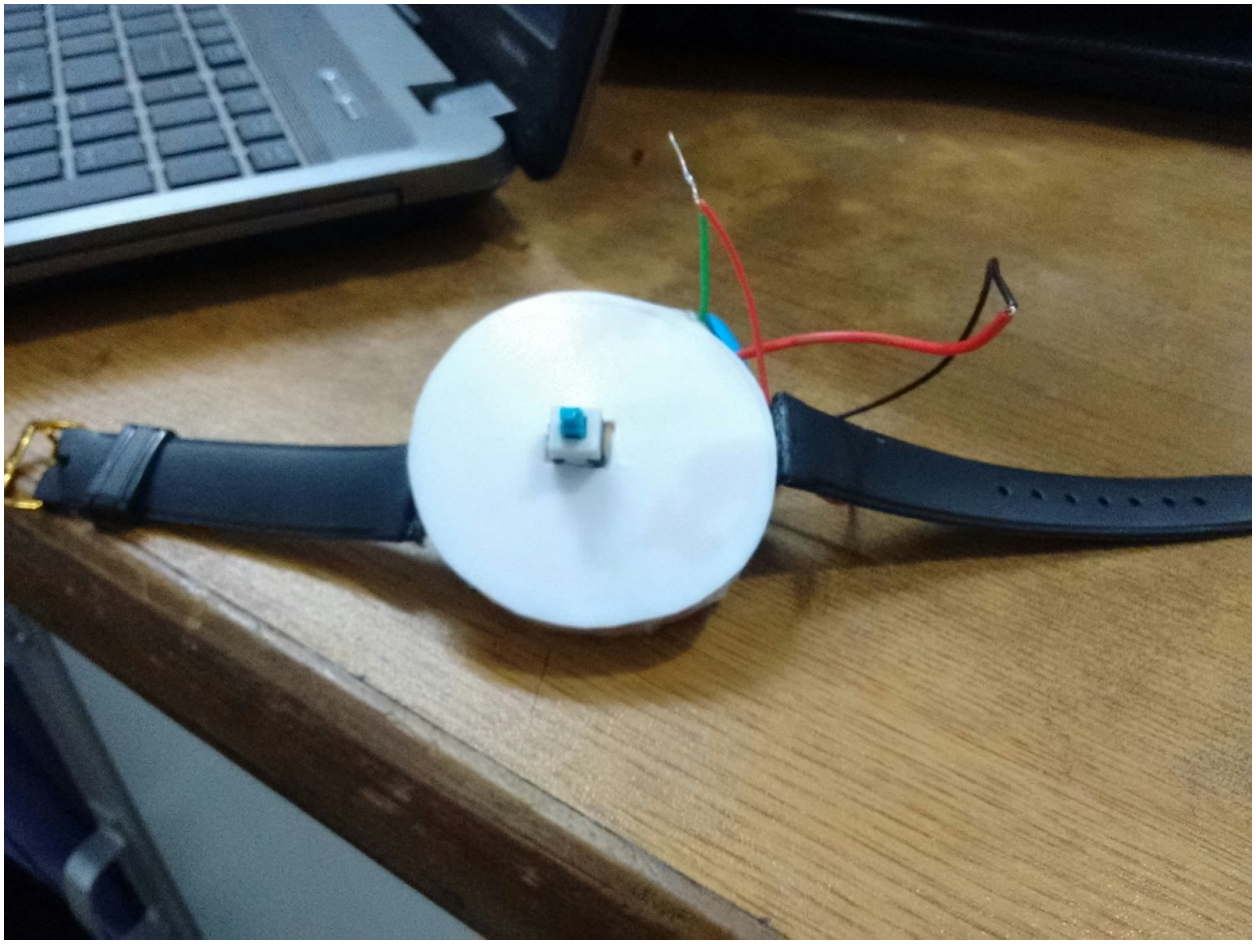
Forget me Not

A device to help prevent mobile loss



Tanvi Sharma

Abhishek Jaisingh

Mohit Garg

Mehak Saini

Electronics Section

Introduction

Most of us have the habit of forgetting our mobile phones while leaving a place. The reasons may be different but many a time the outcome is the same: we end up losing our precious device. Wouldn't it be awesome if there was someone who could tell you that you forgot to take your mobile phone. This is what we are trying to achieve as part of our project. In this project, we have built a device which will inform you when you are at a certain distance away from your mobile.

Implementation and Theory

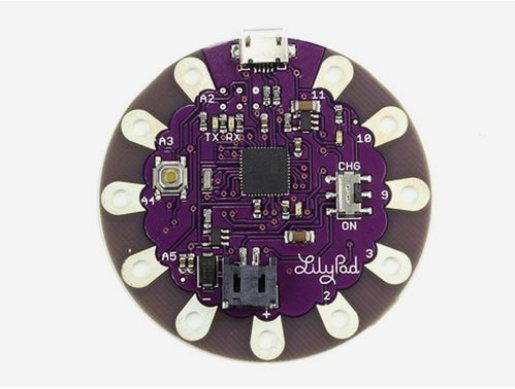
The idea is to utilise bluetooth in achieving our goal. Bluetooth is a wireless technology standard for exchanging data over short distances (using short-wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz[4]) from fixed and mobile devices, and building personal area networks (PANs). Its relatively low power consumption makes it suitable for a variety of short range applications.

It mainly consists of a Lilypad Arduino attached with a bluetooth module. The user get notified through vibration when the device does not get any signal from the mobile, i.e., when it gets out of range.

The mobile constantly checks if the device is connected and sends a value to the bluetooth module. When there is no connection, the bluetooth module does not receive anything. This in turn results in the vibration of motor. Also, a switch is provided to stop the vibration when needed.

Component Specifications

- **Lilypad Arduino USB**
  The LilyPad Arduino USB is a microcontroller board based on the ATmega32u4. It has 9 digital input/output pins (of which 4 can be used as PWM outputs and 4 as analog inputs), an 8 MHz resonator, a micro USB connection, a JST connector for a 3.7V LiPo battery, and a reset button.



- **Serial port Bluetooth module: HC05**

HC-05 module is an easy to use Bluetooth SPP (Serial Port Protocol) module, designed for transparent wireless serial connection setup.
Serial port Bluetooth module is fully qualified Bluetooth V2.0+EDR (Enhanced Data Rate) 3Mbps Modulation with complete 2.4GHz radio transceiver and baseband. It uses CSR Bluecore 04-External single chip Bluetooth system with CMOS technology and with AFH(Adaptive Frequency Hopping Feature). It has the footprint as small as 12.7mmx27mm.

Typical -80dBm sensitivity

Low Power 1.8V Operation ,1.8 to 3.6V I/O

UART interface with programmable baud rate

Coin Vibration Motor

This is a DC 3V 70mA 9000+/-2000RPM Phone Coin Flat Vibrating motor. The coin vibrator motor has a shaftless design with precious metal commutation circuitry, and a disc neodymium magnet. Operating voltage is 2.8 - 3.3 V.

COMPONENTS