CSC420 – Progress Report[1]

Make a copy of this progress report, then complete it. Submission instructions and a grading rubric are included below.

Your name: Kyle Drummonds

Date: March 14, 2023

Progress Report

- **Accomplishments**: What did you accomplish since the last class meeting, the last progress report, or since you started the project? If you didn't complete anything since the last report, enter **N/A**.

  So far my current accomplishments have built upon those previously mentioned in prior progress reports. My last progress report I unfortunately did not make any progress due to midterms which was quite disappointing, however I leveraged the spring break to catch up on my progress with this assignment. As previously mentioned in my challenges I have implemented randomized spawning of fruits on the screen at different time intervals by loading a table with only 1 initial fruit then updating the sequentially after the allotted time has passed. When the table has been updated then the draw function will automatically display on the screen. I have also implemented the menu screen with button features. This provides a user interface where the user can select the option to play game, learn how to play or exit the game. Additionally, I have also implemented the cannonball object that when the cannon is shot the cannonball will project vertically from the cannon.

- **Future Goal**: What do you plan to accomplish before our report? These plans should be related to roadblocks or discussion points. It you plan to change direction, explain why.

  I believe this is the final report that I have to submit on this project and not much time is left to implement features. Therefore with that being said I plan to continue to improve upon existing features that have proved to be challenging. These features include the successful use of collision detection and score keeping displayed. Additionally, I plan to include a detailed tutorial in the “how to play section of the game” so users can gain familiarity with the game concept and controls.

- **Challenges**: What are your current roadblocks?

  My current roadblock is implementing a collison detection function that will detect if a cannonball has come in contact with a fruit and the subsequently delete the fruit and the cannon ball and update the live score. This has proved very challenging to me. I have tried using pythagoras theorem where if the the sum of the radius of the fruit and the cannon ball are less then the hypothenus or distance between the center of both objects then collision is not detected. This approach has not worked. However, after numerous runs I have noticed that the score does increase and fruits randomly disappear from the screen without being hit. I have tried researching collision detection in games and read programming forums for guides but nothing conclusive yet.

- **Desired Discussion Points**: Do you have any desired discussion points that are not related to roadblocks?

  Is there an algorithm that I can implement to achieve the collision detection effect? I a have wondered this and tried to create an algorithm of my own (not so much of an algorithm) while I did think the logic works out, the code was still flawed. Additionally I began to wonder if my game can exist without the

[1] This progress report is based on a Weekly Progress Report created by Dr. Nakazawa for CSC493

collision detection. If I am unable to overcome the hurdle, is there someway I can alter the scope of the game or the overall objective that would not involve collison detection.

Submission to your Project github repository

1. Download the completed report as a PDF
2. Give your PDF a unique name, for example: ***2023-02-21-progress-report.pdf***, obviously change the date as appropriate.
3. Add the PDF to your Project github repository, add it, commit it, and then push it by the due date listed in Moodle.

Rubric:

The following rubric will be used, but they might change as needed.

Accomplishments (3 points)

1 point for a general description of progress, 2 points for specifics on progress, 3 points for specifics AND referring to previous targets and explaining how currently accomplishments build on previous ones.

Challenges (3 points)

1 point for mentioning there are roadblocks, 2 points for specifics, 3 points for specifics AND what was done already to try to overcome them.

Desired discussion points (2 points)

1 point for at least one relevant discussion point as a general question, 2 points for relevant discussion points with specifics

Future Goals (2 points)

1 point for concrete future targets (i.e. "working more on the project" is a zero, but "working on getting component X to interface with component Y" suffices), 2 points for tying in the targets with what was hopefully discussed in the meeting.