# HOME AUTOMATION WITH SECURITY SYSTEM

GROUP MEMBERS:

| | |
|---|---|
| AVIRAL MITHAL | 201301178 |
| LADLA KARAN GIANO | 201301180 |
| PARCHURI MOURYA TEJA | 201301181 |
| SARTHAK KHANDEKAR | 201301183 |
| NICCHANAMETLA ABHISHEK | 201301184 |

## Deliverables

In this world of technology interacting with an object by approaching it sounds pretty much tedious and lame. Our project is a prototype of home automation model. What our project does is :

1. You can control all the appliances by interacting with them by voice instead of approaching them and turning them on.
2. You can also control all the appliances remotely via mobiles or laptop.
3. It automatically turn off all the appliance turned on by the user when he/she leaves the room, and also saves the state of the appliance when the user left.When the user again enters the room all the appliances which are turned on by the user will get on automatically.This would be used when the user enters again. IR sensors helps keep count of the people inside the room.
4. We have included a feature in which you have to enter a combination of digits(the password you set) to turn on/off the security in the house.
5. There is a camera which captures images if a motion is detected and the security system is in "ON" state.

PIN DIAGRAM

KEYPAD:

| RASPBERRY(GPIO) | KEYPAD |
| --- | --- |
| 12 | 1 |
| 16 | 2 |
| 18 | 3 |
| 22 | 4 |
| 32 | 5 |
| 36 | 6 |
| 38 | 7 |
| 40 | 8 |

RELAY:

| RASPBERRY | RELAY |
| --- | --- |
| 6 | GND |
| 15 | IN1 |
| 13 | IN2 |
| 11 | IN3 |
| 7 | IN4 |
| 4 | Vcc |

IR SENSOR 1:

| RASPBERRY | IR SENSOR |
|-----------|-----------|
| 34 | GND |
| 2 | Vcc |
| 31 | DATA |

IR SENSOR 2:

| RASPBERRY | IR SENSOR |
|-----------|-----------|
| 30 | GND |
| 2 | Vcc |
| 29 | DATA |

```
pi@raspberrypi ~ $ gpio readall
 +----+-----+---------+------+---+--B Plus--+---+------+---------+-----+----+
 | BCM | wPi |   Name  | Mode | V | Physical | V | Mode |   Name  | wPi | BCM |
 +----+-----+---------+------+---+----++----+---+------+---------+-----+----+
 |     |     |    3.3v |      |   |  1 || 2  |   |      | 5v      |     |     |
 |   2 |   8 |   SDA.1 |   IN | 1 |  3 || 4  |   |      | 5V      |     |     |
 |   3 |   9 |   SCL.1 |   IN | 1 |  5 || 6  |   |      | 0v      |     |     |
 |   4 |   7 |  GPIO. 7 |  IN | 1 |  7 || 8  | 1 | ALT0 | TxD     | 15  | 14  |
 |     |     |      0v |      |   |  9 || 10 | 1 | ALT0 | RxD     | 16  | 15  |
 |  17 |   0 |  GPIO. 0 |  IN | 0 | 11 || 12 | 0 | IN   | GPIO. 1 | 1   | 18  |
 |  27 |   2 |  GPIO. 2 |  IN | 0 | 13 || 14 |   |      | 0v      |     |     |
 |  22 |   3 |  GPIO. 3 |  IN | 0 | 15 || 16 | 0 | IN   | GPIO. 4 | 4   | 23  |
 |     |     |    3.3v |      |   | 17 || 18 | 0 | IN   | GPIO. 5 | 5   | 24  |
 |  10 |  12 |   MOSI  |  OUT | 0 | 19 || 20 |   |      | 0v      |     |     |
 |   9 |  13 |   MISO  |   IN | 0 | 21 || 22 | 0 | IN   | GPIO. 6 | 6   | 25  |
 |  11 |  14 |   SCLK  |   IN | 0 | 23 || 24 | 1 | OUT  | CE0     | 10  | 8   |
 |     |     |      0v |      |   | 25 || 26 | 1 | IN   | CE1     | 11  | 7   |
 |   0 |  30 |   SDA.0 |   IN | 1 | 27 || 28 | 1 | IN   | SCL.0   | 31  | 1   |
 |   5 |  21 |  GPIO.21 |  IN | 1 | 29 || 30 |   |      | 0v      |     |     |
 |   6 |  22 |  GPIO.22 |  IN | 1 | 31 || 32 | 0 | IN   | GPIO.26 | 26  | 12  |
 |  13 |  23 |  GPIO.23 |  IN | 0 | 33 || 34 |   |      | 0v      |     |     |
 |  19 |  24 |  GPIO.24 |  IN | 0 | 35 || 36 | 0 | IN   | GPIO.27 | 27  | 16  |
 |  26 |  25 |  GPIO.25 |  IN | 0 | 37 || 38 | 0 | IN   | GPIO.28 | 28  | 20  |
 |     |     |      0v |      |   | 39 || 40 | 0 | IN   | GPIO.29 | 29  | 21  |
 +----+-----+---------+------+---+----++----+---+------+---------+-----+----+
 | BCM | wPi |   Name  | Mode | V | Physical | V | Mode |   Name  | wPi | BCM |
 +----+-----+---------+------+---+--B Plus--+---+------+---------+-----+----+
pi@raspberrypi ~ $
```

