

Project Plan

Project Kitchen Occupation

TSBB11 HT 2013

Version 0.2



Status

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Project Kitchen Occupation

Bilder och Grafik CDIO, HT 2013
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Document history

| Version | Date | Changes | Sign | Reviewed |
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| 0.1 | 2013-09-10 | Initial draft | MS | |
| 1.0 | 2013-09-23 | First version | All | |
| | | | | |

1 Introduction

This document is written regarding how the project Kitchen Occupation, which is part of the course TSBB11 HT 2013 at Linköping University, will be carried out. The main goal of the project is to produce a system that is capable of automatically measuring the level of usage of student kitchens at Linköping University. The project will be developed using a version of the SCRUM methodology and as such, a full blown Project Plan according to the LIPS model is not required. It is instead required that the initial Product Backlog be presented, along with an estimate of in which Sprint each Backlog Item will be completed.

1.1 About this document

This document includes the initial Product Backlog with associated Sprint timings. In addition to this, a brief overview of the changes we have made to the standard SCRUM methodology in order to make it fit into the context of the given project is presented, as well as an overview of the development process of one sprint item.

2 Project Methodology

This section summarizes our version of the SCRUM methodology presented in the SCRUM guide [1], and describes changes we have made to the standard SCRUM. We use two week sprints where each team member is expected to spend 25 percent of their work week on the project.

2.1 Documents

The Product Backlog (PB) contain desirable product features which are prioritized. Each backlog item in general corresponds to one or several connected requirements from the requirement specification. A new Product Backlog item can at any time be added to the Product Backlog and priorities can change at any time.

The Sprint Backlog (SB) contain a To-Do list made from splitting up one or several Product Backlog items into smaller pieces. These pieces should be things specific enough for implementation.

The Sprint Log Document (SLD) contains

- A Snapshot of the initial SB from the Sprint Planning.
- A snapshot of the final SB from the Sprint Review.
- A sprint review as well as how much time spent.

2.2 Definition of responsibilities

Mattias Tiger is the *Project Manager*, which is the role of the Product Owner and the Scrum Master.

Nikolaus West is *responsible for testing*.

Martin Svensson is *responsible for documentation*.

Gustav Häger is *responsible for system integration*.

All group members do not have specific roles. According to scrum, group members should not have specific roles, apart from a Scrum leader and a Product owner. In this case this means three group members are missing a specific role. The other three roles are specified because of their importance in combination with the fact that this project is done during a very short time, during limited hours. Documentation, testing and system integration is vital for the project's progression and therefore group members are given these three roles to ensure their prosecution.

2.3 Meetings

At the start of each sprint there is a *Sprint Planning* meeting. During this meeting it is decided what or which items from the PB that will be worked on during the sprint. A new SLD is created and an initial SL snapshot is added.

During a sprint there are *biweekly scrum* meetings, which replace the *daily scrum* meetings of regular SCRUM. They are short meetings, around 15 minutes, every Monday and Wednesday. Questions asked and answered during this meeting are:

- What have you done since last biweekly scrum?
- What will you do before the next biweekly scrum?
- What obstacles are impeding your work?
- Are there any bugs discovered?

At the end of each sprint there is a *Sprint Review* meeting where the following questions are answered:

- What did we finish?
- What did we try?
- What solutions did we end up using?
- What did we do well?
- How can we work better?

The *Sprint Review* meeting is a combination of a *Sprint Review* and a *Sprint Retrospective* in the terminology of regular SCRUM. The review is documented and added to the SLD together with the current (final) SL snapshot. SLD is then handed in to the supervisor and the product may be demonstrated for the customer/supervisor if desired.

3 Sprint Item Development

In the development of each sprint item that should result in executable code, development should follow a test-driven approach. The development cycle is illustrated in figure 3.1.

