

A SMART MIRROR USING RASPBERRY PI BASED ON IOT

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Abstract : The project explains about the development and design of a smart mirror that represents an elegant and interface about the smart mirrors. It also gives the information about the thief detection in an environment using iot. It is a system that works on the functions of additional capability of displaying date, time, current temperature, weather details. Actually, a smart mirror may be a two-way mirror with an inbuilt display behind the glass. The system is based on the iot based intelligence to facilitate and enhance the user's awareness.

Keywords: RaspberryPi, Multi-tasking, News, Reminders News-update, Calendar, Weather-updates.

I. INTRODUCTION

In this world, everybody needs an agreeable life. Present-day man has imagined distinctive innovation for his motivation. In this day and age, individuals should be associated and they will get to the data without any problem. Regardless of whether it is through the TV or the web, individuals should be educated and in contact with the current undertakings occurring around the world. The Internet of Things implies interconnection by means of the web of figuring gadgets implanted in regular items, empowering them to send and get information. The Internet of Things with its huge development extends its applications to the living the climate of individuals by changing a home to a keen home.

A brilliant home is an associated home that interfaces a wide range of computerized gadgets to speak with one another through the web. Our way of life has advanced so that streamlining time is the main thing. Our work is in light of the possibility that we as a whole glance at the mirror when we go out, so for what reason wouldn't the mirror become brilliant. A typical methodology for building a savvy reflection is to utilize a great single-direction glass, an LCD screen, an edge to hold the glass and screen, and an internet browser with python to give the product components and drive the presentation. This venture has been created with making homes savvy to save time. The Internet changed our lives by interfacing us all the more effectively to data and others in the virtual world. The condition of development as of now is to furnish more data with less collaboration to get it. The gadget that has been investigated and planned is designated "Brilliant Mirror". It is a divider-mounted mirror that shows pertinent things to the client like climate, time, date, temperature, dampness and news, and different fields of interest. IoT

arose the possibility of distantly checking objects through the Internet. With regards to our homes, security is an essential issue for the overall population. For upgrading the security of the home this structure is utilized by the proprietor of the house. Expect you are not at home and a criminal enters your home then this system will give an alert through alert message. At the point when a hoodlum enters the home, the PIR sensor will identify the development and gives the proprietor an alarm message. Remote Home Security and Home robotization are the double parts of this undertaking. The right now constructed model of the framework sends cautions to the proprietors over a message utilizing the Internet if any kind of human development is detected close to the mirror.

II. LITERATURE SURVEY

In 2003 Phillip unveiled their Mirror TV that was built using equivalent principles that of smart mirrors. Their product was a traditional TV that was put behind a two-way mirror in order that the TV would seem like a mirror when turned on and as a TV when turned on. They also had the choice to possess the mirror to be larger than the TV. A usage example presented by Phillips was to possess the youngsters to watch cartoons while brushing their teeth at an equivalent time. Later in 2005 Phillips announced their scientific research My Heart that built upon the thought of an informative mirror. While their original Mirror TV was simply a TV that also functioned as a mirror, the My Heart project would integrate a display to showcase various medical statistics. However, this project required nobody electronics to gather and analyze the info. The mirror itself simply served as an informative display. James Law Cyber texture developed a commercially sold smart mirror in 2011. This mirror is more in line with the smart mirror we've come to understand today. the merchandise consists of a 32" LCD display covered by a 37" two-way mirror. The display can show weather forecasts, stream internet, TV, the present time, and various widgets. The smart mirror has numerous input methods like a foreign controller, smartphone app, and onscreen virtual keyboard. Paper by Franco Chiarugi et al (2013) discusses the motivation and rationale behind the project. Their idea was to extract quantitative features of official expressions associated with stress, anxiety, and fatigue and use those features to quantify an individual's well-being. The features would be extracted from data collected from multisensory devices. the info would be collected within the sort of videos, images, 3D face scans, and breath samples. The project is first and

foremost a search project to digitalize semeiotics - the physical signs produced by diseases - from facial images.

Chidambaram Sethukkarasi et al. (2016) created an intelligent mirror that identifies users supported face recognition, recognizes emotions, records health parameters, and provides clothing advice. Their paper doesn't go in-depth on any of its subjects, but rather tries to unite the ideas under the concept of an intelligent mirror. In 2017 a corporation called New Kinpo Group launched their combat the smart mirror called Hi-Mirror. This smart mirror features a camera to specifically monitor your skin health. The mirror will scan your skin and provides you with metrics to inform you what to enhance. The mirror uses face recognition to log a user's skin firmness, texture, clarity, brightness, and health on a day-to-day basis.

