

Project Plan

“Fog of War”

Bachelor's Thesis 086
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| Date | Version | Description |
|------------|---------|---|
| 21.01.2020 | 0.1 | Initial draft. |
| 24.01.2020 | 1.0 | Removed the prestudy, as client did not want a prestudy to be done. Edited gantt chart to reflect the change. Added system doc to milestones. |

1. Project Description

I am tasked with developing a "Fog of War" (hereby "FOW") solution for the game Dwarfheim, being developed by Pineleaf Studio. The solution is supposed to be an upgrade from their current one and feature line-of-sight for certain objects and terrain. It also has to be visually appealing and have a low or non-existent impact on the performance of the game. It is preferred if the solution is modular as to not impact code for other parts of the game and be easily maintainable.

2. Goals

Effect goals:

- Create a good user experience for the game when it comes to FOW.
- Have users play the game for longer.
- Get more users to play the game.

Process goals:

- Get an understanding of how FOW can be developed.
- Get an understanding of how Unity shaders work and can be used to develop FOW.
- Get insight into game development.

Result goals:

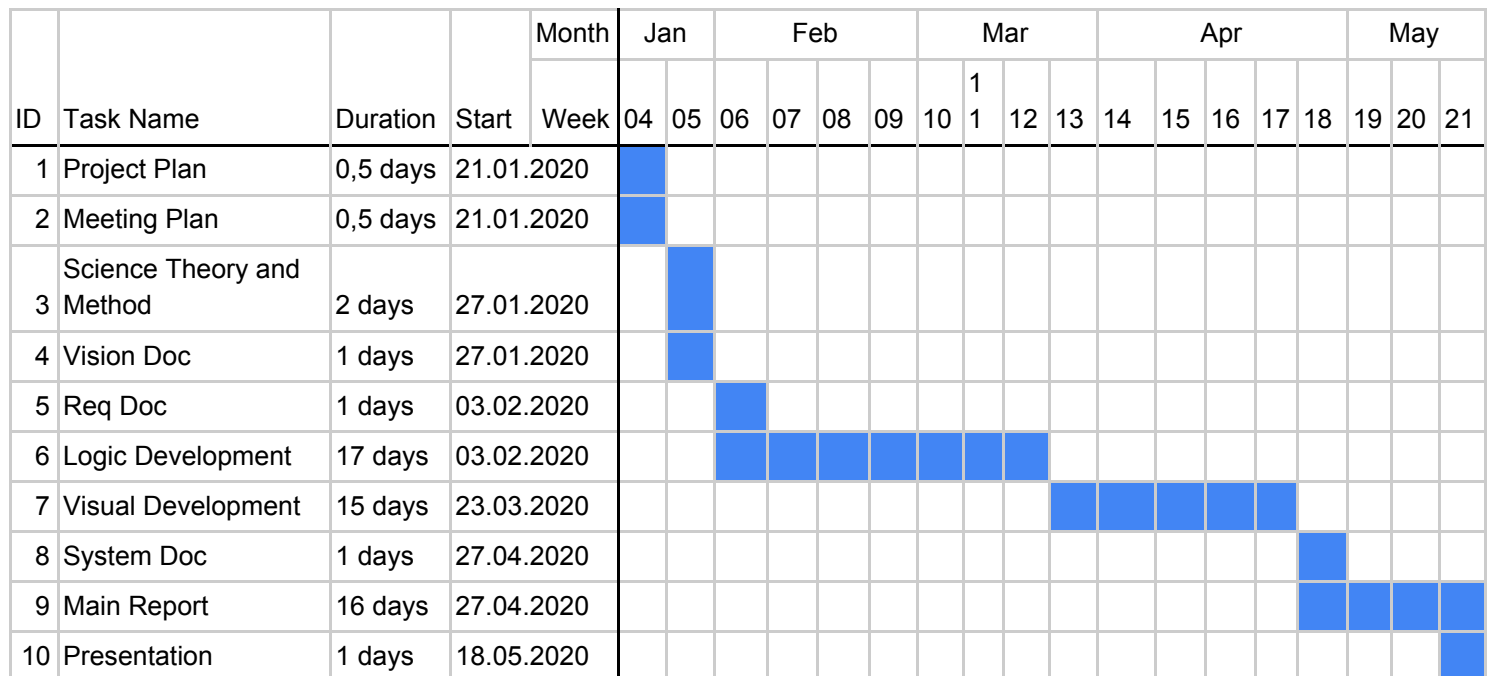
- Create a FOW solution that features terrain/height blocking, line of sight and has a very low impact on performance.
- Create a FOW solution that is modular, easily used by other programmers and has no impact on already developed code for the game.

3. Milestones

Milestones for the project:

- Planning done.
- Science Theory and Method course completed.
- Vision document and requirements document done.
- Logical backbone of the FOW done.
- Visual representation of the FOW done.
- System documentation done.
- Main Report done.
- Presentation done.

4. Gantt Chart



5. Gantt Chart in text

| ID | Task | Week(s) | Description |
|----|---------------------------|-------------------|---|
| 1 | Project Plan | 4 | Break the whole project up in discrete parts. Set a plan for when to work on the different parts. |
| 2 | Meeting Plan | 4 | Make a plan for when to meet with the supervisor. |
| 3 | Science Theory and Method | 5, 7 | A few obligatory days to learn about scientific theory and the scientific method. |
| 4 | Vision Document | 7, 8 | A document outlining the overarching requirements of the project. Should include features, risk analysis, cost analysis and description of the users of the system. |
| 5 | Requirements Document | 8 | Functional requirements of the project. Contains at least user stories. |
| 6 | Logic Development | 9, 10, 11, 12, 13 | Development of the underlying logic of FOW. Iteration based. |
| 7 | Visual | 13, 14, 15, 16, | Development of the visual |

| | | | |
|----|-----------------|----------------|---|
| | Development | 17 | representation of the underlying logic of FOW. Iteration based. |
| 8 | System Document | 18 | A document outlining the system, its architecture, class diagrams etc. |
| 9 | Main Report | 18, 19, 20, 21 | Write and finalize the main report. |
| 10 | Presentation | 21 | Create and finalize the presentation that is to be held of the project. |

6. Quality Assurance

6.1. Testing

Code and functions developed will be continuously tested using Unity's built in features to play the game and Unity's console to print interesting data. Playing the game will act as integration testing, as it will show how the new features act in tandem with other parts of the game.

6.2. Code Review

As part of the game development of Dwarfheim, any finished code will have to get reviewed by two other staff members (peer review), one being the lead programmer, before it is allowed onto the development branch of the game. This will secure code quality and functionality.

7. Timesheet

As part of the project, a timesheet is to be used. It will be made using Google Sheets.

Link to the timesheet:

<https://docs.google.com/spreadsheets/d/1JEzQuY3GiJ9b8ucb5ttH1dcnu6xxqOKKVW12PprQWY/edit?usp=sharing>