

Scenario 1: Barack installs a sensor

Server:

When the server is run for the first time it will prompt the user for the symmetric session key

```
Enter symmetric key as a 16-digit integer.  
1234567890123456  
Waiting for installers to visit...  
|
```

Upon the data transmission from client the server maintains the state, update the KML file accordingly in the desktop and displays the a logs a message on the console

```
Enter symmetric key as a 16-digit integer  
1234567890123456  
Waiting for installers to visit...  
Got visit 1 from Barack, Chief Sensor Installer  
|
```

KML



Client:

```
Debugger Console X Project2Task1 (run) X Project2Task1 (run) #2 X  
  
run:  
  
Enter symmetric key as a 16-digit integer :  
1234567890123456  
Enter your ID:  
Barack  
Enter your Password:  
baracko  
Enter sensor ID:  
012379  
Enter new sensor location:  
-79.956264,40.441068,0.00000  
Thank you. The sensor's location was securely transmitted to GunshotSensing Inc.  
BUILD SUCCESSFUL (total time: 29 seconds)  
|
```



Scenario 2: Hillary installs a sensor

Server

```
Debugger Console X Project2Task1 (run) X Project2Task1 (run) #2 X
run:
Enter symmetric key as a 16-digit integer
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
```

KML:



Sensors.kml

Client

```
Enter symmetric key as a 16-digit integer :
1234567890123456
Enter your ID:
Hillary
Enter your Password:
hillaryc
Enter sensor ID:
876021
Enter new sensor location:
-79.945389,40.444216,0.00000
Thank you. The sensor's location was securely transmitted to GunshotSensing Inc.
BUILD SUCCESSFUL (total time: 55 seconds)
```



Scenario 3: Barack relocates a sensor. Server should allow the update as Barack is a chief Sensor Installer

Server

```
run:
Enter symmetric key as a 16-digit integer
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been
```

KML



Client

```
Enter symmetric key as a 16-digit integer :
1234567890123456
Enter your ID:
Barack
Enter your Password:
baracko
Enter sensor ID:
012379
Enter new sensor location:
-79.952367,40.441187,0.00000
Thank you. The sensor's new location was securely transmitted to GunshotSensing Inc.
BUILD SUCCESSFUL (total time: 43 seconds)
```




Scenario 4 :Barrack installs a sensor

Server

```

run:
Enter symmetric key as a 16-digit integer
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been moved
Got visit 4 from Barack, Chief Sensor Installer

```

KML



Client

```

Enter symmetric key as a 16-digit integer :
1234567890123456
Enter your ID:
Barack
Enter your Password:
baracko
Enter sensor ID:
012380
Enter new sensor location:
-79.955264,40.441568,0.00000
Thank you. The sensor's location was securely transmitted to GunshotSensing
BUILD SUCCESSFUL (total time: 45 seconds)

```



Scenario 5: Execution of the client by Mallory. (She stole Donald's machine and ran his copy of the client).

Server

```
Enter symmetric key as a 16-digit integer
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been moved
Got visit 4 from Barack, Chief Sensor Installer
Illegal symmetric key used, This may be an attack
```

KML not updated



Sensors.html

Client

An exception is thrown stating that the connection refused by the server. Exception has been handled to display error message and fail swiftly.

```
Enter symmetric key as a 16-digit integer :
1934547890123453
Enter your ID:
Donald
Enter your Password:
sesame
Enter sensor ID:
012387
Enter new sensor location:
-79.955264,40.441568,0.00000
Fatal error:Connection refused by server
BUILD SUCCESSFUL (total time: 46 seconds)
```


For validation purpose just commented the exception handling to show the exception thrown at runtime (This is just to demonstrate, the original design will depict the output presented above.)

```
Enter symmetric key as a 16-digit integer :
1934647890123453
Enter your ID:
Donald
Enter your Password:
sesame
Enter sensor ID:
012307
Enter new sensor location:
-79.955264,40.441568,0.000000
] Exception in thread "main" project2task1.InstallerClient$ConnectionRefusedException: Connection refused by server
    at project2task1.InstallerClient.main(InstallerClient.java:55)
    C:\Users\rofin\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:53: Java returned: 1
BUILD FAILED (total time: 40 seconds)
```



Scenario 6: Donald (he got his machine back from Mallory but forgot his password)

