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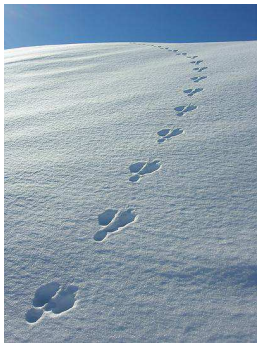
SWITCH Serving Swiss Universities

MOCLog

Monitoring Online Courses with log data



Marco Bettoni & Riccardo Mazza

eduhub Webinar
13.12.2012, SWITCHinteract Web Conferencing

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Outline

- **Introduction**: What, Why, How, Who (Marco)
- **PART A: Model**
  - E-learning Model (Marco)
  - Concept Map & Solution Map (Marco)
  - Ten Use Cases (Marco)
- **PART B: Tool**
  - Implementation (Riccardo)
  - Demonstration (Riccardo)
- **Conclusion** (Riccardo, Marco)

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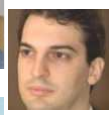
Introduction

WHAT
- Visualise (interpret) log data based on a didactical interpretation model
- Processes and outcomes of learning and teaching

WHY
- Monitoring learning is essential but logfiles are seldom used for that
- Monitoring user interaction traces in terms of learning

HOW
- Moodle plugin whose design implements a didactical model

WHO
- FOR: students, teachers, study program managers, administrators
- BY: four Swiss Institutions - FFHS (lead), USI, FHNW and BFH



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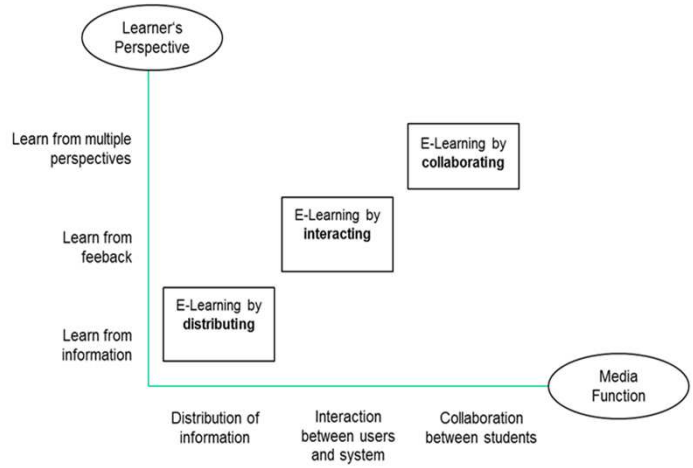
E-Learning Model by Reinmann, G. (2003)



SWITCH - SUPSI.5: MOClog

Reinmann-Rothmeier, G. (2003). Didaktische Innovation durch Blended Learning. Bern: Hans Huber

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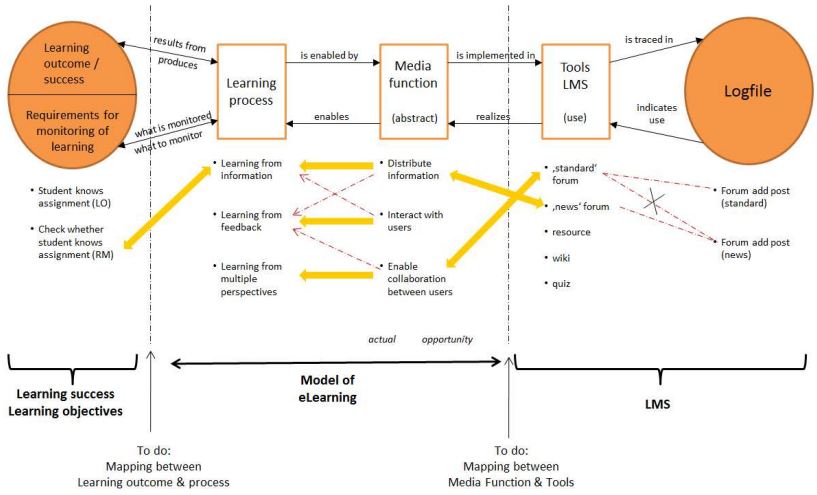
Concept map



