



# Project Management

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| Document History |   |            |            |
|------------------|---|------------|------------|
| Version          | Description   | Date       | Author     |
| 1.0              | Added team members and time capacity                                      | 20.10.2017 | N. Eckhart |
| 1.1              | Added iteration planning for passed iterations #1 and #2.                 | 21.10.2017 | N. Eckhart |
| 1.2              | Created planning, task assignments and time estimations for iteration #3. | 23.10.2017 | N. Eckhart |
| 1.3              | Created planning, task assignments and time estimations for iteration #4. | 06.11.2017 | N. Eckhart |
| 1.4              | Transferred all planning and task assignments from spreadsheet (#5 - #8)  | 10.12.2017 | N. Eckhart |

## 1. Resources

PSIT3 is a 4-credit module which means each team member should work for a minimum of 120hrs throughout the semester. This brings us to a total capacity of 500hrs of man-hours for this project.

### 1.1. Team Members

| Name             | Function                | Email  |
|------------------|-------------------------|--|
| Raphael Emberger | Team Leader / Developer | <a href="mailto:emberrap@students.zhaw.ch">emberrap@students.zhaw.ch</a>   |
| Nicolas Eckhart  | PM / Developer          | <a href="mailto:eckhanic@students.zhaw.ch">eckhanic@students.zhaw.ch</a>   |
| Stephan Bösch    | Developer               | <a href="mailto:boescste@students.zhaw.ch">boescste@students.zhaw.ch</a>   |
| Philipp Meier    | Developer               | <a href="mailto:meierphi2@studnets.zhaw.ch">meierphi2@studnets.zhaw.ch</a> |

## 2. Iteration Planning

### 2.1. Iteration #1

| Iteration #1    |                               |            |                   |                    |
|-----------------|-------------------------------|------------|-------------------|--------------------|
| Inception Phase |                               | 25.09.2017 | 06.10.2017        |                    |
| No.             | Task                          | Assignee   | Expected Time [h] | Effective Time [h] |
| 1               | Create Project Outline        | Team       | 10hrs             | 11.5hrs            |
| 2               | Identify Use Cases            | Team       | 8hrs              | 6hrs               |
| 3               | First Architecture determined | Team       | 4hrs              | 4hrs               |
| 4               | Setup Development Environment | Team       | 4hrs              | 6hrs               |

## 2.2. Iteration #2

| Iteration #2      |  |             |                   |                    |
|-------------------|--|-------------|-------------------|--------------------|
| Elaboration Phase |  | 09.10.2017  |                   | 20.10.2017         |
| No.               | Task   | Assignee    | Expected Time [h] | Effective Time [h] |
| 1                 | Detailed Analysis and formulation of all Use Cases | Team        | 16hrs             | 16hrs              |
| 2                 | Define Domain Model                                | R. Emberger | 2hrs              | 1.5hrs             |
| 3                 | Create Project Analysis Document                   | Team        | 16hrs             | 14hrs              |

## 2.3. Iteration #3

| Iteration #3      |  |             |                   |                    |
|-------------------|--|-------------|-------------------|--------------------|
| Elaboration Phase |  | 23.10.2017  |                   | 03.11.2017         |
| No.               | Task   | Assignee    | Expected Time [h] | Effective Time [h] |
| 1                 | Project Management                                       | N. Eckhart  | 4hrs              | 1hrs               |
| 2                 | Finish Architecture Design based on previous sketches    | S. Bösch    | 6hrs              | 4hrs               |
| 3                 | Create Class Diagram and define Class Responsibilities   | R. Emberger | 8hrs              | 10hrs              |
| 4                 | Create Interaction Diagrams                              | P. Meier    | 6hrs              | 8hrs               |
| 5                 | Create GUI Mockups and Description of the Game Interface | N. Eckhart  | 8hrs              | 4hrs               |
| 6                 | Update Glossary as needed                                | Team        | 2hrs              | 0.5hrs             |