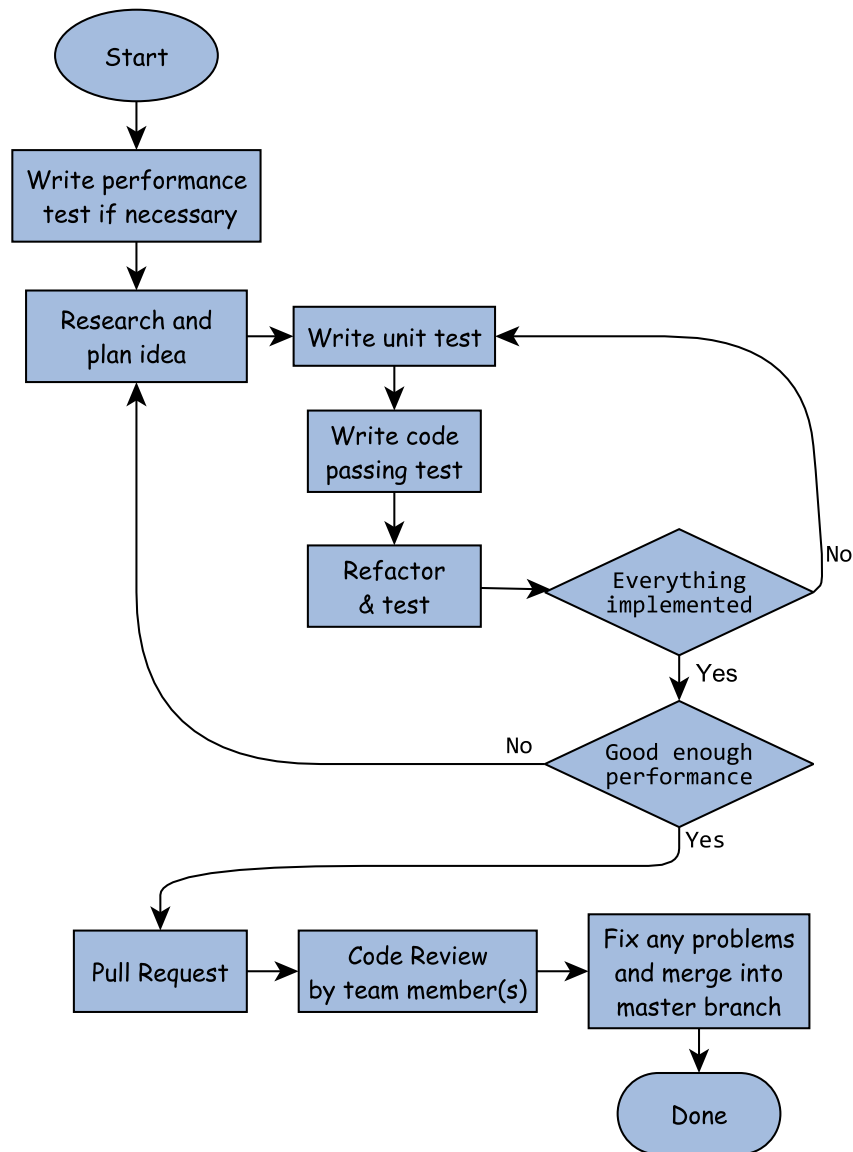


Figure 3.1: *The test-driven development cycle used in this project.*

4 Initial Backlog

The following is a snapshot of the product backlog before the start of Sprint 1. Changes to the product backlog are expected to occur as more knowledge is gained and the project progresses.

4.1 Sprint planning

The sprints are, when possible, two weeks long and specified in 4.1. Sprint 2 is shorter due to the exam period and sprint 4 is shorter due to the project deadline.

| Sprint number | Start | Finish | Comment |
|---------------|------------|------------|---------------------|
| 0 | 2013-09-16 | 2013-09-30 | |
| 1 | 2013-09-30 | 2013-10-18 | |
| - | 2013-10-21 | 2013-11-01 | Exam period |
| 2 | 2013-11-04 | 2013-11-18 | |
| 3 | 2013-11-18 | 2013-12-02 | |
| 4 | 2013-12-02 | 2013-12-12 | Deadline 2013-12-13 |

The following tables lists backlog items and their priorities for each sprint. The groupings of backlog items in specific sprints is only preliminary at this stage.

| Sprint 0 | | |
|-------------------------------------|----------|----------|
| Item | Priority | Req. No. |
| Requirement specification finalized | 1 | - |
| Project plan finalized | 1 | 7.1 |
| A running test system | 1 | - |
| Initial test data gathered | 1 | 5.10 |
| Initial test data labeled | 2 | 5.10 |
| Build system deployed | 1 | - |
| A code standard | 1 | - |
| An initial code skeleton | 1 | - |
| DOxygen deployed | 2 | - |

| Sprint 1 | | |
|--|----------|-------------|
| Sprint item | Priority | Req. No. |
| Stream video from camera to screen | 1 | - |
| Segmentation of Background-Forground | 1 | - |
| Forground labeling | 1 | - |
| Basic tracking of objects | 1 | - |
| Simple self callibration (illumination) | 2 | 5.8 6.3 |
| Estimate flow of people | 1 | 5.1 5.2 5.3 |
| Real time visualization of intermediate steps of the program | 1 | - |

| Sprint 2 | | |
|--|-----------------|-----------------|
| Sprint item | Priority | Req. No. |
| Basic queue identification | 1 | 5.4 |
| Stream video from more than one camera | 1 | - |
| Improved tracking of objects (Occlusions etc.) | 1 | - |
| Identify/unique persons | 1 | - |
| Group cameras according to room | 1 | - |
| Multiple-camera people-identification | 2 | - |
| Estimate queue time | 2 | 5.7 |

| Sprint 3 | | |
|---|-----------------|-----------------|
| Sprint item | Priority | Req. No. |
| Callibration of multiple cameras | 2 | - |
| Estimate number of people in queue | 2 | 5.7 |
| Improved queue identification | 3 | 5.5 5.6 |
| A administration program | 1 | 6.2 6.4 |
| The system is tested in realistic conditions (changing illumination, lights turning on/off..) | 1 | 5.9 |

| Sprint 4 | | |
|--------------------|-----------------|-----------------|
| Sprint item | Priority | Req. No. |
| A installer GUI | 1 | 6.1 |
| A project report | 1 | 7.2 |
| A user manual | 1 | 7.3 |
| A project webpage | 1 | 6.5 |

References

- [1] Schwaber K., Sutherland J.
The Scrum Guide: The Definitive Guide to Scrum: The Rules of the Game
<https://www.scrum.org/Scrum-Guides>,
Jul. 2013
Accessed on September 20th 2013.