

Project plan & study diary
River Raid 2017
version 1.1

TUT	Pervasive Computing	TIE-21106	Software	Engineering
		Methodology		
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Document status: final		Modified: 26.01.2017		

VERSION HISTORY

Version	Date	Authors	Explanation (modifications)
1.0	26.01.2017	Arno L.	Initial additions, risks
1.1	29.01.2017	Arno L.	Refinements

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1. PROJECT RESOURCES

1.1 Personnel

Name	E-mail	Experience	Skills	Interests	Contribution (hours)
Arno Lehtonen (Scrum Master)	arno.lehtonen@ student.tut.fi	+60 credits software development	C/++/#, web full stack	Web, VR, game development	5+ hours a week
Mohammad Imranur Rahman	rahman8@stude nt.tut.fi	Software Developer	C#, Java	Full stack	50
Kuanysh Kairbek	kuanysh.kairbe k@student.tut.fi	Software Developer	C/C++	Trainee	8 h/week

1.2 Process description

The project is going to consist of four sprints. The first milestone is defined as the first crude playable version with all game states included (initialization, game on-going, game over). This milestone is expected to be reached by the end of sprint two. The second milestone is our fully functional end product, which only requires the final testing and finishing touches. This milestone is going to be reached by the end of sprint 3 or midway in sprint 4.

Project goals

The aim of this project is to create a functional end product satisfying the customer requirements. We have defined our goals as follows:

- Fully functional, minimum viable product
 - 10 customer requirements satisfied
- Some additional features, such as
 - different weapons
 - other pickups
- Polished graphical presentation and UX

Managing the workload

Different modules will be assigned to the members according to their interest and skills. After each sprint we will be meeting for planning the next steps.

Communication

We have set up a Slack, where all group members are present. We're planning on having at least one meeting weekly in person, where everybody is able to discuss the project and the

On top of that, we're planning on having coding nights (or days), where the whole group can get together and advance the project.

Risk management

The risk management is discussed in chapter 3. The most common risks were identified and their impacts on the project were assessed. We're planning on updating the risk list in the end of each sprint.

1.3 Tools and technologies

The tools used in this project are listed below. If there's an update available, we refrain from updating the version unless the features in new version are seriously vital for this project.

Table 1.1: Tools used in the project.

Purpose	Tool	Contact person	version
Documentation	Google Docs office.microsoft.com	A.L	2017
	Draw.io (UML tool) http://draw.io	A.L.	16.9
Communication	Slack	A.L	2.4.1
Version management	Gitlab https://gitlab.rdtut.fi/sweng-2017/g09---balmora.git	A.L	1.4.6
SDK	Unity	A.L	5.5.0
Management Tool	Agilefant, www.agilefant.com /TTY-TIE	A.L	2017

1.4 Sprint Backlogs

1.4.1 Sprint 1

Feature	Description	Developer
Controllable player character	Player is able to move around, graphics	Arno
Scrolling map	The level scrolls below the player	Kuanysh
Dummy enemy class	Something to shoot at	Mohammand
Player is able to shoot	Default shooting mechanism, graphics	Arno
Pickups	Fuel and so forth	Arno
Gamestate	Game data and states	Mohammad
The initial project setup	Initial Unity project + pushing to Git	Kuanysh

2. STUDY DIARY

This chapter holds your journal of lessons learned during the course. That is, **more detailed analysis of previous Sprint's contents**.

2.1 Sprint 1 (every sprint as a section)

2.1.1 What went well

2.1.2 What difficulties you had

2.1.3 What were the main learnings

2.1.4 What did you decide to change for the next sprint

2.2 Sprint 2

2.2.1 What went well

2.2.2 What difficulties you had

2.2.3 What were the main learnings

2.2.4 What did you decide to change for the next sprint

3. RISK MANAGEMENT PLAN

In the risk management plan, we assess the probability and impact of the most common possible risks that could affect the outcome of the project. Risk categories are customer, technology, environment, personnel and project management.

Table 4.1: Project risks.

