e-learning experiences

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ELIXIR / GOBLET e-learning workshop Ljubljana, 15-17 September 2015
Extracts from working document

- the **training context** in which it has been used (**target audience, learning objectives, teaching method** and environment);
- the **technical aspects** related to the e-learning method of choice (software, infrastructure, *etc.*);
- the **costs** involved to setup and maintain the e-learning method of choice;
- the method used to **assess the quality of the e-learning method** and the evaluation results;
- the evaluation procedures used to **assess the pedagogic effectiveness** of the e-learning method, and the results of the assessment.
Vocabulary

Distant or online learning

Face-to-face learning

Self-learning

Formal learning

Module

website

Moocs
Experience #1a

Self-learning website for protein-/proteomics-oriented bioinformatics
E-PROXEMIS WEBSITE NEWS

Important notice
Geneva Bioinformatics (GeneBio) SA and the Swiss Institute of Bioinformatics (SIB) announce a strategic partnership involving GeneBio’s e-Proxemis (see the press release).

e-Proxemis is a copyright of GeneBio. It remains freely available for all non-profit organizations. Commercial users must contact GeneBio to purchase an annual license.

To access e-Proxemis, simply click on the Register button. If you previously subscribed to e-Proxemis as a trial or full user, your subscription data remains unchanged and your account is active again.

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e-Proxemis

- Motivation guide life scientists for the right bioinformatics resources
- Target Life scientists lacking time for assessing bioinfo resources
- Format website
- Software SPIP (CMS)
- Content proteins-related resources (DBs and tools) (56)
  case studies (41) and scenarios (6)
  complex exercises (7)
  quizzes (46)
- Navigation multiple entry points, non linear
If you want to explore real problem examples

If you want an in-depth resource learning

If you want to assess your knowledge

Resources

Scenarios

Case studies

Exercises

Quiz
**e-Proxemis**

- **Update**: every 2-3 months
- **Users**: >800 registered users after 3 years, about 2500 visits / year
- **Resources**: 2 persons 0.5 FTE x 20 months (~20 PM) during development, 0.1-0.2 FTE for update

Thank you to Frédérique Lisacek & Patrici Palagi (PIG/SIB), Jean Sylvestre and Pascale Berthault (SDC) and many other contributors
Experience #1b

Self-learning website in *omics resources
e-Biomics

- Development: 2009 – 2011 / SIB / WU / SDC / HSeT
- Motivation: extend e-Proxemis with other omics resources
- Target: Life scientists lacking time for assessing bioinfo resources
- Format: website
- Software: Drupal
- Content: resources Genomics, transcriptomics, proteomics, metabolomics, sequence analysis pipelines/flowcharts (8) & protocols (7) case studies (8) exercises (9)
Good practices and specific methods for using bioinformatics resources
Thank you to Jack Leunissen and Patrick Koks (WU), Jacques Van Helden (ULB and University of Marseille), Frédérique Lisacek (PIG/SIB), Jean-Pierre Krahenbuhl (HSeT), SDC Team, and many other contributors
Experience #2

E-learning modules
e-learning platforms vs modules

Platform

- Wide-range content
- Classic website
- Long period of development
- Mid-size team
- Needs a big target audience
e-learning modules features

● 4-8 hours learning

● Focus on one topic

● As interactive as possible (animations, assessments, etc)

● Re-usable by use of a multi-platform format (SCORM-compliant)

● Optional: content import (e.g. from .ppt slides) would be a plus

● Optional: runnable off-line as a standalone program
2 projects of e-learning modules

- **Name**: phylogenetics of animal pathogens  
  BLAST and MSA
- **Development**: 2012 – 2014 SIB / FAO / IAEA
- **Target**: epidemiologists in developing countries
- **Motivation**: short learning, available worldwide (commissionned by FAO)
- **Format**: website, scorm package for integration to LMS, off-line
- **Software**: CourseLab (commercial version)
- **Content**: theory, quizzes, exercises
- **Navigation**: linear
2 projects of e-learning modules

- Update: depends on the topics
- Resources: about 5-7 PM / module
- Software: $500 / license

Thank you to Vassilios Ioannidis and Thomas Junier (Vital-IT/SIB), Philippe Le Mercier, Patrick Masson and Lydie Bougueleret (Swiss-Prot/SIB)
# 1 project of e-learning modules

- **Name**: UNIX essentials  
- **Development**: 2014 at SIB  
- **Target**: Life scientists needing basics of UNIX e.g. to run NGS analysis, HPC  
- **Motivation**: short, used as prerequisite for face-to-face courses  
- **Format**: website, scorm package for integration to LMS, off-line  
- **Software**: **CourseLab** (commercial version)  
- **Content**: theory, quizzes
DEMO
Continuing education @ SIB

● 40 course / year

● Use of Moodle LMS for course description, course material repository and feedback form
Summary

- Define Training context (needs, audience, learning objectives, topics)
- Choose a format and design navigation
- Software
- Costs for development & update
- Method of certification
- Quality assessment of method & pedagogy -> short-term and long-term feedback
And now...?

Let’s brainstorm!

Thank you!