**Snake Game Project Proposal**

Members: Zachary Lloyd (Product Manager), Justyn Adams-Nora (Scrum Master), Tyrease Teer (Development Specialist)

**Description**

The project will be the primary example of displaying the capabilities of the QT GUI system. The focus for this project is to further extend our experience in software engineering, and to apply industry practices in order to send out a shippable product.

This will be a simple snake game. You will play inside a grid where you must pick up pallets. Each time you pick up those pallets, you will continue to grow. This project will be "data-structure" heavily to laying out the snake's position, how long his is, and the pivot point for each piece the snake to turn. The speed of the snake will be multiplied by how long the snake is, making it progressively faster as you go.

Given the production speed of this product, we'll include a dynamic field where the grid size of the game also increases as you get longer. You'll have more room to move around, but the speed will still make it heavily challenging as the player progresses.

The score will be based solely on the number of steps you take, which the number of steps you take will be multiplied by how long you are. You get 3 chances whenever you do hit into either yourself, or outside the grid field. The score will reset, and you can still reach your marked high score with each chance.

**Features**

- Using the QT GUI Interface to create our application.

- Menu for the game.

- Gameplay mechanics.

(There will be more, but these are the three primary features that need to be implemented first before expanding further if time permits the team to do so.)

**Technologies**

When it comes down to technologies, we will be using QT as our framework. QT has an excellent and clean interface that is easy to use, along with customer service and a large library of documentation on how to use it. We will be programming in C++ because the team, has more experience in the programming language. To save all our work we will be using GitHub and have multiple branches. There will be a branch for each teammate, that will merge to a mediary branch will then go to our master branch. To keep everything on track with our project scheduling, we will be using Excel.

**Sprint Proposal**

The first sprint will consist of the team getting the GUI and scripting straight. Meaning we will be setting up the framework of the project. Tyrease and Justyn will be focused towards the QT implementation. Justyn will assist Zack with the setup if Zack needs assistance setting up the scripts for the project.

Our second sprint will be trying everything together such as the GUI and the scripts to make everything work, which will be the challenging part of the project. Tyrease will still be focused towards the QT implementation if it has not been completed yet. Justyn and Zack will start to focus towards the gameplay mechanics and the menu for the game.

Our third sprint will consist of the team polishing, testing and clean the project. If we manage to finish early, we will probably add features to the games itself, but will see. Everyone will be testing the game to ensure everything runs smoothly. Everyone will also begin to clean up code and start applying polish to the game.

**Project Schedule**

We will be using Microsoft Excel primarily. The other one we may use is Trello as Zack and Tyrease have experience with it. We will also be using UML to create design layouts.