Pathbase: a database of mutant mouse pathology

What is Pathbase?

- Database
- Publicly accessible (www.pathbase.net)
- Searchable through ontology's, CV's and free text annotations.
- Pathbase Consortium

Introduction

- Pathology is a key discipline in this endeavour
- Purpose of the Pathbase: a community resource that codes, archives and distributes primary experimental data describing mutant mouse lesions
- MPATH

The Database Infrastucture

- Meta-data and ontology's
- Implementation

Meta-data and Ontlology's

- The semantic meta-data for each Pathbase image consists of :

1. Anatomical attributes : EMAGE project and Gene Expression Database (GXD)
2. Other attributes are coded using ontology's (MPATH and others) and CV's

Ontology's

- Publicly available at http://obo.sourceforge.net
- Are used for archieving the data and querying the database
- MPATH
- The ontology's are updated regularly and automatically from the source files

Implementation

- Database layer
- Application layer (PHP)
- Transport layer
- Presentation layer

Registration and access

- Registration is only required for submissions
- Registration and use are free to all users and are not required for searching the databases and retrieving images.

Data Retrieval

- All those images have metadata that can be searched via the ontology's, CVs and free text.
- A request yields thumbnails of all appropriate images together with data

Data Acquisition and Annotation

Data acquisition proceeds in two modes :

- The team actively request images
- Users may send or upload their own images

Data Acquisition and Annotation

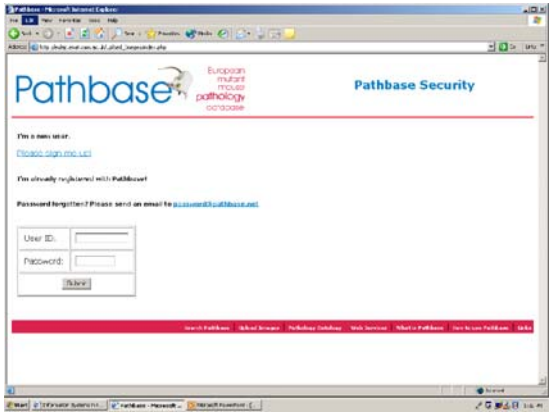
- the submitter must also send key associated data
- all records are subject to active curation and assessment
- users are also allowed to annotate images directly

Discussion

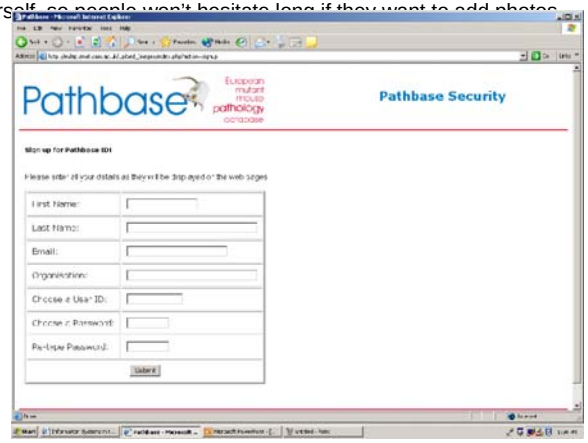
- Evolution of Biological Databases
- One notable future : MPATH
- Much debate concerning the best way of coding complete phenotype data – (MPheno; available on http://obo.sourceforge.net)

Now I will show you how the Pathbase works and how the database look likes.

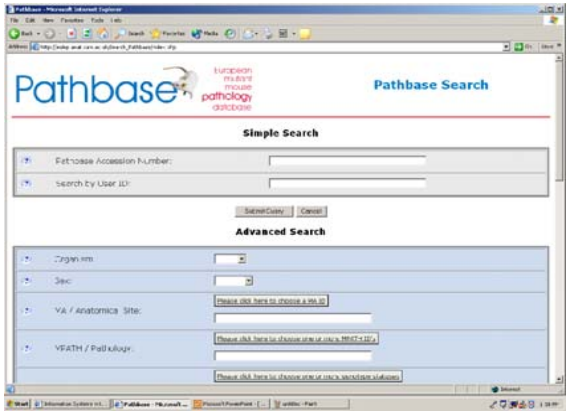
This is what the Log In Page looks like if a user wants to submit photos in the database



