# Advanced Communication Display using Raspberry PI

## Prof. Chetan More, Prapti Chauhan, Shivam Sahu, Vikrant Sangwan

*Bharati Vidyapeeth(Deemed to Be University) College of Engineering, Pune*

*Department of Electronics and Telecommunication*

---------------------------------------------------------------------------------------------------------------------

**Abstract:** *The structure and the advancement of an intelligent Advanced Communication display is for the encompassing home condition just as for business utilizes in different ventures. The venture which would show information on the communication display and the information and would be overseen by the Raspberry Pi. The shrewd communication display executed as a customized computerized gadget outfitted with peripherals, for example, Raspberry Pi, receiver, speakers, LED screen, webcam secured with a sheet of intelligent communication display gives one of the most fundamental normal civilities, for example, climate of the city, most recent updates of news and features and neighborhood time comparing to the area what's more, plans utilizing face acknowledgment. The goal of this task was to plan and model a gadget that went about as a "Brilliant communication display" by giving adaptable data on the presentation. The extent of this investigation is to build up a productive and financially savvy answer for the occasion of a reasonable communication display to downsize and perhaps dispose of the need for the client to frame time in their every day morning or daily everyday practice to see their PC, tablet, or cell phone for the information they have.*

***Key Words***: Raspberry PI, Mirror, Advance Communication display, Python.

## 1. INTRODUCTION

A comfortable life is what everyone needs today. People nowadays also are willing to remain connected with everything and everybody. 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 widens its applications to the living environment of the people by changing a home to smart home. Our project is all about a communication display which isn't as simple as a traditional one but is up to the mark as far as technology cares. The approach that we used for building a smart communication display was to use a top quality one-way glass, a LCD monitor, a frame to carry the glass and monitor. Time is basically very crucial and this project has been developed with the thought of creating home smart to save lots of time. The state of innovation that's currently required is to supply more information with less interaction to urge it. The device that has been researched and designed is named "Advanced Communication display". It's a wall mounted communication display which communication displays relevant items to the user like weather, time, date,

temperature, humidity and news and other fields of interest.

## 2. BLOCK DIAGRAM
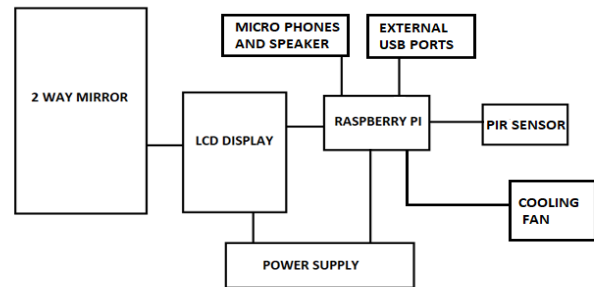


## 3. FLOWCHART AND PROPOSED WORK
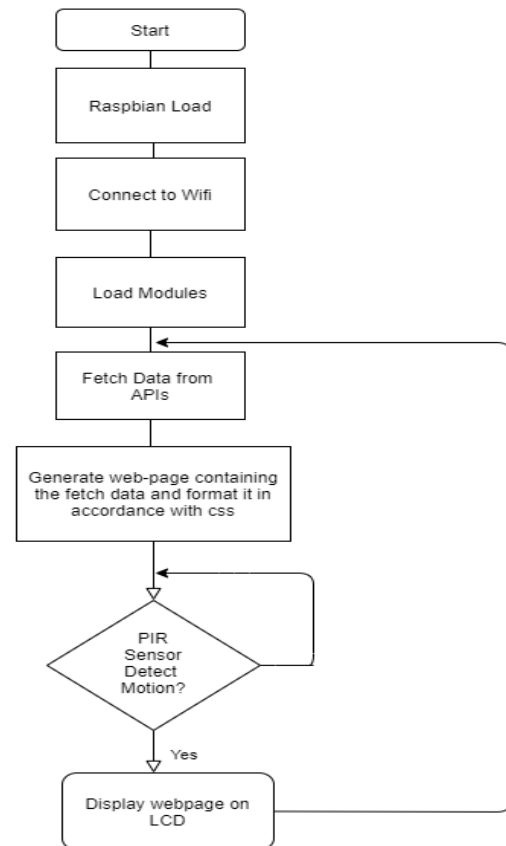
## 4. EXPERIMENTAL DETAILS

### 4.1 Working:

#### 4.1.1 Advanced Communication display As A communication display

We can see our image exactly how we see it in a natural communication display while getting ready for work and grooming ourselves with the help of one way communication display with high concentration of aluminum content.

#### 4.1.2 Advanced Communication display As A System Of Lot Of Information

Time, Date, weather details, traffic details and news are fetched from online using predefined URL. News is fetched from various websites such as in shorts, daily hunt etc. Daily news can easily be covered while listening to music and simultaneously brushing your teeth.

