

# Security System For Women Using Jacket

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**Abstract:** The Raspberry Pi-based Women's Safety Jacket is a smart solution designed to provide a comfortable and easy-to-use safety system for women in emergencies. Existing safety solutions such as separate garments, bulky belts and mobile apps are considered obsolete and abstract. This paper introduces an innovative electronic jacket specifically designed for women's safety. It is a response to the unfortunate reality that women frequently experience misbehavior, abduction, and harassment at the hands of men. Women have made significant contributions in various fields, including sports, dance, education, business, and politics, but their safety remains a pressing concern. Despite their accomplishments, women still face risks and vulnerabilities.

To address these challenges, we have developed an electronic system integrated into a jacket. This system utilizes cutting-edge technologies such as touch sensor, bluetooth, shock sensor, and a buzzer, all controlled by a Raspberry Pi board. By implementing this system, we aim to provide women with a tangible solution that enhances their personal safety and empowers them to navigate the world without feeling helpless. The electronic jacket acts as a protective shield, allowing women to assert their presence in society with greater confidence and peace of mind.

**Keywords:** Android GPS, Shock sensor, Touch sensor, Buzzer, ON OFF switch, Raspberry PI Pico module, HC05 Bluetooth Module ,2 9V Battery, Relay switch.

## I. INTRODUCTION

The Raspberry Pi-based Women's Safety Jacket is designed to be a portable device that can be downsized in the future and built into jewelry, mobile phones, bags, etc. for convenience.

The project focuses on women's safety, dealing with critical issues faced by women and helping with self-defense.

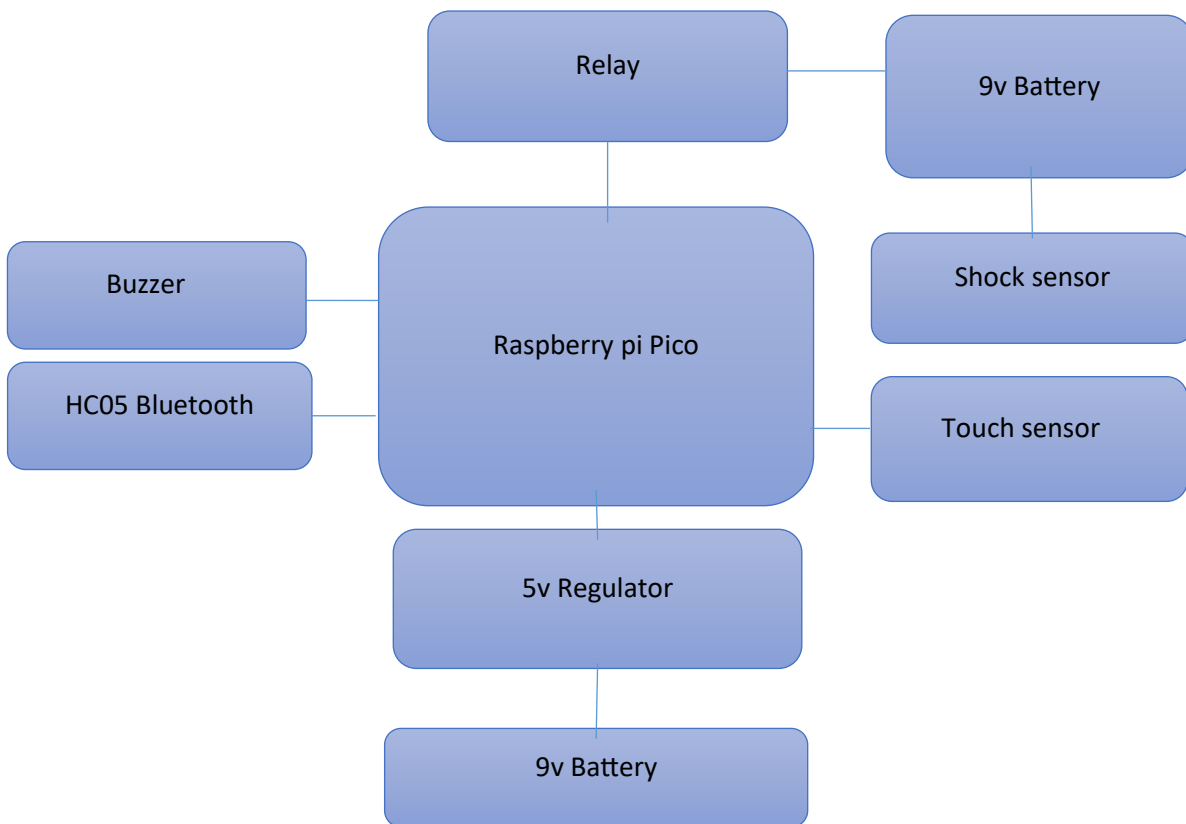
The purpose of the paper is to design an easy and portable device for women's safety. Components such as Push Buttons, module raspberry pi , GPS , and Lipo batteries are used in the design and development of the safety jacket.

