**“Trash Bash”**

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# PROJECT PROBLEM STATEMENT

We will educate young children on the importance and value of cleaning up garbage pollution from the ocean through a fun and engaging game.

# CONCISE DESIGN OVERVIEW

**After researching potential technologies you will identify the components of your solution. Develop a prototype or model of what your final solution would look like, providing abstract information about the individual components.**

We will use JavaFX (with the SceneBuilder) and IntelliJ to develop the game. We are creating a game for people to play and this game teaches players how to organize trash. This can be boring for most people, so we turned it into an engaging game. The players will have to organize trash in garbage and recycling as it washes up onto the shore. There will also be some trick objects, such as animals, that must not be put into either trash bin. This repetition of the game will allow players to become more comfortable with sorting trash and become more environmentally aware.

A drawing of a dolphin and a shark

Description automatically generated

# SCOPE STATEMENT

Specific, Measurable, Achievable, Relevant, Time-bound

Our goal is to make a functioning game where players separate trash and recycling in their respective bins. We want to make at least 1 level and include a score system so that players can compete against each other. This is a multiplayer game. Since we only have a few weeks to create this game, we will keep everything as doable as possible without compromising the complexity of the game. We will code a little bit of the program every day to stay on track and not be overwhelmed at the end.

# TIMELINE

**A screenshot of a computer

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**A screenshot of a gantt chart

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# TEST PLAN

As we are developing the code, we will test intermittently to ensure that the code is working. It would be very inconvenient and a waste of our time to only test at the end of the project, because if something goes wrong, we will not be able to tell until the entire product is finished. As we add certain elements to our project, we will make sure to test them before moving on to the next part. For example, we will check that our images show up clearly, our controls are correct and the score system works as intended. We will manually test with positive and negative test cases. By manually testing, it will mimic how the program will actually work, since it is humans that will be playing the game. Additionally, manually testing will allow us to try many different input combinations to see how the game will function in a real environment.

# RISKS AND CONTINGENCY PLANS

The code may not be compatible with certain platforms. Additionally, we must make sure that our code is effectively saved to the GitHub, as this is how we will keep track of progress and the most recent code versions. We must ensure that code is not lost or accidentally manipulated, as this would set us back and be a waste of our time. To complete this project effectively, we must manage our time and resources. Another thing that may be risky is that we are not very familiar with JavaFX, so we may face complications in this program. To mitigate this, we will check in with each other if one of us gets stuck. Additionally, we will utilize resources like YouTube and StackOverflow to solve any problems we may face. We also need to make sure that the number of things we are planning to include in this project are manageable and that we do not try to do more work than we can afford to do. We will keep track of our tasks in the timeline to ensure that we are on track and to cut back on any aspects that we feel we may not have time to finish completely.