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IMPLEMENTATION OF FUTURISTIC E-TICKET BOOKING SYSTEM FOR PREARRAGED RAILWAY TRIP

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Abstract— **Indian Railways has continuously endeavored to improve the ease and access of ticketing. The e-ticketing initiative of Indian Railways has been one of the most passenger-friendly initiative of Indian Railways. In order to further expand the reach of ticketing, the proposed system presents ticketing through mobile or GSM networks. The objective was to tap the potential of mobile or GSM network market in India and thereby facilitate the common man, by providing him any-where, any-time and hassle free booking option. This will enable people using non- internet based mobile phones and GSM systems to easily access Railway ticketing services through SMS. The system is user-friendly, secure and also eco-friendly, as no print out is required.**

***Index Terms*—ARM 7, GSM, KEYPAD, LCD**

I. INTRODUCTION

Rapid growth in the field of Embedded and Communication Technology (ECT) is a worldwide phenomenon experienced today. Emergence of wireless and mobile technologies plays a key role in the global ECT boost, unfolding a new era of communication technology. Global private sector was the first to explore the endless opportunities and potential of wireless technologies, by redesigning the business processes with the integration of latest wireless and mobile technologies to have the competitive advantage in the business world. Today, the ability to achieve organization's goals depends purely on the availability, accuracy and reliability of the information. Governments worldwide have also recognized the high potential in the ECT sector and are using it as a core instrument to facilitate government processes and functions with the goal of uplifting the current standards of living of the society. Governments today are inspired by the concepts like e Government and m Government where governments are driven by the innovative and intelligent use of ECT as a service provider for government activities and distribution of public information. ECT combined with latest mobile and wireless technologies can be used effectively to streamline government activities and public service delivery process to improve productivity and drastically reduce capital expenditure, time and effort. Many governments have identified potential areas to be developed via the effective implementation of EICT based solutions that will meet the demands of the future world. The transportation infrastructure is one such area, which can be improved to provide an efficient, dependable and safe service to the general public with the integration of advanced communication technology. Appropriate adoption of technology would assist seamless administration of resources that would positively impact the country's economy. The railway services are rendered by the railways Department, which is wholly owned by the public sector of the country. The government is seeking methods to improve the efficiency of this service with the main objective of providing a better service to the train commuters. However, the effort of the government is constrained by the lack of funding and inappropriateness of the current solutions. But the development of ECT has revealed many options to uplift the railway service at a lower cost. The current train-tracking system supports the customer to reserve the ticket easily from remote areas. Furthermore, the maintenance of the system accounts to a large portion of total cost incurred on the railway service.

II. EXISTING METHOD

The existing system provides the train ticket reservation through online which should require the internet service. Which will fail to service in remote areas like villages, And also existing system should require the internet enabled kiosk which require more investment and maintenance, and also the system is not user friendly and very difficult to reach all the peoples

III. PROPOSED METHOD

The proposed system provides the ticket reservation through GSM/mobile network, which is user friendly, less investment and available for more extent. The proposed system block diagram is as shown in the below figure.

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IV. BLOCK DIAGRAM

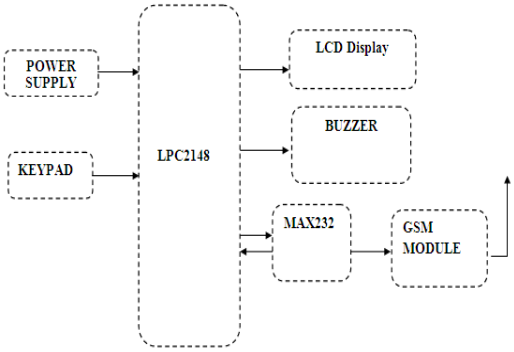

Fig. (a) Remote reservation section

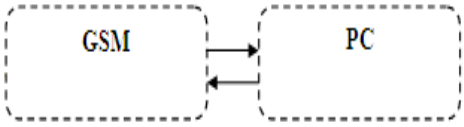

Fig. (b) Server section

Fig. (c) Person section

V. DESCRIPTION

The proposed system consists of three sections as shown in the block diagram. Those sections are

(a). Remote reservation system
(b). Server section
(c). Person section

(a). Remote reservation section:

In the proposed system the remote reservation section consists of ARM7 microcontroller, GSM module, lcd display, Keypad and buzzer units. Here the person can enter his travelling details and personal details through keypad and then the microcontroller process the details and communicate with server using GSM module over GSM network. And get the tickets availability and display on lcd and propt for confirmation, once we press the confirmation key the microcontroller process the details and send the ticket confirmation sms to person mobile.