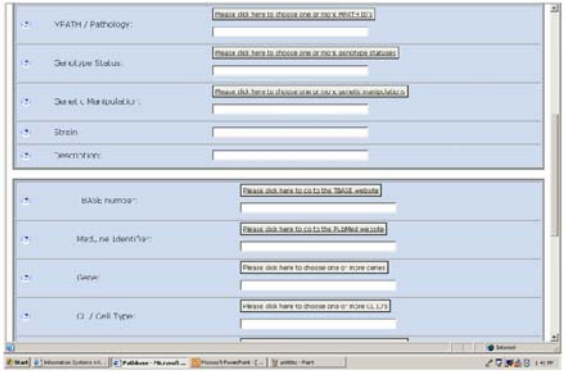
If you have to sign up, you just have to enter limited information about yourself, so people won't hesitate long if they want to add photos



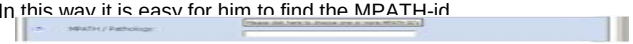
Data retrieval : The user can choose between simple search and advanced search



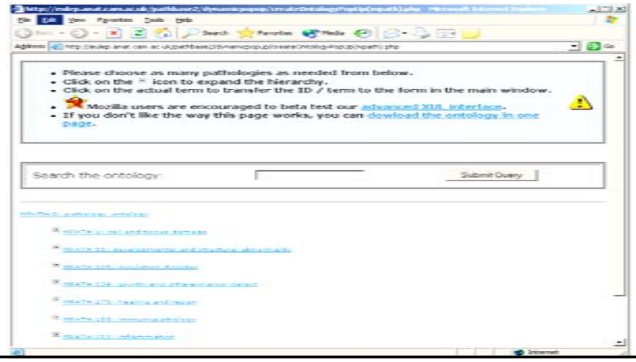
Ad



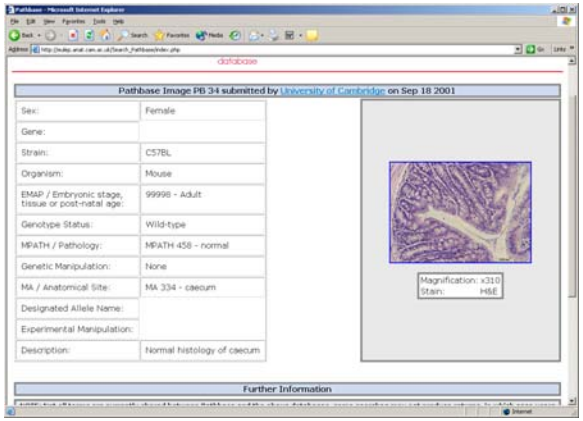
If the user clicks on the white bottom below (for choosing a the pathology he wants to search for) , he will enter the ontology MPATH. In this way it is easy for him to find the MPATH-id



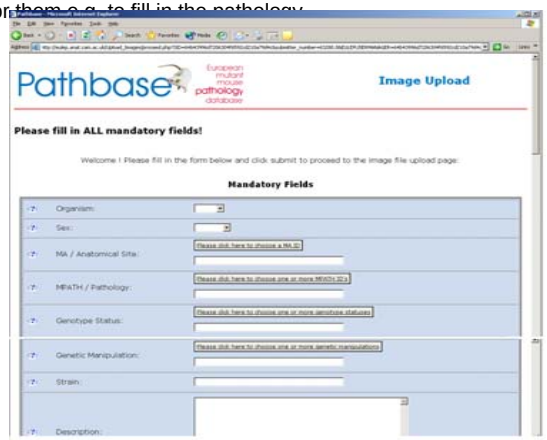
This is the screen that he'll get



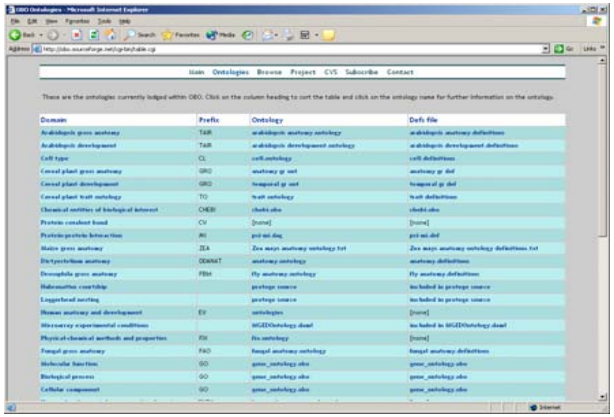
A request yields thumbnails of all appropriate images together with data. These thumbnails can be expanded and are downloadable



If the user wants to upload a photo, he has to fill in some data. Through the use of different databases especially the MPATH this is made very easy for them e.g. to fill in the pathology



This is what http://obo.sourceforge.net looks like. It's a website of many ontology's



And this is hoe the MPATH looks….