## II. METHODOLOGY

### Hardware:

The paper of designing and developing a women's safety jacket with Raspberry Pi Technology is a crucial initiative that aims to provide women with an easy-to-use and comfortable safety solution . The paper was created by integrating the functions of all the hardware components used, resulting in a technically sound tool that enhances personal security .

The fig Shows that when we turn on the on and off switch then first touch sensor is activated then after that Touch Sensor Activated The Touch Sensor is manually

**Block diagram:**

activated in emergency situations by the user. Upon activation, the Touch Sensor sends input signals to the Raspberry Pi Pico module. The Raspberry Pi Pico serves as the central controller for the system.

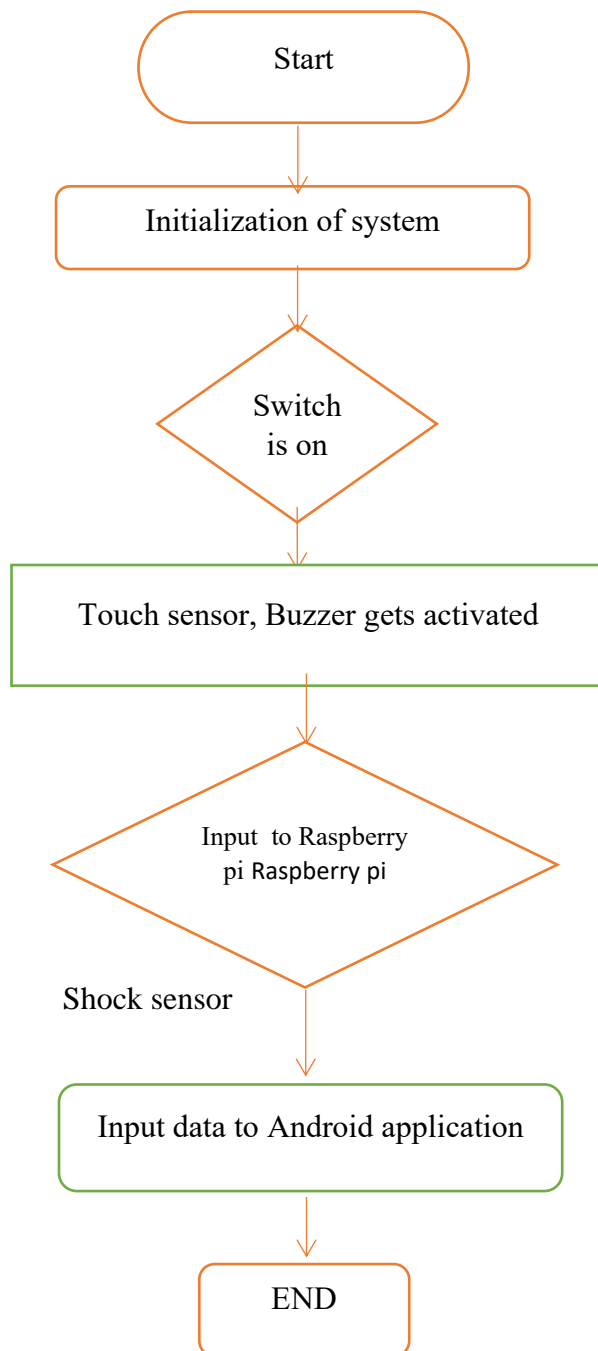
It receives input from the Touch Sensor and initiates subsequent actions. Then activation of all sensors takes place. Upon receiving input from the Touch Sensor, the Raspberry Pi Pico activates all sensors, including

the Shock Sensor. Data Transmission to Android Application after sensor activation, the Raspberry Pi Pico sends input data to the Android application using the HC-05 Bluetooth module.

