SURFACETOUCH

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Abstract - We developed a device Surface touch, which is capable of making any physical screen computer in touch enabled. With multiple users support and with supporting multi touch gestures and with faster connection. A device which will help corporate presentations and school and collages to allow users to interact with one screen at a time. In cost efficient way which anyone can afford.

Index Terms— **surface touch, touchscreen.**

I. INTRODUCTION

Surface touch is a combination of software and hardware and this collaboration allows us makes to make any physical surface or computer device touch screen. This can make your desktop touch screen, your laptop touchscreen or even your projected screen touchscreen.

II. BACKGROUND AND RELATED WORK

From the past few decades we have been using various computing devices and mouse is being primary input device along with keyboard. By now we have multiple types of pointing devices. So every time we work with a form factor we have to change our working method like, with desktop we use mouse, with laptop we use trackpads. in 2004 Pranav Mistry started developing sixth sense technology. The input device which uses image recognition technology to work on computer. He was using color markers on fingers which was leading courser. He was having sophisticated setup. Due to he is using image recognition technology it requires more processing power and more memory, that's why it was affecting his computing experience.

III. WORKING

Surface touch has two major parts, one is hardware and another is software. In the hardware the device is placed on user's hand and the device has infrared camera, accelerometer, gyroscope, Bluetooth and couple of batteries to power up device. On the other end there are two pairs of infrared LED placed near screen which are continuously transmitting infrared signals. Surface touch device on hand continuously senses those infrared signals and sends it to laptop via Bluetooth. Laptop is having Surface touch software, so it processes those signals by using our own matrix algorithm and determines cursor's location and makes touch happens.

IV. IMPLEMENTATION

Primarily we use projector in Corporates and in Schools and Colleges for delivering lectures and presentations. The flow of presentations lacks to way communication. Presenter presents his idea and other members just listen to it. We took that as a problem, that's why we developed Surface Touch. Surface touch is capable of solving this problem. By using Surface Touch, you can make projected screen touch enabled. Which means people listening to the presentation can also interact. Surface Touch also has features like Multi user with Multi touch. Which helps up to 20 users to interact with the system at a time with five point multi touch. So how every user will differentiate their cursor, we solved that problem as well, we gave separate colour to separate cursor, which helps users to find their cursor. It also supports almost all types of multi touch gestures like zoom in, zoom out, pinch, rotate. It has Vibrating feedback feature which will give u feedback when you connect or disconnect with the system. It has having cross platform ability which it works across all types operating systems like Windows Linux and macOS. Surface touch software needs only 500kb of your system memory. It takes less than a second to establish a connection. It is simply plug and play. Most importantly it is cost efficient and affordable to everyone.

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VI. CONCLUSION

We conclude that we developed a device which is capable of making any physical screen of computer in touch enabled. With multiple users support and with supporting multi touch gestures and with faster connection. A pointing device which is cost efficient which anyone can afford

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