PA11 Shooting Gallery

Instruction Manual

Those Graphics People Who Write Code For Graphics

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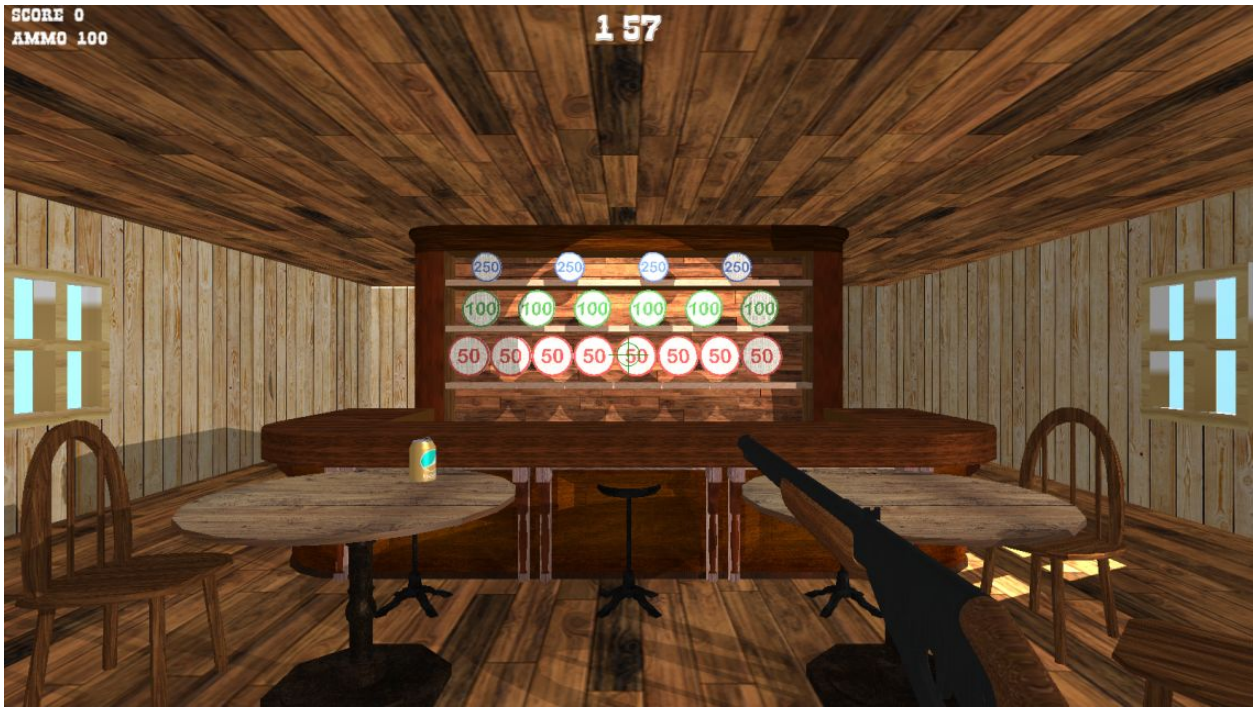

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Overview

Dependencies

For both of the operating systems to run this project installation of these seven programs are required GLEW, GLM, SDL2, assimp, ImageMagick++, Bullet, and SDL_Mixer

To install GLEW, GLM, and SDL2 the command is:
sudo apt-get update
sudo apt-get install libglew-dev libglm-dev libsdl2-dev

To install assimp, the linux terminal command is:
sudo apt-get update
sudo apt-get install libassimp-dev

To install ImageMagick++, the linux terminal command is:
sudo apt-get update
sudo apt-get install libmagick++-dev

To install Bullet, the linux terminal command is
sudo apt-get update
sudo apt-get install libbullet-dev

To install SDL_Mixer, the linux terminal command is
sudo apt-get update
sudo apt-get install libsdl2-mixer-dev

This project uses OpenGL 3.3. Some computers, such as virtual machines in the ECC, can not run this version. In in order to run OpenGL 2.7 follow the instructions at Using OpenGL 2.7

User Manual

Building and Running

To build this project, we use Cmake which makes including new libraries easier, and handles new files added automatically to the src and include directory. CMake is a small new learning curve but makes things easier in the future.

Running the make in a separate directory will allow easy cleanup of the build data, and an easy way to prevent unnecessary data to be added to the git repository.

