Web Engineering
2014-2015

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Assignment 3: Design and implement a Web Application

Goal

The goal of this assignment is to design and implement a Web application. The Web application should be functionally complete: all functionality should work, the Web application should possess decent layout & presentation, and at least contain enough sample data that allows you to demonstrate your Web application adequately.

The design should be done using WSDM and IFML. You need to use WSDM for the mission statement, audience modeling phase (audience classification and characterization) and task analysis phase (concurrent task trees) and template design. You need to use UML class diagrams for information (= domain) modeling and IFML, for functionality, navigation & interface/user interaction modeling (i.e., you do not need to create WSDM object chunks; they're covered by IFML information (= domain) modeling + IFML models for user interaction).

Here is an overview of what is expected:

Modeling phase	Output
Mission statement specification	Mission statement specification
Audience Modeling	
Audience Classification	Audience class hierarchy + specification of information and functional requirements + navigation and usability requirements
Audience Characterization	Specification of Characteristics
Conceptual Design	
Task Modeling	Concurrent Task Tree(s)
Information Modeling	IFML domain model (e.g., UML class diagram)
Functional Modeling	IFML diagrams (using events, parameters bindings, activation expressions, etc.)
Navigational Modeling	IFML diagrams (using interaction flow)
Implementation Design	

Site Structure Design	IFML diagrams (using (nested) view containers & navigation flow)
Data Design	Not required
Presentation Design	
Style and Template Design	- Visual template design as in class 6 – page 33 - Style is implementation specific (i.e., themes if you use a content management system, CSS in most other cases; make sure to have an appealing, fitting style)
Page Design	Not required (implied by IFML diagrams)
Implementation	Use the technology of your choice

From the overview above, it is clear that IFML diagrams replace several WSDM diagrams; you thus need to model the WSDM diagrams where indicated, and fully specified IFML diagrams for the rest. With "fully specified", we mean that your IFML diagrams need to be modeled in sufficient detail so they cover all the relevant aspect, e.g., connection with underlying domain model, parameter bindings, event specifications, navigation conditions (activation expressions), navigation and data flow, calls to underlying functionality (actions), etc. When using the WebRatio tool (not obligated, feel free to use any IFML modeling tool; see next paragraph), a good indication of the fact that your domain & IFML diagrams are fully specified is the fact that you can generate code.

As an implementation platform, you are free to use your preferred technology. We point out that WebRatio (http://www.webratio.com/) supports code generation starting from IFML (and underlying domain model), so this might be a good choice. Other options are using a (Web) content management system, a Web application framework, or manual coding.

Description of the Website

Date4Life is a dating website aimed to find new friends or the love of your life.

Most of the information/functionality on the website is only available for registered users. When registering, users need to provide basic information about themselves, which is later shown as part of the profile: nickname, date of birth, Profile picture, location, email address, what they are looking for (love, friendship, pen pal, activities) and a free description.

Once logged in, users can optionally give more information about themselves (i.e., extend their profile): marital status, amount of children, eye color, hair style, clothing style, nationality, knowledge of languages, occupation, degrees. Furthermore, users can add their favorite <xxx>, where <xxx> can be whatever the user wants. For example, a user can add his favorite "movie", or favorite "food", "drink", "holiday destination", … (as many as the user wants).

Once logged in, users have different information / functionality available.

- Change any of their personal information, add or delete information

- Search for users, based on any of the profile information
- View the profile of any other member (all except email address is shown)
- Post a public message on any user's "wall"
- Answer to a message on their own wall, or delete messages from their wall
- Privately contact another user through an in-website messaging system
- Read private message and reply
- "Like" another user. This user is subsequently added to the user's liked list. Users can be removed from the liked list at any time.
- The user is notified from updates of their "liked users", in other words, of profile updates of these users
- Send a user an attention, choosing from a bouquet of flowers, a handshake, a smiley, a kiss, a tap on the back, a thumbs up or a bottle of wine. Users are informed when they have been sent an attention, and have the possibility to return the favor.
- Request random friend(s) to message with, for which only age and gender can be specified. The system subsequently randomly suggests random person(s) (the user specifies how many results he wants) to message with
- Block and/or report other users
- Log out
- Terminate account

Some basic functionality for non-registered users is available. They are able to search based on age range, location and gender. The result of their search is a list of 10 users fulfilling the search constraints, whereby only nickname, age, location, picture and gender is shown (no other properties are shown). They also see only nickname, age, location, picture and gender of the last 10 members that logged in.

Administrators have the possibility to see all information about all users. They are also informed of blocked and reported users, and how many times they have been blocked or reported. They can message any user, temporarily disable users or delete users.

It is your task to come to a usable Website, where there user easily find the information/functionality, and is easy to use. You'll need to make choices on how to organize the site, how to present the information & functionality, how users can navigate, how to layout and style pages, etc. The description above are the minimal requirements, which are deliberately kept somewhat vague in order to give you some degree of freedom in realizing the requested information/functionality. You are hereby free to add additional information/functionality if you think it's useful, and you are particularly encouraged to think about and add information/functionality if it improves the usability of the site.

Practical Setup

The project is completed in groups of two students (same groups as assignments 1 and 2). How the work is divided internally is up to you; the work will be evaluated as a whole. In case you experience serious problems with your partner (for example, somebody is refusing to cooperate), the responsible assistant

of the course should be notified as soon as possible. Notifying the assistant a few days before a deadline is of course far too late, and will not be taken into account.

Deliverables

The assignment has four major deliverables. Please note that these deliverables will have a major influence on your final grade for this course, so make sure that you spend enough time and attention on both the final Web application, and on the related (design) documents.

1. Preliminary design document (deadline: 22/04/2015 + 1 week extension = 29/04/2015)

Each group has the opportunity to hand in a preliminary design document, even if it is only partly finished. You will receive feedback within one week from the assistant on this document, indicating if you are on the right track or not. Handing in a preliminary design document is not mandatory, and will not be taken into account for the evaluation. The preliminary design document needs to be sent as a pdf document by email to (webengineering@wise.vub.ac.be).

2. Report & Implementation (deadline: 24/05/2015)

The students should write a report documenting the complete design process, including the output of each design phase (mission statement, audience class hierarchy, requirements specifications and characteristics of the audience classes, concurrent task trees, domain model and IFML diagrams) and mentioning the URL of the Web application (must be available online!). The students must use the dropbox feature of Pointcarré to submit their report, and name it assignment3-[group number].pdf (e.g., assignment3-group5.pdf). Make sure that the document is visible for both the assistant and the professor. Please limit the length of your report to no more than 50 pages. Treat this report as a professional document, so pay attention to the content as well as the structure and the layout of the document (e.g., provide a table of contents, chapters and sections, numbered pages etc.).

3. Website demonstration (during exam period)

During the exam period (the exact date will be announced in due time), as a group you will have to demonstrate your Website, motivate your design, and elaborate on the implementation. Both group members need to be present for the defense. A demo needs to be prepared; make sure you have enough (meaningful) test data to give a realistic demo. For the defense and demonstration, each group needs to make a reservation via Pointcarré. You will be notified when reservations for the defense are opened.