Griffin Technologies unveiled its combat the smart mirror at the 2017 CES convention. They call their product the Connected Mirror and it'll function as the smart home hub for several smart home appliances made by Griffin Technologies. The mirror can display civil time and weather, notifications from your phone, and statuses from other Griffin smart home tech connected to the mirror. The mirror doesn't employ any user recognition, but the interface is often customized through a smartphone app that's also won't to control the other Griffin smart home device.

III. DEVELOPMENT METHODOLOGY

A. Smart Mirror as Mirror

We can see our deem we will see it during a natural mirror while looking and grooming with the assistance of a one-way mirror with a high concentration of aluminium content.

B. Smart Mirror as Information System

Time, Date, weather details, and news are fetched online using a predefined URL. News is fetched from websites like CCN, BBC, etc. DHT22 –the digital sensor is used to get the humidity and temperature details. DHT22 is connected to GPIO pins of the Raspberry Pi board using jumpers.

C. Smart Mirror as Security System

When there's nobody during a home it is often switched into a security system by employing a VNC viewer to detect human presence. When someone enters an area, the PIR sensor will detect the movement of the person when he passes by the mirror and capture the image, and stores it in drop box. Also informs the owner by updating the captured image in drop box, in this way smart mirror system can also be used as a security system.

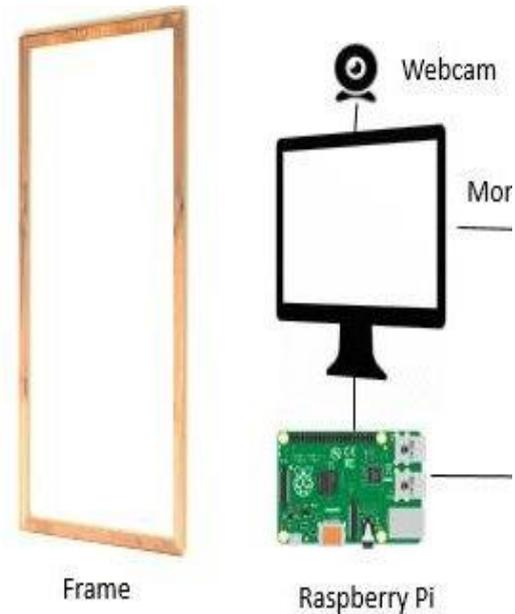


Fig 1: Components of Smart Mirror

D. Calculation For Information System

Step 1: Turn on the force supply.

Step 2: We will get the date, time, and climate subtleties from the predefined URL.

Step 3: Get the report from www.zeenews.com

Step 4: In the code, area record every one of the commendations to be shown on the mirror

Step 5: It shows on the mirror by means of the LCD screen

Step 6: Change to hoodlum discovery mode utilizing VNC watcher.

Step 7: Turn off the force supply when it is of no use.

E. Calculation For Thief Detection

Step 1: Start

Step 2: Setup the Camera

Step 3: Check whether PIR sensor yield is high or low
Step 4: If it is low, go to stage 3.

Step 5: If it is high, the camera is turned ON.

Step 6: Image is caught and put away on raspberry pi.

Step 7: Check for Wi-Fi association.

Step 8: If it is associated picture is transferred to drop box.

Step 9: Notification is refreshed in drop box.

IV. RESULT

An advanced savvy reflects framework that gives data like time, date, exact temperature and mugginess, and the most recent news while glancing and prepping before a mirror and furthermore helps in hoodlum location.

In Fig 2 shows the information system



Fig 2: Smart Mirror Based On IOT

V. CONCLUSION

Smart mirrors can possibly upgrade the client experience of getting to and connecting with data. In addition to the fact that they allow clients to see pertinent data easily, however, they can likewise be incorporated as a hoodlum location framework. Our shrewd mirror saves time and makes it simpler to get to data. In the present social security is of vital significance. By remembering this we have coordinated a criminal identification framework into our savvy reflection. Later on, this task can be improved by adding an intuitive touch screen, Geo-area, Alexa, and some more components.

VI. REFERENCES

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