

A Proposed module of LED display (Globe) with Google Assistant and Camera

Miss. Ashlesha C. Adsad, Miss. Pooja B. Talan, Mr. Shubham S.Nalmelwar,

Prof. Avinash . V. Mahalle

Department of Computer Engineering

Jagadambha College of Engineering & Technology, Yavatmal.

(ashadsad98@gmail.com)(poojatalan04@gmail.com)(nalmelwarshubham@gmail.com)

(mahalle.ashish04@gmail.com)

Abstract: A display device is an output device which is used for displaying information in visual form. This paper is a proposed to developing a globe which will be made up of LED's and we will use a Google Assistant. With the use of this virtual assistant we can display anything on that LED globe. We are going to use camera on the top of globe which is used for capturing images spontaneously and displaying it on globe. Also whenever the globe will get heated then we are going to use one cooling fan inside globe which will helps in making the whole globe cool. This globe will rotate continuously based on the timer limit set.

Keywords: LED, Google Assistant, Timer, Camera, Cooling Fan

1. INTRODUCTION

A display device is very important in today's scenario. As without a display we can't represent anything in visual form. So this display device play's a crucial role. An LED globe will be made up of colourful LED's and this globe will be given a power supply of +5V and more. In this LED globe, we have proposed to use a google assistant module, with the help of this module we can search anything on the net by using internet connectivity and can display anything for ex: images, any type of text on this globe. So it will make better impact on the viewer's. The motive of this paper is to make use of LED's in a more impressive and interactive way.

2. LITERATURE REVIEW

- 1) The arrays of LED elements are used arranged in various pattern when it viewed from a particular distance it appears as a light source.
- 2) Wireless system where used to overcome the drawbacks of long distance communication by using GSM technology the cardboard where used to display a particular message. The dual power supply is also used. The AC power supply is used and another is solar power supply used. To save electricity we can use solar power supply and in case of weather changes we can use AC power supply.
- 3) Message display system by using LED Globe is also most appreciable concept. Also the GPS tracking system with Dual power supply is used. This globe is used to display static and dynamic information.
- 4) The pixel pitch of current LED display module is higher and higher. The pixel pitch of current LED display is below 2.5mm, some can reach P2,

P1.5, P1.0 and even less. There are many problems by using these discrete LED components to manufacture the LED display of high density.

3. PROBLEM IDENTIFICATION

Based on the previous work on LED displays, we try to recover drawbacks and try to implement a better system. In the previous LED displays, previous displays were simple cardboard or stripe like displays which needs so much time, cost and also it requires much complex work to display just small information. Also, In the previous LED displays, if we want to display an image on that display then we have to first download the image from the internet then save it to the device and then we have to provide it as an input to the display. Also, in urgency, if we want to display some guest's image or their information on the display then it was too time consuming. So referring to all such problems and taking it into consideration, we have developed a newly enhanced module of LED display.

4. PROPOSED MODULE

In our proposed module, we have decided to use an LED globe which will be made up of colourful LED's, instead, we can use LED modules of sizes (for ex: 4*4) etc., depending upon how bigger the size of globe we require. This globe will be made up of stepper motor, DC motor, connecting wires, perf board, LED's, cooling fan, camera, etc. We require different kinds of hardware for the development of globe. The main innovative thing is that instead of using the fixed setup of characters or images on this globe, we are going to use a virtual assistant which is Google assistant. And this virtual assistant will get

externally connected to the globe by interfacing circuitry. The important thing is that we will require internet connectivity for using this Google assistant. Whenever we will don't have internet connectivity then instead of using google assistant we can display images or text in a manual way also. This means we will have to use already saved images on the device to display it on the globe.

How Google assistant will work:

- i) Firstly, turn on the internet connectivity of your device, in which the Google assistant is installed.
- ii) Whenever our device captures a request or voice or audio request (like 'OK GOOGLE', 'Hey Google') then it will on it to provide service and sent it to the google assistant, and receives a spoken audio response in addition to the audio request's raw text.
- iii) Then after this, if we want to display an image for ex: images of restaurants, the google assistant will receive the request, processes it and then it will give us images of different restaurants then select any one image that we want to display and then it will get displayed on our globe and then globe will start rotating as per the limit of timer set.

