TrucStudio – Course Management

PROJECT PLAN

Master project

Project period: WS-2007/2008

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Status: 9-th semester

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1. PROJECT DESCRIPTION

Overview

The software project intends to aid in the creation of course curricula and to significantly reduce the management overhead associated with maintaining them. In its current state, it mainly focuses on the definition of course topics (TRUCs – testable reusable units of cognition [3]) and relations between them to ensure that the course structure is consistent and as complete as possible. This project will now build on top of the existing TrucStudio application, extending it with collaboration and management functionality.

Scope of the work

The end goal of the course management system includes (but is not limited to) the following features (* marks core functionality):

- User authentication *
  Users have to be able to log into the system with a user name and password to prevent unauthorized access to sensitive data
- Different access groups *
  Not all data should be accessible by every user. Each user should belong to a specific access group that grants him/her specific access rights.
- Storing / retrieving data to / from a central repository *
  Course material like slides, handouts and other lecture related data needs to be exchanged among the staff to allow efficient collaboration.
- Publishing
  The course material that should be available to the students of the course has to be published and updated on a regular basis and automation of at least parts of this process is desirable.
- Staff and task management
  Basic ideas from project management like personnel and task management (e.g. assigning tasks with a given time frame to members of the course staff) should be adapted to the needs of course management and incorporated into TrucStudio.
- Automated reminders
  To make sure that assigned tasks (e.g. creating slides for a given lecture) are completed before the deadline (i.e. the lecture for which the slides are needed), TrucStudio will be able to send automated e-mail reminders to the responsible staff members.
- “Offline” work *
  Offline work without an internet connection should still be possible (not all functionality may be available to the user in this mode).

The listed features will be integrated into a client-server system with an extended version of TrucStudio as the client. The server will be developed from scratch and will use a back-end database for efficient data storage. To ensure maximum flexibility, the communication between the client and the server will be an XML message system (built on top of TCP).

Intended results

The intention of the project is to create a client-server system that...

- serves as a basis for a collaborative course management environment
- eases the workload of all parties involved in course management
- provides users with up-to-date course data at any time via a remote update functionality

2. BACKGROUND MATERIAL

Reading list

[3] Bertrand Meyer: *Testable, reusable units of cognition*. IEEE Computer, 39(4):20-24, 2006.

[4] Leo Widmer: *TrucStudio – A Prototype*; Master Thesis, April 2007. Online at http://se.inf.ethz.ch/projects/leo_widmer/report.pdf

3. PROJECT MANAGEMENT

Objectives and priorities

The most important objective of this project is to build a client-server framework that is as flexible and extensible as possible. The core functionality – the features in the section “Scope of the work” that are marked with * – has therefore the highest priority and will be developed in phase one of the project. On top of that framework, some extended features – those that are not marked with * – will be added in the order of their usefulness (which will be judged by Michela Pedroni). This second phase of the project is not optional, but due to the time constraints and the inherent unpredictability of software projects in the presence of not completely mature development tools the effective requirements will have to be judged after completion of the first phase.

Criteria for success

If the resulting system can be used to facilitate the aspects of course management addressed in this document at the end of the allotted project duration, the project can be considered successful. Additionally, a report documenting the project has to be created and handed in before the end of the project.

Method of work

All major design decisions will be discussed extensively with the project supervisor. Each new component of the system will be tested extensively before the development of the next component is started.

Quality management

Documentation

The documentation will contain an overview of the system and its design as well as a detailed description for each individual component.

Validation steps

Constant feedback from the project supervisor will guide the development process.

4. PLAN WITH MILESTONES

Project steps

- Preliminaries (planning phase)
- Research existing project management techniques and check their usefulness in the context of course management.
- Research different approaches for data management
- Analyze results of the research phase
- Design & implement phase one (client-server system)
- Testing of phase one
- Design & implement phase two (additional features)
- Testing of phase two
- Documentation finalization

Deadline

28.02.2008

Tentative schedule

Description	**Duration**	**Start**	**Start Calendar Week**	**End**
Planning Phase	2 Weeks	06.08.2007	32	17.08.2007
Research	2 Weeks	20.08.2007	34	31.08.2007
Analysis	1 Week	03.09.2007	36	07.09.2007
Phase One	10 Weeks	10.09.2007	37	16.11.2007
Buffer For Phase One	2 Weeks	19.11.2007	47	30.11.2007
Testing Phase One	1 Week	03.12.2007	49	07.12.2007
Phase Two	6 Weeks	10.12.2007	50	18.01.2008
Buffer For Phase Two	1 Week	21.01.2008	4	25.01.2008
Testing Phase Two	1 Week	28.01.2008	5	01.02.2008
Finalization	3 Weeks	04.02.2008	6	22.02.2008
Total	29 Weeks	06.08.2007		22.02.2008

REFERENCES

[1] Chair of Software Engineering: *Semester-/Diplomarbeiten*; Online at: http://se.inf.ethz.ch/projects/index.html, consulted in August 2007.

[2] Bertrand Meyer: *Object-Oriented Software Construction, 2nd edition*, Prentice Hall, 1997.

[3] Bertrand Meyer: *Testable, reusable units of cognition*. IEEE Computer, 39(4):20-24, 2006.

[4] Leo Widmer: *TrucStudio – A Prototype*; Master Thesis, April 2007. Online at http://se.inf.ethz.ch/projects/leo_widmer/report.pdf