

101-3

Team Name: AppleSoft

Application Name: Maze Runner

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Project Features list

- Document (as a bullet point list) the major FEATURES of your software application.
- Each features should have a TITLE followed by a brief DESCRIPTION of that feature.
- **Generational AI:** generational system that would allow for the computer to progressively achieve the goal. Each generation will evolve from the most successful child of the previous generation.
- **A* Solution Display:** This will use an algorithm to find the best path through the maze and display it as a "solution" to the player.
- **Several Different Mazes:** This will allow for a dynamic which changes the approach of both the user and the machine learning application instead of static parameters.
- **LeaderBoard:** This will allow the user to save their score and see how they compare against other users.
- **Human control:** This feature would allow the user to gain insight on how effective their own approach is vs the machine learning nodes.
- **Difficulty selection:** the player will be able to select the difficulty of the AI that they race. This difficulty is determined by which generation of AI is used.

Requirements

- Document the key FUNCTIONAL and NON-FUNCTIONAL requirements for a minimum of SIX features.
- Follow one of the formats/templates provided in class.
- Your application will likely have many more features, and you should create requirements documents for all the features.
- But for this milestone, you need only turn in SIX requirements documents.

Features	Functional (What?)	Non-functional (How?)
Generational AI	AI solves the maze	Through an AI algorithm
A* solution display	Solves maze in the most efficient manner that we will be implementing to show the user the optimum route	We will program the algorithm which would allow the user to check the solution by pressing a "Check solution" button
Different mazes	Different mazes allows for more choice for each user	Generate different mazes for variability either through an algorithm or by hand
Leaderboard	Keeps track of scores obtained by players	Players can create accounts and the scores that they get are saved to a leaderboard
Human control	Allows the user to solve the maze.	The user will move through the maze using the up arrow, down arrow, left arrow, and right arrow in their PC.
Difficulty selection	To determine the difficulty of the AI the user is racing against and the AI will choose their most successful generation to race against you depending on the difficulty the user selects.	There will be a drop down menu from which the user can select the generation of AI.

Project Plan

- Create a Project Plan in your chosen Project Management tool. Maybe a GANTT chart, Kanban board, or other suitable format.
- The Project Plan should include each Feature that is to be developed.
- The Project Plan should indicate the SEQUENCE of Sprints. That is, the plan should show in what order the features will be developed (designed, coded, tested, integrated.)
- The Project Plan should show for each feature WHEN (by calendar date) the feature will be worked on.
- The Project Plan should show for each feature WHO will be working on the development of the feature.
- The Project Plan should result in a completed, working application that is ready to present by August 22, 2020

Here is a link to our project plan:

<https://trello.com/b/4bRKVJDA>

