

IOT Smart Screen Application to Display Temperature, Air Quality, Date & Time

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Abstract

Smart screens are the mirrors of the future. Apart of the connected world where we would be able to see news, temperature, weather and more just while looking and grooming in front of mirrors. Our processed system allows to build such mirrors that allows a mirrors to receive news online and display it on mirror screen along with the another detail including current temperature of the room for a futuristic and modern lifestyle. Our system uses a Node Mcu based processor board along with display and IOT based circuitry and temperature sensor interface together. We use a precisely modeled panel to construct the outer frame .Then we use specialized glass with a back frame to encase the system .the frame cavity is now fitted with precisely positioned mounts for the display hosing to be fitted into mirror . This is necessary to achieve to desired effect. Now we use Node Mcu to connect with interact using IOT circuit through the use of a Wi-Fi module .this allows us to receive the data through IOT platform. The temperature interfaced on the circuit is used to display temperature and display it on mirror fitted display. Thus we demonstrate a futuristic IOT smart screen with date and time, weather display.

Keywords: *Smart Screen Application, temperature, build such mirrors, futuristic and modern lifestyle, circuitry and temperature sensor, specialized glass.*

INTRODUCTION

Smart screens are the screens of the future. A part of the connected world where we would be able to see news, temperature, weather and more just while looking and grooming in front of mirrors. Our proposed system allows building such mirrors that allow for mirrors to receive news online and display it on the mirror screen along with other details including current temperature of the room for a futuristic and modern lifestyle. Our system uses a Node mcu based processor board along with display and IOT based circuitry and temperature sensor interfaced together.

Now we use Node mcu to connect with internet using IOT circuit through the use of a wifi module. This allows us to receive data through the IOT platform. The temperature sensor, air quality sensor, date & time interfaced on the circuit is used to display temperature air quality, date & time. Thus we demonstrate a futuristic IOT smart mirror with news and temperature display.

Devices started to become smarter a smarter, mobile phone became Smartphone and most importantly internet was connected to a variety of devices and the concept came to be known as the 'Internet of Things'. Our project aims at

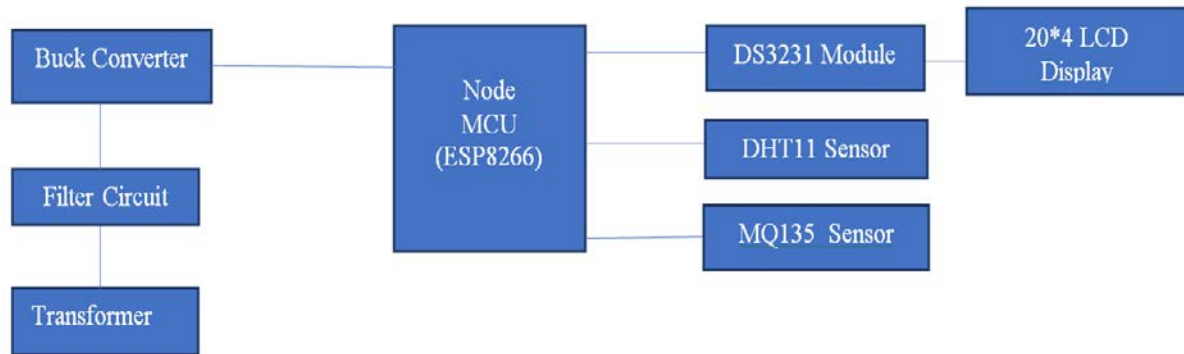
exploring other fields where this technology can be used. It aims at including this technology in a mirror, because in general people spend a considerable amount of time in front of a mirror. We have seen clocks mounted on the wall, we have also seen displays at the airports, and similarly we aim at bringing this technology to our homes. This helps the user with security benefits.

Smart mirror can also be useful for getting quick view of your Google feeds or accessing Gmail accounts by using face recognition. The smart mirror would help in developing smart houses by using artificial intelligence and finally finding a place in industries.

The next section briefly comments on the literature review and the description of the components and software associated with it. It is followed with architecture of the proposed mirror.

Conclusion and future scope of the mirror are also discussed in the paper. Smart screen is a screen which displays weather, time, news and other areas of interests. In recent years more and more devices are connected to the internet.

Block diagram and Description



DESCRIPTION

• Input section

This section is the main part of this smart screen system. It consists of MQ135 (Air quality sensor), DS3231 (date & time sensor), DHT11 (Temperature sensor). The above sensors take all data and give to the Node Mcu, all these sensors interfaced with the Node Mcu.

The sensors which are connected to the Node are connected using serial pins.

• Control section (Microcontroller)

The microcontroller is considered as the main component used in the system. Entire code is programmed inside the microcontroller. The Node ESP8266 microcontroller is used in this project.

The LCD Display is interfaced to the microcontroller through Date and Time Module.

Additionally, Node ESP8266 considers the main control of this system and has the ability to identify the function of the system through software that is installed inside.

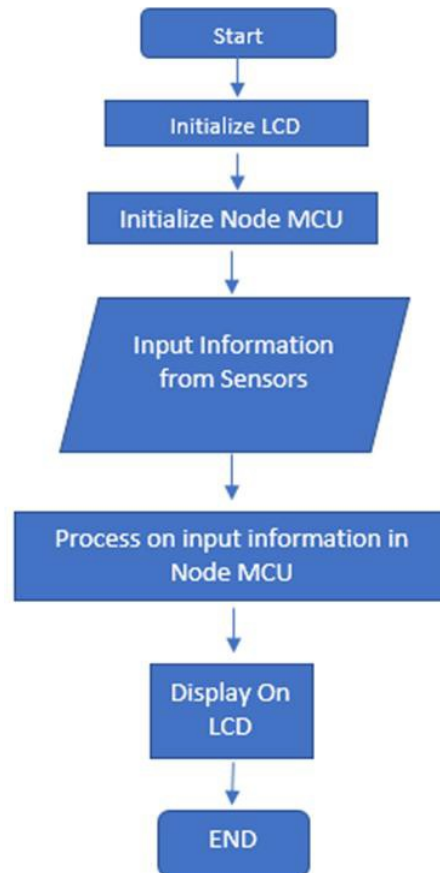
One of the functions of the microcontroller is to process the data and the proses will be displayed on LCD

• Output section (LCD Display)

This section is only for display the message. The data which taken from the sensors is processed inside Node Mcu and after the process i.e. the code which is inside the Node after getting the information it runs after this process the output will be display on the LCD Display.

The LCD is used for user interaction. All the activities can be shown on LCD.

Flowchart



CONCLUSION

Smart screen have great potential to enhance user experience of accessing and interacting with information. Anyone who is using smart screen will be ahead of time by knowing what is happening.

The user can also pick out the outfit based on what weather the screen is showing them. The information of time, day, date, weather, news feed is successfully being display on screen and user is able to see the information clearly.

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