Scope International Journal of Science, Humanities, Management and Technology. ISSN : 2455-068X
Vol.3 Issue 4 (2017) 292 - 297. Submitted 6/12/2017. Published 28/12/2017

Power Driven Magic Mirror using Raspberry Pi

K.V.S.S.S.S.SAIRAM, T.BOOPATHY
Department of Electronics and Communications Engineering
Dhanalakshmi Srinivasan Engineering College, Tamil Nadu, India

ABSTRACT

The Internet modified our lives with the aid of connecting us extra without difficulty to information and different humans in the virtual world. Mobile phones then became smart-phones and due to the fact that then this notion has erupted and morphed into the Internet of Things, matters which join us to day-to-day objects. There is no end of objects that should be made "smarter", some being greater suitable to this than others. Mirrors, for example, grant a massive surface perfect for exhibiting statistics and interacting with. Most humans have mirrors at domestic so the thought of a clever reflect that we can engage with is attractive. The device was once to go past an everyday mirror. The device was once to look like a everyday replicate but would have a display internal and you would be able to engage with it. The primary elements would be showing basic weather, location-based time information, reminders etc.

KEYWORDS: Smart Mirror, Raspberry Pi

I. INTRODUCTION

Everyone knows what a mirror is. It is an object found in most people's homes. In mirrors, we see our reflections. But what occurs when you mix the concept of a replicate with technology? What chances are there and how smart should a reflect be? An thinking which aimed to strengthen a smart reflect and a small running machine to strength it. The important goal of this task was to strengthen a clever reflect system as well as an operating machine to run on similar devices. The important features the Smart Mirror would have would be showing simple weather and time information, being capable to add alarms, reminders or notes in a similar way we stick notes on a fridge. To overcome all these troubles a system referred to as SMART MIRROR is proposed.

The world we live in these days has come to be a region of the fiercest competition, whether it is in sports, entertainment, or the job market. In order to be the best, one needs to allocate an incredible quantity of time to their desires with little distraction. However, the advent of information science tends to act like a dual-edged sword when it comes to working productivity; once in a while one can use the ease of facts to assist them whole a task, but it can also furnish a substantial distraction. Ultimately one strives to be their best, but the interruption of keeping up with the day by day news, or getting ready for incoming weather can avert one's progress. Taking time all through the day for these quite a number activities can be extraordinarily distracting and considerably reduce into performance. Along with information, humans considerably value their appearance, spending about an hour a day in front of the reflect for the duration of their morning and night time routines. This is a massive quantity of time where important matters are taking place, but the thought is now not working. It would be

extraordinarily useful to spend that time on the cellphone or laptop completing any of the duties noted above, but unfortunately, it is tough to do so while preparing for the day. A product is wanted that can allow a individual to correctly complete the whole lot they need to do to put together for the day, all in one region and at the equal time. The intention of the Smart Mirror is to supply a single convenient to get right of entry to region for a man or woman to get hold of all the data that should have an effect on how they put together for the day. Through the four use of LCD shows and a two-way mirror, weather, time and date, and news are accessible at a glance. Additionally, a easy interface, on hand from any WiFi enabled device, lets in the consumer to easily set up the connection to their domestic WiFi, alternate the place from which they acquire the weather, and pick out a source from which to receive the day's headlines. By constructing these elements into a mirror, which most humans will already be the use of in their morning routine, it is possible to current this statistics in such a way that it will seamlessly blend collectively with the task of morning grooming.

II. LITERATURE REVIEW

The plan and the improvement of an interactive multimedia futuristic Smart Mirror with artificial Genius for the ambient home environment as well as for business uses in quite a number industries. The undertaking which would collect real-world desktop statistics and the facts would be transmitted from the computer and would be managed through the Raspberry Pi. The Smart Mirror applied as a customized digital machine outfitted with peripherals such as Raspberry PI, microphone, speakers, LED Monitor covered with a sheet of reflective one way reflect provides one of the most basic common amenities such as climate of the city, trendy updates of news and headlines and neighborhood time corresponding to the location. Using speech processing strategies the Smart Mirror, therefore, interacts with the user through verbal commands, features and listens to the user's question and responds to them adequately. International Journal of Electrical, Electronics and Data Communication, ISSN: 2320-2084 (Volume-5, Issue-1, Jan.-2017). The authors trust that the introduction of this digital records technology will have wide-ranging implications, which will, for the most part, be recommended and valuable. The paper describes the layout and improvement of a futuristic clever mirror that represents an un-obtrusive interface for the ambient domestic environment. (October 2007) the diagram and the improvement of an interactive multimedia futuristic Smart Mirror with synthetic brain for the ambient domestic surroundings as well as for commercial makes use of in quite a number industries. Paper: Ambient Intelligence Vole 5, No four (2004).

