SIGCHI Extended Abstracts Sample File: Note Initial Caps

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Abstract
UPDATED—November 18, 2018. This sample paper describes the formatting requirements for SIGCHI Extended Abstract Format, and this sample file offers recommendations on writing for the worldwide SIGCHI readership. Please review this document even if you have submitted to SIGCHI conferences before, as some format details have changed relative to previous years. Abstracts should be about 150 words. Required.

Author Keywords
Authors' choice; of terms; separated; by semicolons; include commas, within terms only; required.

ACM Classification Keywords
H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous; See [http://acm.org/about/class/1998/]: for full list of ACM classifiers. This section is required.

Introduction

Communication refers to the process of passing messages between peoples which may be verbal, non âĂŞ verbal or visual. This is a collaborative process, which makes people more social and interactive. Ages ago, as a form of visual communication, people used to carve messages on stone pillars to communicate very well across time which is perfect for the common areas. This paper focuses on this same concept integrated with the technology using the mirror, a reflective surface. Over the past couple of decades, growing technology has revolutionised the world. This is constantly having a massive impact on the human race at every stage of societal development. Not only computers connected objects and sensors are getting smarter but also any object around us and the way we interact with an emerging world is getting smarter and more enhanced. We picked a mirror as our interaction device and made it smarter with additional technologies. We merged the concept of passing messages with mirror so we call it âĂIJMagic MirrorâĂİ. So far, no smart mirror has been developed that makes the mirror more appealing to general users. Also, none of the smart mirrors developed has the concept of social communication. This paper suggests a new mode of passing messages which connects people that underlie social interaction. Magic Mirror is equipped with Leap Motion which is associated with the Windows Touchless framework, this detects the air gesture and inputs the response to draw/write messages on the mirror. Tux Paint is used as a messaging interface which gives classified and broad menus to implement the message. HC âĂŞ SR04 distance sensor, programmed with Raspberry Pi is used which gives positive compliments to user through the speaker when they approach the mirror. âĂIJPassing MessagesâĂİ is a primary goal of Magic Mirror. Sharing the message just with the reflective mirror using hand gestures without any additional devices or IoT, just makes it so simple to use. One of the purposes of this concept is making people more social not just by sharing messages but also this lets the multiple participants work together to create something which is obviously a team building.

Related Work

The proposed Magic Mirror represents a social and collaborative interaction interface that provides a platform to share the message with the personal or group contribution. And there has been number of projects based on the smart mirror which are related and driven in similar direction. Philips Homelab is a permanent fully functional home laboratory built to study how people interact with interactive and automated home environment. Smart Lighting system, augmented broadcasts, smart music collection, smart memory browsing system, interactive mirror are some of the setups in homelab. Interactive mirror can be placed in room or washroom and can be personalized according to the need of the end user. Every person can customise the content (i.e. cartoons for childrenâĂŹs, adults can get live news feeds and updates on weathers, traffics, mail etc). Researchers from Griffith University conducted the early exploration of the suitability of Leap Motion controller in the project entitled âĂIJThe Leap Motion controller: A view on sign languageâĂİ. They conducted this research for Auslan (Australian Sign Language) and they found out the leap motion to be perfect for basic signs but not appropriate for complex signs. Another project named FitMirror as carried out by students of Ulm University. They created a fitmirror system to help users to get up in the morning and get motivated for the day. They built the recognition system for fun and normal exercises which made the exercise fun for even middle and low motivated persons. They used Kinect for emotion recognition and hand trace for different games. In comparison, to various projects and works mentioned above , our proposed aim is different which is to develop so-

cial interaction between people by sharing messages using the combined functionality of mirror and leap motion.

Good Utilization of the Side Bar

Preparation: Do not change the margin dimensions and do not flow the margin text to the next page.

Materials: The margin box must not intrude or overflow into the header or the footer, or the gutter space between the margin paragraph and the main left column. The text in this text box should remain the same size as the body text. Use the `\vspace` command to set the margin note's position.

Images & Figures: Practically anything can be put in the margin if it fits. Use the `\marginparwidth` constant to set the width of the figure, table, minipage, or whatever you are trying to fit in this skinny space.

Case Study

Prototype

We would like to show the features of our product and with some users evaluate our product and get feedback from the users for future improvement. Based on the model of House and Hill 1997 (?, ?), we develop both "Role" and "Look and feel" prototype to test the research question of our concern. We intend to provide both full overview of the functionality and concrete experience successively via each prototype. In the "Role" prototype, we use "Role Playing". We also shoot a video depicting how our mirror functions. Regarding "Look and feel" prototype, we build a mirror surface, user can draw on it using the finger movement. *Hardware* A glass with reflection solar film (80% reflection surface), a Leap Motion, a 24" LCD. *Software* Touchless for Windows an Leap Motion application developed by Leap Motion Gallery, Tux Paint.

Figure 1: The components of MagicMirror

Early Results

The questionnaire was not able to show a difference in motivation depending on the initial state of the mirror. Therefore, our hypothesis people would be more motivated to write on the paper if the surface is blank must be rejected. Our second hypothesis that people in a group enjoy the use of the magic mirror more can be assumed. Eventhough the average amount of enjoyment is only slightly higher for people in a small group, the difference between the min and max value shows that people in a small group enjoy it more.

The observations mainly showed two points we will declare in the following.

Firstly, people stop to look at the mirror. During our observations, people who were not alone stopped more often than persons who were alone. We could also observe that people who walked in the direction of the cafeteria also stopped for a longer time than the person who was walking towards the classrooms. This might be due to the lack of time when people have to go to classes.

Secondly, people left quickly when the mirror did not work the expected way. We could clearly see that people had their difficulties with drawing and writing in the air with one finger. It might be that for people it is not intuitive to write something without touching the surface the person want to write on.

Besides the results from the questionnaire, it was also noticable during the observations, people who started testing the prototype with a non-blank surface, asked for a new blank surface if the previous drawing occupied more than ~20% of the surface. Due to the small given surface, the surface was most of the time too full after the use of one person/group.

Future Work

During the evaluation of the magic mirror it become clear that the air gesture is for a lot of people not intuitive. Instead they tried to touch the surface of the mirror in order to draw or write something. Therefore, an interesting approach would be how people would adapt the magic mirror if the surface is a reflective touch screen.

The second approach, which should be tested in future work, is the impact of an increased surface. Especially, the collaborative part could improve if the surface offers space to several drawings and texts at the same time. So people actually have the space to add something to a previous drawing. For the group use, the use of the magic mirror by multiple users at the same time is also an interesting aspect which shoulb be looked at in future work.