PROJECT 2-1
Phase 1

Group 13

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Overview

- **The Task**
- **Process**
- **Implementations**
  - physics
  - array to course
  - visual
- **Improvements**
- **Plans for the next phase**

The Task

- Implementing an input-output module

- Creating two game modes:
    - The player is setting the initial velocity of the shots
    - The initial velocity is determined by a file

- Implementing a height profile and friction coefficient

The Process

- Generate basics of physics

- Implement classes that were given

- Create visuals

- After testing it, improve where we can

IMPLEMENTATIONS

PHYSICS

- **Eulersolver**

- **Position(t+dt) = position(t) + velocity(t)*dt**

- **Velocity(t+dt) = velocity(t) + acceleration(t)*dt**

PHYSICS

- **Acceleration(t+dt) = acceleration(t) - friction function - height function**

- **Friction function: depends on velocity of the ball, and the type of terrain at the position of the ball.**

- **Height function: depends on the difference in height multiplied with the gravitational constant : g=9,81**

IMPLEMENTATIONS

ARRAY TO COURSE

- **Given a 2-dimensional array of double (the height or the friction)**

- **evaluate(): (from the interface Function2d) can return a double:**
  - **To evaluate the height of the field at a given position**
  - **To evaluate the friction of the field at a given position**

- **gradient(): (from Function2d) returns the slope at a given location**

IMPLEMENTATIONS

VISUAL

- **libGDX**
  - **lots of problems**
  - **reducing the complexity of the graphics to 2d**

- **2d-array**

IMPROVEMENTS

Better Visuals

3D Graphics

Communication in the group

LibGDX

Plans for the next phase

Improve visuals to 3D

Prepare better graphics and visuals on libGDX

Improving the game with different ground types and improved physics

QUESTIONS

Thanks for Listening