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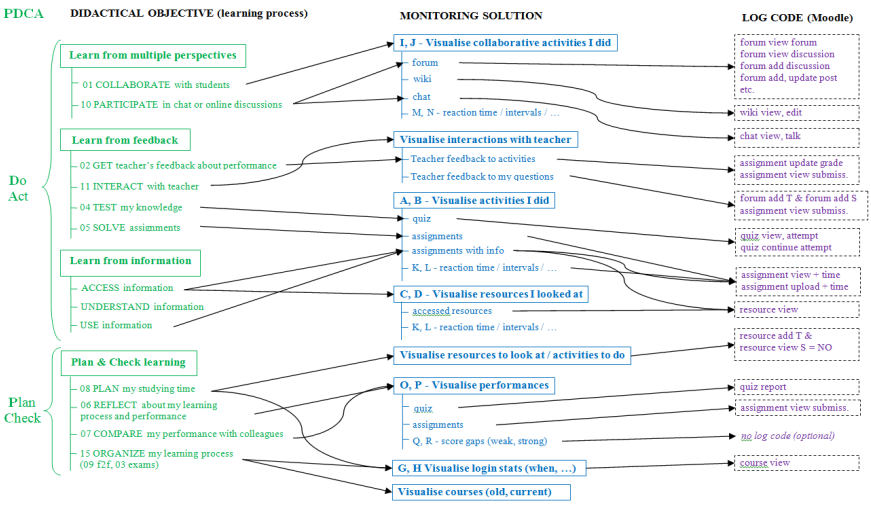
Solution map



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Ten Use Cases

1. Students' Collaboration: for monitoring how much the student collaborates with other students
2. Teacher-Student Interaction: for monitoring the interactions between a teacher and individual students.
3. Knowledge Testing: for monitoring the students' use of their available knowledge in tests
4. Information Access: for monitoring the students' access to resources (file, HTML page, IMS package), assignments and quizzes.
5. Organization of Learning: for monitoring how students organizes their own learning process by planning, preparing exams, etc.
6. Course Activity: for monitoring the level of usage of courses (administrators only)
7. Tool Use: for monitoring which tools are used more and which less (administrators only)
8. Teacher Facilitation: for monitoring the level of activity of teachers in facilitating learning (study program managers only)
9. Students' Total Learning: for monitoring over all the indicators the total level of activity of students in learning (study program managers only)
10. Course Learning: for monitoring the level of facilitation by teachers and the level of learning by students (study program managers only).

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MOCLog software

- MOCLog addresses the needs of four types of user:

students - teachers

Gismo V. 2 (for teachers)

MOCLog Gismo V. 3

\+ specific visualizations for students

study program managers - administrators

MOCLog

Admin

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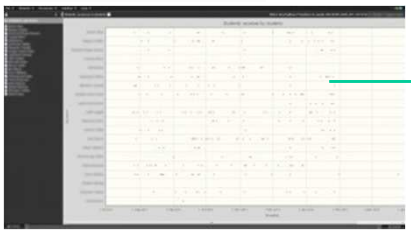
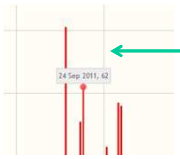
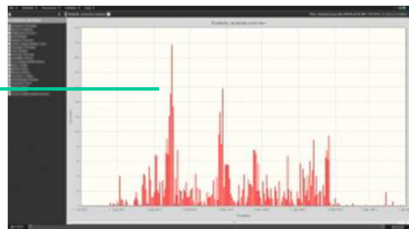
MOCLog GISMO for Instructors

Implemented as side block in Moodle courses



students' accesses





Accesses overview

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MOCLog GISMO for Instructors

Resources – overview of students

Accesses to resources

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MOCLog GISMO for Instructors

