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Smart Interactive Board

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Abstract: ***In today's digital age, educational institutions are focussing to equip their own institutions with latest technologies. One of the latest technologies is Smart interactive board, which is used at various educational levels. These boards are major attraction of students as well as teachers. Every teacher wants to make their lessons creative and interesting; this board can be a boon to them. As interactive boards are readily available in market, but in this topic we have proposed how to convert any regular surface or whiteboard into an interactive board. The main approach behind this is to encourage student's learning and reduce teacher's burden of carrying notes regularly to classes. We have used Bluetooth technology in this project.***

Keywords: Interactive, Creative, Interesting, Regular surface, Bluetooth.

I. INTRODUCTION

An interactive board is a board which works combining projector and a computer or sever in addition to Wii remote. The potential of interactive board was recognized by the people in educational field. Use of these boards can be done for teaching, presenting and meeting. Educational field is regarded as the largest user of this technology.

A. Using Interactive Board we can do the Following Activitie

1) We can write texts and see images on the board.
2) We can see videos, see various websites.
3) We can surf the internet.

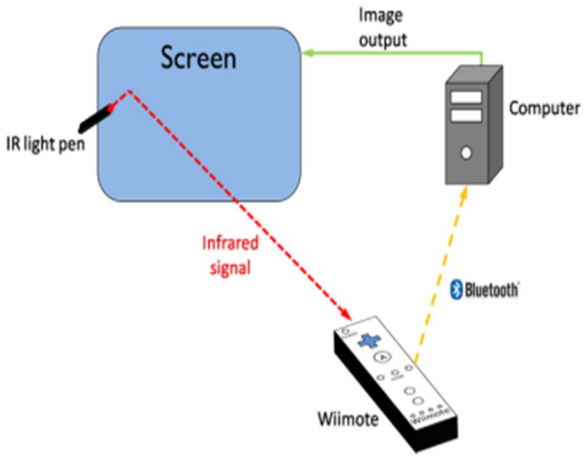
We can save the notes on our website and can access them through mail or prints.

II. PROPOSED WORK

A. Working Principle

The interactive board is based on Wii remote which works on Bluetooth technology. The Wii remote is placed directing towards the plain surface or board's surface. Computer or server is connected to the projector and the projector projects the image. Using IR pen we can manipulate the image. IR pen sends an infrared signal which is captured by Wii remote and processed which further gives the output on the board. The main feature of the Wii remote is its gesture sensing capability which is the key point in the designing of this board.

III. BLOCK DIAGRAM



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IV. HARDWARE

A. Wii Remote

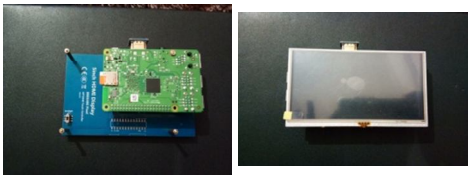


Main feature of the Wii Remote is its motion sensing capability, which allows the user to interact with and manipulate items on screen via gesture recognition and pointing through the use of accelerometer and optical sensor technology.

B. Projector

Projector is used to project the server screen on board.

C. Raspberry Pi Server



Computer/Server is made with Raspberry Pi which will contain all information about class lessons.

D. IR Pen



This pen is used to manipulate images on the projected screen. This pen emits Infrared signal which is captured by Wii remote.

V. RESULT

A. There are Mainly Three Outcomes of this Project, They Are

1) The first outcome of this board is enhanced teaching and learning. The teacher can present the lessons dynamically and need not to carry notes to the classroom every time.
2) The second outcome is convenience and immediate solutions. Due to the facilities provided in the board, an immediate solution to the problem arised can be solved.
3) The third outcome is student's engagement in classrooms and learning in more creative and interesting way.

VI. CONCLUSION

The use of interactive board is a boon to the educational field and research survey in various countries has shown its increasing impact. There are many positive effects of this technology including ability to improve students learning environment and teachers teaching methods.

