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Women's Security Wrist Watch: a Techie Approach towards Safety

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ABSTRACT: Women's Safety Watch is a novel approach towards protecting women in India. We all know various cases of kidnapping, rape and so on from every corner of our country as well as from World. Women in India are afraid to step out of house in late night because of the surrounding we live in. Police investigate and other legal actions are taken after the incident has taken place. Such situation can be avoided by the help technology. Now a day's current safety devices are inserted either in hand bags or an application in mobile phone. When someone tries to kidnap a girl, it is not possible for her to reach the mobile phone or hand bags. These devices send SMS to relatives leaving them a bit clueless. This project is confined with a safety system studded inside a watch which is worn by majority of women and also quite approachable when such situationarises.

KEYWORDS: Microcontroller 89c51, GSM/GPRS Module, LCD, Digital Watch,Matrix Switch.

I. INTRODUCTION

Every day we wake up to heart wrecking news that a woman is being kidnapped or raped and thrown away on roadside until she takes her last breath. Such cases draw attention and legal action but justice takes time. The criminal is either released on bail or sentenced to a very lenient punishment. Uttar Pradesh, India's most populous state reported the most crimes against women in 2016. Delhi is in top-notch of the list for most rapes reported among 19 cities in 2016. The majority of these cases is pending in the courts and never saw morning sunlight. With a view that such situation can be avoided by much mobile application came up with solution of a "panic button". But the mobile phone is something which is not too handy or it could be inside the purse for a lady to press the button when she is in trouble. There are many factors confined with such mobile application like internet connectivity or mobile battery. These all parameters may sometimes cannot be fulfilled. According to an article publish by The Economic Times "Panic button will not solve the issue of women safety" clearly says that an android application is not enough to protect women. A combination of hardware and software watch can do this work easily. The current watches in the market do not send precise SMS and are way too expensive and cannot be afforded by the women in remote area who equally needs protection. The Methodology, circuit diagram is explained in detail in comingtopics.

II. A STUDY ON INDIA'S FASTEST GROWING CRIME

KIDNAPPING & RAPE.

The largest component of the crime rates was incidence of rapes which has been increased about 52.2%, where 16,373 cases were reported in 2002 and 24,923 cases were reported in 2012. Kidnapping and abduction of women and girls increased for about 163.8% out of 14,506 cases in 2002 to 38,262 cases in 2012.

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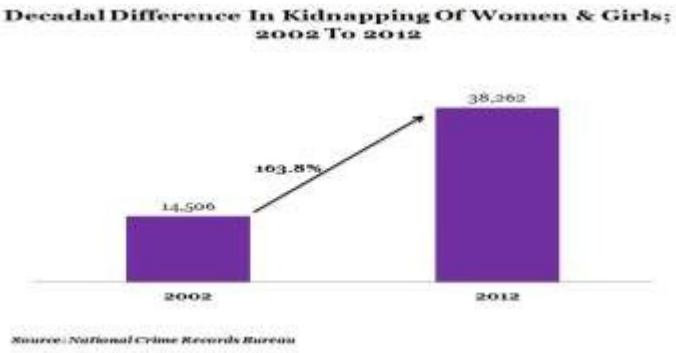

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Fig: 2.1

According to Economics Times, a mobile application launched by Delhi police called as “Himmat” failed to serve the purpose because of it was not in reach of everyone. The real question is“Will Women safety apps be effective and will they bring any change?” There are many chances that these apps may collapse because in such traumatic situation will the victim be able to use them effectively?

III. PROPOSED SYSTEM

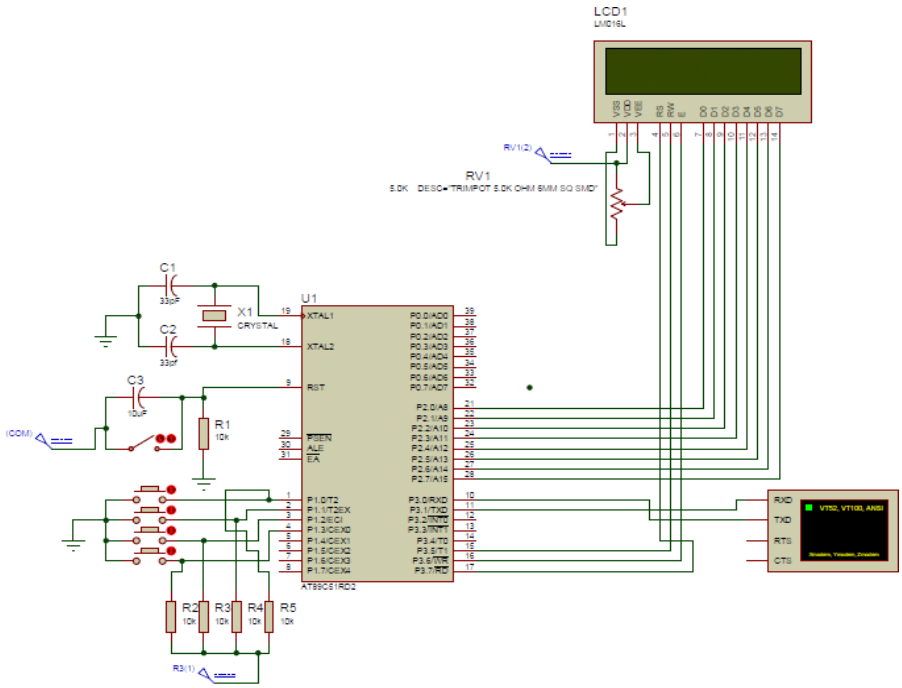

Fig: 3.1

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This wrist watches show time on LCD which is connected to port 0 and will act as safety device as and when needed. The person has to click the button which is "help" button which is connected to the port 1of controller. The GSM/GPRS module which is connected to port 3 of 89c51 will contain the SIM card for sending and reception of SMS [1]. There will be 4-5 registered numbers including the nearest police station and family member. As soon as unwanted situation arises the "help" button can be triggered and a SMS will be send to all the number fed inside the program. The SMS will include the current location of the lady and the personal phone number and also help message [5].

