Smart Bracelet Computer for on Body Sensing with Cash Id Combo using ARM7

Prof. V. N. Ghodke[1] Neha Chothe [2] Sayali Parbat[3] Bhagyashri Malkar[4]
[1, 2, 3, 4]Electronics & Telecommunication Department
[1, 2, 3, 4]All India Shri Shivaji Memorial Society's Institute of Information Technology, Pune, India

Abstract---In earlier days when people used to go on any tourism or pilgrimages and if any accidents or stamped happens they are unable to contact their family and not able to track their position. These all miscommunication leads to bad hazards. To track the person's exact position or any vehicle's location, using of gps and gsm is the best option. Our system helps them, to track their position using gps .even the good health of tourist is also equally important so our system provides facility of health care, in which mainly temperature and pulse rate of tourist are continuously checked and monitored via gsm. And another thing is they have to carry lots of identification proofs and cash .our system provides inbuilt facility of cash transactions.

Keywords: GPS, GSM, ARM7, RFID, Sensors, Tourist

I. INTRODUCTION

There's one thing that everyone should have on their person when they venture off on solo outdoor activities - their I.D. That way, should they end up injured and unable to communicate, first responders will know who they are, and who to contact. While the various cards kept in one's wallet are a good form of identification, a lot of people don't want to lug a bulky wallet around in their pocket while doing things like running or rock-climbing.

Not only does the waterproof bracelet provide a link to its wearer's full Emergency Response Profile, but it also allows them to make cash-free purchases.

For the I.D. function of the device, bracelet users go to the company website, where they create their profile. Along with basic information such as name an, address d next-of-kin, they can also include data such as prescription history, existing medical conditions, drug allergies and insurance information.

When EMTs find a bracelet-wearer crumpled in a pile of climbing rope at the bottom of a cliff face (as an example), they will presumably notice the medical symbol on their bracelet, along with the toll-free phone number. Upon calling that number, they will then be instructed to provide that user's unique I.D. number, also displayed on the bracelet. This will allow them access to all of the information on their Emergency Response Profile.

II. PROBLEM DEFINITION

- To design and implement a bracelet, to monitor body parameters like pulse rate and temperature.
- Efficient use of RFID for cash transactions.
- To send and store data on the server.
- To overcome the installation cost.
- To create a system which easily handled by anyone.

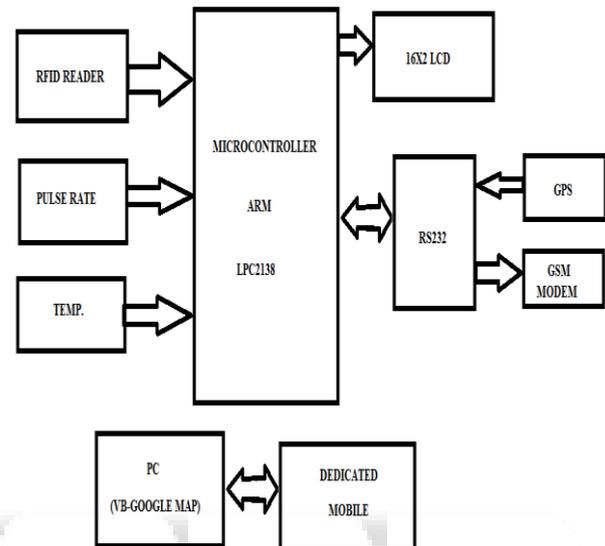## III. SYSTEM DESIGN

A. Hardware Design

Fig. 1: Working of system

The name Emergency Bracelet is for emergency situations. The project has 3 different parts.

Body monitoring system: Here we are using Body temperature and Pulse rate for monitoring the vital signs of the user. If the user's vital signs are at a dangerously high level, then the μC sends the user's position to the location finder server with the GPS co-ordinates. Thus we can pin point the location of the user on Google Maps.

RFID based payment: Here the user can show his RFID card for paying for various goods. For this the user will have to recharge his prepaid account. Whenever the user wants to buy anything he has to show his card and the payment will be cut from the Payment server.

GPS based tracking: Here if the user is any kind of emergency situation, if he is lost or he has a stroke then he can send his precious location via GSM modem. The user's position to the location finder server with the GPS co-ordinates. Thus we can pin point the location of the user on Google Maps.

Cash Id combo: Besides getting hurt, outdoor solo athletes sometimes also find themselves unexpectedly having to pay for things - these could include bike repairs, cab fare, band-aids, or that extra energy bar that they didn't think they'd need. For that reason, the bracelet also incorporates a Visa Prepaid Chip and Companion Card.

