

Smart Mirror with Voice Assistant

Mrs. Preethi S. M.E.¹, M. Parthiban Gangaa², Naufal Mohammed Habib³, B. Pravin Jyoti⁴

ECE Department, Peri Institute Of Technology

Abstract: *Technology is constantly evolving in the current world and becoming more intelligent towards the future. With the fast progressing world, time is of the essence. This paper describes the design and implementation of a smart wall mirror called “Magic Mirror”. It is a device that can function both as a mirror and an interactive display displaying content such as time, date, weather and news simultaneously. The device is also enabled with the popular voice AI Google Assistant which enables a natural conversational interface between the user and the mirror. The Magic Mirror consists of various functionalities like real time data and information updates, voice commands, microphone and webcam. The user can interact with the magic mirror using voice commands. With the AI voice kit, a more interactive approach is established and makes it easier for the user to navigate through the device. The goal of this project is to make life easier for the common man by keeping him up to date with all the information surrounding him and around the world. It also helps him have a healthy and organized lifestyle by keeping a scheduled timetable.*

Keywords: *Magic Mirror, Raspberry Pi 3, Raspbian, Internet of Things;*

I. INTRODUCTION

In this world everyone needs a comfortable life. Modern man has invented different technologies for his purpose. In today's world, people need to be connected and they are willing to access the information easily. Whether it is through the television or internet, people need to be informed and stay in touch with the current affairs happening around the world. The Internet of Things means interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data. The Internet of Things with its enormous growth expands its applications to the living environment of the people by changing a home to smart home. Smart home is a connected home that connects all type of digital devices to communicate with each other through the internet. Our lifestyle has evolved in such a way that optimizing time is the most important thing. Our work is based on the understanding that we all look at the mirror when we go out, so what if the mirror became smart. A common approach for building a smart mirror is to use a high quality two- way mirror, a LED monitor, a frame to hold the glass and monitor, and a web browser with python to provide the software features and drive the display.

This project has been developed with the idea of making a home smart to save time. The Internet transformed our lives by connecting us more easily to information and other people in the virtual world. The state of innovation currently is to provide more information with minimal interaction to get it. The device that has been researched and designed is called “Smart Mirror”. It is a wall mounted mirror which displays relevant items to the user such as weather, time, date, temperature, humidity and news and other fields of interest. IoT emerged from the idea of remotely monitoring objects through the Internet.

II. PROPOSED METHOD

A. Smart Mirror as a Mirror

We can see our view as we can see it in a natural mirror while looking and grooming with the help of one way mirror with high concentration of aluminum content.

B. Smart Mirror as an Information System

Time, Date, Weather details and news are fetched from online using predefined URL. News is fetched from websites like CNN, BBC or any local news channel of the particular region, etc. Popular weather information website is available in the Internet. DHT22 -digital sensor can be used to get the humidity and temperature details. DHT22 can be connected to GPIO pins of Raspberry Pi board using jumpers.

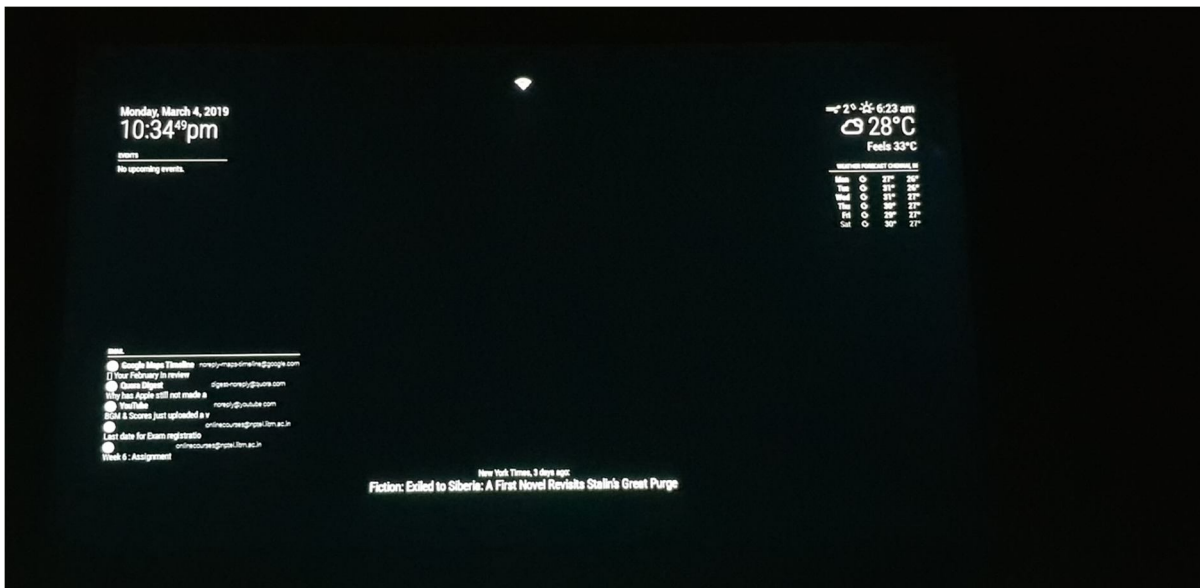
C. Smart Mirror as Voice Assistance

The AI Google Assistant recognizes the user's voice command and responds according to the command given. It provides an interactive experience and makes it easier for the user to converse easily

