Special Course in Software Engineering: Modern Internet Frameworks

Code Camp: ASP.NET MVC & jQuery

University of Turku in collaboration with Lindorff Oy offer a code camp focusing on building enterprise web applications using the ASP.NET MVC web application framework and jQuery. As a result of the camp, students are expected to create a small, working application. The development will be carried out by student teams during the intensive week.

The camp will be held in August 29th – September 2nd in ICT-building.

A student can take the course as 3 ECTS or 5 ECTS. In a shorter course, the participation and successful completion of the programming project in the intensive week is required. In addition to the requirements of the short course, either a final report or a product launch is needed for passing 5 ECTS course. The student has to decide after the intensive week if he wants to take the longer course.

The task is to develop *a small software development tool* using the ASP.NET MVC 3 framework and jQuery in a group of two to three students. Concept of an application may be, but is not limited to:

- Scrum product backlog management application
- Scrum sprint backlog management application
- Bug tracker application
- Project communication tool
- Release management application

Even though the course focuses more on a raw development, we are still hoping to see interesting and unique concepts during the course.

Learning Objectives

- Understand the structure of modern internet applications;
- Learn to work as a group to carry out a small application development project;
- Acquire the skills to necessary to design and implement a small web application; and
- Familiarize the student with both server and client side development.

Course

A student of the University of Turku can credit the course *DTEK8069 Special Course in Software Engineering: Modern Internet Frameworks* or corresponding course with the camp. A student of Åbo Akademi University and Turun ammattikorkeakoulu will be credited with corresponding courses. No JOOPAS-application is needed for participation of the course.

The credit points will be registered to all participants after the examinations of the final reports. In urgent cases, Lecturer Antti Tuomisto (antti.tuomisto@utu.fi) can register the credits earlier. Please note that the credit will be registered directly to your home university.

Preceding studies

Requisite:

- Basic knowledge of Java or C# programming (e.g. courses *TKO_5278 Advanced Course on Object-oriented Programming (Olio-ohjelmoinnin jatkokurssi)* and *TKO_2039 Object-oriented Programming by Contract (Sopimuspohjainen olio-ohjelmointi)* in University of Turku*)*

Recommended:

- Basic knowledge of databases and SQL (e.g. courses *TKO_2009 Databases I* and *TKO_2010 Databases II* in University of Turku)
- Web programming

or equivalent knowledge.

ICT Showroom

ICT ShowRoom is an annual student project exhibition and competition organized in the ICT House. The event is open for all students of the ICT House. The ICT ShowRoom is organized jointly by Turku University of Applied Sciences, University of Turku and Åbo Akademi University.

Students of the codecamp are asked to find out more about the event. For example, the course work of the code camp can be used in the event. Please find more information from event's web page (http://it.abo.fi/ictshowroom) or Facebook page (http://www.facebook.com/ictshowroom).

The Short Course – The Intensive Week

The 3 ECTS course consists on a participation in the intensive week and successful completion of the programming project in the intensive week is required. The first day will be a hands-on tutorial to the ASP.NET MVC framework and jQuery. The next three days will be used for intensive development, resulting in the working application, which will be presented on Friday. No additional documentation is needed for passing the short version.

Timetable

Day	Time	Content	Place
Mon 29th	9.00-16.00	Tutorial	B2034
Tue 30th	9.00-18.00*	Coding	B3041
Wed 31st	9.00-18.00*	Coding	B3041
Thu 1st	9.00-18.00*	Coding	B3041
Fri 2nd	9.00-14.00	Presentations	B2034

*** The computer class is reserved for the whole day, but actual presence is not needed. Anyway, the staff and ASP.NET experts will be available for technical questions and problems during the fixed time at the computer class.**

Although the exact concept of an application is free, it should at least fulfil the following requirements:

- Simple forms login (username and password pair)
- Dynamic behaviour on page: At least a pull based chat on communication tool, drag-and-drop on other tools

- Persistent storage, data saved to database or file etc.
- Application should be fully functional from the end-user's perspective
- During the final presentation, course instructors and other students should be able to login to the system and test its functionality

The Long Course – A Final Report or a Software Product

There are two options to pass the 5 ECTS course: a "final report" or "software product launch". The deadline for the longer course is **Monday the 26th of September at 9.30 a.m.** Send the report or link to the product via email to Sami Hyrynsalmi (sthyry@utu.fi) **and** info@ictportti.fi. In following, both options are described in details.

A) Software Product Launch

A software product is more than a bunch of source code. As Xu and Brinkkemper (2005) defines it, a software product is "*a packaged configuration of software components or a software-based service, with auxiliary materials, which is released for and traded in a specific market*". In the longer course's option A), you are asked to 'productize' your application into a software product. That is, the team is expected to consider what materials and features (focus on improving usability, not on adding new cool functionalities) are needed for your application being launched as a software product.

We are expecting, at least, that the product can be openly used through Internet and it contains following features:

A landing page which explains what the product is and why someone should bought it.

An ordering process where the customer can 'buy' the service. This can be either automatic or manual. The customer is expecting that in eight hours from the ordering, the account is created and username–password is delivered.

A user manual and / or highly usable product that is, the product should be usable without the education or helpdesk. For a technology demo, bad usability might be acceptable but for a real product it is not.

Multitenancy, i.e., the customer sees only his company's information and is not aware of other user of the product.

A feedback system where the user can either report problems or ask for help. In real world, there will always be problems that are not expected.

Follow-up system which tracks the usage of the product and reports (to the given email address) either transactions done in the system, time the system is used or any other feature that the customer can be charged.

After finalizing your product, you are asked to send the link to the product via email to the course master (see above). The course instructors will test listed features of the product and evaluate each

feature. The course grade will be based on these evaluations. Include into the email the name of the application, the course, members of the team, their student's number and universities.

B) Final Report

The option B) for the longer course consists of the final report which documents the application. Below is a tentative structure for the report. Please refer the reporting guideline[1] to the typography and page layout. Use pictures and diagrams to clarify the text.

Cover page including the name of the application, the course, date, members of the team, their student's number and universities.

Chapter 1: Introduction including the short summary of the application, the architecture, the structure of the report, etc. Keep the chapter under one page.

Chapter 2: Enterprise Application Please describes your application's idea, how the end user uses it, what needs it satisfies, and what the competing applications are. That is, the chapter describes your product in details from the end user's point of view. Use pictures and screenshots to clarify the text.

Chapter 3: Architecture of the Application Please describes your application's architecture, what techniques are used, how the frameworks are utilized in the application and what features should be included in future releases. That is, the chapter describes your product in details from the developer's point of view. Again, use pictures to clarify the text.

Chapter 5: Summary

Appendixes (if needed)

The report should be no less than 10 pages and no more than 20 pages. Also the final report can be made in a small group; naturally we are expecting a more comprehensive report from a group than a single student.

[1] http://www.it.utu.fi/opiskelu/ohjaus/tutkielmienhyvaksymismenettely/index/raportointiohje_turku_-_v092005.pdf