- Other visualizations for:
  - Assignments
  - Discussion forums
  - Quizzes

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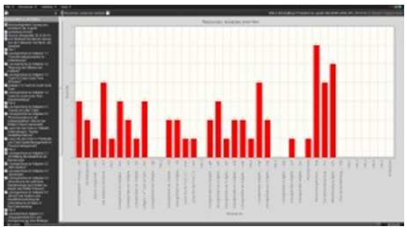
MOCLog GISMO for students (new)

Students have similar visualizations of Instructor's, but are limited only to their own data

Accesses to resources



number of accesses to resources

Assigments and grades

forums (read and write)

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MOCLog Admin

Our are a Moodle **administrator** and you are asked:

- How many courses are utilized productively and in which departments;
- What percentage of courses use further interactive tools beyond the distributed course materials, or, more specifically,
- Which courses in what departments employ the quiz tool.

You are a **study program manager** and you are asked:

- To what extent do instructors/students use the interactive tools?
- Which tools are used by which instructors/students, and to what degree? Or more specifically, e.g.:
- Which instructors/students employ the quiz tool?

MOCLog admin can help you answering these questions.

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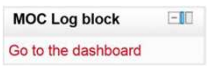
MOCLog Admin



Implemented as moodle block, visible in Moodle home page (myhome) to admin and users having 'manager' role

- MOCLog admin is a flexible tool that allows the creation of customized reports for admins and SPM
- Some **prebuilt configurations** to evidence:
  - **Distribution** of resources
  - **Participation** in activities
  - **Interaction** between participant

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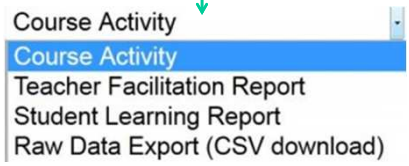
MOCLog Admin Reports

Different reports for **administrators** and **study program managers**



- **Course Activity**: Focuses on courses and number of hits on each Moodle tool,
- **Tool Activity:** Focuses on tools and its usage across all courses,

- **Teacher Facilitation Report:** Focuses on instructors and their activities with tools,
- **Student Learning Report:** Focuses on students and their usage of tools,
- **Raw Data Export:** .csv file export.

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Course Activity – absolute numbers

The report type “Course Activity” displays the number of users per each of the selected courses (first column). In the columns to the right, a summary of hits (Total) and the number of hits per tool follow. The class size is not taken into account

Selection: ALL Users, ALL roles, {Restricted only to courses overview [for *admin* profile]}

Course	# Users	Total	wiki	resource	quiz	page	label	forum	folder	assignment
Testkurs Literarisches Schreiben	7	128	40	8	24	8	8	24	8	8
Testkurs Visuelle Kommunikation	2	128	40	8	24	8	8	24	8	8
Testkurs VKD	3	128	40	8	24	8	8	24	8	8
Testkurs VKD 1	4	128	40	8	24	8	8	24	8	8
Testkurs VKD 2	3	128	40	8	24	8	8	24	8	8
Testkurs VKD 3	4	128	40	8	24	8	8	24	8	8

>> Protocol

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Course Activity – relative numbers

For comparison of courses with different numbers of users, absolute numbers can be apportioned to a standard group size of 20.

☑ Values referring to a standard group size of 20 users (course activity, raw data export)

Selection: ALL Users, ALL roles, {Restricted only to courses overview [for *admin* profile]}

Course	# Users	Total	wiki	resource	quiz	page	label	forum	folder	assignment
Testkurs Literarisches Schreiben	7	365.714	114.286	22.857	68.571	22.857	22.857	68.571	22.857	22.857
Testkurs Visuelle Kommunikation	2	1280.000	400.000	80.000	240.000	80.000	80.000	240.000	80.000	80.000
Testkurs VKD	3	853.333	266.667	53.333	160.000	53.333	53.333	160.000	53.333	53.333
Testkurs VKD 1	4	640.000	200.000	40.000	120.000	40.000	40.000	120.000	40.000	40.000
Testkurs VKD 2	3	853.333	266.667	53.333	160.000	53.333	53.333	160.000	53.333	53.333
Testkurs VKD 3	4	640.000	200.000	40.000	120.000	40.000	40.000	120.000	40.000	40.000

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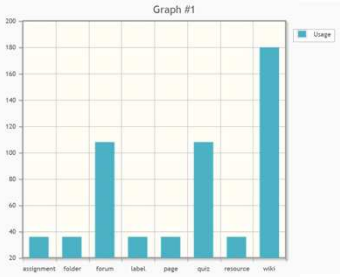
Tool Activity (Administrator only)

The report type “Tool Activity“ displays the number of hits (usages) for each tool by the selected roles (student/teacher) within the defined period among the selected courses.