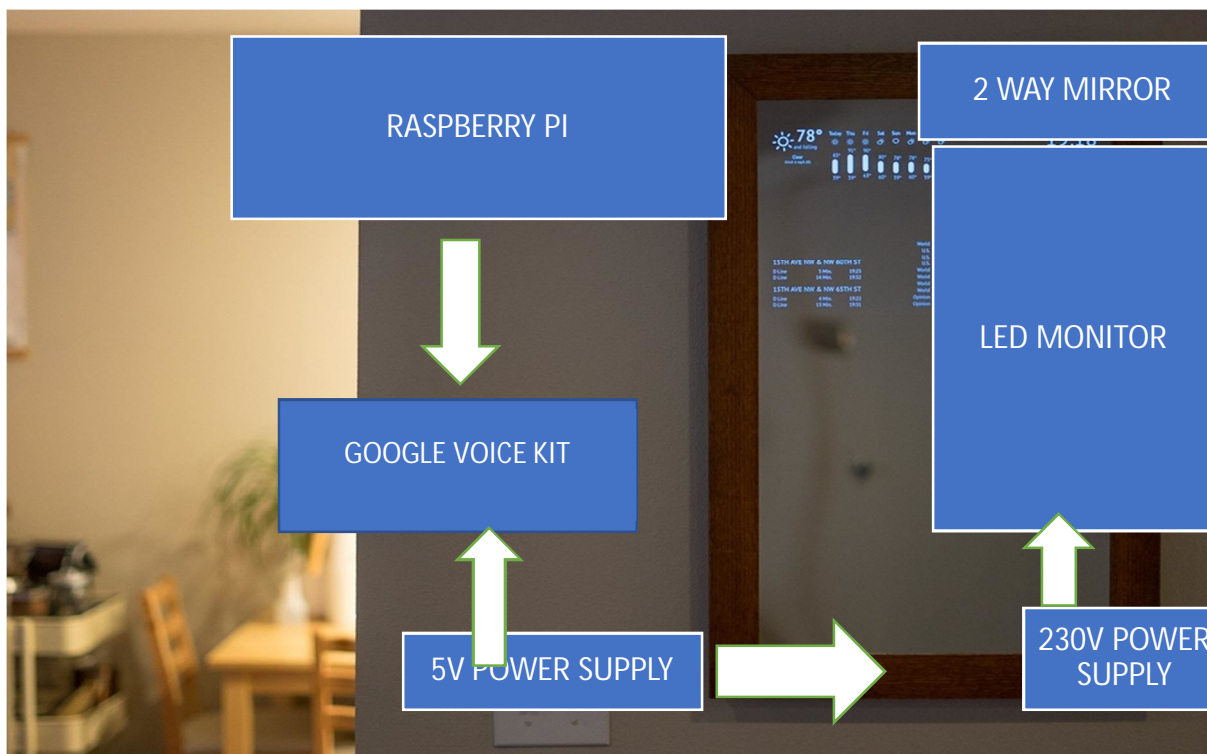
III. RESULTS

An advanced smart mirror system that provides information like time, date, accurate weather and weekly forecast and latest news while looking and grooming in front of mirror and also provides natural voice interaction with the mirror.

Block



Diagram





IV. CONCLUSION

The Magic Mirror is a very efficient technology that can be utilized by the common man. And the scope for this technology is very promising and wide, considering the AI field is constantly developing and growing. Various features can and will be added in the future that will help users with the day to day life.

REFERENCES

- [1] <https://github.com/google/aiyprojects-raspbian/releases>
- [2] <https://github.com/MichMich/MagicMirror>
- [3] <https://github.com/PoOwAa/MMM-network-signal>
- [4] <https://github.com/MichMich/MagicMirror/wiki/Auto-Starting-MagicMirror>
- [5] <https://github.com/carolinedunn/Google-Home-RPi-AutoBoot>
- [6] <https://github.com/MichMich/MagicMirror/wiki/3rd-party-modules>
- [7] Lakshmi NM, Chandana MS, Ishwarya P, Nagarur Meena, Rajendra R Patil, "IoT based Smart Mirror Using Raspberry Pi", International Journal of Engineering Research and Technology (IJERT), NCEES-2018 Conference Proceeding
- [8] Suryansh Chandel, Ashay Mandwarya, S. Ushasukhanya, "Implementation of Magic Mirror using Raspberry Pi 3", International Journal of Pure and Applied Mathematics, Vol.118 No.22, 2018