()	
ENDDATE	DATETIME		NN		
LOCATION	VARCHAR	50	NN		
INFO_REPOSITORY	BLOB				
HOST_ORGANISATION	VARCHAR	50	NN		
SHOWN_META	BLOB		NN		

Rating	must	yes
	priority	high
questions		

File repository

Description	You can upload files with a description into a workshop repository.

	Or you only save links to external sites with a description. This repository is for further information's about the workshop purpose.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

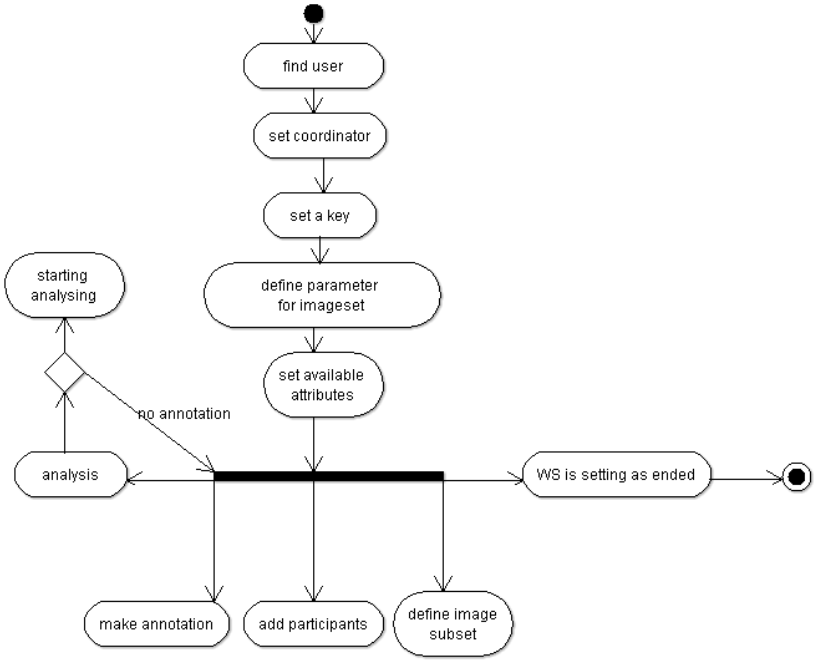
Archiving a workshop		
Description	Old workshops can be marked as archived. And the workshop will no longer announce in any result lists. There will be a list of archived workshops where you can restore them. Only the manager is allowed to archive a workshop.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Deleting a workshop		
Description	Only the workshop manager is allowed to delete a workshop, if there has no annotation been made. A hard delete is only available for an administrator.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Calibration exercise

Administrate a calibration exercise	
Description	Calibration exercises will take place by circulating images to participants at their Institutes or by circulating images to participants at a workshop.
Chart (optional)	

	CALIBRATION_EXERCISE **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** FK_WS — Foreign Key — NN FK_EXPERTISE — Foreign Key — NN CALIBRATION_PARAMETER — VARCHAR — 50 — NN — Fish attributes for selecting set of images KEY — INTEGER — 9 — NN	
Rating	must	yes
	priority	high
questions		

Making a calibration exercise		
Description	Only the workshop-manager is allowed to start a new calibration exercise. The following Chart describes the sequence of making an calibration exercise.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Participants	
Description	Participants are age readers or maturity stage assessors who have been invited to take part in a calibration exercise (CE). The User declare their level

	of expertise (beginner, intermediate, expert, stock assessment reader), for each CE (i.e. the species, area and CS or gonads that have been set for the CE) and this determines their role within the CE.
Chart (optional)	**PARTICIPANT** **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** FK_EXERCISE / Foreign Key / / NN / / FK_USER / Foreign Key / / NN / / EXPERTISE_LEVEL / VARCHAR / 50 / NN / / STOCK_ASSEMENT / BOOL / 1 / NN / / 0 PARTICIPANT_ROLE / VARCHAR / 50 / NN / trainee /
Rating	must: yes	
	priority: low	
questions		

Adding participants to the exercise		
Description	You can add a any time new users to the calibration exercise. Simultaneous you set the stock assessment for each participant.	
Chart (optional)	to develop	
Rating	must: yes	
	priority: high	
questions		