Users can load the card with anywhere from INR1500 to INR40000, once again via the company website. As with PayPal, the card is linked to a funding source such as a debit card or credit card. It can then be used to make purchases, simply by waving it near an RFID-

reading device at businesses that use Visa's system. Although such contactless payment technology is certainly catching on with many retailers, it's hard to say just how likely it is that the corner store near your broken-down bike is going to be one of them.

B. Software Design

a) ALGORITHM:

1) Start
2) Initialize LCD, GPS,GSM modem.
3) Select channel 1, Read ADC.
4) Store and display the body temperature on LCD.
5) Is pulse key pressed?
6) Read the pulses coming from pulse rate circuit until 5 seconds. After 5 seconds store and display the pulse rate on LCD.
7) Is RFID detected?
8) Read the RFID number and store in microcontroller RAM.
9) Is serial interrupt detected?
10) Read the GPS coordinates and store them in RAM.
11) Is time = 1 minute?
12) Send the sms to base station including: Latitude, Longitude and Pulse rate and body temperature.
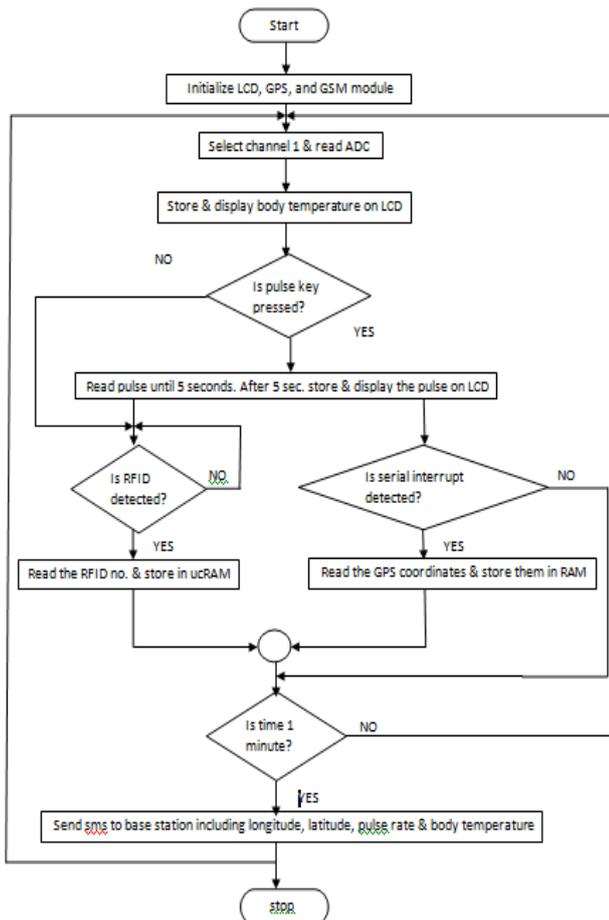13) End.

b) FLOWCHART:

Fig. 2: The flowchart of smart bracelet computer

IV. APPLICATIONS

- It is beneficial for tourist that is no need to carry cash.
- It tracks position of tourist and guide them.
- It is helpful in natural disaster conditions.
- It continuously monitors pulse rate and temperature of human body.
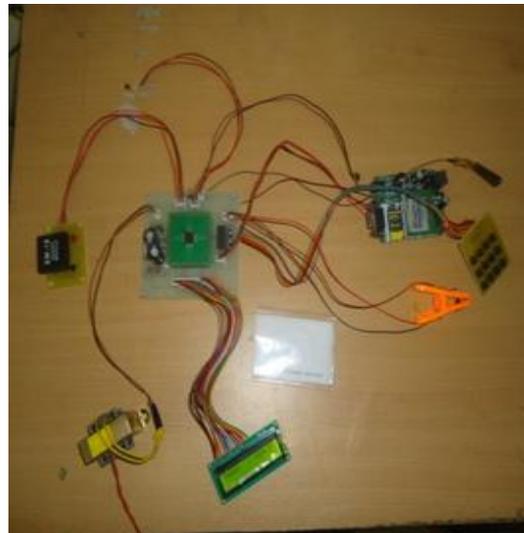
V. EXPERIMENTAL RESULTS AND DISCUSION

Fig. 3: Experimental setup of system

Fig. 4: Results of sensors

Fig. 5: Display of cash transactions

By successfully doing this paper we got various results:
1) Temperature variation will be displayed on LCD display if the temperature goes high of the user.
2) 2. Pulse rate will be displayed on the LCD display.
3) 3. Details of cash transactions will be displayed on LCD.

VI. CONCLUSIONS

GPS and GSM will help to track the position and for health monitoring. Efficient cash transactions will take place by RFID. And many more similar applications thus, this system can prove to be very helpful in future.

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