

[CMSC355] Bowling Game README

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Status

AS OF NOV, 2023: Mixed reality program utilizing Unity Hub, the MRTK XR Rig, and the MRTK Input Simulator. Has the potential to be compatible with Microsoft's HoloLens 1 and 2 in future updates.

Purpose & Use

This program provides an immersive, mixed reality experience of bowling. Users start the game in front of lane 1, a 6 pin bowling lane, with the ball at the 'Ball return' location to the right of the user. The ball is red while the user is not holding it, then turns yellow when the user picks up the ball. Pick up the ball and swing to roll it down the lane. Next to the ball return button, there are two buttons to control the lane bumpers: users can select 'Bumpers up' or 'Bumpers down' to make their choice. To the left of the player, two buttons will display options to select the other two lane options, with lane 2 having 11 pins and lane 3 having 18 pins. These buttons will change according to the lane the player is currently using, for instance when the user is playing the 18 pin lane, the buttons will display options for changing to the 6 and 11 pin lanes. Additionally, the bowling pins are able to be picked up and moved.

Limitations

The program cannot be run on HoloLens, but has the capability to be implemented for HoloLens in the future.

UX Components

1. A button to return the ball to its starting location
2. A button to raise the bumpers
3. A button to lower the bumpers
4. Two buttons to send the user to the other two lanes

Spatial Manipulation Components

1. A fully interactive physics-enabled bowling ball
2. Fully interactive physics-enabled pins

Additional Component

1. Mesh outline surrounding the bowling ball

Production Screenshots