#### Algorithm for Information System

- Switch on the power supply.
- Get the date, time, and weather details from predefined from URL which enhances the look.
- Get the news from various sites.
- Write down all the compliments in the code section to be communication displayed on communication display.
- communication display it on communication display with the help of LCD monitor
- Switch off the power supply when it is of no use to avoid excessive use which could hamper it.

### 4.2 HARDWARE:

The following hardware components were used in building the project:

#### 4.2.1 Raspberry pi 3 B+

The raspberry pi is the most significant part of the communication display, it forms the processing unit of the communication display. The Pi is like the motherboard having all the specified constituents which forms an excellent CPU. Its size is of a credit card and still it can perform like a full-fledged computer. The programming of Pi is completed using Python language. The programs are often first developed and compiled on windows or the other platform then can run on Pi.



#### 4.2.2 Two-way communication display

The two-way communication display is what gives the communication display its real identity. It's really magic communication display because it has reflective surface at one side and also its transparent for light with good intensity. The communication display stays at the front where the user can watch himself/herself within the communication display at an equivalent time the allows the sunshine from monitor to undergo it and make available the UI.



Essentially any screen will be reasonable for a keen communication display. A HDMI association is best, however as you will see, it's not basic. Brilliant communication displays don't require very good quality screens with high goals or invigorate rates. A straightforward screen with essential highlights is all you need.

### 4.2.3 Speaker/Microphone

This can be optional but installing a speaker or a microphone enhances the project.

### 4.3 SOFTWARE:

The following software technologies were used in building the project:

### 4.3.1 Python

It is a deciphered, object-arranged, significant level programming language with dynamic semantics. Its elevated level inherent information structures, joined with dynamic composing and dynamic authoritative, make it extremely alluring for Rapid Application Development, just as for use as a scripting or paste language to associate existing segments together. Python's straightforward, simple to learn sentence structure accentuates intelligibility and accordingly lessens the expense of program upkeep. Python supports modules and bundles, which leads to program seclusion and code reuse. The Python mediator is accessible in source or twofold structure without charge for every single significant stage, and can be openly disseminated.

### 4.3.2 Javascript

Javascript is a unique PC programming language. It is lightweight and most usually utilized as a piece of website pages, whose usage permit customer side content to communicate with the client and make dynamic pages. It is a deciphered programming language with object-situated capacities.

### 5. RESULT

Savvy communication displays can possibly improve client experience of getting to and connecting with data. In addition to the fact that they allow clients to see significant data easily, they can likewise be incorporated as a cheat recognition framework. Our brilliant communication display spares time and makes it simpler to get to data. In the present society security is of essential significance. In future this task can be improved by including intuitive touch screen geo-area, Alexa and some more highlights.

### 6. DISCUSSION

As it was proposed in the project that a smart device for the users would be delivered so we tested our device for demonstration and further verified the application of the device and found out that the device was working fine on all the parameters and aspects . The delay between the input given and output communication display was very less. So overall the device looked out to be fit for general deployment.

### 7. REFERENCES

[1] Ramya .S ,Saranya. S ,Yuvamalini. M, "The Advanced Communication display", in International Journal of Advanced Research, Ideas and Innovations in Technology, 2018.

[2] Vaibhav Khanna, YashVardhan, Dhruv Nair, PreetiPannu, " Design And Development Of A Advanced Communication display Using Raspberry Pi ", in International Journal of Electrical, Electronics and Data Communication, 2018.

[3] Derrick Gold, David Sollinger, Indratmo, "SmartReflect : A modular Advanced Communication display application platform", in 7th Annual Information Technology, Electronics and Mobile Communication Conference(IEMCON), 2016.

[4] S Athira, Frangly Francis, RadwinRaphel, N S Sachin, SnophyPorinchu, Seenia Francis, "Advanced Communication display : A novel framework for interactive communication display", in International Conference on Circuit, Power and Computing Technologies(ICCPCT), 2016.

[5] Derreck y Otros GOLD, "SmartReflect: A Modular Advanced Communication display Application Platform", 2016 IEEE 7th Annual Information Technology Electronics and Mobile Communication Conference (IEMCON), 2016.

[6] Jun-Ren Ding, Chien-Lin Huang, Jin-Kun Lin, Jar- Ferr Yang and Chung-Hsien Wu, ―Magic communication display*",Ninth IEEE International Symposium on Multimedia 2007.*

[7] Adobe Flex 2 http://www.adobecom/products/flex/; accessed: February 2007.

[8] ERCIM Working Group SESAMI, Smart Environments and Systems for Ambient Intelligence. http://www.ics.forth.gr/sesami/.