Getting Yourself Superimposed on a Presentation Screen

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ABSTRACT
We propose using intuitive interface presentation support software. A presenter is superimposed on a screen.

Author Keywords
Presentation support; Augmented reality; 3D interface.

ACM Classification Keywords
H.5.1 Information Interfaces and Presentation: Multimedia Information Systems—*Artificial, augmented, and virtual realities*

INTRODUCTION
When attending a conference some audiences lose attention following points on the screen. Although presenters usually use a pointer rod or a laser pointer, they are not convenient or easily visible on a large screen. A camera and another screen are also needed to show gestures. In this paper we propose using intuitive interface presentation support software [1]. A presenter is superimposed onto a screen, and the person can draw there interactively. Realizing presenter movement on screen by recognizing natural and small actions, the person can move within a limited stage space. Presenters can point to any important areas and draw supplementary items with their own hand through our software, and of course show gestures on a large screen. It is expected that audiences will be better able to understand and focus.

MOVEMENT AND DRAWING
It is necessary to move within a limited area. First the presenters knee angles are obtained. When one of them is less than the pre-defined threshold value, the person on the screen is moved exaggeratedly in all directions according to their actual movement and the angle. It is needed to change position vertically on the screen while superimposed smaller. When both of the knee angles are less than the other threshold, the person moves down at a speed depending on the angles. When lifting one arm to stretch out, the person moves up according to the extent that the arm is lifted. The locus of the hand is also drawn on the screen while the hand position is higher than the waist and at the back of the head.

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RESULTS AND CONCLUSIONS
We used Microsoft Kinect and Windows SDK Ver. 1.8 API to build a pilot system on a Windows PC. It also has a horizontal inversion mode to use this system while watching laptop monitor (Figure 1 and 2). We got positive evaluations through an experiment; i.e. it is easy to move, and it is helpful for presenting slide shows. Despite some favorable results, bugs remain. We can not erase notes yet, meaning that we should implement an erase function, and we would also like to recognize a page feeding action, leaving them for future work.

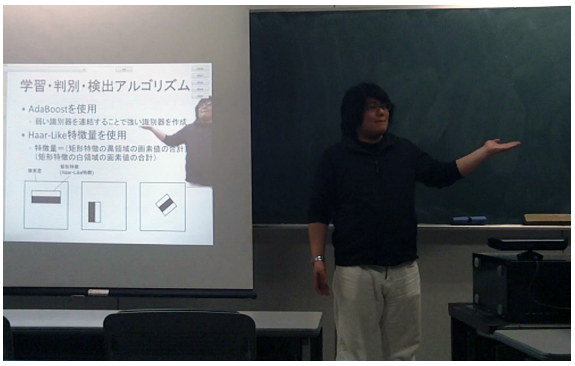

Figure 1. System appearance.

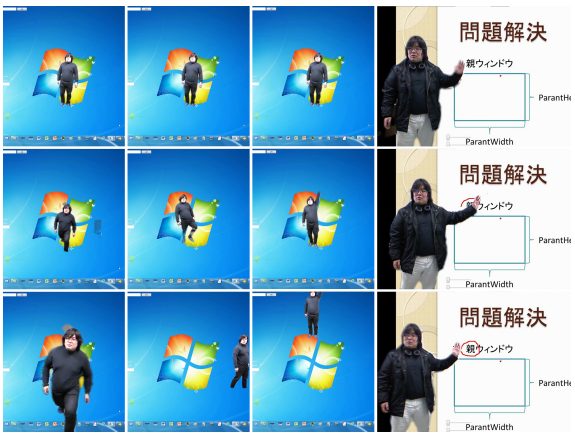

Figure 2. Movement and drawing.

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