Selection: ALL Users, ALL roles, Period From: ***08-06-2012*** (Limited by log retention time of 35 days)

Tool	Usages	Per User
assignment	36	9.000
folder	36	9.000
forum	108	27.000
label	36	9.000
page	36	9.000
quiz	108	27.000
resource	36	9.000
wiki	180	45.000



Graphical report is also available

Teacher Facilitation Report (SPM only)

This report offers an overview of the usage of each tool/all selected tools by a faculty. Similar visualization is provider for Students

ID	Name	Courses	forum	wiki	Total
[illegible]	[illegible]	1	33	2	35
[illegible]	[illegible]	7	213	0	213
[illegible]	[illegible]	3	67	0	67
[illegible]	[illegible]	1	0	0	0
[illegible]	[illegible]	3	51	0	51
[illegible]	[illegible]	1	25	0	25
[illegible]	[illegible]	3	31	0	31
[illegible]	[illegible]	4	286	0	286

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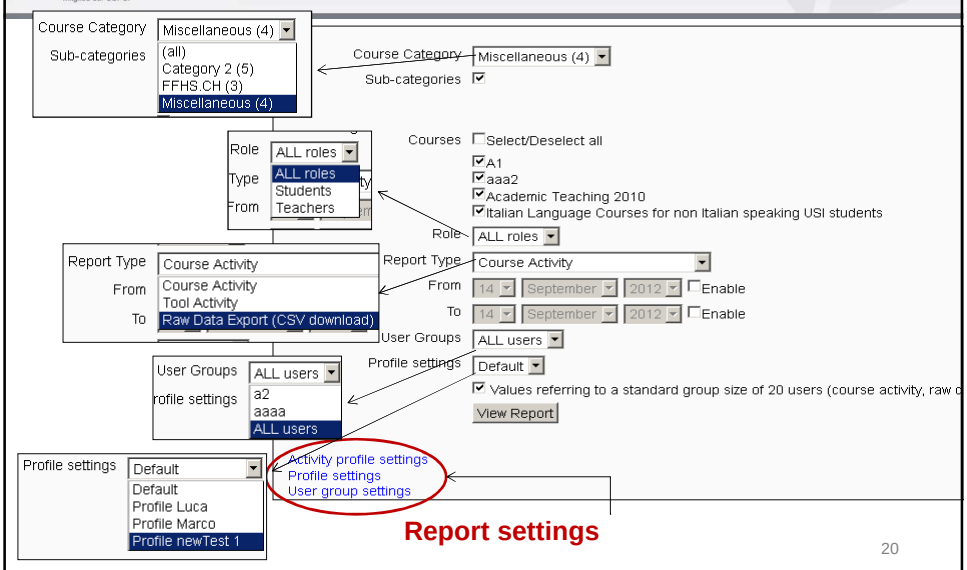
MOCLog Admin – settings



