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Title

SURVEY PAPER ON COGNITIVE APPREHENSIVE DEVICES

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Abstract

In modern world, safety of women has become an area of serious issue because women are physically assaulted and raped. With the increase in the number of rape cases reported, people from different spheres have tried to reduce this problem in some way or the other. Technologists and engineers taking inspiration from this problem built wearable devices some of them are artemis, safelet, cuffs and many more. Jewelry like wearable devices have to some extent helped women to combat any attack on them. These small wearable devices seem to be a boon in the modern world and is a very important invention. Using these devices can help protect society, especially women giving the sense of safety anytime and anywhere.

Key Words

Accelerometer, Arm Cortex Mo+ Nordic 51288, Bluetooth low energy, Wearable security device.

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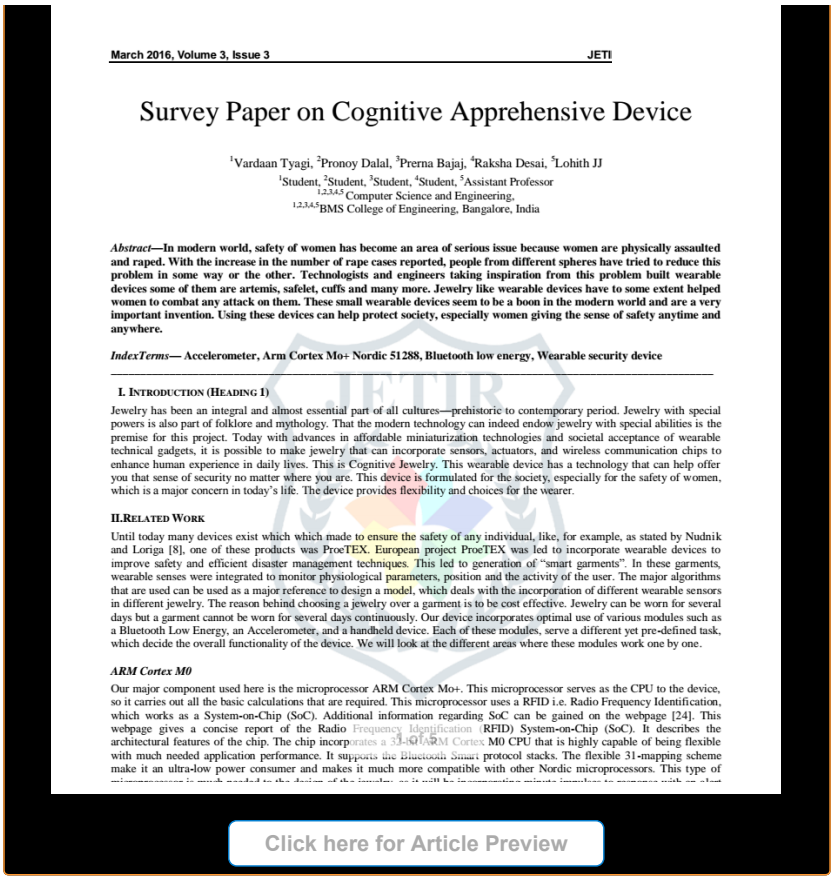

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Survey Paper on Cognitive Apprehensive Device

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***Abstract*—In modern world, safety of women has become an area of serious issue because women are physically assaulted and raped. With the increase in the number of rape cases reported, people from different spheres have tried to reduce this problem in some way or the other. Technologists and engineers taking inspiration from this problem built wearable devices some of them are artemis, safelet, cuffs and many more. Jewelry like wearable devices have to some extent helped women to combat any attack on them. These small wearable devices seem to be a boon in the modern world and are a very important invention. Using these devices can help protect society, especially women giving the sense of safety anytime and anywhere.**

***IndexTerms*— Accelerometer, Arm Cortex Mo+ Nordic 51288, Bluetooth low energy, Wearable security device**

I. Introduction (Heading 1)

Jewelry has been an integral and almost essential part of all cultures—prehistoric to contemporary period. Jewelry with special powers is also part of folklore and mythology. That the modern technology can indeed endow jewelry with special abilities is the premise for this project. Today with advances in affordable miniaturization technologies and societal acceptance of wearable technical gadgets, it is possible to make jewelry that can incorporate sensors, actuators, and wireless communication chips to enhance human experience in daily lives. This is Cognitive Jewelry. This wearable device has a technology that can help offer you that sense of security no matter where you are. This device is formulated for the society, especially for the safety of women, which is a major concern in today's life. The device provides flexibility and choices for the wearer.

II.Related Work

Until today many devices exist which which made to ensure the safety of any individual, like, for example, as stated by Nudnik and Loriga [8], one of these products was ProeTEX. European project ProeTEX was led to incorporate wearable devices to improve safety and efficient disaster management techniques. This led to generation of "smart garments". In these garments, wearable senses were integrated to monitor physiological parameters, position and the activity of the user. The major algorithms that are used can be used as a major reference to design a model, which deals with the incorporation of different wearable sensors in different jewelry. The reason behind choosing a jewelry over a garment is to be cost effective. Jewelry can be worn for several days but a garment cannot be worn for several days continuously. Our device incorporates optimal use of various modules such as a Bluetooth Low Energy, an Accelerometer, and a handheld device. Each of these modules, serve a different yet pre-defined task, which decide the overall functionality of the device. We will look at the different areas where these modules work one by one.

ARM Cortex M0

Our major component used here is the microprocessor ARM Cortex Mo+. This microprocessor serves as the CPU to the device, so it carries out all the basic calculations that are required. This microprocessor uses a RFID i.e. Radio Frequency Identification, which works as a System-on-Chip (SoC). Additional information regarding SoC can be gained on the webpage [24]. This webpage gives a concise report of the Radio Frequency Identification (RFID) System-on-Chip (SoC). It describes the architectural features of the chip. The chip incorporates a 32-bit ARM Cortex M0 CPU that is highly capable of being flexible with much needed application performance. It supports the Bluetooth Smart protocol stacks. The flexible 31-mapping scheme make it an ultra-low power consumer and makes it much more compatible with other Nordic microprocessors. This type of