**Project management plan**

A good project management is a key to success in any team challenge. If the team members collaborate well they can overcome any encountered problem. The key to that requires input from all of the team members, but most importantly, requires a good leader to lead the team. A good leader shall be fair, but firm. He/she also should be friendly and open to suggestions and criticism.

**Roles**

To start this year’s assignment we have firstly thought about roles within our team. The reason for that we have decided we all need to know what each of us is doing in order to finish the project as soon as possible.

After a short discussion we have decided we all want to contribute to actual code for the AI, so all team members have become coders. We still needed, however, a team leader, a tester and someone to keep records of what we have done. After a short discussion we have allocated skills of each person to our best and this is what we have ended up with:

**Jan Kalinowski** – perfect organization & coder – team leader – organizing meetings, controlling GitHub repository, evaluating team effort, coding; writing report and project management plan.

**Aiden Poonwassie** – great eye for the detail & coder – tester – writing test cases before meetings, coding, testing code after meetings and evaluating results; writing test cases.

**Nabil Salam**  - an outstanding document organization & coder – secretary – keeping track of finished AI behavior and of encountered issues, coding; keeping track of meetings.

**Meetings & version control**

After all roles have been allocated we have discussed the meetings and their frequency. We have decided to use Discord communicator with sharing screen possibility for our meetings. Therefore we were able to organize meetings whenever was most comfortable for all of us – sometimes it was early during the day (10 am) and sometimes late (8 pm). For the first 3 weeks we were meeting in the lab rooms at the university. Last 2 weeks of actual code development took place online on Discord – during that time we were trying to meet at least once a day.

For the code sharing and version control we used GitHub website. We have created a private repository with all 3 members as contributors. Thanks to that we were able to write code outside of the meetings, whenever it most comfortable for an individual.

**Project content**

After setting organization stuff up, it was time to decide what we want to achieve. We have quickly discussed all AI techniques presented to us during the lectures and we discussed how would each of them suit the game.

The very first thing we agreed for was using of finite states machine in order to control tank’s behavior. We have also decided to use rule based systems and behavioral trees to control execution of each state. For the pathfinding we decided, that the best and most efficient will be use of A\* algorithm.

After establishing what we want to achieve it was time to establish by when we want to achieve that. As the submission is on 26th of April, we have decided that the latest when we would want to complete the AI code would be 12th of April. This was 5 week’s period ahead since our very first meeting in the lab room. We all agreed, that amount of allocated time is sensible and will allow us to finish the project right in time.

It is crucial to say, that over the entire development process we were evaluating written code and discussing if it is worth to write or leave it or is it better to think about something else.

**Summary**

As mentioned above, the good project organization is a key to the success in any project. By organizing the project in the described way we were able to finish AI on 10th of April, which is 2 days before set deadline. We have used those 2 days for testing different cases and scenarios.

Overall we are all happy with the effort of the team overall and of each other. We think, that we have achieved everything we wanted to and the AI tank represents sensible, human-like behavior.