

Watch Security Checkpoint System

Project Description:

A Redbear BLE shield along with a covert channel emitter(ultrasonic frequency in this case) is placed at different checkpoints. When a guard starts Patrolling from the starting checkpoint, a timer is initialised. Throughout his patrol, his activity status, that is, walking, standing or running is routinely recorded and sent to a central web server, which displays it on a dashboard. If the guard fails to reach on time, an alert is raised. If the guard reaches on time, the timer is reset and the guard moves on to the next checkpoint. When the guard reaches at a checkpoint, based on the Checkpoint ID, the iPhone compares the covert channel frequency being received with a predetermined frequency, if it is found to be same or within a 6Hz difference, the channel is successfully identified and the Patrol Check for that checkpoint is successful. This is done to prevent any kind of spoofing or a man in the middle attack.

Guard No.: GUARD1 <small>Last updated at 7:00</small>	Activity: STANDING <small>Last updated at 7:00</small>		
Current Checkpoint: CH_B <small>Last updated at 7:00</small>	Guard Reached: NO <small>Last updated at 7:00</small>	Next Checkpoint: CH_A <small>Last updated at 7:00</small>	Alarm: LATE <small>Last updated at 7:00</small>
Guard No.: GUARD2 <small>Last updated at 7:00</small>	Activity: RUNNING <small>Last updated at 7:00</small>		
Current Checkpoint: CH_A <small>Last updated at 7:00</small>	Guard Reached: NO <small>Last updated at 7:00</small>	Next Checkpoint: CH_B <small>Last updated at 7:00</small>	Alarm: LATE <small>Last updated at 7:00</small>
Channel A Auth.: 20.0K <small>Last updated at 7:00</small>		Channel B Auth.: 19.5K <small>Last updated at 7:00</small>	

Service IP 7:58 AM

OWatch Security

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Instructions for running App on XCode:

1. Change the ip address of the server in the app in XCode, stored in SERVER_URL in the files ViewController.m and SMUViewController.m to the ip address of your server
2. Flash the BLE Arduinos with the SimpleChat BLE firmware
3. Run the app.
4. Username: Guard1
5. Password: Tiger
6. Username2: Guard2
7. Password2: Lion
8. Note: Both username and password are case sensitive.

Instructions to instantiate the Web Server:

Server:

- 1) Make sure, Xcode project has updated IP address of the webs server.
- 2) Go to tornado_bare-sklearn_example -> run "python tornado_scikit_learn.py"
- 3) Go to tornado_bare-sklearn_example -> mongod -> bin -> run "sudo ./mongod --dbpath "data/db"
- 4) Go to parent folder -> run "python time1.py"
- 5) Go to parent folder -> run "python time2.py"
- 6) Go to parent folder -> project -> run "bundle" -> run "dashing start"
- 7) Go to browser -> type "0.0.0.0:3030" and hit enter. The dashboard will be online.

Note:

Make sure dependency are installed for python and ruby

Make sure the working directory is set correctly.

Dependency:

Ruby - roo-xls

Check imported dependency for python file in parent directory.