**How our Project Works…(in snapshot)**

Basically we have a central unit (Raspberry Pi) and all the things are connected to it.

We have used solid state relays to control the appliances which run on AC supply.Now we give 1 or 0 to the input digital pins of the SSR(solid state relay) to connect or disconnect the live wire contact to the appliance. You can control all the appliances using voice commands.

We have a keypad which turns off the security of the house. This is a small model but if we apply it on a big model for example a real house then we would have keypads in each rooms. Now when the security of the room is on then if any motion is detected precisely more than 40% difference then the camera captures the photos and saves it in a folder with timestamp as folder's name. In real world we can use different kind of sensors to ensure all the constraints are met and no flaws remain in the system. Now if the user enters the password 3 times incorrectly then our system interprets it as "trying to break in".

CODES
WEBSITE:

## LOGIN.php :used for logging in

```php
<?php
error_reporting(E_ALL ^ E_NOTICE);
session_start();
$userid= $_SESSION['userid'];
$username= $_SESSION['username'];
?>


<!DOCTYPE html>
<html lang="en">
        <head>
        <meta charset="UTF-8">
        <title> Member System-LOGIN </title>
        <link rel="stylesheet" href="style.css"/>
        </head>

        <body>

<?php
                        $raspiIp='localhost';
                if($username && $userid){
                        header('Location:/EHDLOGIN_rpi/member.php');
                }
                else{
        $form="<section class='login'>
        <div class='title'>Secure Login</div>
        <form action='./login.php' method='post' >
        <input type='text' required title='Username required' placeholder='Username' data-icon='U' name='user'>
        <input type='password' required title='Password required' placeholder='Password' data-icon='x' name='password'>
        <div class='Footer'>
                <div class='col'><a href='./register.php' title='Register'>Register</a></div>
        </div>
        <input type='submit' class='submit' name='loginbtn' value='Submit'>
        </form>
        </section>";
                include 'connect.php';
                if ($_POST['loginbtn']){
                        $user=$_POST['user'];
                        $password=$_POST['password'];

                        if($user){
                                if($password){
                                        require("connect.php");
                                        $password=md5(md5("jsaFGkh".$password."ajs46hs"));
                                        //make sure login info is correct
                                        $query=mysqli_query($con,"SELECT * FROM users WHERE
username='$user'");
                                        $numrows=mysqli_num_rows($query);
                                        if($numrows==1){
                                                $row=mysqli_fetch_assoc($query);
                                                $dbid=$row['id'];
                                                $dbuser=$row['username'];
                                                $dbpass=$row['password'];
                                                $dbactive=$row['active'];

                                                if($password == $dbpass){
                                                        if($dbactive==1){

                                                                //set session info
                                                                $_SESSION['userid']=$dbid;
```

```php
                                                    $_SESSION['username']=$dbuser;
header('Location:/EHDLOGIN_rpi/member.php');

                                                }
                                                else{
                                                        echo $form;
                                                        echo "<script type='text/javascript'>alert('You
must activate your account to login.');</script>";

                                                }
                                        }
                                        else{
                                                echo $form;
                                                echo "<script type='text/javascript'>alert('Incorrect
Password');</script>";
                                        }

                                }
                                else{
                                        echo $form;
                                        echo "<script type='text/javascript'>alert('The username was not
found');</script>";
                                }
                                mysqli_close($con); //to convert into mysqli
                        }
                        else{
                                echo $form;
                                echo "<script type='text/javascript'>alert('You must enter a
password');</script>";
                        }
                }
                else{
                        echo $form;
                        echo "<script type='text/javascript'>alert('You must enter a username');</script>";
                }

            }
            else{
                    echo $form;
            }
            }
        ?>


        </body>
</html>
```

