Product Backlog for Highstriker Game

Learning goals: Version Control (Git), Game Design (Game Loop, Game States, Animations, UI/UX Design)

High Priority

Game

When starting the game, users have the options of:

- Play the game.
- Quit the game.
- Users can see the Highstiker object, the Ball and a left side panel displaying the relevant game information upon launching the game.

Demo: Run the main method from the Main Class, a window with 2 buttons will be launched. Users click on the "start" button to play the game, "quit" to exit to the system.

Highstriker

- Users can see that at each interval there is a mark to indicate height.
- User tries to deliver the ball to the target marked blue on the "bar" (aka highstriker).

Ball

- User holds the play button, the longer the press the more force the ball is ejected up.
- Users can see a value on the side panel indicating how much force the ball will be launched at.
- User release the "Play" button to eject the ball.
- Users can see that the ball's speed will be reduced until it has reached 0.
- Users can observe a smooth animation since the game is rendered at 144 framers per second.
- Users are assured that lags do not effect their final score since the tick rate will be at a constant 128 per second.

Scoring System

- Final position of the ball relative to the highstrike will be measured when the ball's speed reaches 0.
- Score is awarded based on how close this stop position is to the target (the closer the ball the higher the score).
- Users have a 2 second break time to see what their total score and the current round's score is.

- Users can see the current round, total score, the score for the current round and the force percentage value on the side panel.
- Users can see how much time left there is until the next round displayed in green on the side panel.

Demo: The user click and hold the "play" button to compress the ball,the user can see that the percentage value goes up as they hold the button. The springs and ball also react to them holding down that button. The user also see a blue dotted target. The user release the button, the ball is ejected up but its constantly slowing down. When ball's speed is 0, the user can see score they earned. They can also see the timer for the next round.

Medium Priority

Leaderboard

- Users can view the leaderboard at the start screen.
- At the end of the game session, users are prompted to input their name to store their records.
- Store the leaderboards (username + score) inside a text file which the game will read from and display.

Demo: The user can click on the "Leaderboard" button at the start screen to view the leaderboard. At the end, there is a text field where they can choose to input their username and update the record. After clicking, the leaderboard is updated with the sorted records.

Game

- Users can play 3 rounds before the game finishes.
- Users can play each round with random target spawns.
- Users can see a percentage bar that fills up based on how long they have held down the button to indicate initial force

Launcher

- Users can see a spring that is being compressed as they are holding down the button also used as an indicator of launch force.
- Users can see that the ball is on top of the springs, moving alongside when shortening spring.
- Users can see that the spring stops at a set maximum compression.

Low Priority

- Users hear sounds as ball hits the levels in the highstriker (or after each round).

- Users hear a “charge up” sound that becomes more intense as the users hold down the space button.
- Users have different “power ups” to make the game more interesting.
- Users can choose between two or more game modes.
- Users can see professionally made, custom assets for the game.