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NFC Enabled Wearable Device Connected With Android Smart Phone For Virtual Assistant Applications

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Abstract:Near Field Communication (NFC) as promising short range remote correspondence innovation encourages versatile use of billions of individuals all through the earth that differing administrations going from installment and devotion applications to get to keys for workplaces and houses. Our point is to style the keen Gravity Watch which can be a wearable detecting, notice, and processing stage incorporated with a wrist watch. NFC correspondence gives a remote connect to a phone or fixed PC. Gravity Watch provides tactile and visual notification. The framework gives plentiful preparing capacities multi day battery life empowering reasonable client studies. The proposition of an incorporated android application upheld area data. Making and altering occasion content framework to transfer area data, search work utilizing area data of the client and showing indexed lists on the screen. This system also remind the regular water consumption notification period of your time. Smartphone applications could help with this cycle by supporting propensity development. Present plan rules for mediations that may uphold propensity arrangement through relevant signs and execution goals.

Keywords: Near field communication, Tactile notification, Android application, Location information.

1. INTRODUCTION:

NFC innovation has developed of late and subsequently very little scholastic source is out there yet. Actually, because of its promising business case choices, there'll be an expanding measure of work to be concentrated inside the nearby future[1]. This paper presents the idea of NFC innovation during an all encompassing methodology with alternate points of view, incorporating correspondence fundamentals with norms, biological system and business issues, applications, and security issues[2]. Open exploration zones and further suggested examinations as far as instructive and business perspective likewise are investigated and talked about at the head of each significant subjects subsection[3]. This thorough study will be a significant guide for scientists and academicians additionally concerning business world inquisitive about NFC innovation, essentially touching them[4]. As per, client initially associates with a reasonable article (either a NFC tag, NFC per user, or another NFC empowered versatile) utilizing her NFC empowered cell phone (in short:

NFC portable). Subsequent to contacting happens, NFC portable may additionally utilize got information, or may then again utilize offered versatile types of assistance like opening a web page, making a web access association and so on.

2. METHODOLOGY:

Methodology is a model to clarify the strategies or procedures used to plan and build up an undertaking. This section clarifies about the equipment and programming utilized for building up the venture[5]. The outcomes are examined to accomplish the venture.

a.System overview:

In this paper NFC(Near Field Communication) implemented. The components of this project are Microcontroller atmega328-pu, MEMS sensor, LCD display, power monitor circuit, bluetooth transceiver, emergency push buttons[6]. The Microcontroller atmega328-pu is to provide signal processing. The micro controller atmega328-pu is connected with bluetooth transceiver and mems sensor[7]. The battery is connected with microcontroller atmega328-pu. The LCD display is used for display purposes. If the push button is getting ON the MEMS sensor starts to monitor the acceleration of the user[8]. The Bluetooth transceiver is connected with the smartphone and if the user reaches that location, the bluetooth transceiver sends notification as a text message to the smart watch.

Proposition of a coordinated android application dependent on the spot data.

i. Making and altering content,
ii. Framwork to transfer location information,
iii. Search work using territory information of the client , and
iv. Showing search results on the screen.

2 *Block diagram:*

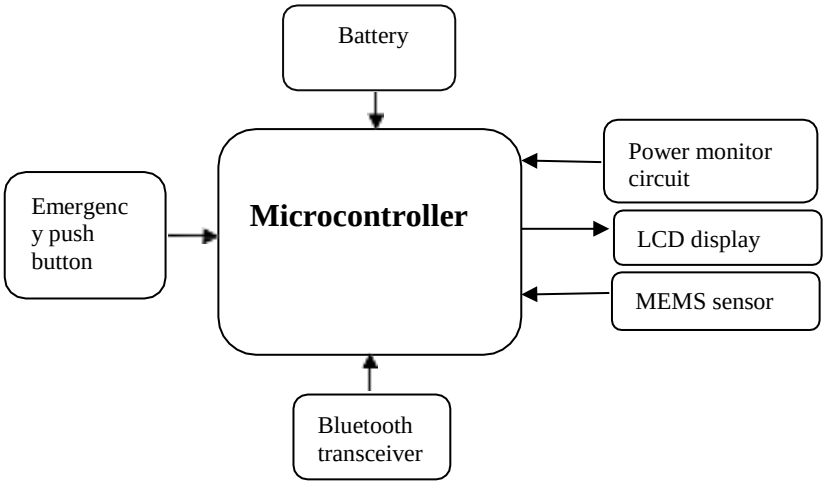

Fig 1: System overview

These are three modules of the proposed system. They are,

- Location display module.
- Message notification module.
- Alert message module.

2.1 Location display module:

In location display module the modules are organized. In smartphone two apps are used they are blast and traveller app. The blast app is used to enter the user profile, it may be a collection of private data, like favorite applications, associated to a selected user[9]. Today smartphones are capable of storing an out sized number of such profiles[10]. The traveller app will monitor continuously by using the GPS tracker in the smartphone. When the location is reached by the user entered in the blast app then the traveller app sends the notification to the lcd display.

2.2 Message notification module:

Devices are often employed to gather health care related information. The pushbuttons are used to monitor the calories range, smoking range and sleeping apnea[11]. Maximum range of calories to be burnt for an average person is less than 2400 and smoking range depends on the user. When the user falls asleep in case of sleep apnea then it sends message notification.