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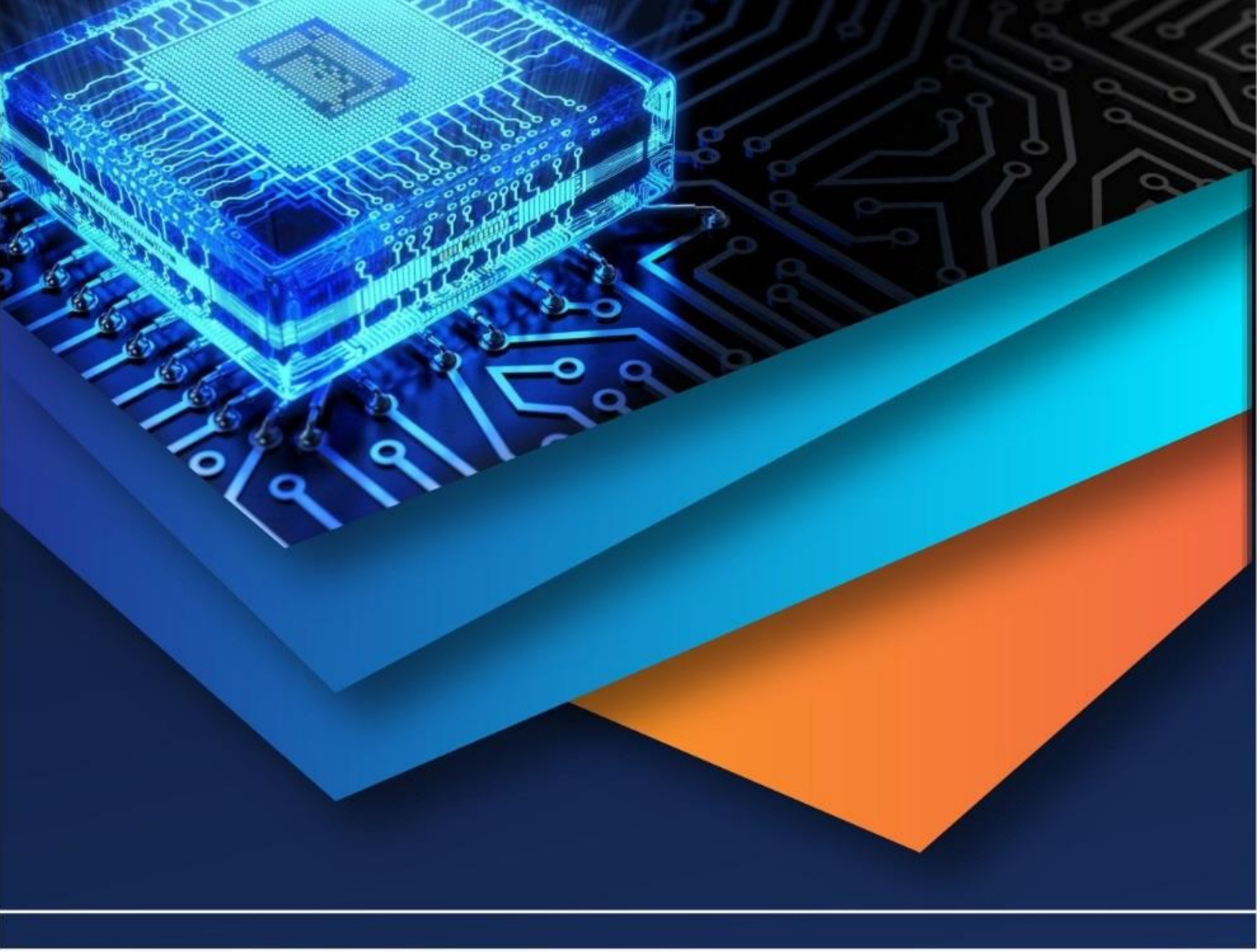
VII. ACKNOWLEDGEMENT

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