Defining an image subset		
Description	An image subset is a sub-group of images chosen from the collection selected for a calibration exercise. The subset can also be defined by randomized procedure.	
Chart (optional)	**COLLECTION_SUBSET** **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** NAME / VARCHAR / 50 / NN / / DESCRIPTION / TEXT / 100 / / /
Rating	must: yes	
	priority: high	
questions		

Deleting an image subset		
Description	The CE coordinator can delete an image subset if no annotations have been made for this subset.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Deleting a calibration Exercise		
Description	The CE coordinator or the WS manager can delete a CE if no annotations have been made for this subset.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

References and acceptance

Acceptance

Making a Reader annotation		
Description	Every valid annotation, a participant doesn't mark as a group annotation, get a reader-date and becomes a standard annotation. Afterwards you can mark only one annotation per images and CE as a final annotation.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Making a Group annotation		
Description	Make a standard annotation but mark the annotation at the end as a group annotation. Or edit an existing annotation and mark it as a group annotation, the reader-date is deleted and the group-date is stored.	
Chart (optional)		
Rating	must	yes
	priority	high

questions	

References

Defining a CE reference		
Description	Annotations created at a CE, that are considered to be noteworthy examples. The CE coordinator declare calibration-exercise annotations only for his expertise.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Defining a WebGR reference		
Description	A WebGR reference is a selection of reference annotations that are considered to be representative of the subject and species at a global level. The workshop manager declares WebGR reference annotation only for his expertise. Workshop-managers can manage the reference by a list. But only the annotations for his expertise he can edit.	
Chart (optional)	to develop	
Rating	must	yes
	priority	high
questions		

Browsing through references		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

History of a reference	
Description	If an annotation is declared as a reference annotation or the reference status is deleted, the System will store a comment, and a Time stamp.
Chart (optional)	

Rating	must	yes
	priority	high
questions		

Functional model		
Description	The functionalModel.xml file and functionalModel.png file describes the functional entities and their relations.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Search

user

How to find a User		
Description	-expertise -personal data to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

User result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

workshop

How to find a Workshop		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Workshop result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Reference Annotation

How to find a reference annotation		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Reference annotation result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Calibration exercise

How to find a Calibration exercise		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Calibration exercise result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Annotation

How to find an Annotation		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Annotation result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Image

How to find an image	
Description	to develop

Chart (optional)		
Rating	must	yes
	priority	high
questions		

Image result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Fish

How to find a Fish		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Fish result list		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Statistic

APE	
Description	The average percent error (Beamish and Fournier, 1981). It is an index of reading precision that is very useful for comparing series of observations. It is defined as: $$APE = \frac{100}{n}\sum_{i=1}^{n}\left(\frac{1}{r}\sum_{j=1}^{r}\frac{\left\|x_{ij}-\bar{x}_i\right\|}{\bar{x}_i}\right)$$ Where n is the number of otoliths (number of images), r is the

	number of readings (number of valid annotations) for each otolith, x_{ij} is the j value of age estimation for otolith i, is the mean age of otolith i. When averaged across many fish, it becomes an index of mean APE.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

CV		
Description	Coefficient of Variation. This coefficient described the precision errors in age reading by age group. It is statistically more robust and flexible than APE. It should be remembered that CV is very sensitive to low ages values. $$CV = \frac{100}{n}\left[\sum_{i=1}^{n}\left(\frac{sd}{\bar{x}_i}\right)\right]$$ Where n is the number of otoliths, sd is the standard deviation for the otolith i and is the mean age of otolith i.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

CV and APE stats after a calibration exercise		
Description	-every time only for the same key -valid or final annotations against group or WebGR reference annotations -valid or final annotations against expert annotations -valid or final annotations against stock assessment annotations	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Intersection of annotations at every time		
Description	At each time every reader can see the statistical analysis for each CE.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

	sub-collection 1	sub-collection n
individual	stats per participant	stats per participant
	stats between participants	stats between participants
group	stat regarding group annotations	stat regarding group annotations

Visualization of results		
Description	to develop	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Export results		
Description	Every statistical result you can download as a CSV-file, to your local PC.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Users

Creating a new account	
Description	If you want to become a user of this WebGR, you must visit the public part of the site. There you'll find a register page. After you have send your data, the system sends automatically you a E-Mail to

	confirm your address and give you your personal starting password. After your first login you must change your password. Afterwards you are a registered user with a reader role.	
Chart (optional)	to develop	
Rating	must	yes
	priority	high
questions		

