

Landslider: A Depth Detection Game

User Documentation

Team 5

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Description

LandSlider is a video game built using the Unity 3D game engine version 5.0.0f4 and Intel RealSense F200 camera. The purpose of game is to utilize the realsense camera to grab rows of tiles, that contain different types of terrain, allowing for a non-playable character to reach the end of the level in the fastest time with the most amount of health possible. The game will output data file upon level completion or character death detailing what transpired during the level and the file character values.

Minimum System Requirements

Intel RealSense F200 Camera:

- 4th or 5th Generation Intel Core Processor
- Windows 8.1 or newer
- Intel RealSense SDK
- 1-8GB or free hard disk space
- USB 3.0 port

Unity 3D Game Engine:

Development:

- Windows 7 or newer
- Graphics card with DirectX 9 or DirectX 11
- Microsoft Visual Studio 2015 or newer

Application:

- Windows 7 or newer
- Graphics card with DirectX 9 or DirectX 11
- CPU with SSE2 instruction set support

Installation & Configuration Instructions

To install Unity 5.0.0f4 follow the download link at: <https://goo.gl/zImoJJ>

To install the Intel RealSense SDK and drivers follow the download links at: <https://goo.gl/d2Lsuf>

For information on how to integrate the Intel RealSense SDK and transfer the 64-bit DLLs use the following links:

- <https://goo.gl/Koxu3G>
- <https://goo.gl/esSMR7>

To access the SVN repository containing the required scripts to edit the game files and the final executable version of the game visit the link at: <svn://svn.cs.nmsu.edu/cs448sp17team5>

To install the executable application on a Windows machine simply download the executable file and associated files from the SVN repository and follow the instructions listed in the Application section below

Application

This application can only be launched on Windows 7 PC or newer. To launch the application the user only needs to double click on the game's icon shortcut. When the game launches the player will be prompted to select game resolution and if it should be windowed or fullscreen. It's recommended that the game be played at the highest resolution possible and in fullscreen mode. It is also important to note, the game will have no functionality unless the RealSense camera is plugged in and working.

Development

Due to the system requirements for both Unity and RealSense the application can only be made into a 64-bit Windows executable application. To edit the game files for research purposes or add more functionality make sure that the newest version of the required scripts from the SVN repository are loaded into the project. It is important to note that the tiles do not come prefabricated with the required components to utilize the RealSense. This means that any further additions or new levels will need to be provided with the correct components that exist in the main level's rows/tiles. To continue where the original development stopped it is important to copy the original project to a new machine due to large parts of the game being unable to transfer to a SVN repository. The RealSense camera must be plugged in otherwise the compiler will produce errors. Lastly, the original development of the game utilized the 2016 R2 Gold version of the Intel RealSense SDK. Any version of the SDK should work as long as it includes the Unity RealSense toolkit.

How to Play

Menu

The game only requires one hand to both navigate the menus and play the game. In the sub menus and game scenes there are two buttons that describe where they will take you. These buttons are the gestured controlled buttons, each one describing how to activate them, usually by doing a thumbs up or thumbs down gesture. In the main menu and pause menu the buttons are activated by moving the user's hand in the direction specified in the menu. For example if it says to slide down to start/resume game then the user's hand should move in a downward direction.

Game

Once in the game it is paramount that the user's hand maintain an open hand position at a 90 degree position ensuring that the RealSense doesn't accidentally trigger the rows when the user doesn't want to. When grabbing the rows the user should position their hand above the center of the row they want to move and close their open hand into a fist thus activating the row to be moved. Once the row is in the correct position the user simply has to open their hand again to deactivate it.

Known Bugs

- When respawning or resuming the game it is possible for the NPC to not idle correctly and proceed to start running immediately.
- The sliders in the options menu do not correspond to changes within the main game scene.
- On the Snowman and River tiles the NPC will become stuck for a short period of time adversely affecting the in game timer.
- When in the options menu or calibration scene from the main menu it is possible to go to the pause menu, if the user does this action and triggers the resume game function the NPC will fall through the map endlessly.