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**Group Members:**

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Scheduling

**iii. Tasks/work Breakdown**

Project Planning Stage:

* Define the outcomes of the project
* Assess the criteria for the success of the outcomes
* Decide on the tasks required
* Breakdown the tasks required in terms of resources
* Decide on a development platform
* Schedule tasks

Project Desgin Stage:

* Design the overall system specification
* Detail the working of the backend
* Design the interface
* Create more system designs to align system design to the finer details

Project Development Stage:

* Develop the backend pathfinding algorithm
* Develop the backend framework to house the algorithm
* Implement the GUI
* Develop the interface between the backend and the frontend

Project Testing Phase:

* Design the tests required for the system
* Run the tests required
* Track the issues that occured and document them

Project Maintenance/Refinement Phase:

* Use the issues created to maintain and refine the program
* Assess the changes against the success criteria
* re-do the testing phase until the overall product meets the success criteria

Project Management

**iii. Information**

Various tools will be used to actively update and maintain the information being used for the project.

While communication between team members can be done when physically present in the same room, such as during and after mentor meetings and the weekly lab, communication on a more daily basis will be completed through Facebook. This will allow group-wide communication on a platform that is regularly checked by all members, as well as private conversations within the group. For information that everyone is required to know quickly (such as a change of deadline or specification), Facebook can be used to circulate updates.

Trello will be used to maintain the tasks that the group is working on. Tasks will be broken down in the group board, and specific members will be assigned to the relevant cards. This will ensure that team members know what they are directly responsible for, and there is communal and up to date documentation on this. In the case that someone needs to collaborate on a part of the task they will be able to quickly see who is responsible for it, allowing more time to be spent on actual development and less time on trying to get in contact with the right person.

Lastly Bitbucket will be used to maintain documentation and code for the project. Using a git repository will improve productivity and ensure that everyone has the most up to date version of code as well as documentation. For the team members who are less familiar with git, using Bitbucket will allow use of a well-documented user interface to make the learning process easier.

**iv. Quality**

The project is handled by every group member, from initial designs to the coding. Quality is insured by the individual group members, and to do this effectively, we endorse the following:

Checklist

List of requirement should be specific and clear. It should also exist in an accessible area like GitBucket and Trello. A checklist is created which the finished project is checked against.

Reading by Reviewer

Each portion of code has a reviewer assigned, and it is the responsibility of the reviewer to check the code for errors and inefficiencies. This will be used in correlation with the Checklist to note all important parts.

Team Code Reviews

Our team will come together at the beginning and end of the project to ensure that the functions interaction is fully understood. This will help make sure that each member of the team is creating code which will fit smoothly into the teams completed application.

Testing - for bugs and logic of the code

As each member of the team works they are required to test their modules/subs, keeping in mind the preconditions. An external opinion is then helpful to ensure all relevant border and bracket cases are covered. Also, have the code through 'Dafny' to ensure the logic of the code is also well-designed.

Where possible, it should be avoided having the person who did the work perform the quality assurance check. As they are already invested in and understand the code, they are less likely to read it accurately and rather, just see their goal at the time of writing. It also removes the potential for intended bias in checking code.