

MESSAGING WITH GSM AND RASPBERRYPI

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Project Aim

To build a device that can send and receive the text messages, so you can contact anyone through the GSM mobile network by texting.

Project description:

- **Raspberry Pi 3 B:** You can use Raspberry pi as a server, program raspberry pi to take the data from Arduino, and depending on the data acquired you can actuate the camera, exhaust and also turn of the machines. Program the raspberry pi such that the data that is acquired from sensors is uploaded to the cloud and when an intruder is found in the restricted area then click a picture and mail it to the email ID given in the program.
- **Micro SD card:** You will need a minimum of 8 gigabytes SD card for this project, this SD card is used as the ROM of the raspberry pi.
- **GSM module:** GSM stands for Global system for mobile communication, this GSM module can connect to a mobile network and can send text messages and perform voice call to other mobile devices.
- **Li-Po battery:** Raspberry Pi needs a power supply of 5V and 2A and Li-Po battery can be used for the power supply. Use 2500mAh li-po battery.
- **PI TFT Touchscreen:** Use a TFT Touchscreen display module which is specified only for Pi.
- **DC-DC boost converter:** DC-DC boost converter gives a constant voltage to 5V.
- **Mouse and keyboard:** You will need this to control, monitor, and to configure the Pi.
- **Display:** You can use any kind of display for the project, like monitors, TV or any size display that fits your requirement to configure the Pi.

Approach

1. Install the Raspbian OS into the SD card, and boot the Raspberry Pi.
2. Install Python IDE 3 in Raspberry Pi.

3. Connect your Display with the HDMI cable. Plug in the keyboard and mouse to navigate and configure the raspberry pi.
4. Write a Python program with which you can type the phone number from the TFT touchscreen and the using the display you can type in a text message, this data from the TFT is sent to the PI.
5. The data aquired from the TFT touchscreen is sent to the the raspberry pi and then the data is sent to the GSM module to send a message.