III. METHODOLOGY

The device looks like a normal reflect however would have a screen inside. A clever replicate is essentially a replicate with a screen at the back of it. That display can be an Android tablet or a laptop monitor. The assignment which would collect real-world machine records such as location-based contemporary information and headlines, weather reports, and as well as exhibit us the neighborhood time. The records would be transmitted from the computing device and would be managed in a central database and would be managed via the Raspberry Pi. The Smart Mirror carried out as a personalised digital machine outfitted with peripherals such as Raspberry PI, microphone, speakers, LED Monitor covered with a sheet of reflective one way reflect affords one of the most fundamental common amenities such as weather of the city, present day

updates of information and headlines and local time corresponding to the location. The mirror display is provided by way of a flat LED display display which displays all the fundamental statistics which are beneficial for the user. The mirror also offers a picture-in-picture sub-display to facilitate the display of services.

A one-way mirror is used to supply real-time display of what is located in the front of the Smart Mirror the use of Raspberry Pi thereby mimicking the characteristic of a ordinary replicate The mirror is subsequently a technologically augmented interplay device. The objective of designing the replicate is to furnish a natural interface in the ambient home surroundings for getting access to quite a number offerings such as location-based weather, time, calendar and so on The project consists of downloading the Raspbian operating system based on Debi an and extracting the picture on SD card, inserting the card in the Raspberry PiSD slot and then performing the required steps.

The key facets of layout are:

- Facial Recognition: A webcam positioned behind the reflect is used to understand the person standing in the front of the mirror. By recognizing the person , the replicate then knows how to engage or behave next
- Customized person profiles: The output of consumer consciousness then triggers the display of the interface. The interface is designed as per the user. The interface allows a consumer to view Rich Site Summary (RSS) feeds of social media and email, have get admission to to maps, calendar, climate and time.

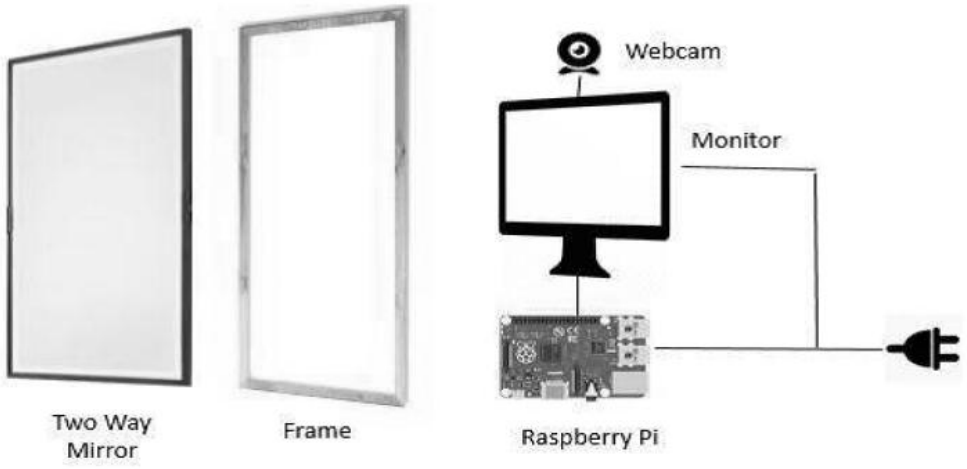

Fig.1:Overview of Smart Mirror

IV. WORKING AND REQUIREMENTS

This device called SMART MIRROR is proposed to integrate special devices.

- In 2014, Toshiba developed a TV on this very notion which includes touch functionalities as well; however all in all it was a TV appearing as a bathroom mirror. This concept has

been materialized through pretty a few human beings around the world however until now a casting stick and a TV has been used for the display, the thinking of mirroring one screen any other onto every other wireless on a wifi community hasn't resulted in a final product.

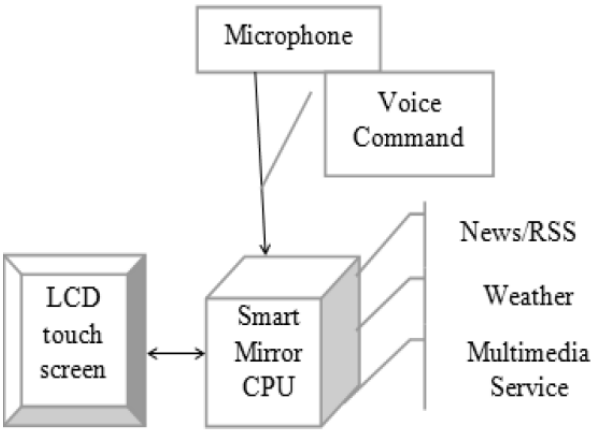

Fig 2: Block Diagram

The objective is to furnish a herbal interface in the home environment for accessing a number of offerings such as location-based weather, time, calendar etc. It consists of downloading the Raspbian operating gadget based totally on Debian and extracting the picture on the SD card, inserting the card in the Raspberry PiSD slot and then performing the required steps.