## 2.4. Iteration #4

| Iteration #4      |  |                    |                   |                    |
|-------------------|--|--------------------|-------------------|--------------------|
| Elaboration Phase |  | 06.11.2017         | 17.11.2017        |                    |
| No.               | Task   | Assignee           | Expected Time [h] | Effective Time [h] |
| 1                 | Project Management   | N. Eckhart         | 4hrs              | 3hrs               |
| 2                 | Compile all Artifacts from Iteration #3 into design document.  | P. Meier           | 6hrs              | 8hrs               |
| 3                 | Add additional descriptions required for design document diagrams.   | S. Bösch           | 6hrs              | 6hrs               |
| 4                 | Define UI Prototype parameters for implementation in the next iteration.   | R. Emberger        | 8hrs              | 6.5hrs             |
| 5                 | Create game class with game loop.  | N. Eckhart         | 5hrs              | 5hrs               |
| 6                 | Create map class that can load a simplified map from a file with only path and non-path tiles. (Only one layer.) | P. Meier, S. Bösch | 12hrs             | 14hrs              |
| 7                 | Update Glossary as needed  | Team               | 2hrs              | 0.5hrs             |

## 2.5. Iteration #5

| Iteration #5       |  |             |                   |                    |
|--------------------|--|-------------|-------------------|--------------------|
| Construction Phase |  | 20.11.2017  | 01.12.2017        |                    |
| No.                | Task   | Assignee    | Expected Time [h] | Effective Time [h] |
| 1                  | Project Management   | N. Eckhart  | 4hrs              | 1.5hrs             |
| 2                  | Implement the layer class with three instances on the map.   | S. Bösch    | 12hrs             | 11hrs              |
| 3                  | Create enemies that spawn on layers, move along the path, damage the player and carry a bounty.              | N. Eckhart  | 8hrs              | 9.5hrs             |
| 4                  | Create the tower class with the firing, upgrading and destroy behavior classes.                              | R. Emberger | 14hrs             | 12hrs              |
| 5                  | Create an asset manager class with a sprite sheet and connect with all entities. (Towers, Enemies, Tiles)    | P. Meier    | 8hrs              | 8hrs               |
| 6                  | Create the in-game menu with all relevant information and buttons. (According to design mockups)             | N. Eckhart  | 12hrs             | 15hrs              |
| 7                  | Implement win and lose conditions with the relevant game states (Menu State, Game Over State, Victory State) | P. Meier    | 6hrs              | 6hrs               |
| 8                  | Implement tower building via UI.   | S. Bösch    | 8hrs              | 8hrs               |
| 9                  | Update Glossary as needed  | Team        | 2hrs              | 1.5hrs             |

## 2.6. Iteration #6

| Iteration #6       |  |   |                   |                    |
|--------------------|--|---|-------------------|--------------------|
| Construction Phase |  | 04.12.2017                              | 15.12.2017        |                    |
| No.                | Task   | Assignee                                | Expected Time [h] | Effective Time [h] |
| 1                  | Project Management                                     | N. Eckhart                              | 6hrs              | 6hrs               |
| 2                  | Create user manual.                                    | P. Meier                                | 18hrs             | 15hrs              |
| 3                  | Improve enemy movement with a heat map per layer.      | N. Eckhart                              | 10hrs             | 11.5hrs            |
| 4                  | Implement multi layered towers.                        | S. Bösch                                | 16hrs             | 14hrs              |
| 5                  | Enable towers to target and fire at enemies.           | R. Emberger                             | 14hrs             | 10hrs              |
| 6                  | Connect UI to tower destroy and upgrade functionality. | P. Meier                                | 8hrs              | 8hrs               |
| 7                  | Write the final report document.                       | N. Eckhart,<br>S. Bösch,<br>R. Emberger | 24hrs             | 18hrs              |
| 8                  | Update Glossary as needed                              | Team                                    | 2hrs              | 0.5hrs             |