

# Automatic GSM based token system for bank

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**Abstract** — When people going to bank for so many purpose for example credit or debit. There is a long queue people get token from the counter and wait for their turn. So the drawback of that system is to waste of time. In upcoming generation people don't want to waste their time. So the Automatic GSM based token system is very useful for them. In this system customer send request for the token to the GSM. He/she send a text message. After sending token request he/she get their token number from the system. In their token, they get particular token number and time so they can reach at that time for their work. Customer can get token from any place. Also people can get token in bank from the system to press a button.

**Keywords:** GSM and microcontroller interfacing, token system, token through SMS, time saving technique

## I. INTRODUCTION

In today's life, time is money. No one likes to waste their time. But because of some reason, they have to waste their time like in the bank system. If customer is going to bank for credit or debit his/her money and if there is a long queue then he/she need to wait for him/her turn and waste the time. The Automatic GSM based token system is very useful to save time and decrease traffic in banks. In this system customer send request for the token to the GSM. He/she send a text message. After sending token request he/she get their token number from the system. In their token, they get particular token number and time so they can reach at that time for their work. This system also works on today's bank token system. Customer also gets token from this system in bank but he/she need to wait for his/her turn.

## II. DESCRIPTION

Current bank system, customer has to go to the bank and get token from the machine or from the counter and wait for his/her turn. It's a time wasting system for customers. In our system, a user can get token from anywhere by just sending a text message to the system. After sending a message a user is suddenly get a reply of from the system in text message in which he/she can get token number and approximate time in which he/she had to reach at the nearest branch of the bank. So user can save his/her time by using this technique. It is very useful urban area where banks have lots of traffic or rush.

## III. IMPLEMENTATION METHODS

There are three method of implementation of our system.

- A. Using GSM modem and Microcontroller
- B. GSM modem interface with Windows application in PC.

C. Using mobile application for token purpose

### A. Using GSM modem and Microcontroller

In this method, GSM modem is interfaced with the microcontroller. C language program is loaded in the microcontroller and GSM modem is worked with them. The SMS is received at the microcontroller through the GSM modem and give response through SMS is also with GSM modem. The customer send SMS to GSM modem and microcontroller execute it and give a SMS token to GSM modem and send back to the customer.

### B. GSM modem interface with Windows application in PC

In this system, GSM modem is interfaced with the computer. A windows application in installed in the computer and it works on it. The program is made in the C sharp or node language and install in PC. The GSM modem is received the SMS and give to the computer and computer execute it and send feed back to the GSM modem. GSM modem sends this SMS to customer with SMS token.

### C. Using mobile application for token purpose

In this method, an android based application used for token purpose. A user needs to install application in his/her mobile and when he/she wants to get token, send a message through application to system and server give a token to the user.

## IV. BLOCK DIAGRAM OF PROJECT

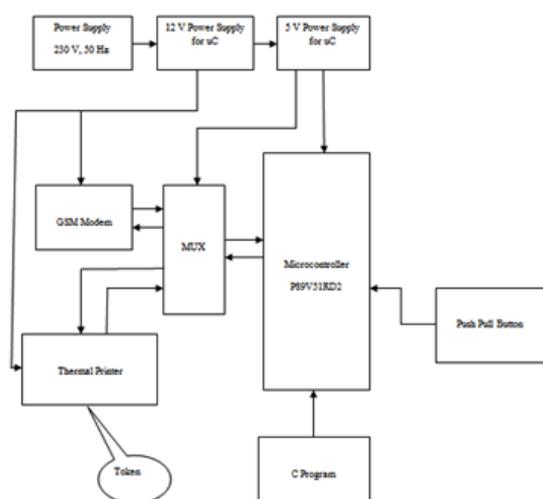


Fig. 1: Block diagram of system

In this project, 8051 microcontroller is interfaced with the GSM modem through MAX 232. There are two types of power supply: 12 V power supply and 5 V power supply. A

12 V power supply is given to the GSM modem and thermal printer and 5 V supply is given to the microcontroller and MAX 232. Both power supply are take form the 230 V using different ICs and transformer. The design uses RS-232 protocol for serial communication between the modems and the microcontroller. A serial driver IC MAX 232 is used for converting TTL voltage levels to RS-232 voltage levels. The GSM modem is using valid user SIM card and receive and send SMS from customer and to customer. The microcontroller receives SMS through GSM modem and sends SMS through GSM modem also. If we want the process then it can interfaced with the computer or LCD display. The thermal printer and push-pull button is used for granting a token to customer in the bank if he/she don't get token through message. A token number and time printed on the token slip comes from thermal printer.

## V. LIST OF COMPONENT OF PROJECT

### A. *Hardware:*

- 1) GSM Modem SIM 300
- 2) Microcontroller
- 3) MAX 232
- 4) RS 232
- 5) Voltage regulator IC
- 6) Software:
- 7) Keil uVision 3.0
- 8) Flash magic

## VI. CONCLUSION

The Project titled "GSM based Token System for Bank" is a model for getting token through just sending one SMS for bank work.

The system is used to save time of customer and decrease the rush or traffic in the bank. The customers do not waste their time and the bank officers work very easily. The model receives a SMS and do process on it and send it back to the sender or customer with their token number and perfect time when he/she need to reach at bank.

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