

SMART WAITING SYSTEM USING Wi-Fi MODULE

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Abstract- Today in a banks, post offices, hospitals, rationing stores etc. you need to wait for long time by standing in queue. It is very annoying in now days because of the busy schedule of the people. You cannot seat for some time by leaving your line or queue. Because if you are leaving your queue then you will lost your number. For avoiding such kind of trouble we are designing a token system known as smart waiting token. It contains an android app in which will handles the token over Wi-Fi network. This containing an AP(Access Point). Android devices connected to the AP will be able to handle the tokens. Token contains a Wi-Fi module with controller, power supply and led (light emitting diodes). It will communicate to the android app over Wi-Fi network via access point.

Keywords- Wi-Fi Module (NODE MCU ESP8266), App, buzzer, power supply etc.

INTRODUCTION

India having one of the rapidly growing country in this world and is also living more than one billion people. In this country the population is the almost highest in the entire globe and it is expected that it will growing over the upcoming years. More than 71% of India's population is in rural areas. Nearly all of them depend on the public services offered by the Indian government. Time is a non-renewable quantity as well as it is continuous. Any system that saves time and space is considering more in different applications. Time needs to be efficiently managed. Wastage of time in a queue is not beneficial and it is always time consuming hence the present queue management system finds its importance. The idea of this system came with a simple thought "How could we save the time smartly?" The system discussed importance of the token number model in which to each customers we given a token with unique number. This smart system will reduces burden of waiting in a queue .

Current Situation:-



BLOCKDIAGRAM

The block diagram is shown below in fig. the Wi-Fi Module issued with programming code which drives the whole system in conformity with their characteristic. Power supply is also used which supply the power to Wi-Fi Module.

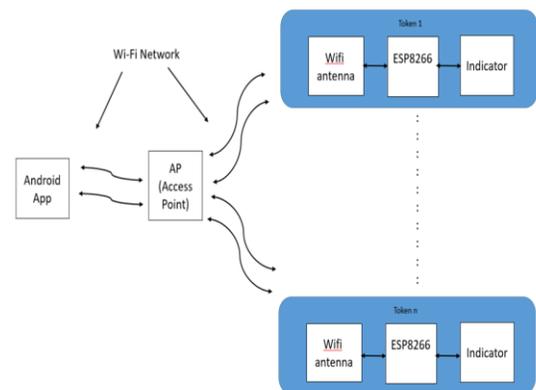


Fig:-Block Diagram

METHODOLOGY

Android Application:-

Android app is designed to control the tokens over Wi-Fi network. It contains browser which heats to the IP (Internet Protocol) address of Wi-Fi module. It sends control signal to the token over network.

Wi-Fi Module:-

The ESP8266 is a low-cost Wi-Fi microchip and full TCP/IP stack and microcontroller capability. The ESP8285 is an ESP8266 with 1 MB of built-in flash and ESP8266 is quite and independent, concede for single-chip devices competent of connecting to Wi-Fi.



Fig: -Wi-Fi Module

When we call for the token by the smart phone then the data access to the Wi-Fi module. The module gives indication on the LED.

Access Point:-

In computer networking, a wireless access point(WAP) or just access point (AP) is a networking hardware device that allows a Wi-Fi device or router to connect to a wired network. The AP usually connects to a router (via a wired network) as a standalone device, but it can also be an incessant component of the router itself. An AP is differentiated from a hotspot, which is the physical or correct location where Wi-Fi access to a WLAN is available.



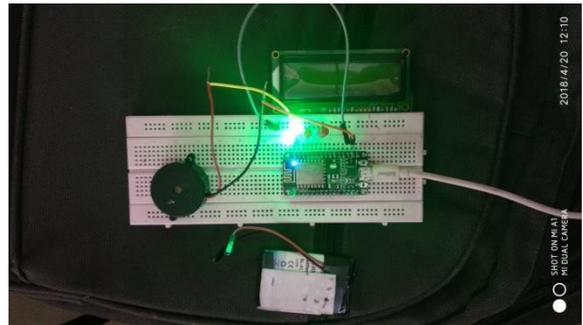
Fig: - access point or router

Indicator:-

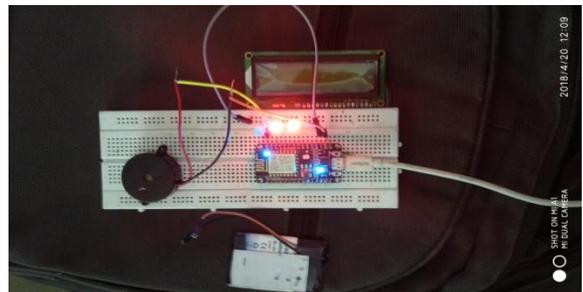
We are interfacing LCD display with Wi-Fi module. On LCD we are displaying the message which can send through the android app& also we are using different LEDs or buzzer. When the customer is waiting then red led will be ON and green OFF. Then customer getting access then green led will ON and red OFF.

Output:

1) When the token system is on call mode:

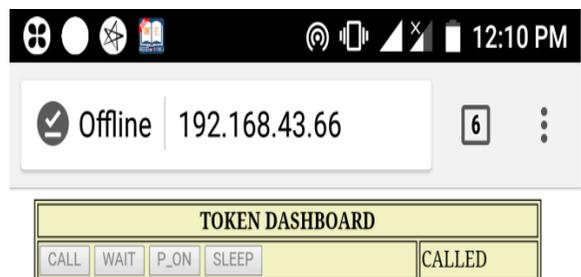


2) When the token system is on waiting mode:



3) Project related android application:

In this android application numbers of tokens are included like Token 1, Token 2, and Token 3 etc. To each tokens we are supplying separate IP addresses. From these tokens the below figure shows the one sample token.



CONCLUSION:

This proposed system is a very small step to make human life easy. The paining problem of to wait in a long queue would be overcome by using this project. Mobile phones technologies have given a new height to the remote access model. Therefore establishing a reliable and strong link of communication between the user and the server. This project will guarantee that synchronization among man and the machine. A GPRS and LCD display could be including into this system, so as to trace the proper location of the user. Also calculate the distance between the server and the customer can be considered as the future scope of this system.

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