Smart Mirror Using Rasberry Pi

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Abstract: Smart mirror which is used to intimate daily actions and works which is going in home applications. In society now a days it is more useful to intimate information through laptops, desktop. By using mirror it is useful for the simple man to control it easier and faster. In these hole part of the machine works undergoes in the Raspberry pi. From these from the data which has been stored that can be used to show data what we have created like as time, data, weather condition. Smart mirror develops her personal information easier to the user. By these conditions the mirror which have implemented that should be connected to the internet and that which has been connected to the raspberry pi. From these smart mirror can easily used for day to day life from these half should act as the mirror and the another half act as the working process for users needs. Future for the better and easy to identify the going to use face recognition technique.

Keywords: Raspberry pi3, smart mirror, monitor, artificial intelligence.

1. Introduction

Smart mirror mains importance used to tell the time weather condition and date. From every hour it has update process which gives the user clear information. Now the users are busy with their daily activates which they gave no time to see the newspaper and TV's for them it will be more useful to read the headlines in our smart mirror. people are busy with their life schedule for them it is every useful to them because we are using the microphone which is used to detect the works which has been intimates by the user to the mirror at that it will activate to the user like as alarm which has been fixed. It is useful to check the weather condition, time and date which can be changed automatically. From the smart mirror which use like as the mirror and also useful for the users to check their daily works and main head line news.

Internet of things which is used as project domain. IoT to a smart mirror can possible to implement various applications and smart mirror which has linked with IoT platform is friendly and provides useful information to the users. The features like display lightings and software and processing everything together a prototype of smart mirror which has been linked with artificial intelligence and IoT features where user interact and gets required information like time, calender, events etc. By using the voice recognition which can identify the needs for the users by the format of "ALEXA", which recognize the voice command and works for it. From these it is used to intimate their work like as alarm every time It has an two way mirror display, we can use the mirror as information services and natural mirror. In the smart mirror it has features like date, time, weather forecast, humidity, temperature are displayed and fetching news like stock market , headlines, etc can be viewed. From these it gives overall information from the stage of being turn on till it shutdown, which is created by user to detect it and recall him back.

2. Related Work

Now a days it is more useful for the data which has been created that should be stored and can be used to show the user needs which has been created like as time ,data ,weather condition. Our smart mirror develops her personal information easier to the user. By these conditions the mirror which we have implemented that should be connected to the internet and that which has been connected to the raspberry pi[1].Now a days the users are busy with their daily activates which they have no time to see the news paper and TV's for them it will be more useful to read the head lines in our smart mirror. people are busy with their life schedule for them it is every useful to them because we are using the voice recognize which is used to detect the works which has been intimates by the user to the mirror at that it will activate to the user like as alarm which has been fixed. Everything undergoes the process of the alexa which is the for works on the commands that has been used to works which is help to the user[3].

3. Proosed Work

In these smart mirror we have developed that the useful way for the user. Now a days everyone is having mirror in their home by using these we can interact with it attractive and can be fantasized by anyone. It acts like as a normal mirror and inside have a led screen monitor. In the existing system of Smart mirror we find that it

consists of some features and interface with wooden frame inside connections of raspberry pi with a led monitor display unit.

The advantages is there is no time to read the newspaper in the morning. Our mirror is useful for them to check news headlines and weather forecasting, whereas time could be save. It should collect the information such as latest news, headlines and weather conditions.

4. Module Description

4.1 General Architecture

In this work, we need led screen which is used to display the information which has been placed in the wooden window. The privacy sheet cover the one side of the mirror, Raspberry Pi is open source device that support the connect the cables through the monitor. The wooden frame is attached to the one way glass mirror, which our project to display the mirror hole in the form of TV.

