CSE 165 Final Project: LineRider++

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Our Inspiration

Inspired by the classic early 2000's game Line Rider, playable at https://www.linerider.com/, we want to make an OpenGL physics-based path-riding game. We hope to expand on this with a database to save and load other users' maps to create a unique social aspect to the game.

Our Approach

We will be implementing a primitive physics engine[1] to control the Angle[2] and Speed[3] of the Player[4]. This, combined with simple logic to allow a user to draw paths for the Player to ride on, will create a playable, interactive experience.
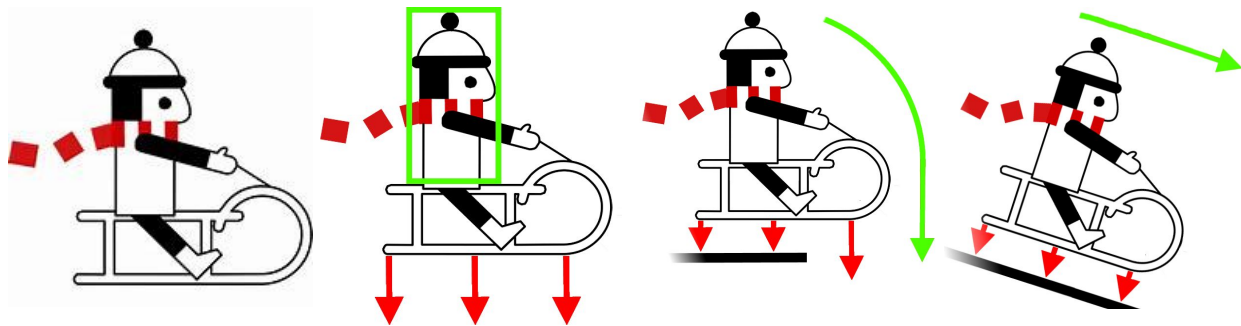
| FIGURE 1: Player | FIGURE 2: Collision Raycasts/Hitbox | FIGURE 3: Determining Angle | FIGURE 4: Determining Speed |

Addition Features

Some stretch goals of our program include: allowing for saving of maps in JSON, uploading them to MongoDB, and loading of other users' maps. Other elements to explore implementing would be different types of surfaces to ride on (e.g. slowing down, speeding up, single-use, etc) and tools to assist in drawing paths (e.g. drawing arcs, lines, splines).

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[1] See FIGURE 2
[2] See FIGURE 3, Angling incremented based on results of Raycasts (FIGURE 2)
[3] See FIGURE 4, Speed += Sin(Angle)
[4] See FIGURE 1