To install Cmake, the linux terminal command is:
sudo apt-get update
sudo apt-get install cmake

CMake Instructions

The building of the project is done using CMake, installation with apt-get or brew may be necessary. Later use with CMake and Shader files will be require the copy of a directory where those files are stored (ex. shaders). To do this in the add_custom_target function place

COMMAND ${CMAKE_COMMAND} -E copy_directory ${PROJECT_SOURCE_DIR}/shaders/ ${CMAKE_CURRENT_BINARY_DIR}/shaders

Run Instructions

After building the project, the executable can be ran.

In the PA11 directory, enter the following commands into the terminal:
mkdir build
cd build
cmake ..
make
./ShootingGallery

Keyboard/Mouse Input Guide

Overall Controls
ESC - Must be pressed to close the window (or right-click on the task bar and select close).

Left Mouse Button/Right Mouse Button - Shoot a BB

M - Toggle Developer Mode

Developer Mode
While in Developer mode, You can move the camera freely to explore the room

Controls in Developer Mode
W A S D - Move the camera around

Fig 1. Example image of the developer mode

Tech Manual

Issues and Bugs

- Texture of the targets looks like pixelation from afar
- Closeness of bottom row targets make them blend when all knocked down
- Bullet shoot speed is different per machine
- Collision boxes are wonky; had to be scaled up
- Bepis physics are very unrealistic

ScreenShots

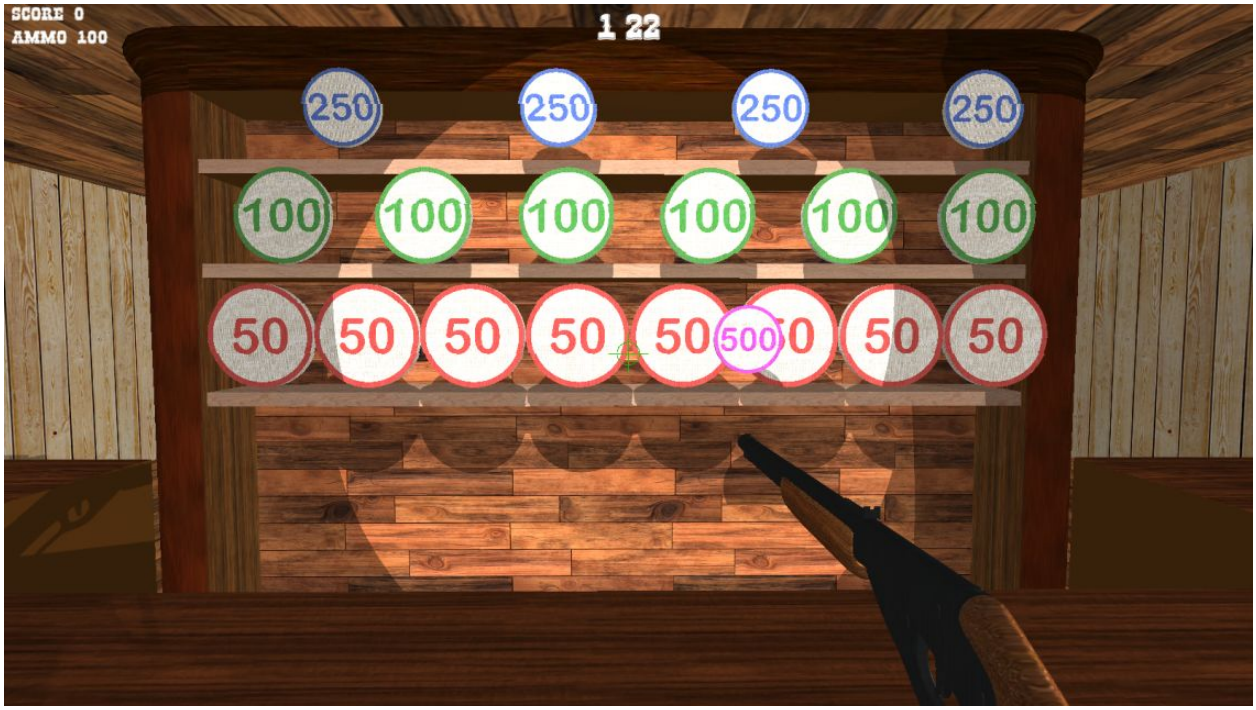

Fig 2. A closer view of the gallery, showing the shadow mapping

Fig 3. View from the floor

Fig 4. The Bepis can

Fig 5. The view from the outside

Fig 6. View from the back of gallery

Fig 7. The game over screen