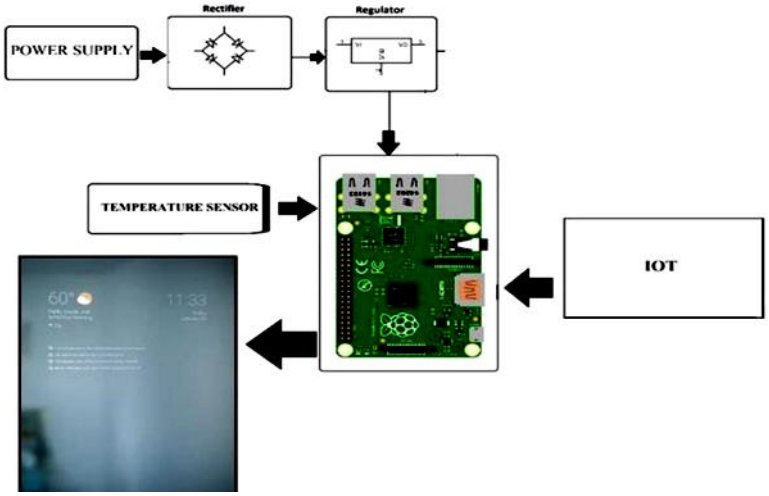

Figure 4.1: Architecture diagram

4.2 Data Flow Diagram

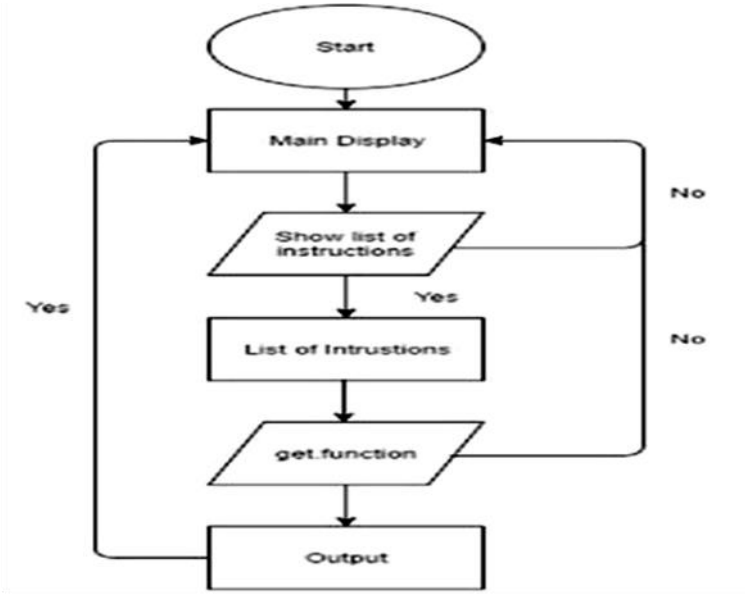

Figure 4.2: Data flow diagram

It represents the main display can send the information from the list of instructions, which produces through the function and displays the output. Once the person appears infront of smart mirror senior is activated and the mirror displays he welcome message to the user. In every command from the user is given by the microphone in the from of audio phone. raspberry pi which is used to display the code which has been given to the LCD screen. which displays time ,date and weather.

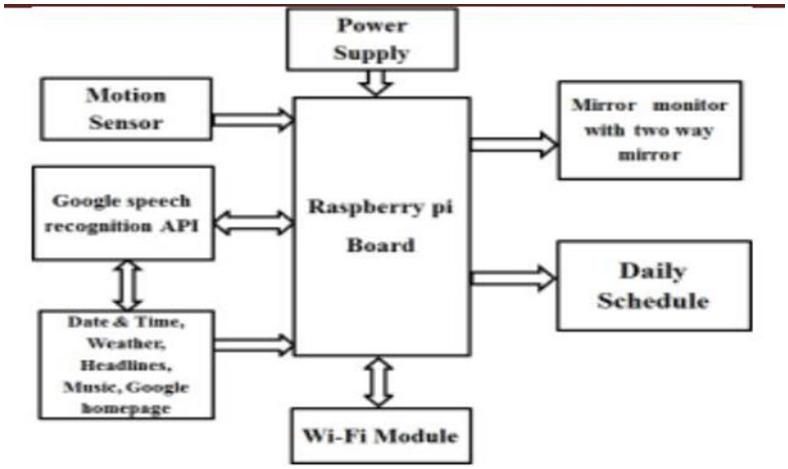

Figure 4.3: Block diagram

Install the Raspbian software into the SD card. after install the raspbian software and Etcher is used for OS image burn to make as into the storage disk. Insert the SD card into the raspberry pi. It is connect to the led monitor display to all are executable using HDMI cable. install the libraries of setup into SD Card using raspberry pi. and also install the ALEXA Commands in raspbian software and connect to it.

5. Implementation And Testing

5.1 Input and Output

It is used to convert for our home, office, room for the user. It shows you the updated time, weather and date which is displayed in the smart mirror.

5.1.1 Input Design

Raspberry pi connections to the led monitor display.

5.1.2 Output Design

It can shows the date, time, weather conditions, and newsfeed and also home applications like, if user can give the command to the smart mirror immediately it gives the reply to the users. By testing of these code, issues with development stopping bugs were avoided. Then the testing of the code which has been used, has been provided without the error that can be displayed.