Edit own data

Description	Each user can see and edit his own personal data	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

USER

ColumnName	DataType	max length	NotNull	Default Value	Comment
USERNAME	VARCHAR	50	NN		
LASTNAME	VARCHAR	50	NN		
FIRSTNAME	VARCHAR	50	NN		
PASSWORD	VARCHAR	50	NN		
E_MAIL	VARCHAR	50	NN		
INSTITUTION	VARCHAR	50			
STREET	VARCHAR	50			
COUNTRY	VARCHAR	50			
PHONE	VARCHAR	50			
FAX	VARCHAR	50			
CITY	VARCHAR	50			
ACTIVE	BOOL	1	NN	1	

My page

Description	At your personal site you will be able to see the following lists and options. -list of CE with participant roles and you can see individual analysis -list of WS with participant roles and you can see individual analysis -list of expertise -enter own images sort by CE and WS -enter own annotations sort by CE and WS -enter own data	
Chart (optional)		
Rating	must	yes

	priority	high
questions		

Expertise

Description	Every user can have expertise. Expertise are related to a species, an area and a subject. 3 Stages are available: Beginner, Intermediate and Expert.	
Chart (optional)	**EXPERTISE** **ColumnName** / **DataType** / **max length** / **NotNull** / **Default Value** / **Comment** SPECIES / VARCHAR / 50 / NN AREA / VARCHAR / 50 / NN SUBJECT / VARCHAR / 50 / NN	
Rating	must	yes
	priority	high
questions		

Deleting an user

Description	A user can delete his account with all related personal data at every time. If he has made any annotations, only the username will be available.	
Chart (optional)		
Rating	must	yes
	priority	low
questions		

Anonymisation during a calibration exercise

Description	If you make a statistical analysis during a calibration exercise, the usernames will be making anonymous. Only the CE coordinator has a list with the relations from the temporary “raeder1” name to the right username.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Administrating users

Description	The administrator can edit all personal data and giving roles to the

	users. He can also delete users from the system.	
Chart (optional)		
Rating	must	yes
	priority	medium
questions		

Temporary calibration exercises

Making a temp calibration exercises		
Description	You can define an image subset only with images with reference annotations. Afterwards you make your annotations. Your results will only be available for the current browser-session. After 2 hours of inactivity your results will be deleted.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Results of a temp calibration exercises		
Description	Your results will only be available for the current browser-session. After 2 hours of inactivity your results will be deleted. The results are only available yourself.	
Chart (optional)		
Rating	must	yes
	priority	high
questions		

Data integrity rules

Valid and final annotation		
Description	-only one final annotation is allowed for the same image in the same subset per user -Multiple valid annotation for one image in the same subset are allowed -each final annotation is a valid annotation	
Chart (optional)		
Rating	must	yes
	priority	high

questions	

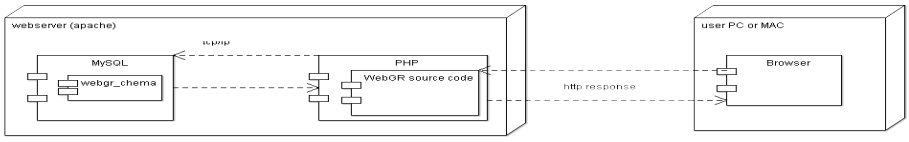
Non functional requirements

Supported language		
Description	Only English will be supported from the system.	
Chart (optional)		
Rating	must	yes
	priority	high
questions	-	

Quantity structure		
Description	-10 WS per year -250 – 400 images per workshop -20 – 25 participants per workshop -10 – 15 participants per calibration exercise -1 – 2 annotations per user per gonad per CE -4 – 5 Otolith annotations per user per CE -5 MB per image	
Chart (optional)		
Rating	must	yes
	priority	high
questions	-	

Security and Protection

Software lifecyle and complete System architecture draft



The Browsers Microsoft Internet-Explorer minimum Version 8 and Mozilla Firefox minimum Version 3 will be supported.