(b). Server section

Here the server section consists of GSM and Personal computer with front end application which is developed by using Dot net software. Here the GSM module receives and send the information between remote reservation section and PC in the server section. Once the PC gets the request from GSM module it will send the information to software application which will process and provide the confirmation details to GSM.

(c). Person section

The person section consists of mobile phone which will provide the ticket confirmation details to the user in the form of SMS.

VI. THE SILENT FEATURES OF THE PROPOSED SYSTEM SCHEME

1. No need of internet at any stage viz, booking, payment, cancellation etc.
2. The passenger has to type the train number, destination, journey date, class and passenger details like name, age and gender on the SMS box.
3. On successful booking of ticket, message will be sent to the user by Server which will suffice as valid authority to travel along with photo ID card in original.

VII. RESULTS

The proposed system was fully developed and tested to demonstrate its feasibility and effectiveness. The screenshots of the app developed has been presented in Figure bellow.

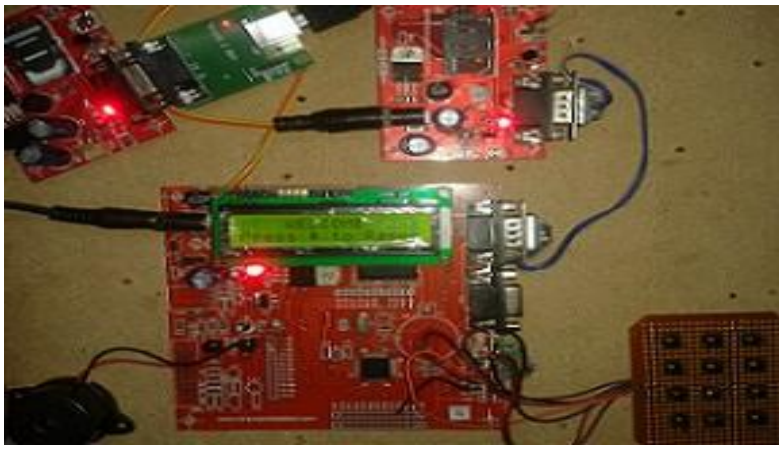

Fig. (d) illustrates a prototype layout of the system when power is on, communication between ARM 7 and GSM at the remote reservation system section.

Fig. (e) At the server section communication between the PC and another GSM module

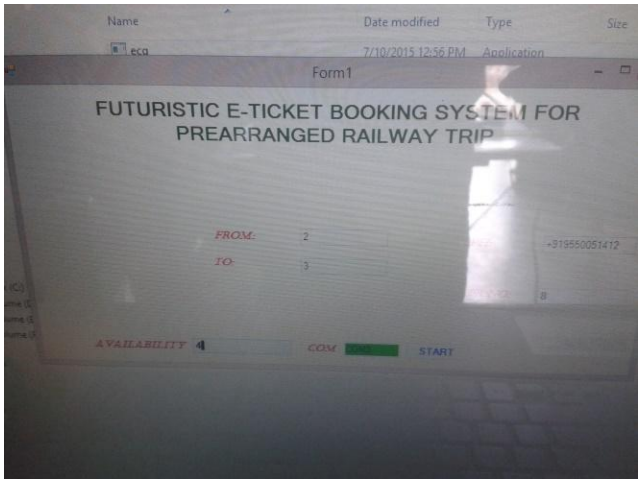

Fig. (f) All the train ticket booking details will be appeared at the server section using VB.net software.

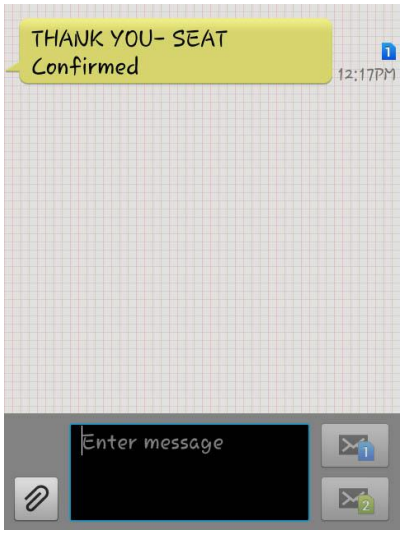

Fig. (g) The ticket conformation details to the user in the form of SMS using the GSM module.

VIII. CONCLUSION

After seeing many advancements and changes in the railway ticketing system, now the proposed system is designed, developed and tested successfully to reserve the ticket from anywhere without internet with ease of operation. Thus it is visible that to keep up with the today's demand for information and to comply with the citizen centric governance, technological advancements is essential for a world country.

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