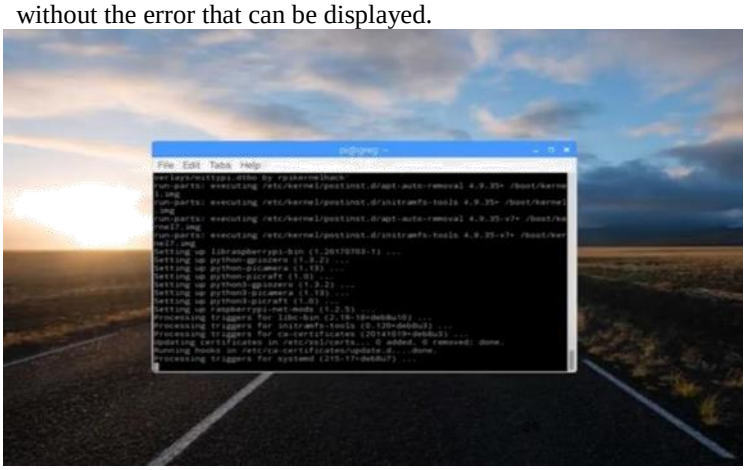

Figure 5.1: Test image

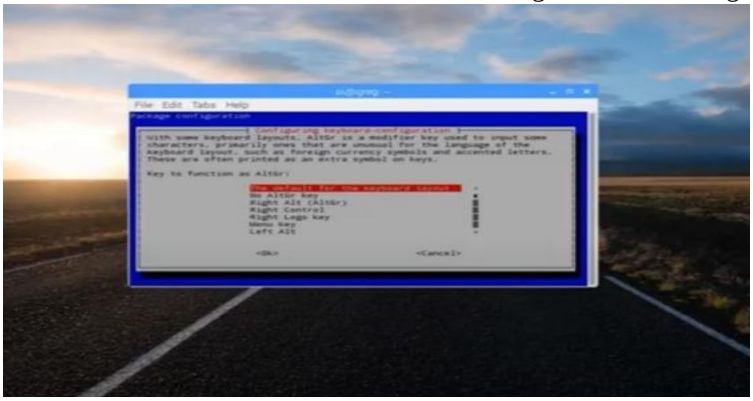

Figure 5.2: Input image

6. Results and Discussions

6.1 Efficiency of the Proposed System

From output of the smart mirror that can be displayed on the black output screen, which displays weather, news and time. When we see in the top right corner it displays time which is present in the raspberry pi. Along with the time it shows both calendar and date. The weather conditions on the top left corner of the black screen. weather update which is related that can be showed in the display.

6.2 Comparison of Existing and Proposed System

The existing and proposed of the system for the smart mirror which has been more useful for home applications and industrial. Hardware Design from our project the LCD monitor, a two way mirror is placed. In these for LCD main part is raspberry pi is placed back of the LCD which helps for the display. In these raspberry pi runs the software and which has been connect to the internet. Software Design In our project to main goal to create an open development platform, and all software components which is fit for the goal. Our main aim is the to run on multiple platforms and displays many types of fit data.

6.3 Advantages of the Proposed System

It show the users to display time, weather, date, news feed, compliments. This project is useful to the users. Most of the people can use their mobiles for checking time, date and weather conditions instead of that smart mirror is easy to check.

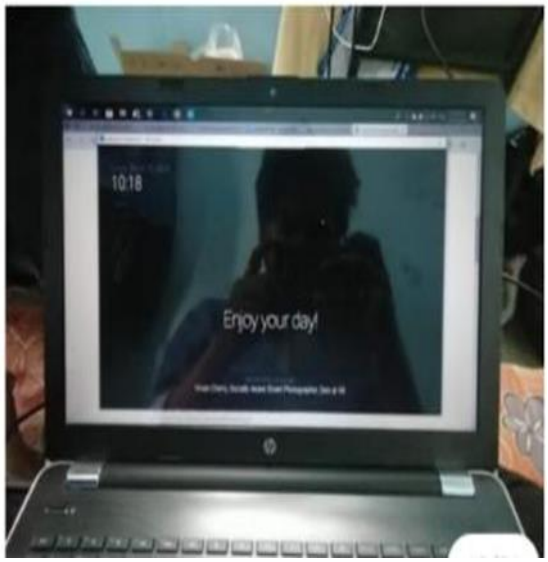

Figure 6.1: Output image

7. Conclusion and Future Enhancements

7.1 Conclusion

The futuristic smart mirror that would be helpful to user for the home and industrial applications. These smart mirror which is help for the various industrial and home applications. Mainly the smart mirror is useful for the importance of security. They have developed a functional design to develop for the user. It is used for the future to check the date, time and weather conditions.

7.2 Future Enhancements

In future, smart mirror have great potential experience because it provides accessing point between the user and interactor for their application. By using these our mirror reduces the time for the user and make it easy information .our project can be improved by adding more features like as touch screen, geolocation and voice recognition.

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