Shipment

The services must be implemented in a coherent tool installable as a website. The software developed must be licensed by an Open Source license to promote transparency, technology transfer and peer review; and allow the scientific community to get involved on further developments, like linkage to statistical analysis engines, or any other specific features.
Technical modules will be delivered together with a detailed documentation of technical requirements, system architecture, installation and configuration guide. The produced source code, database definition scripts and code documentation will be handed over to the ownership of the paying customer and the consortium.
The development platform is www.berlios.de , it will be used for coordination and exchange of files.

Acceptance criteria

Work organisation and quality control

On the basis of this requirements document, the BLE team will work with a rapid prototyping method. According to an agreed project schedule, the team will set up prototype versions with more and more detailed functionality. The prototype versions will be tested by a group of quality controllers. Quality control results determine the further steps and the priority list of changes for the next prototype version.
The first step of quality control takes place at BLE and within the responsible department. Subsequently, the community of the web consortium has to test the prototype from a more scientific point of view. The quality controllers within the consortium will be named during the kickoff meeting (role determination). Results have to be documented and handed over to the project management at BLE.

Annex V - Design meeting report

= WebGR =

Web services for support of growth and reproduction studies

(FISH/2007/07 Lot 1)

DESIGN MEETING REPORT

24th - 28th of November, 2008
IPIMAR, Lisbon

December 10, 2008

Introduction

The objective of this study is to develop a set of web services to support the organization and data analysis of calibration workshops, both for age and maturity information of fish. The most common exercises carried out during these workshops are counting otolith (ear stone) growth rings or classifying gonads, with subsequent analysis of the results in order to build age-length keys or maturity ogives, and this should be possible to do online using WebGR services. WebGR must also implement procedures for training purposes, like browsing images, reading experts' annotations or simulating a calibration exercise. The services must be implemented in a coherent tool installable as a website.

The website should consist of a repository of images grouped or classified by workshop (species, date, area, etc.) and accessible to all workshop participants. Each image must be annotated by several scientists. The annotations must include fields for the classification (age x or maturity stage y, etc.), observations, scientist, etc. This information must be stored in a database so that the statistical analysis of the results can be automated as far as possible and made public as online reports.

The software developed must be licensed by an Open Source license to promote transparency, technology transfer and peer review; and to allow the scientific community to get involved in further developments, like linkage to statistical analysis engines, or any other specific features.

Objectives

A Design Meeting to specify WebGR features and characteristics in detail, was organized in Lisbon during the first quarter of the project.

The outcome of the Design meeting will provide the necessary information for the development team to design the system. The meeting report will describe the requirements for WebGR and prioritise the funcionalities for version 1.0.

Participants

Experts representing the different areas and with different background attended this meeting. Below is the list of participants.

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Erlend Moksness	IMR	moksness@imr.no
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Database and web apps

Design

The database model and software architecture were discussed in detail. The development team constituted by BLE drafted a functional model and a process model that were discussed during the meeting, until agreed by the participants.

The technical report will be written by BLE and will describe all the above mentioned models and architectures. This report will constitute the base of the development. A first draft will be circulated until the 19th of December, 2008. Comments will have to be forwarded until the 9th of January 2009. The final document will be delivered the 23th of December, 2009.

Usage

In order to use WebGR, the institutions will have to download the packages and install these in their own servers. Large organizations like ICES are the main target but small organizations or national institutes may download and install WebGR as well for their internal work. The aim of the project is to develop the software, *not* to host it. The system architecture is based on OpenSource software and should not constitute a reason for preventing those interested to install and run the software.

The OpenSource nature of the project allows those interested to extend its features, adapting the software if necessary.

Concepts

Workshop paradigm

Historically, workshops on age readings have been used for several different purposes, although there is a common objective of coordinating the interpretation of the criteria used for age classification among age readers. More recently, this idea was extended to maturity staging and it is likely to be extended to other similar analysis, e.g. egg stage classification.

In practice, the process starts with the identification of a stock (species*area) that may have problems or simply need a standardization process regarding the interpretation of structures for age or gonad classification. Following this decision, there is an

exchange of otoliths to be read by all participants individually. The coordinator analyses these results and declares if there is a problem or not. If **there is no problem**, the exercise stops and a report is published. If **there is a problem**, a call for a workshop is issued and a group exercise is organized. During the workshop, both group discussions and individual classifications are carried out providing the material for statistical analysis. The maturity staging workshops differ from the age calibration workshops, by not having an exchange prior to the workshop.