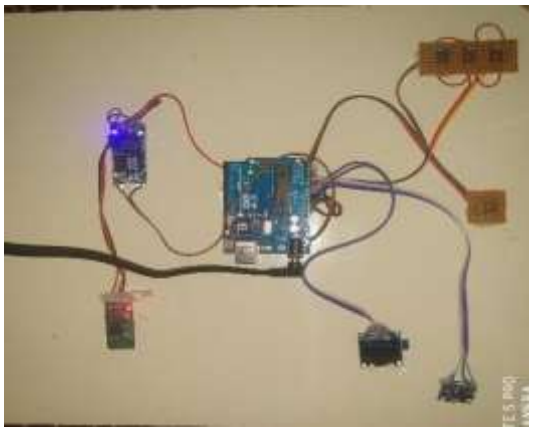

Fig 2: Hardware kit of the proposed approach

2.3 Alert message module:

When the user reaches above the calories burnt range then it sends an alert message to indicate the use to take energy foods[12]. Likewise when the limit of smoking range exceeds then it gives an alert message. The MEMS sensor monitors the user's activities.

Fig 3: MEMS sensor

In this project, hardware and software requirements are used. Hardware requirements :

- MEMS sensor
- Bluetooth transceiver
- Microcontroller
- LCD display
- Emergency Push buttons
- Power monitor circuit
- Battery

The Software requirements :

- Blast app
- Traveller app

3 *Near field communication:*

Near field communication is a lot of short range remote advancements, commonly requiring a separation of 4cm or less to start an association[13]. Let's explain in detail about the software side.

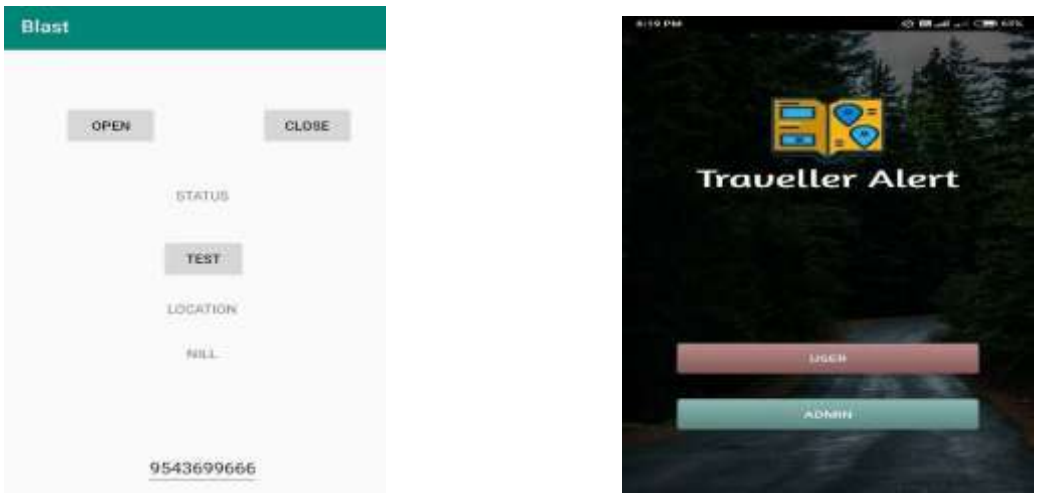

Fig 4: Login pages of blast and traveller alert app

The above screenshots are the login pages of the Blast app. It consists of a user and admin. The software side of the proposed system is designed by using a hypertext preprocessing code[14]. As designed of a one-one page, it can be created[15]. By combining all the pages the hypertext preprocessing language is ease. It can also be used as cost or free of cost depend on the user.

Fig 5: Service page

The location details are entered in the next page[16]. The GPS tracker continuously monitors the location. If the location which user entered in the blast app is tracked then it sends the message to the LCD display.

The MEMS sensor is used to sense the calories burnt range and smoking range[17]. If the calories is more than 2400 it indicates through a alert message. The smoking range has to set and if it exceeds then range is displayed in the lcd display. When the user falls by sleep apnea then sleep mode is displayed in the screen.

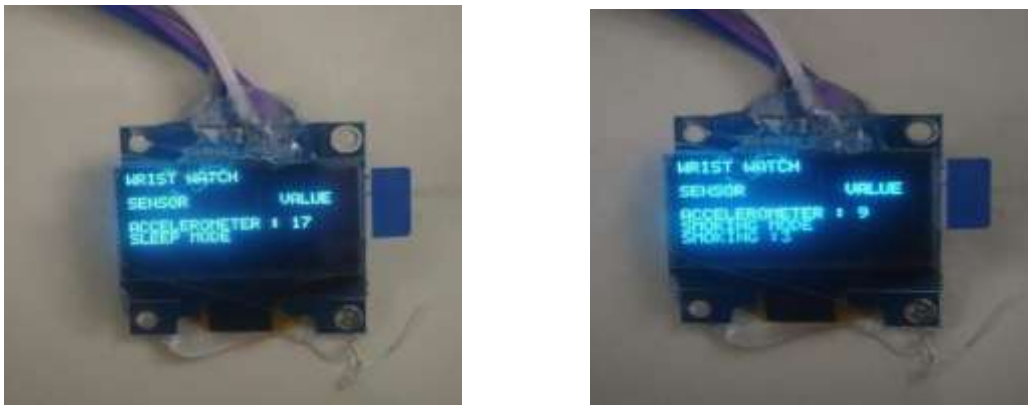

***Fig 6**: Alert received by the user*

Wearable devices have made possible several new software framework for developers to use and create applications. The document or information can be easily received by a particular person without any delay. In that note, this proposed system is more efficient.

3. CONCLUSION:

Individuals convey advanced mobile phone gadget with them almost wherever they are going. Additionally, they generally will in general remain their telephones working and charged. Subsequently, such gadgets are regularly utilized to assemble medical care related data. Despite the fact that numerous applications seem ordinary which misuse the abilities of those telephones, their use expanding brilliant, ease and convenient medical care situated administrations is yet to be investigated. One significant region where cell phones, particularly accelerometer empowered PDA examine be applied is expanding legitimate and solid proportions of physical action and energy use.

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