Risk ID	Description	Probability	Impact
P1	A member of the group falls ill	2	4
P2	A member of the group quits	2	5
P3	A member of the group doesn't fulfill their duties	2	3
T1	Hard drive failure	2	2
T2	Technology hard to master	3	1
PM1	Project management isn't up to standards	2	4
PM2	Scrum is not used to its potential	4	1
E1	Git woes with Unity	5	1
E2	Cloud services not available	1	2
C1	Customer requirements change	1	5

3.1 Personnel risks

Risk probability is measured using a scale from **1 to 5**, as well as the impact of the risk.

3.1.1 Risk P1: A member of the group falls ill

Root cause (source): A key person will be absent for several days.

Importance (seriousness): 8.

Avoidance: Good hygiene and other preventive measures.

Response (prevention): Redistribute workload, do what you can even though you're ill.

Recovery (survival): The backlog has to be prioritized, features cut out.

3.1.2 Risk P2: A member of the group quits

Root cause (source): A group member is not committed to the project.

Importance (seriousness): 6.

Avoidance: Ensure commitment in the beginning.

Response (prevention): Talk with the member in question before things get out of hand. Communication.

Recovery (survival): Contact course personnel, ask for other help.

3.1.3 Risk P3: A member of the group slacks

Root cause (source): A group member is not committed to the project.

Importance (seriousness): 10.

Avoidance: Ensure commitment in the beginning.

Response (prevention): -

Recovery (survival): Contact course personnel, ask for reduced features. Do all the work with remaining group members.

3.2 Technology risks

Risk probability is measured using a scale from **1 to 5**, as well as the impact of the risk.

3.2.1 Risk T1: Hard drive failure

Symptom, early warning sign: disk makes noise, arbitrary reading errors occur more often than before.

Source or reason: hard disk is at the end of its lifespan, or hard hit on computer while disk was running.

Probability: 2

Seriousness: 2

How to avoid: buy a new disk when starting a project.

How to prevent: Additional backups, buy a new disk.

How to survive: Cloud backups, always push to Git.

3.2.2 Risk T3: Technology hard to master

Symptom, early warning sign: A group member is unable to complete his tasks.

Source or reason: Used technology is too difficult to master in this time frame

Probability: 3

Seriousness: 1

How to avoid: buy a new disk when starting a project.

How to prevent: Additional backups, buy a new disk.

How to survive: Cloud backups, always push to Git.

3.3 Project management risks

3.3.1 Risk PM1: Project management isn't up to standards

Symptom, early warning sign: Communication or workload distribution fails, things aren't getting done.

Source or reason: Lack of communication and involvement.

Probability: 2

Seriousness: 4

How to avoid: Active communication and participation, project management push.

How to prevent: Team members know their roles, communicate.

3.3.2 Risk PM2: Scrum isn't used to its potential

Symptom, early warning sign: Features aren't getting done.

Source or reason: Scrum is a new method for some group members.

Probability: 4

Seriousness: 1

How to avoid: Scrum should be mastered, Scrum master does his job.

How to prevent: Read the scrum material, ensure that scrum master know their job.

3.4 Environment risks

3.4.1 Risk E1: Git woes with Unity

Symptom, early warning sign: Features cannot be pushed because of conflicts.

Source or reason: Unity always modifies some actually untouched files.

Probability: 5

Seriousness: 1

How to avoid: Be careful when adding new things to a commit.

How to prevent: Ensure, that Git knowledge is on a high level.

3.4.2 Risk E2: Cloud services not available

Symptom, early warning sign: 404s, connection problems.

Source or reason: Git/Agilefant servers are down.

Probability: 1

Seriousness: 2

How to avoid: No way to avoid this, should it happen.

How to prevent: Out of our reach.

3.5 Customer risks

3.5.1 Risk C1: Requirements change drastically

Symptom, early warning sign: Features cannot be completed because they change or there are too many of them.

Source or reason: Customer.

Probability: 1

Seriousness: 5

How to avoid: Communication, scrum.

How to prevent: Customer should be informed if a feature cannot be completed.