# LOGOUT.php :used for logging out

```php
<?php
error_reporting(E_ALL ^ E_NOTICE);
session_start();
$userid= $_SESSION['userid'];
$username= $_SESSION['username'];
?>



<!DOCTYPE html>
<html lang="en">
```

```php
<head>
<meta charset="UTF-8">
<title> Member system-login </title>
<link rel="stylesheet" href="style.css"/>
<script language="javascript" src="scripthome.js"></script>
</head>

<body>
 <?php
        $raspiIp='localhost';
        if($username && $userid){

                session_destroy();
                header('Location:/EHDLOGIN_rpi/login.php');

        }
        else{
                echo "<script type='text/javascript'>alert('You are not logged in.');</script>";
                header('Location:/EHDLOGIN_rpi/login.php');
        }
    ?>

</body>
```

# MEMBER.php : the home page

```php
<?php
error_reporting(E_ALL ^ E_NOTICE);
session_start();
$userid= $_SESSION['userid'];
$username= $_SESSION['username'];
?>

<!DOCTYPE html>
<html lang="en">
        <head>
        <meta charset="UTF-8">
        <title> Member system-login </title>
        <link rel="stylesheet" href="stylehome.css"/>
        <script language="javascript" src="scripthome.js"></script>
        </head>

        <body>

  <?php

  //taking states from db
  $raspiIp='localhost';
  require("dynamicState.php");
  include 'dynamicState.php';

  $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='1'");
  $numrows=mysqli_num_rows($query);
  if($numrows==1){
                $row=mysqli_fetch_assoc($query);
                $state1=$row['app_state'];

                exec('gpio mode 7 output');
                if($state1==1){
                        exec('gpio write 7 0');
                }
```

```php
                else{
                        exec('gpio write 7 1');
                }
        }
else
        $errormsg="Can't find state of Appliance 1..Database error";


$query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='2'");
$numrows=mysqli_num_rows($query);
if($numrows==1){
                $row=mysqli_fetch_assoc($query);
                $state2=$row['app_state'];

                exec('gpio mode 2 output');
                if($state2==1){
                        exec('gpio write 2 0');
                }
                else{
                        exec('gpio write 2 1');
                }
}
else
        $errormsg="Can't find state of Appliance 2..Database error";


$query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='3'");
$numrows=mysqli_num_rows($query);
if($numrows==1){
                $row=mysqli_fetch_assoc($query);
                $state3=$row['app_state'];

                exec('gpio mode 3 output');
                if($state3==1){
                        exec('gpio write 3 0');
                }
                else{
                        exec('gpio write 3 1');
                }
}
else
        $errormsg="Can't find state of Appliance 3..Database error";


$query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='4'");
$numrows=mysqli_num_rows($query);
if($numrows==1){
                $row=mysqli_fetch_assoc($query);
                $state4=$row['app_state'];

                exec('gpio mode 0 output');
                if($state4==1){
                        exec('gpio write 0 0');
                }
                else{
                        exec('gpio write 0 1');
                }
}
else
        $errormsg="Can't find state of Appliance 3..Database error";

mysqli_close($conState);
```

```php
    $home=
   "<div class='heading'  >
            <p><b>EHD HOME AUTOMATION</b></p>
   </div>
     <div class='menu-wrap'>
            <nav class='menu'>
            <ul class='clearfix'>
            <li><a href='./member.php'>$username's Home</a></li>
            <li>
            <a >States <span class='arrow'>&#9660;</span></a>

            <ul class='sub-menu'>
                    <li onclick='changeAllStatesToFalse();'><a >ALL APPLIANCES OFF</a></li>
                    <li onclick='changeAllStatesToTrue();'><a >ALL APPLIANCES ON</a></li>
                    <li><a onclick='getStates();'>GET STATES</a></li>
            </ul>
            </li>
            <li><a href='./security.php?userid=$username'>Security</a></li>
            <li><a >About me</a></li>
            <li><a href='./logout.php'>Logout</a></li>
            </ul>
            </nav>
            </div>


            <div class='buttonsArea'>
                    <div class='display'>