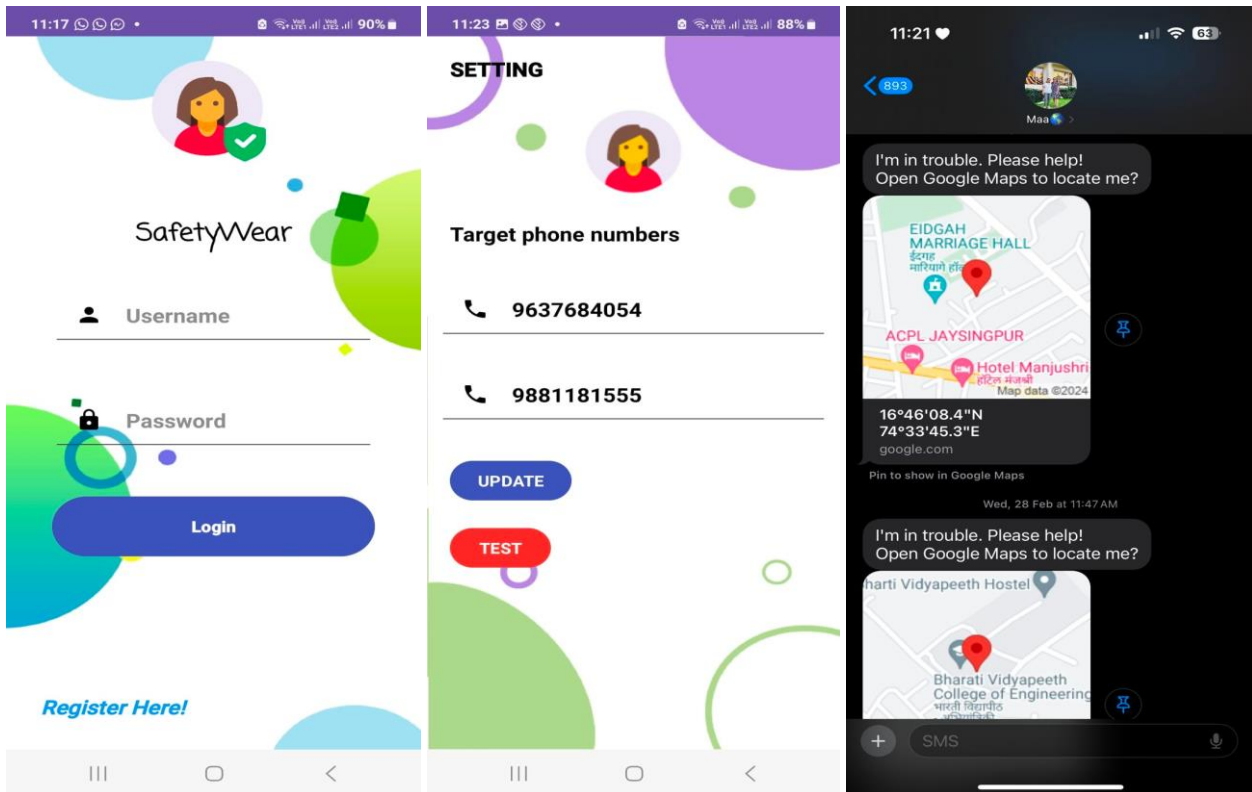
Android Application Functions as the Android application receives input from the Raspberry Pi Pico via HC-05. It processes the received data and performs the following actions.

1. Receives and sends GPS location data to specific recipients.
2. Manages login and registration functionalities connected to Firebase.
3. Allows users to store two emergency contact numbers for immediate assistance.

The entire system is powered by a 9V battery, ensuring portability and uninterrupted functionality.

**Software:**

### III. RESULT



The paper aims to address important problems women have faced recently by providing them with a solution that can help overcome their fear for safety. The methodology adopted for this project was "Designing safe devices for women using GPS technology". The module was carefully explained and defined, which contributed to the best results of the device. Overall, this paper is a significant step towards ensuring women's safety by providing them with a reliable and easy-to-use safety solution with the help of advanced technology.

**IV. CONCLUSION**

The proposed design will help the girl when she is danger zone. She can make rescue of herself in danger situations. And this circuit will use to remove or decrease the tension of girl when she walks alone in night hour also, so that she will never feel helpless at any situation and can protect herself using this jacket, and the sckock senor which is built in this jacket will protect her when anyone tries to touch her in a wrong way. The Gps send the location to her emergency contacts through android application, and it will be easy to trace her by her friends or family.

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