



Women's Postgraduate College for Internet Technologies



TECHNISCHE UNIVERSITÄT WIEN
VIENNA UNIVERSITY OF TECHNOLOGY

An Evaluation of Open Source E-Learning Platforms Stressing Adaptation Issues

Sabine Graf & Beate List
Vienna University of Technology
Women's Postgraduate College for Internet Technologies
graf@wit.tuwien.ac.at



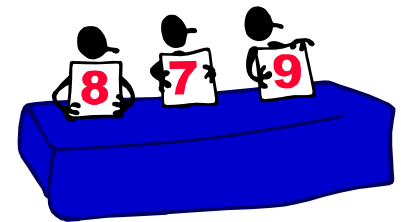
- E-Learning platforms become very successful
- Adaptivity become more and more important

- How much adaptivity is supported in today's e-learning platforms?

- Which platform is most suitable for extending it to an adaptive one?
 - General functionalities and capabilities
 - Adaptation issues

Evaluation Approach

- Applying four minimum criteria to 36 platforms
- Installing and testing the remaining 9 platforms
- Applying the Qualitative Weight and Sum Approach
 - Weight: using symbols (e.g., *, #, +, |, 0)
 - Performance: weight represents the maximum performance value (e.g., + implies +, |, 0)
 - Result: summarizing all performance values per symbol
 (e.g., Platform A: 3*, 4#, 2+
 Platform B: 4*, 3#, 2+
 Platform C: 4*, 2#, 3+)
 - One very good criterion and one very poor criterion are not equal to two moderate criteria
- Ranking: Maybe further analysis is necessary



Categories, Subcategories & Attributes

8 Categories:

- Communication tools
- Learning objects
- Management of user data
- Usability
- Adaptation
- Technical aspects
- Administrative
- Course management

Adaptation:

- Adaptability (*)
- Personalization (#)
- Extensibility (*)
- Adaptivity (*)

Adaptivity (*):

- Annotations of learning objects
- Annotations of communication objects
- Static adaptation of course content
- Dynamic adaptation of course content

*: Annotations and dynamic adaptation

#: Dynamic adaptation

+: Two attributes available

|: One attribute available

0: No attribute available

Results of the Adaptation Category

	Adaptability	Personalization	Extensibility	Adaptivity	Ranking
Maximum values	*	#	*	*	
ATutor		#	#		3
Dokeos		0	*	+	2
dotLRN	+	+	*	0	2
ILIAS	+	#	*	0	2
LON-CAPA	+	#	#		2
Moodle	#	+	*		1
OpenUSS	#	#	#	0	2
Sakai	0	0	*	0	3
Spaghettilearning	+	#	+	0	3

Legend:

* ... very good

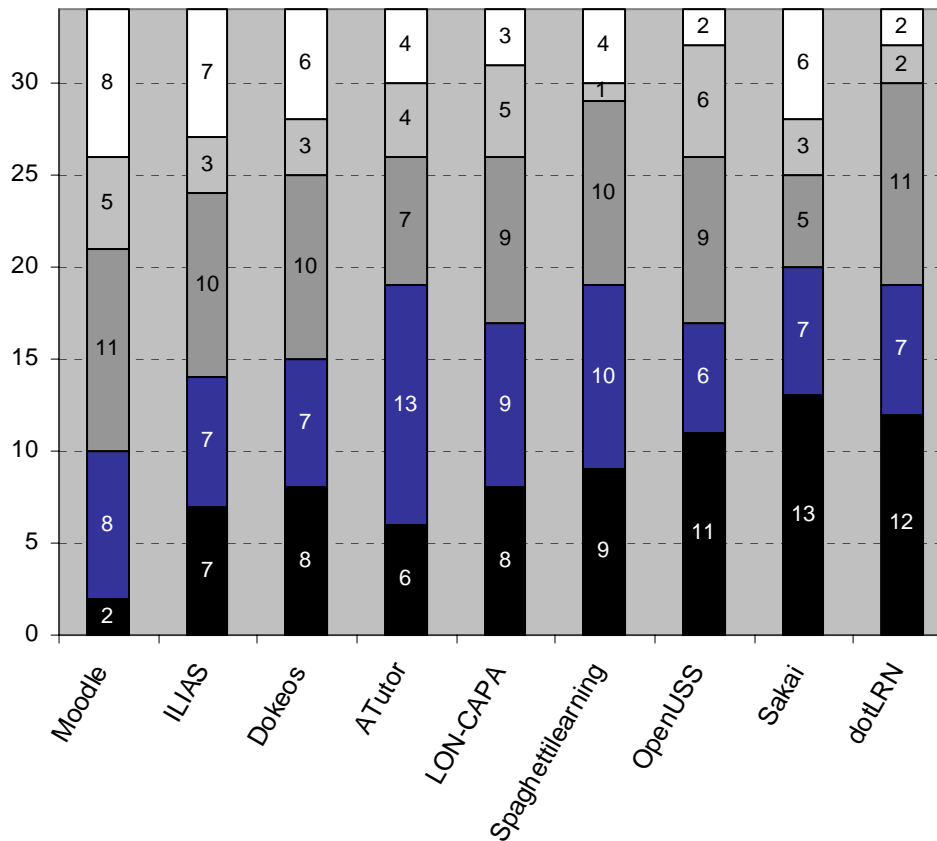
... good

+ ... moderate

| poor

0 ... very poor / not available

Results of the Evaluation



Legend:

□ very good (*)

▒ good (#)

▓ moderate (+)

■ poor (!)

■ not available / very poor (0)

- Evaluation of open-source e-learning platforms
- Using the Qualitative Weight & Sum Approach
- Moodle obtained best values
- Adaptivity is included very rarely but extensibility is supported well
- Ongoing Work
 - Meta model for adaptive courses
 - Extend Moodle with adaptive features as proof of concept prototype