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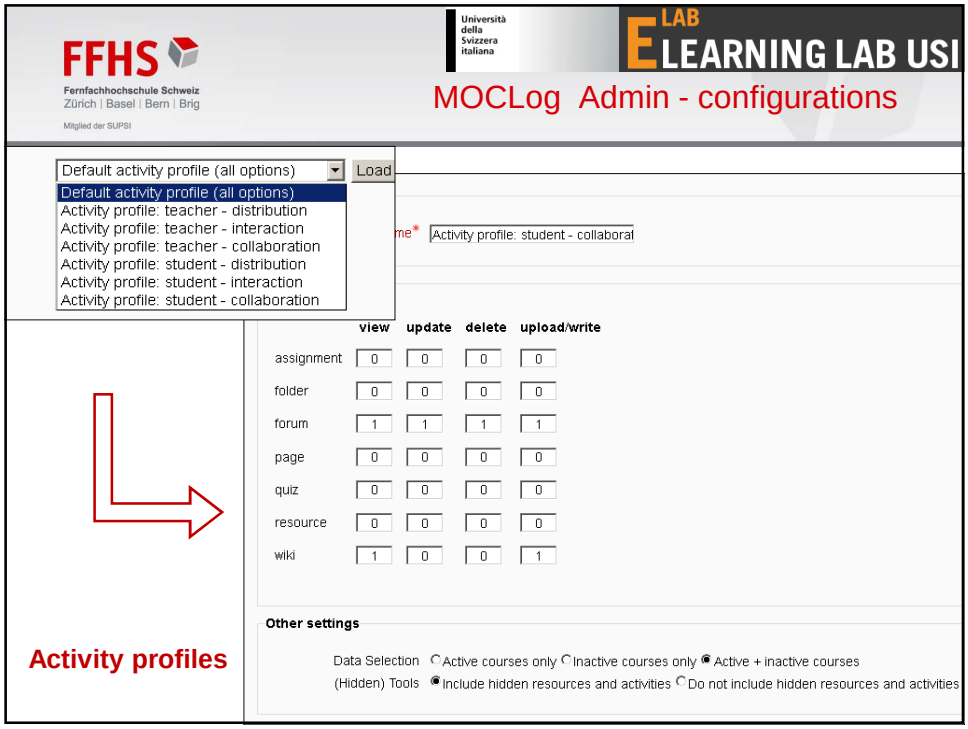
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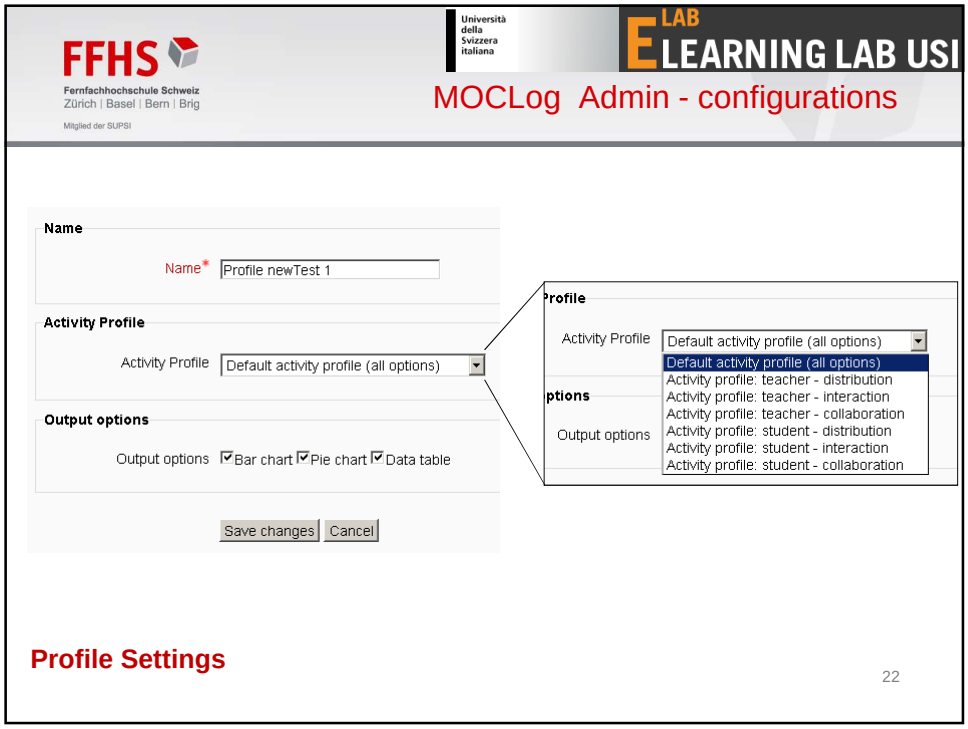
MOCLog Admin - configurations
Default activity profile (all options)
Load
Default activity profile (all options)
Activity profile: teacher - distribution
Activity profile: teacher - interaction
Activity profile: teacher - collaboration
Activity profile: student - distribution
Activity profile: student - interaction
Activity profile: student - collaboration
Activity profile: student - collaborat
view update delete upload/write
assignment 0 0 0 0
folder 0 0 0 0
forum 1 1 1 1
page 0 0 0 0
quiz 0 0 0 0
resource 0 0 0 0
wiki 1 0 0 1
Other settings
Data Selection Active courses only Inactive courses only Active + inactive courses
(Hidden) Tools Include hidden resources and activities Do not include hidden resources and activities
Activity profiles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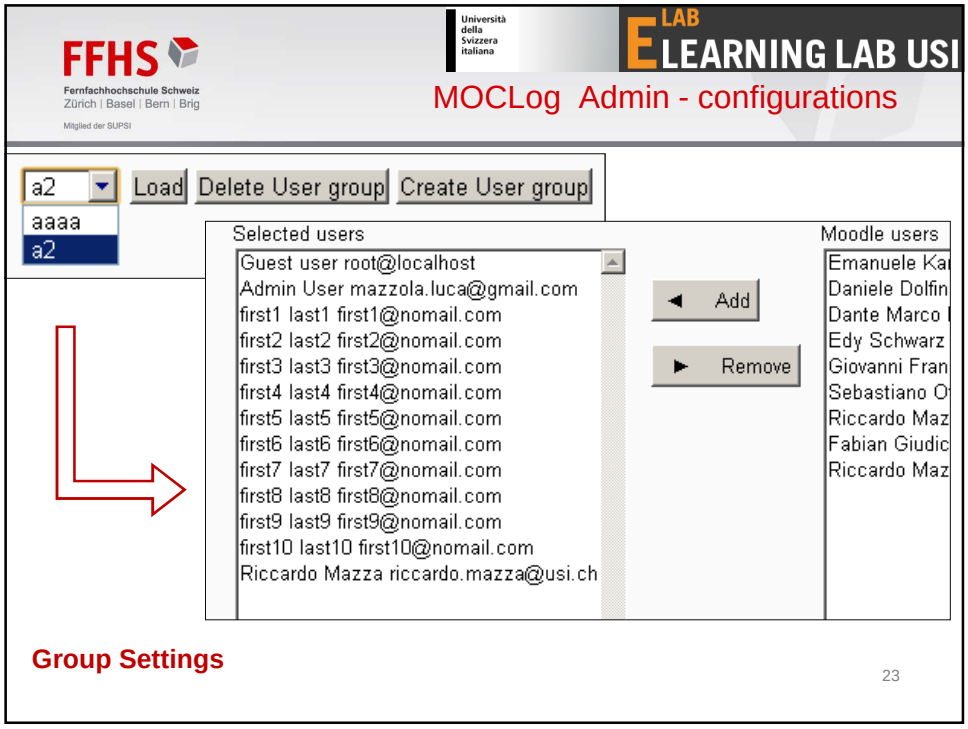
MOCLog Admin - configurations
Name
Name* Profile newTest 1
Activity Profile
Activity Profile Default activity profile (all options)
Output options
Output options Bar chart Pie chart Data table
Save changes Cancel
Activity Profile Default activity profile (all options)