And when we want to capture original image then we can also capture it by using camera. We have proposed to use small sized camera on the top of globe. So we can capture the original beauty in the form of image. This camera is connected to the globe using some interconnections.

We can display image on the globe by using capture and display button. Once the image is got captured by using capture button then this image is then sent for image processing and after this the image will get displayed on the globe.

Also whenever the globe will get heated up because of continue rotation then we are going to use small cooling fan inside the globe which will cool it down.

In addition to this, we can also use clock on the globe to get aware of timing.

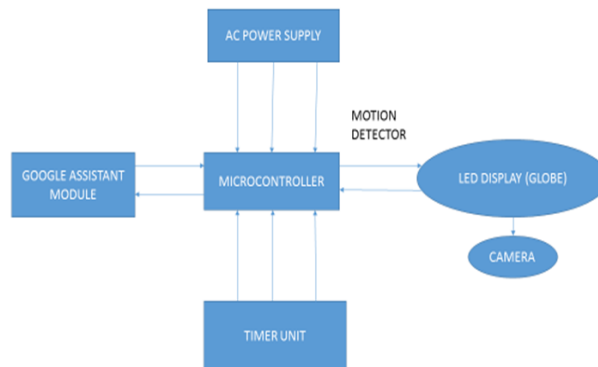


Fig: Block Diagram of Led Display (Globe) With Google Assistant And Camera

5. ADVANTAGES

- i) This globe is useful for displaying images and text in a more attractive, impressive and interactive way.

6. APPLICATIONS

- i. This globe is used for advertisement of products of the company or any other thing. This really makes the product's overall view in a more attractive way.
- ii. This globe is used in events for displaying information about events.
- iii. This globe is used for educational purpose. It will display information about a Particular topic about which will be more student interactive.
- iv. This globe is used for 2D and 3D animations of cartoons.

Components used in display:

1. LED:

A light-emitting diode (LED) is a component which emits light whenever current flows from the LED's. It is very useful component in most of the displays. This LED's releases energy in photon's form when electron's in semiconductor and electron holes recombines with each other.

2. Google Assistant:

Google Assistant is an artificial intelligence based virtual system which is handled by assistant and developed by Google. This assistant is useful for searching spontaneous information like images, information, videos, etc. This is information is searched through voice and manual typing of search.

3. Camera

A camera is an optical instrument which contains lens which is used for capturing still as well as moving images. This images are captured in perfect form depends on the quality of lens.

4. Timer

Timer is a type of clock which is used for measuring certain time intervals. This timer is useful for setting specific time limit on the basis of that clock limit set the globe will rotate.

5. Cooling Fan

A cooling fan is a electronic component which is used for cooling electronic components because of heat generated.

7. CONCLUSION

This paper identifies the drawback found in existing work. As a result, by introducing the concept of LED display. In this paper explain the concept of Google assistant by which we can directly interact with Google Assistant through our natural voice. Assistant is also used to search the internet, schedule events etc. We can also introduce the concept of camera in globe

by which we can able to identify the object and visual information. This camera is work as image processing. The information or the image on the globe rotate continuously for this rotation we can use the timer for particular time period.

REFERENCES:

- [1] Gupta H, Shukla P, Nagwekar A. GSM based LED scrolling Display Board. International journal of Students Research in Technology and Management. 2013; 1(3):278–91.
- [2] Ketkar PU, Tayade KP, Kulkarni AP, Tugnayat RM. GSM Mobile Phone Based LED Scrolling Message Display System. International Journal of Scientific Engineering and Technology. 2013; 2(3):149–55
- [3] Kamboj R, Abrol P. Design and development of GSM based multiple LED display boards. International Journal of Computer Applications. 2013; 71(18):40–6.
- [4] Dalwadi DC, Trivedi N, Kasundra A. Wireless notice board our real-time solution. National Conference on Recent Trends in Engineering & Technology; 2011.