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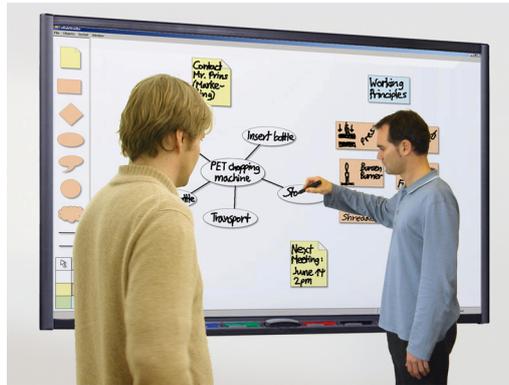innovation center virtual reality

Student Semester Project

CollaBoard: Minimizing Offset Between Interaction Plane and Display Plane

Introduction

CollaBoard is a European research project with industry and academia partners from Switzerland and Sweden. The Innovation Center Virtual Reality (ICVR) of ETH Zurich is part of the *CollaBoard* project team. The focus of the *CollaBoard* project is to enhance collaboration between local and remote partners by means of adequate hardware and software. The goal of the *CollaBoard* project is to design, implement, test, and optimize a suitable prototype.

In order to collaborate with each other, the envisioned prototype provides the distributed partners a large shared electronic whiteboard, and respective software. As of today, a first prototype comprising a 65" LCD screen and an interaction module has been implemented. However, the current prototype lack from a ca. 15 mm offset between the interaction plane of the attached interaction module, and the image plane of the LCD screen. Test users stated this offset as disturbing.

Goal

The goal of this student semester project is two-fold: First, the discussed offset will be minimized by removing hindering parts of the LCD screen and the interaction module, and by redesigning the mechanical mounting of the interaction module. Second, the improved prototype will be evaluated (1) to quantify how test users rate the minimized offset in comparison with a non-minimized offset of a similar setup, and (2) to quantify how test users rate the improved prototype of the LCD-based interactive whiteboard in comparison with a rear-projection whiteboard and a classic whiteboard.

Results

By the end of the student semester project, an improved prototype with minimized offset will be available. A written report (including technical drawings) and an oral presentation complete the student semester project.

Contact

This student semester project has been assigned to Lukas Rickenbacher, master student of mechanical engineering at ETH Zurich. The project is supervised by Dipl. Ing. ETH Martin Küchler, ICVR Innovation Center Virtual Reality, ETH Zurich.