- The working is based on raspberry-pi.
- That display screen can be an Android pill or a pc monitor.
- The challenge which would gather real-world laptop data.
- Use of speech processing strategies and speech recognition.

Use of photo detection.

- Displays all the quintessential records which is useful for the user.
- The flat monitor is used for display.
- A two-way replicate is used
- The mirror is sooner or later a technologically augmented interaction device.
- Provide a natural interface
- Location-based weather, time; calendar and so on can be accessed with ease.

Working:

- Preparing the monitor: The reveal is unmounted and the crucial taping is done.
- Preparing the Cabinet: The wooden cabinet is organized which holds the entire mechanism inner it.
- Mounting: The reflect and the screen are then set up on this wooden cabinet.
- Configure the Pi: The raspberry pi three is configured
- Configuring Sound

- Configuring Voice
- Configure the smart-mirror
- Setting up Smart-Mirror to Run on Boot
- Commands Used to Run Smart Mirror

Requirements:

Two-way mirror

A extraordinary replicate known as a two-way mirror or observation replicate is used in this project. A two-mirror is exclusive as compared to an ordinary household mirror. Unlike a household mirror, the two-way reflect is no longer painted with an opaque shade on the back, instead, its left untouched. This gives the property of the mirror being reflective one aspect and transparent/translucent from the other. Hence the two-way mirror acts as a replicate as long as there is no mild sent from the again of the mirror.

Raspberry Pi

Raspberry Pi is a credit-card sized computer with the aid of the Raspberry Pi foundation.T he Raspberry Pi has a Broadcom BCM2837 gadget on a chip (SoC), which consists of four ARM Cortex-A53 1.2 GHz cores as the processor, VideoCore IV GPU and with 1 gigabyte of RAM. It does no longer encompass a built-in challenging disk or solid-state drive, however it makes use of a microSD card for booting and chronic storage. It additionally consists of Bluetooth 4.1 Low power and a 2.4 GHz 802.11n Wifi [12]. The Raspberry Pi is the spine of this task and is used to fulfill all computational requirements. The Raspberry Pi laptop has come out with a number versions over the years. Our challenge employs the use of Raspberry Pi three Model B. A microSD card is used to keep the working gadget and all the software program associated code for the project.

- Display
- Microphone
- Sensors.
- Wooden Frame

V. CONCLUSION

The Smart Mirror affords the person with an more advantageous replicate experience. By making use of multiple displays, the user can remain up to date on the time, weather, and news headlines while preparing for the day in with the wholly purposeful Smart Mirror. , designed a futuristic clever replicate that offers herbal interplay between users and the ambient domestic services. The reflect display is supplied by a flat LED display display which shows all the imperative records which are useful for the user. The gadget can be made a good deal more beneficial to customers through adding greater functionality like integrating light settings, speech processing, etc. The user didn’t even have to worry about turning on and off the machine because the replicate will discover action and do the work for them.

REFERENCES

[1] Bekaroo, Girish, and Aditya Santokhee. "Power consumption of the Raspberry Pi: A comparative analysis." Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech), IEEE International Conference on. IEEE, 2016.

[2] Emiliani, Pier Luigi, and Constantine Stephanidis. "Universal access to ambient intelligence environments: opportunities and challenges for people with disabilities." IBM Systems Journal 44.3 (2005): 605-619.

[3] Pi–Teach, Raspberry. "learn, and make with Raspberry Pi: 2015." Raspberry Pi (2017).

[4] Pi—Teach, Raspberry. "learn, and make with Raspberry Pi." Raspberry Pi [Internet].[cited 23 Mar 2017]. https://www. raspberrypi. org (2016).Pi, Raspberry. "Raspberry Pi Foundation." Saatavissa: http://www. raspberrypi. org/forums/viewtopic. php 4751 (2015).

[5] Pi, Raspberry. "Raspberry Pi Foundation." Saatavissa: http://www. raspberrypi. org/forums/viewtopic. php 4751 (2015).

[6] Poh, Ming-Zher, Daniel McDuff, and Rosalind Picard. "A medical mirror for non-contact health monitoring." ACM SIGGRAPH 2011 Emerging Technologies. ACM, 2011.

[7] Raisinghani, Mahesh S., et al. "Ambient intelligence: Changing forms of human-computer interaction and their social implications." Journal of digital information 5.4 (2004).