Default activity profile (all options)
Activity profile: teacher - distribution
Activity profile: teacher - interaction
Activity profile: teacher - collaboration
Activity profile: student - distribution
Activity profile: student - interaction
Activity profile: student - collaboration
Output options
Profile Settings
22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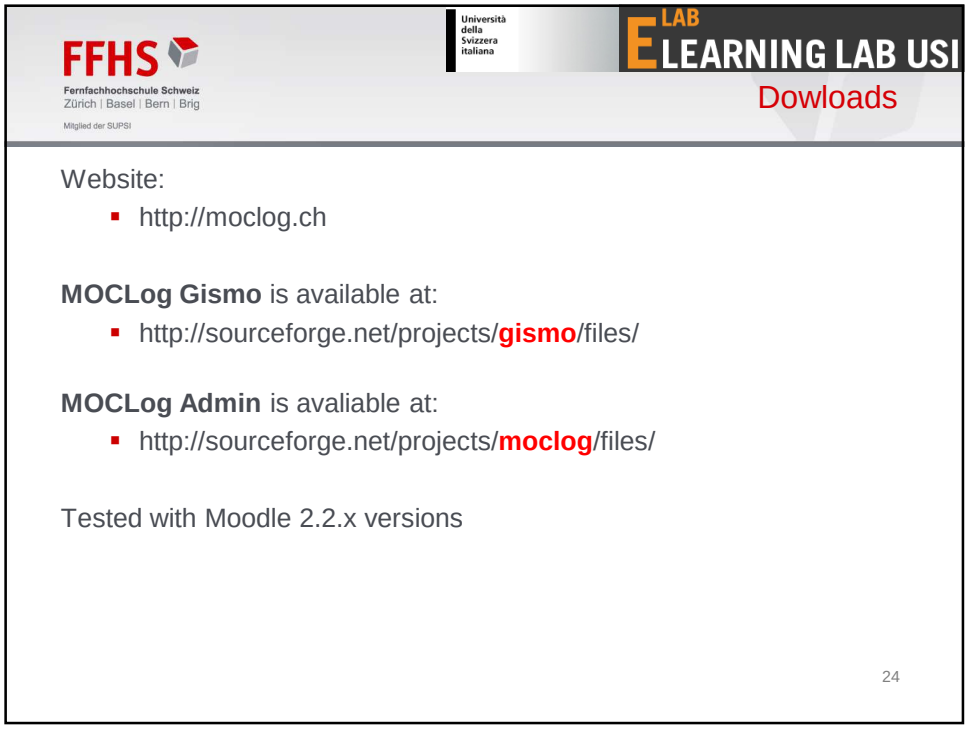
MOCLog Admin - configurations
a2
aaaa
a2
Load
Delete User group
Create User group
Selected users
Guest user root@localhost
Admin User mazzola.luca@gmail.com
first1 last1 first1@nomail.com
first2 last2 first2@nomail.com
first3 last3 first3@nomail.com
first4 last4 first4@nomail.com
first5 last5 first5@nomail.com
first6 last6 first6@nomail.com
first7 last7 first7@nomail.com
first8 last8 first8@nomail.com
first9 last9 first9@nomail.com
first10 last10 first10@nomail.com
Riccardo Mazza riccardo.mazza@usi.ch
Add
Remove
Moodle users
Emanuele Ka
Daniele Dolfin
Dante Marco
Edy Schwarz
Giovanni Fran
Sebastiano O
Riccardo Maz
Fabian Giudic
Riccardo Maz
Group Settings
23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Dowloads
Website:
http://moclog.ch
MOCLog Gismo is available at:
http://sourceforge.net/projects/gismo/files/
MOCLog Admin is avaliable at:
http://sourceforge.net/projects/moclog/files/
Tested with Moodle 2.2.x versions
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Conclusions

- Moodle 2.X **Plugin** for undestanding **online** what is happening in:
  - Courses
  - Tools usage
  - Groups activity

With the possibility to **export information** for further offline analisys

- **Easy to use** for teacher/category administator, almost **real-time**
- With a **didactical** approach
- **Freely Available** at ***http://sourceforge.net/projects/moclog/***

Open Issues / Next Steps

- **Computational power** required for high-traffic instances (or for the first alignment runs, in platform already established)
- Needs of developing the **personalized didactical templates**, if required different didactical aggregations
- Making easier the **comparison** between different datasets (courses, tools usage within groups, type of activities adopted, ecc)

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Thanks for your Attention

MOCLog http://moclog.ch/

Questions?

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eLab – eLearning laboratory
http://www.elearninglab.org/
USI – Università della Svizzera italiana
http://www.usi.ch

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