To design WebGR, it was necessary to clarify the objectives and the terms used, while considering the subject from a conceptual level that allowed both objectives to be tackled simultaneously and will also allow the integration of other exercises in the future.

Under the scope of WebGR, a workshop contains several calibration exercises and each calibration exercise contains individual and group calibrations, that are carried out in a loop until the objectives are achieved.

The core of the WebGR workshop paradigm is based on the hierarchical structure of the workshop, seen as an operational unit, where several objectives like age or gonad calibration of several stocks may exist simultaneously and require the comparison of readers at distinct levels (e.g. institute, experts, stock assessment input providers, etc.). Each objective must be clearly identified and defined and a specific calibration exercise is then carried out following a statistically sound design. Each calibration exercise is organized in a sequence of individual and group classifications, that can be carried out for as long as necessary. In some cases, the first individual exercise is sufficient, as is the case for stocks without problems regarding criteria interpretation, or it may be very complex and require several group discussions followed by individual exercises to make sure that the interpretation is correct.

Figure 1 - WebGR calibration workshop

Definitions

Annotation: Recording the age of an individual fish and the location of the annual growth zones (CS), or recording the maturity stage of the fish (gonads). Annotations may include other information to explain specific features shown on the image, e.g. a false growth zone (CS), or atresia (gonads).

Calcified structure (CS): Whole otolith, otolith section, scale, illicia or other calcified structure that can be used to estimate the age of a fish at the date of capture.

Calibration Exercise (CE): An individual exercise where a collection of images of calcified structures (CS) or gonad images, is independently examined by each participant and the results are analysed to measure the precision (calcified structures), or the precision and accuracy (gonads), of the results. The images may also be accompanied by the original material (otolith preparations or gonad

histological preparations).

Calibration Exercise Coordinator: The person appointed by the workshop manager to organise a calibration exercise.

Collection: A group of images within the WebGR database that has been selected for use in a calibration exercise.

Group Exercise/Group Discussion: The discussion of images of individual CS or gonads that have been annotated by participants, when they meet during a workshop.

Image: Images of CS or gonad.

Individual Exercise: The independent examination and annotation of images (CS or gonads), within a sub-collection, by individual participants at a calibration exercise within a workshop.

Local Copy: Copy of a WebGR image or annotated image saved on the participant's computer.

Participant: Age readers or maturity stage assessors who have been invited to take part in a calibration exercise (CE). Participants declare their level of expertise (beginner, intermediate, expert, stock assessment reader), for each CE (i.e. the species, area and CS or gonads that have been set for the CE) and this determines their role within the CE.

Reference Annotation: Annotations created at a workshop that are considered to be noteworthy examples.

Sub-Collection: A sub-group of images chosen from the collection selected for a calibration exercise, that will be used to determine if a workshop is necessary, or for a calibration exercise within a workshop.

WebGR Reference Collection (Dynamic): A selection of reference annotations that are considered to be representative of the subject and species at a global level.

Workshop: A calibration workshop where a group of people discuss the criteria used to classify a biological structure, commonly otoliths, illicia or gonads, with the aim of getting a better agreement among them. The calibration exercise may be followed by a workshop and further calibration exercises will take place within a workshop. Calibration exercises will take place by circulating images to participants at their Institutes or by circulating images to participants at a workshop.

Workshop Manager: The person responsible for the workshop, all associated calibration exercises and producing the workshop report.

Workshop Reference Collection: The collection of reference annotations.

Other decisions

Test servers

It was agreed that BLE will install WebGR development versions on

their servers and testing will be carried out remotely by accessing the system there.

Development server

BLE will keep their own development servers during the project, while a new site at berlios (developer.berlios.de) will be set in order to store and keep the code as well as documentation after version 1.0 is released. This site provides other important services like mailing lists, bug tracking, forums, web page hosting, etc.

Web page

It was decided to migrate from google groups to berlios and install a wiki to be used in the future as project web page.

Workshop schedule

The decision about the workshop was postponed to January when there will be more information about the coding of the software. The two months available are June or October.

Budget reallocation

At the start of next year, a budget reallocation will be attempted. Each partner will have the opportunity of reallocating their budget between categories. The new budget will be send to the European Commission asking for permission.