3rd Semester

Systems Development Methodologies

Project Charter

1 Introduction

During the second semester, you learned the iterative , incremental Unified Process approach . During this semester, you are learning a new approach: Agile development approach with focus on delivering high quality software.

You are going to do a project using agile systems development principles and practices, using mainly SCRUM combined with Extreme Programming XP.

The Project Report will be the basis for your exam in Systems Development, whereas the application (programming and technology) is not in focus at Systems Development exam.

2 Project objectives

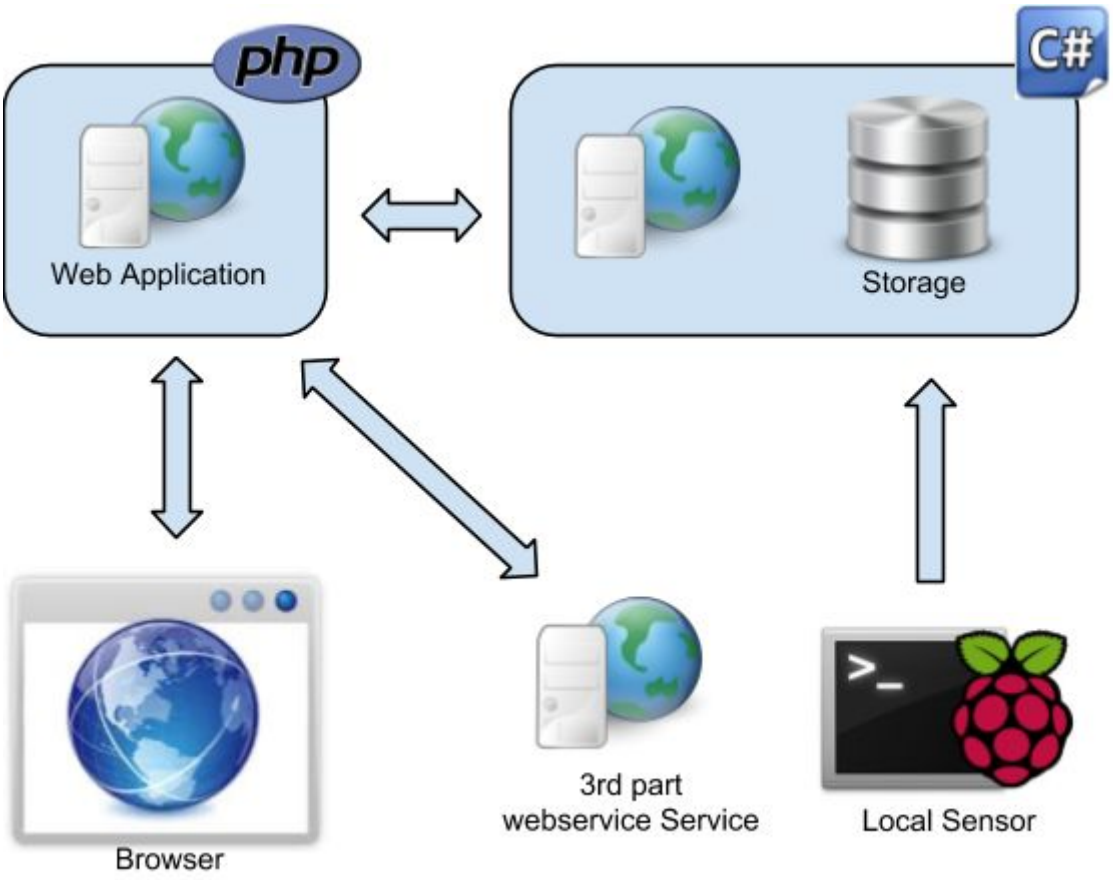
The main goal of the project is to provide you, as a competent partner in a development project, an opportunity to use and evaluate new practices and methodologies and to give you some experience in being a user. The project will result in a study report and a working (coded, tested) software.

The project will also give you an opportunity to use and evaluate many of the topics that are new to you in this semester and the previous semesters as well.

The primary objective is to get knowledge of and experience with agile practices.It is also an opportunity for improving your programming skills.

3 Requirements for distributed programming

The project idea is to implement the distributed architecture shown in *the figure below*



The application must:

- Use at least one 3rd party web service
- Read and use data from at least one local sensor
- Store data from the local sensor in Microsoft Azure
- Access data from Azure using web services
- Have a middle-tier written in PHP
- Have a browser based user interface / website
- Be tested
- Be documented
- Use tracing (logging)

4 The study project

The study project is based upon the course Systems Development Methodologies (SYM).

The purpose of the study project is to give you an opportunity to use and evaluate a specific methodology by developing a system based on the architecture shown above .

5 Project scope and requirements

The methodology must be based on the new agile practices from e.g. XP, SCRUM, Agile RUP, ….

Mandatory practices/artefacts are:

- Agile Inception
- Product Backlog
- Sprint Planning
- Planning Poker
- Daily Scrum
- Sprint Burn-Down Chart
- Sprint Retrospective
- Informative Workspace
- Collective Ownership

The following practices are recommended:

- Pair Programming
- Test-Driven Development
- Continuous Integration

You must accomplish and present the study project methodically by carrying out the following stages:

- Problem definition (Formulate a Research Question)
- Problem solving (Project Work)
- Conclusion

6. Process Requirements

6.1 Team size

The team must consist of a cross-functional team of 4-5 members.

6.2 Rotation of roles

As shown in the table below, it is a requirement for the project that you rotate between the different roles for each sprint. The order of the rotation is shown in the table below. Each member of the team is assigned the number 1, 2, 3, 4 or 5.

	Week 1	Week 2	Week 3	Week 4	Week 5
Group member	Inception	Implement ation	Implemen tation	Implemen tation	Report

1	PO				SM
2	SM	PO			
3		SM	PO		
4			SM	PO	
5				SM	PO
PO = Product Owner SM= Scrum Master					

6.3 Report size and form

The size of your study project report must be at minimum 20 pages and at maximum 30 pages (a page is 2400 characters including spaces)..

Attest the number of characters in your report.

The name(s) of the person(persons) responsible for each section should be mentioned along with the title of the section (Who has done what?).

Your report must document your role as a Product Owner (PO) and the Scrum Master(SM) as illustrated in the table above.

The report must follow normal practice with frontpage, table of content, page numbers. etc.

6.4 Supervisors

Your teachers in this semester are the supervisors/facilitators for the project. During the project period, they will be at your disposal providing advice and help.

6.5 What to deliver and when

On Fronter, you should hand-in the following:

1. Project report
2. Coded and tested software (C# code, executable program, installation instructions, etc.) as a zipped file

7 Project description

Find and explore an idea to be developed using the proposed architecture and have it approved by your teachers.

Every group will describe the idea on ½ -1 A4 page. It's important that you describe which system you intend to build and which daily problems you intend to solve (why do you want the system). It's not required to know all the requirements upfront.

Your supervisor (your teacher) must approve your problem definition