**­­­­­­­­Project Proposal**

**Project Description**

Swing Cricket is a cricket game where the user controls the batsmen using the cursor to try hit as many balls as possible into different zones to score runs. The user will earn points based on how many runs they score, multiplied by their strike rate (runs per ball) which will then be compiled in a leaderboard.

**Competitive Analysis**

Swing Cricket is designed to be very similar to Little Master Cricket, which is a flash game that can be found online.

Similarities:

The game mechanics such as the way the batsmen is moved with the cursor, the way balls are bowled, bounce and interact and the scoring mechanism will all be very similar to Little Master Cricket.

Differences:

The design of the game will be different, in order to make the game more visually appealing. Additionally, Swing Cricket will allow you to use different usernames and record your high scores onto a leaderboard

**Structural Plan**

TermProject:

| main.py

| ball.py­­

| stumps.py

| batter.py

| fileMethods.py

| utilities.py

| cmu\_112\_graphics.py

+ - - - images

| ball.png

| shoe.png

| pad.png

| head.png

| body.png

| thigh.png

**Algorithmic Plan**

**Components:**

Balls Bouncing Directions:

Will be approached using 2D collisions detailed in: <https://www.vobarian.com/collisions/2dcollisions2.pdf>.

Body and Limb Movement:

Will use one “hip” as the control for moving the whole body. Will mathematically model the potential range of movement and make the cursor track accordingly. The bat will always point to the cursor with the use of trigonometry.

Image Loading

To avoid the game running too slowly on slow computers, there will be an option to run with just line graphics instead of loading the images for the batter.

**Timeline Plan:**

26 November: Ball Mechanics

30 November: Player Movement

2 December: Bat Movement

4 December: Graphics/Design

6 December: Scoring, Leaderboard, Users

**Version Control**

I will be using a Git repository stored on the cloud in GitHub to manage backups and version control of my code.

Graphical user interface, application, website

Description automatically generated

**Module List:**

NumPy