Server

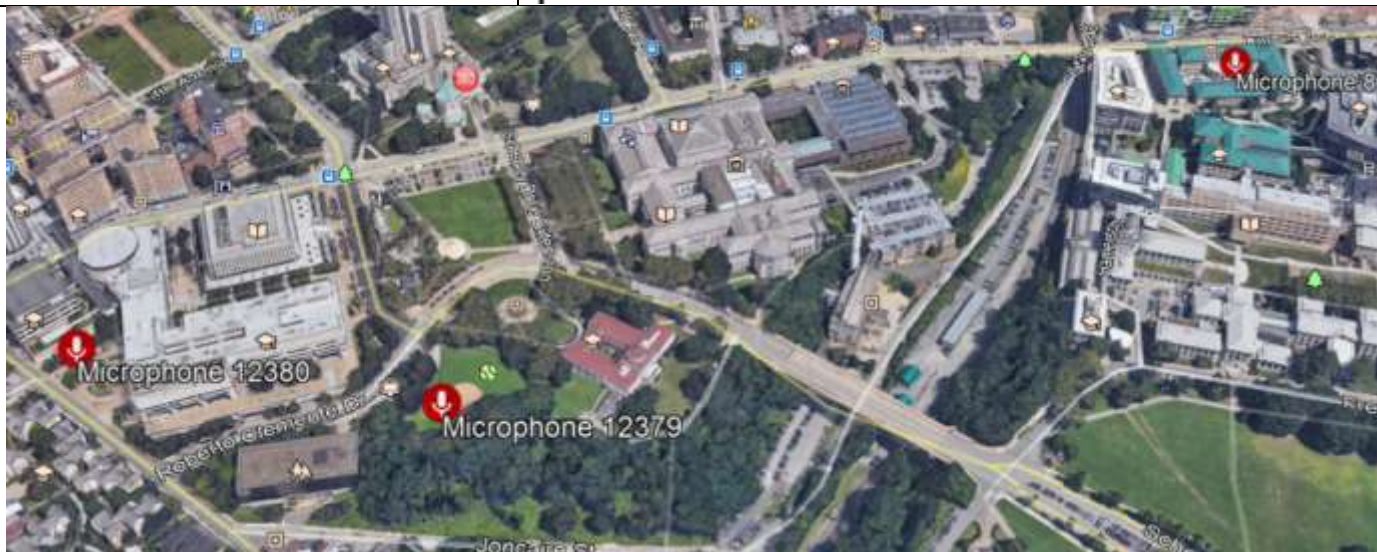
```
Enter symmetric key as a 16-digit integer
1234647890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been move
Got visit 4 from Barack, Chief Sensor Installer
Illegal symmetric key used, This may be an attack
Illegal password attempt, This may be an attack
|
```

Client

KML



```
Enter symmetric key as a 16-digit integer :  
1234567890123456  
Enter your ID:  
Donald  
Enter your Password:  
Donaldt  
Enter sensor ID:  
345671  
Enter new sensor location:  
-79.958964,40.423568,0.00000  
Invalid ID or Password  
BUILD SUCCESSFUL (total time: 1 minute 34 seconds)
```



Scenario 7 – Donald installs a sensor on Tepper Quad


```
Enter symmetric key as a 16-digit integer
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been installed
Got visit 4 from Barack, Chief Sensor Installer
Illegal symmetric key used, This may be an attack
Illegal password attempt, This may be an attack
Got visit 5 from Donald, Associate Sensor Installer
|
```

```
Enter symmetric key as a 16-digit integer :
1234567890123456
Enter your ID:
Donald
Enter your Password:
donalddt
Enter sensor ID:
238907
Enter new sensor location:
-79.944970, 40.445258, 0.00
Thank you. The sensor's location was securely transmitted to Guns
BUILD SUCCESSFUL (total time: 1 minute 4 seconds)
|
```

KML



Sensors.kml



Scenario 8 – Hillary Attempts to relocate a sensor

Server

```
Enter symmetric key as a 16-digit integer :
1234567890123456
Waiting for installers to visit...
Got visit 1 from Barack, Chief Sensor Installer
Got visit 2 from Hillary, Associate Sensor Installer
Got visit 3 from Barack, Chief Sensor Installer, a sensor has been moved
Got visit 4 from Barack, Chief Sensor Installer
Illegal symmetric key used, This may be an attack
Illegal password attempt, This may be an attack
Got visit 5 from Donald, Associate Sensor Installer
Got visit 6 from Hillary, Associate Sensor Installer, authorization failure to relocate sensor
|
```

KML not update



Client

```
Enter symmetric key as a 16-digit integer :
1234567890123456
Enter your ID:
Hillary
Enter your Password:
hillaryc
Enter sensor ID:
876021
Enter new sensor location:
-79.956264,40.441068,0.00000
You dont have sufficient previleges to relocate the Sensor!
BUILD SUCCESSFUL (total time: 1 minute 14 seconds)
|
```