Fig: 3.2 Hardware.

The LCD is connected to the port number 2 of the microcontroller which is initialized at the first place. The microcontroller initially runs a simple Digital clock programs hence LCD will display current time which can be set by two matrix switches which are connected to port number 1. As soon as the "help" matrix switch is pressed the P1.0 will get high which will in turn make P3.1 high which is connected to GSM/GPS Module. This module will send an SOS SMS to predefined phone numbers which are inside.the code. This entire process will take 200 ms.After delay the LCD will again display the current time

IV. RESULT

Fig: 4.1SMSReceived

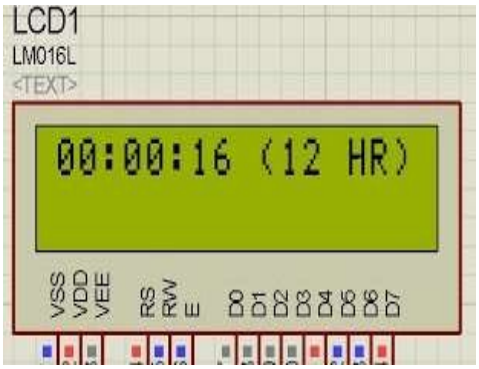

Fig: 4.2 Proteus Digital clock

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The following Flowchart shows the flow of program code:

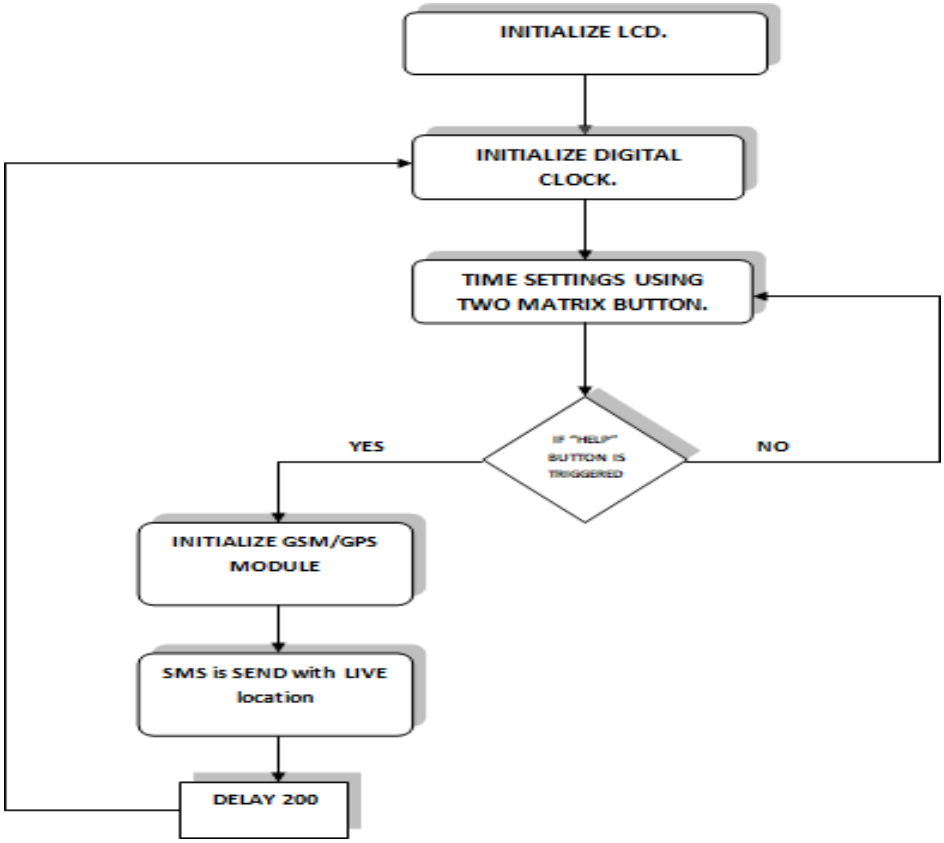

Fig: 3.3 Flowchart

V. CONCLUSION AND FUTURESCOPE

Wrist watches can be used by women as well as children as it never goes out of trend and fashion. It is quite cheap and dual purpose. If manufactured in bulk its price will go down even more. Further modification can be made by linking this device with a mobile application which should be kept as open source at any platform. Solar batteries can be used with a backup battery. The watch can be made rechargeable. Camera and Voice recorder can also be added. As technology will grow tremendously the panic button can be replaced by Automatic alert using AI so that the girl don't have to press any button and necessary actions will be taken by AI and voice analyzers. The codes can be further upgraded for sending SMS to nearest ambulance or nearest health care centers or hospital. Such devices should be made compulsory by theGovernment.

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