                                    <label class='label toggle'>
                                     App-1
                                            <input type='checkbox' class='toggle_input' id='button1'
onclick='updateTable(1);'/>
                                            <div class='toggle-control'></div>
                                    </label>
                    </div>
                    <div class='display'>
                                    <label class='label toggle'>
                                     App-2
                                            <input type='checkbox' class='toggle_input' id='button2'
onclick='updateTable(2);'/>
                                            <div class='toggle-control'></div>
                                    </label>
                    </div>
                    <div class='display'>
                                    <label class='label toggle'>
                                     App-3
                                            <input type='checkbox' class='toggle_input' id='button3'
onclick='updateTable(3);'/>
                                            <div class='toggle-control'></div>
                                    </label>
                    </div>
                    <div class='display'>
                                    <label class='label toggle'>
                                     App-4
                                            <input type='checkbox' class='toggle_input' id='button4'
onclick='updateTable(4);'/>
                                            <div class='toggle-control'></div>
                                    </label>
                    </div>
            </div>
   ";




   if($username && $userid){
```

```php
        echo $home;

        if($errormsg)
                    echo "<script type='text/javascript'>alert('$errormsg');</script>";
    }
    else{
        header('Location:/EHDLOGIN_rpi/login.php');
        echo "<script type='text/javascript'>alert('Please Login');</script>";
    }

    ?>
    <script type='text/javascript'>
                    var v1 = <?php echo(json_encode($state1)); ?>;

                        var v2 = <?php echo(json_encode($state2)); ?>;

                    var v3 = <?php echo(json_encode($state3)); ?>;

        var v4 = <?php echo(json_encode($state4)); ?>;
                    setStates(v1,v2,v3,v4);

    </script>
    </body>
</html>
```

## NOPERSON.php : script when nobody is inside the room

```php
<?php
    $raspiIp='localhost';
    error_reporting(E_ALL ^ E_NOTICE);
    $getapp_num=($_POST['app_n']);
    require("dynamicState.php");
    include 'dynamicState.php';

    if($getapp_num==0){
            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='1'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='0' WHERE
app_num='1' ");
                    else
                            $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='1' WHERE
app_num='1' ");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";


            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='2'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='0' WHERE
```

```php
app_num='2' ");
                    else
                                $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='1' WHERE
app_num='2' ");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";


            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='3'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['app_state'];
                    if($dbapp_state==0)
                                $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='0' WHERE
app_num='3' ");
                    else
                                $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='1' WHERE
app_num='3' ");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";


    $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='4'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['app_state'];
                    if($dbapp_state==0)
                                $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='0' WHERE
app_num='4' ");
                    else
                                $query=mysqli_query($conState,"UPDATE savedstates set actual_app_state='1' WHERE
app_num='4' ");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";

    }
    if($errormsg)
            echo "<script type='text/javascript'>alert($errormsg);</script>";
?>
```

