Conceptual Modeling & Design Methods

Project 2017 – 2018

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There is a choice between two types of projects:
1. **Group project: Design & prototype of a data-intensive information system** using either
    • The UI Design method (for desktop application, mobile app, …)
    • WSDM (for web application)
   for an application of choice (but approval required).
   This project should be done in a group of 2 to 3 persons
2. **Individual project: Develop a knowledge clip** (of about 10 min) for a topic from the course

The goals and requirements for both types of projects are described below.

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1 Group Project: Design & prototype of a data-intensive information system

1.1 Goal of the Project & Requirements

The students should design an application using a design method from the course and develop a prototype for it. The focus should be on the user interface and its structure, as well as on the data store. The application can either be a web application, a desktop application, or an app (for smartphone or tablet). The subject of the application is open. The project should be done in **groups of 2 to 3 students**.

Students can form a group themselves and each group should first propose by means of a short textual description the application that they will design and prototype (see deadline below). It can be a new application or an existing one for which the group wants to make a new design. The application needs to fulfill the following criteria:

- The application must be **data intensive and therefore, make use of a database**.
- The application must **serve at least two different types of users with different needs** (i.e. two different user classes).
- The application must **offer a minimum of 2 major tasks per person in the group**.

Any type of application (web-application, tablet application, mobile application, desktop application, …) is allowed, as well as a combination (e.g., a desktop application that also provides a mobile version).

Design methods and conceptual modeling are the central theme of the course. Therefore, the design process used and the conceptual modeling done will be the main aspects of the evaluation. Bad modeling, or a lack or inappropriate use of a proper design process will be reflected in the marks (see also section Evaluation Criteria).

The design must focus on the user (web) interface, its structure and the data store. No design of the internals of the system is needed. **Either the User Interface Design Method or WSDM (both given in the lectures) or a combination of both methods should be used**. The design method(s) that is(are) most appropriate for the chosen application should be used.

The prototype should be a software prototype. The final software prototype has to be COMPLETE from a user interface perspective! This means that a prototype of the UI is needed for each of the user classes and for all user tasks that need to be supported by the application. The actual functionality (e.g., making calculation, adding users and documents to a database, etc.) should not be provided (this means that this can be simulated in the prototype). However, it should be possible to illustrate basic interactivity (such as navigating between screens, closing screens, selecting items from menu's, filling field, etc.). For the prototype, any suitable tool such as Axure[1], GUI Design Studio[2], Balsamiq[3], Fluid[4], Wireframesketcher[5], Pencilproject[6], FlairBuilder[7], MockFlow[8], Alouka[9], Invision[10], or technology such as web technology HTML5 can be used. If you use a trial version of some prototyping tool, make sure that it will still work when you have to present your project!

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[1] http://www.axure.com /
[2] http://www.carettasoftware.com/gds/
[3] http://balsamiq.com/
[4] https://www.fluidui.com/
[5] http://wireframesketcher.com/
[6] http://pencil.evolus.vn/Default.html
[7] http://www.flairbuilder.com/
[8] http://www.mockflow.com/
[9] https://www.alouka.com/
[10] http://www.invisionapp.com/

1.2 Practical setup

1.2.1 Groups

This assignment should be done in groups of 2 to 3 persons. Groups of more than 3 people require permission and a good motivation. This permission must be asked as soon as possible via email to cmdm@wise.vub.ac.be.

How the work is divided internally is up to you. The work will be evaluated as a whole, but a **peer evaluation can be requested** to honor/dishonor individual contributions (for instance when some members of the team did not cooperate). A peer evaluation will be done for a team **as soon as one team member asks for it** (by email to cmdm@wise.vub.ac.be). The result of the peer evaluation can have an influence on the final mark received by the individual group members. In case you experience serious problems with your teammates (for example, one member is not cooperating), we should be notified as soon as possible. Notifying us a few days before a deadline is of course far too late, and will not be taken into account.

1.2.2 Deadlines and Deliverables

- **Deadline for forming groups: Monday Oct 9, 2017 at 12:00h (noon) by email to cmdm@wise.vub.ac.be**
  Once you found other group members, one of the group members mails the composition of the group to cmdm@wise.vub.ac.be, with the other members in cc.
- **Deadline for submitting the description of the application (1 to 2 pages): Monday Oct 16, 2017 at 12:00h (noon) by email to cmdm@wise.vub.ac.be**

Deliverables
Project Report containing:
  - Description of the application
  - Design method followed (UI Design Process or WSDM or a combination) and a complete and detailed description of the design process performed, including the different conceptual models (ORM, CTT, and database schema). Clearly document your models and motivate your decisions. Report on each step of the design method (so also how the models are used to derive the final interface).
  - Overview of the prototype by means of some screenshots.
  Deadline for handing in the report: Friday Jan 5, 2017 at 24:00h digitally using Pointcarré (Assignment section)

Project defense:
The final prototype should be demonstrated and explained (by means of a DEMO – NO PRESENTATION). Explanations and questions about the project will be asked. All group members need to be present. This will be done in the exam period (scheduled for Jan 29 and 30, 2018). Subscriptions for a timeslot will be done through the Pointcarré workspace.

