

User Manual

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1.0 Dependencies Installation

The system works with python 3.6+, and pip3

1.1 Server Installation

For windows machine, use the following commands in CMD

```
pip install python-socketio  
pip install eventlet
```

For Debian/Ubuntu/MacOS machine, use the following commands in terminal

```
sudo pip3 install python-socketio  
sudo pip3 install eventlet
```

1.2 Beaglebone Installation

Use the following commands in terminal

```
sudo pip3 install python-socketio  
sudo pip3 install Adafruit_BBIO
```

2.0 System Activation

2.1 Server Activation

- Server Must be activated before other parts.*

For windows machine, use the following command in CMD

```
python Server.py
```

For Debian/Ubuntu/MacOS machine, use the following commands in terminal

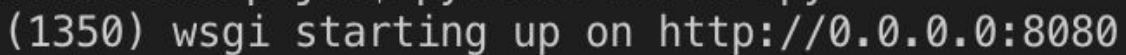
```
python3 Server.py
```

2.2 Beaglebone Activation

Use the following command in terminal

```
python3 App.py
```

2.2 Response Team Web Interface



```
(1350) wsgi starting up on http://0.0.0.0:8080
```

- Enter the url given in Terminal or CMD to a web browser.
- If you are hosting the server on another machine in the same local area network, replace "0.0.0.0" with the local IP address of server machine.
- If your server use a different port number, replace "8080" with the corresponding port number.

3.0 Turning off the system

- For both Server and Beaglebone App, "Control+C" will disconnect it from the system.
- The response team webpage can just be closed in browser.

4.0 Using The System

4.1 Beaglebone App

The system starts accepting input from button then the terminal shows "System Initiated", and "Press button once to start". When the button is pushed, the system will begin to receive input for five seconds then execute the following functions we refer to as mode A.

ID: A01

- Function: Signal response staff about ongoing robbery and turn on alarm
- Activation: Press button once within the 5 seconds interval

ID: A02

- Function: Signal response staff about ongoing fire and turn on alarm
- Activation: Press button twice within the 5 seconds interval

If no additional button click is registered during the 5 seconds interval, the app will send a false alarm signal to server and needs to be restart.

When the system is in mode A, we can use the button to bring it to mode B.

ID: B01

- Function: Turn off alarm
- Activation Method: Press the button for not more than 3 seconds.

ID: B02

- Function: Turn off alarm and notify response staff to cancel the event
- Activation Method: Press and hold button for at least 3 seconds

When the system has entered mode A and mode B, a person have to manually restart the system to turn it back to initial state. This is to make sure every event is investigated, even the false alarms.

Another scenario is when the alarm is turned on by the response staff. We refer to this situation as mode C for the app. The following action can be performed when the system is in this mode.

ID: C01

- Function: Turn off alarm
- Activation Method: Press the button once

4.1 Response Team User Interface

Response Team Interface

Emergency Status: No Emergency
Status of Safe: Unlocked
Status of Alarm: Disabled

Safe:		Reset:		Calls:	
Lock Safe	Unlock Safe	Reset Status		Call Police	Call Firefighter

Alarm:

Enable Alarm

Disable Alarm

Enter duration of alarm (between 1 and 86400 seconds):

Enable Alarm With Duration

[1 minute = 60 seconds, 1 hour = 3600 seconds, 24 hours = 86400 seconds]

When connected, the webpage will show the status of emergency, safe, and alarm. The response team can use the black buttons to manipulate the state of safe and alarm independently regardless of what mode the beaglebone app is in. The list below summarises functionality of each buttons.

- **Safe**
 - **Lock Safe:** Remotely lock the bank safe.
 - **Unlock Safe:** Remotely unlock the bank safe.
- **Alarm**
 - **Enable Alarm:** Remotely enable bank alarm.
 - **Disable Alarm:** Remotely disable bank alarm.
 - **Enable Alarm With Duration:** Remotely enable bank alarm for the amount of time specified in the textbox.
- **Calls**
 - **Call Police:** Notify the police department of the situation.
 - **Call Firefighter:** Notify the fire department of the situation.
- **Reset**
 - **Reset Status:** Reset all three status to initial state.