## REGISTER.php : to register a user

```php
<?php
error_reporting(E_ALL ^ E_NOTICE);
?>
<!DOCTYPE html>
<html lang="en">
        <head>
        <meta charset="UTF-8">
        <title> Member system-login </title>
        <link rel="stylesheet" href="style.css"/>
        <script language="javascript" src="script.js"></script>
        </head>

<body>
<?php

   $raspiIp='localhost';
```

```php
if($_POST['registerbtn']){
        // register button pressed
        $getuser=$_POST['user'];
        $getemail=$_POST['email'];
        $getpass=$_POST['pass'];
        $getretypepass=$_POST['retypepass'];
        include 'connect.php';
        if($getuser){
                if($getemail){
                        if($getpass){
                                if($getretypepass){
                                        if($getpass === $getretypepass){
                                                // tripple equals to check case sensitivity
                                                if( (strlen($getemail) >= 7) && (strstr($getemail,"@")) &&
(strstr($getemail,"."))){
                                                        require("./connect.php");

                                                        $query=mysqli_query($con,"SELECT * FROM
users WHERE username='$getuser'");

                                                        $numrows=mysqli_num_rows($query);
                                                        if($numrows==0){

$query=mysqli_query($con,"SELECT * FROM users WHERE email='$getemail'");

$numrows=mysqli_num_rows($query);
                                                                if($numrows==0){

$getpass=md5(md5("jsaFGkh".$getpass."ajs46hs"));
                                                                        $date=date("F d, Y");
                                                                        $code= md5(rand());

mysqli_query($con,"INSERT INTO users VALUES(

'',''$getuser','$getpass','$getemail','0','$code','$date'
                                                                        )");

$query=mysqli_query($con,"SELECT * FROM users WHERE username='$getuser'");

$numrows=mysqli_num_rows($query);
                                                                        if($numrows==1){

$site="http://'.$raspiIp.'/LoginPhpMysql";

$webmaster="Sarthak <201301183@daiict.ac.in>";

$headers="From: $webmaster";

$subject="Activate your account";

$message="Thanks for registering. Click the link below to activate your account.\n";
                                                                                $message .=
"$site/activate.php?user=$getuser&code=$code\n";
                                                                                $message .=
"You must activate your account to login";

if(mail($getemail,$subject,$message,$header)){

$errormsg = "You have been registered. You must activate your account from the activation link sent to $getemail";

$getuser="";

$getemail="";
```

```php
                                                                                }
                                                                                else
$errormsg="An error has occurred. Your activation email was not sent.";
                                                                        }
                                                                        else
                                                                                $errormsg="An
error has occured. Your a/c wwas not created";

                                                                }
                                                                else
                                                                        $errormsg="A User is
already registered with this email";
                                                        }
                                                        else
                                                                $errormsg = "A User is already
registered with this username";

                                                        mysqli_close($con);
                                                }
                                                else
                                                        $errormsg="You must enter a valid email
adress to regiter";
                                        }
                                        else
                                                $errormsg="Passwords do not match";
                                }
                                else
                                        $errormsg="You must retype your password to register";
                        }
                        else
                                $errormsg="You must enter your password to register";
                }
                else
                        $errormsg="You must enter your email to register";
        }
        else
                $errormsg="You must enter your username to register";

    }

    $form=
    "<section class='login'>
            <div class='title'>Secure Register</div>
            <form action='./register.php' method='post' >
            <input type='text' required title='Username required' placeholder='Username' data-icon='U' name='user'
value='$getuser'>
            <input type='text' required title='Email required' placeholder='Email' data-icon='E' name='email' value='$getemail'>
            <input type='password' required title='Password required' placeholder='Password' data-icon='x' name='pass' value=''>
            <input type='password' required title='Password required' placeholder='Retype Password' data-icon='x'
name='retypepass' value=''>
            <input type='submit' class='submit' name='registerbtn' value='Register'>
            </form>
                            <form action='login.php' method='get'>
                                    <input type='submit' value='Login' name='Submit' class='submit' />
                            </form>


            </section>";
    echo $form;
    if($errormsg)
    echo "<script type='text/javascript'>alert('$errormsg');</script>"
?>
<a href ="login.php" class='submit'>Login</a>
</body>
```

```
</html>
```