Please note that all deadlines are hard deadlines. You will lose marks when you hand in too late.

Feedback college: In the mid of the semester, you will be given the opportunity to present your (unfinished) project. You will not have to hand in any documents for this. Neither the presentation nor the presented models or prototype will be taken into consideration for your final grade. The goal of this presentation is only to give you **feedback on your intermediate results**, and to allow you to directly ask questions about some (semi-)completed parts of your project (you can of course ask us questions during the course or the semester as well). Per group a slot of 20 minutes will be available. Time slots will be provided through Pointcarré.

Currently this feedback session is scheduled for Dec 7 (time slot for the lecture) but depending on the course progress this may be rescheduled.

1.2.3 Project Evaluation

Your project grades will be distributed as follows:

Correct use and quality of the design method and conceptual modeling techniques; quality of the report (completeness, presentation style):	60%
Final prototype (consistency with the design, usability and look & feel, completeness, robustness)	25%
Defense (quality of the demo, quality of the answers to the questions):	5%
Originality and complexity of the application with respect to the number of people in the group:	10%

The work will be evaluated as a whole, but a **peer evaluation can be requested** to honor/dishonor individual contributions (for instance when some members of the team did not cooperate). A peer evaluation will be done for a team as soon as one team member asks for it (by email to cmdm@wise.vub.ac.be). The result of the peer evaluation can have an influence on the final mark received by the individual group members.

1.2.4 Questions & Contact

If you have questions or you would like to have an appointment for extra information, you should mail to cmdm@wise.vub.ac.be.

2   Individual project: Knowledge clip

2.1   Goal of the Project & Requirements

A knowledge clip is a short video wherein you, as instructor, briefly explain one specific subject, a particular concept or a basic principle. It is intended to supporting students in their learning process: students are able to consult the knowledge clips at their own pace, for example while processing difficult learning materials. A knowledge clip should not be too long; the length will depend on the topic but should not be longer than 10 to 15 min.

The topic should be a topic from the course, e.g. explanation of the main steps of a design method; the basis modeling concepts and their use of ORM, CTT, or BPMN; Task-based UI design; the 7 step mapping algorithm; meta-modeling, …. The goal is to create in this way (and over the years) a collection of knowledge clips that can be provided to the students as (additional) learning material.

The knowledge clip developed should be around 10 to 15 min. Plagiarism is not allowed.

There are different ways and software for making knowledge clips. First search for some knowledge clips on the Web and for tips on how to make a knowledge clip.

2.2   Practical setup

This assignment is done individually.

2.2.1   Deadlines and Deliverables

* **Deadline for signing up for the assignment: Monday Oct 9, 2017 at 12:00h (noon) by email to cmdm@wise.vub.ac.be**
* **Deadline for submitting the topic: Monday Oct 16, 2017 at 12:00h (noon) by email to cmdm@wise.vub.ac.be**

Deliverables
Project Report containing:
* Topic of the knowledge clip and short description of the knowledge clip
* Method followed to make the clip
* Software used to make the clip
* URL where the clip can be found
   Deadline for handing in the report: Friday Jan 5, 2017 at 24:00h digitally using Pointcarré (Assignment section)

Project defense:
The clip should be shown during an oral defense. Explanations and questions about the project will be asked. This will be done in the exam period (scheduled for Jan 29 and 30, 2018). Subscriptions for a timeslot will be done through the Pointcarré workspace.

Please note that all deadlines are hard deadlines. You will lose marks when you hand in too late.

Feedback college: In the mid of the semester, you will be given the opportunity to present your (unfinished) project. You will not have to hand in any documents for this. Neither the presentation nor the presented material will be taken into consideration for your final grade. The goal of this presentation is only to give you **feedback on your intermediate results**, and to allow you to directly ask questions about some (semi-)completed parts of your project (you can of course ask us questions during the course or the semester as well). A slot of 20 minutes will

be available for this. Time slots will be provided through Pointcarré. **Currently this feedback session is scheduled for Dec 7** (time slot for the lecture) but depending on the course progress this may be rescheduled.

2.2.2 Project Evaluation

Your project grades will be distributed as follows:

Correctness and completeness of the explanation of the topic; pedagogical quality:	50%
Quality of the report (completeness, presentation style):	15%
Final clip (appeal, look & feel)	30%
Defense (quality of the answers to the questions):	5%

2.2.3 Questions & Contact

If you have questions or you would like to have an appointment for extra information, you should mail to cmdm@wise.vub.ac.be.