Lidar Point Clouds and VR

Joshua Bowen, Taylor Fahlman, Adam Puckette

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Abstract

The goal is to create a virtual-reality application that would allow users of most head-mounted virtual-reality devices to view and manipulate point-cloud data. The solution will draw upon the existing code-base of the OSVR platform and that of the open-source point-cloud visualization software CloudCompare. This will allow for a modular and platform-independent design. This way, anyone with a Head Mounted Display (HMD) will be able to download and view point-cloud data without the 3D TV and specialized hardware needed for previous implementations. In the solution, there will be a GUI which will allow the user to manipulate the point-cloud data from a first-person and third-person perspective. It will also use the Leap Motion's gesture recognition capability to seamlessly respond to user commands.

Problem Statement

Proposed Solution