## SECURITY.php : Displays whether security is on or off

```php
<?php
error_reporting(E_ALL ^ E_NOTICE);
session_start();
$userid= $_SESSION['userid'];
$username= $_SESSION['username'];
?>


<!DOCTYPE html>
<html lang="en">
        <head>
        <meta charset="UTF-8">
        <title> Member system-login </title>
        <link rel="stylesheet" href="stylehome.css"/>
        <script language="javascript" src="scriptSec.js"></script>
        </head>

        <body>

  <?php




    $raspiIp='localhost';
    require("dynamicsecurity.php");
    include 'dynamicsecurity.php';

    $query=mysqli_query($conSec,"SELECT * FROM house WHERE id='1'");
    $numrows=mysqli_num_rows($query);
    if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $security=$row['secure'];
                    $people=$row['people'];
    }
    else
        $errormsg="DB:ERROR->Please make sure that the db contains exactly one row and it has id=1";




    $home=
    "<div class='heading' >
            <p><b>EHD HOME AUTOMATION</b></p>
    </div>
      <div class='menu-wrap'>
            <nav class='menu'>
            <ul class='clearfix'>
            <li><a href='./member.php'>$username's Home</a></li>
            <li>
            <a >States <span class='arrow'>&#9660;</span></a>

            <ul class='sub-menu'>
                    <li onclick='updateState(0);'><a>ALL APPLIANCES OFF</a></li>
                    <li onclick='updateState(5);'><a>ALL APPLIANCES ON</a></li>
                    <li><a onclick='getStates();'>GET STATES</a></li>
            </ul>
```

```
            </li>
            <li><a href='./security.php'>Security</a></li>
            <li><a >About me</a></li>
            <li><a href='./logout.php'>Logout</a></li>
            </ul>
            </nav>
            </div>


         <div class='buttonsArea'>
                    <div class='display'>
                                    <label class='label toggle'>
                                     Security
                                            <input type='checkbox' class='toggle_input' id='securityBtn'
onclick='updateSecurity();'/>
                                            <div class='toggle-control'></div>
                                    </label>
                    </div>
         <div>
    ";
        $file1="buttonstatus5.txt";
        $handle=fopen($file1,'w+');
        fwrite($handle,$security);
        fclose($handle);
         if($username && $userid){
                    echo $home;

                    if($errormsg)
                            echo "<script type='text/javascript'>alert('$errormsg');</script>";
        }
        else{
                    header('Location:/EHDLOGIN_rpi/login.php');
        }
    ?>
    <script type='text/javascript'>
                    var v1 = <?php echo(json_encode($security)); ?>;
        setSec(v1);
    </script>

    </body>
</html>
```

## UPDATESECURITY.php :toggles security

```
<?php
    $raspiIp='localhost';
    error_reporting(E_ALL ^ E_NOTICE);

    require("dynamicsecurity.php");
    include 'dynamicsecurity.php';

        $query=mysqli_query($conSec,"SELECT * FROM house");
        $numrows=mysqli_num_rows($query);
        if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['secure'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conSec,"UPDATE house set secure='1' WHERE id='1' ");
                    else
                            $query=mysqli_query($conSec,"UPDATE house set secure='0' WHERE id='1' ");
        }
        else
                    $errormsg="Can't find state of Appliance ..Database error";
```

```php
            header('Location:/EHDLOGIN_rpi/security.php');
            if($errormsg)
                        echo "<script type='text/javascript'>alert($errormsg);</script>";
?>
```

# UPDATESTATE.php : changes states of the appliance in database

```php
<?php
  $raspiIp='localhost';
  error_reporting(E_ALL ^ E_NOTICE);
  $getapp_num=($_GET['app_n']);
  require("dynamicState.php");
  include 'dynamicState.php';


            if($getapp_num==10){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='1' ");
  }
            if($getapp_num==11){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='1' ");
  }
            if($getapp_num==20){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='2' ");
  }
            if($getapp_num==21){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='2' ");
  }
            if($getapp_num==30){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='3' ");
  }
            if($getapp_num==31){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='3' ");
  }
            if($getapp_num==40){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='4' ");
  }
            if($getapp_num==41){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='4' ");
  }




  if($getapp_num==0){
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='4' ");
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='3' ");
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='2' ");
                        $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='1' ");
  }
  else if($getapp_num==5){
          $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='4' ");
          $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='3' ");
          $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='2' ");
          $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='1' ");
  }
  else{
          $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='$getapp_num'");
          $numrows=mysqli_num_rows($query);
          if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['app_state'];
                    if($dbapp_state==0)
```

```php
                          $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE
app_num='$getapp_num' ");
                  else
                          $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE
app_num='$getapp_num' ");
          }
          else
                  $errormsg="Can't find state of Appliance ..Database error";
  }
  header("Location:/EHDLOGIN_rpi/member.php");
  if($errormsg)
          echo "<script type='text/javascript'>alert($errormsg);</script>";
?>
```

## DYNAMICSTATE.php :connection to states database

```php
<?php
$conState=mysqli_connect("localhost","root","password");
if ($conState->connect_error) {
        die("Connection failed: " . $conState->connect_error);
}
else
   mysqli_select_db($conState,"states");
?>
```

## DYNAMICSECURITY.php :connection to security database

```php
<?php
$conSec=mysqli_connect("localhost","root","password");
if ($conSec->connect_error) {
        die("Connection failed: " . $conSec->connect_error);
}
else{
   mysqli_select_db($conSec,"security");
}
?>
```

## CONNECT.php: connection to users database

```php
<?php
$con=mysqli_connect("localhost","root","password");
if ($con->connect_error) {
        die("Connection failed: " . $con->connect_error);
}
else
   mysqli_select_db($con,"login");
?>
```

## BUTTONSTATUS5.php :to get the status of security

```php
<?php
$status = file_get_contents("buttonstatus5.txt");
echo $status;
?>
```

## ATLEASTONEPERSON.php : script to be run when at least one person is present in the room

```php
<?php
    $raspiIp='localhost';
    error_reporting(E_ALL ^ E_NOTICE);
//    $getapp_num=($_POST['app_n']);
    require("dynamicState.php");
    include 'dynamicState.php';
//    if($getapp_num==0){
            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='1'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['actual_app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='1'
");
                    else
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='1'
");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";



            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='2'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['actual_app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='2'
");
                    else
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='2'
");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";


            $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='3'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['actual_app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='3'
");
                    else
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='3'
");
            }
            else
            $errormsg="Can't find state of Appliance ..Database error";


    $query=mysqli_query($conState,"SELECT * FROM savedstates WHERE app_num='4'");
            $numrows=mysqli_num_rows($query);
            if($numrows==1){
```

```
                    $row=mysqli_fetch_assoc($query);
                    $dbapp_state=$row['actual_app_state'];
                    if($dbapp_state==0)
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='0' WHERE app_num='4'
");
                    else
                            $query=mysqli_query($conState,"UPDATE savedstates set app_state='1' WHERE app_num='4'
");
          }
          else
          $errormsg="Can't find state of Appliance ..Database error";

//   }
    header('Location:/EHDLOGIN_rpi/member.php');
    if($errormsg)
            echo "<script type='text/javascript'>alert($errormsg);</script>";
?>
```

## SCRIPTHOME.js :javascript for main page

```
/* Change all states to false*/
function changeAllStatesToFalse(){
          var globalCheckBox = 0;
          var checkbox1 = document.getElementById("button1");
          checkbox1.checked=globalCheckBox;
          var checkbox2 = document.getElementById("button2");
          checkbox2.checked=globalCheckBox;
          var checkbox3 = document.getElementById("button3");
          checkbox3.checked=globalCheckBox;
          var checkbox4 = document.getElementById("button4");
          checkbox4.checked=globalCheckBox;
          updateTable(0);
}

/* Change all states to true*/
function changeAllStatesToTrue(){
          var globalCheckBox = 1;
          var checkbox1 = document.getElementById("button1");
          checkbox1.checked=globalCheckBox;
          var checkbox2 = document.getElementById("button2");
          checkbox2.checked=globalCheckBox;
          var checkbox3 = document.getElementById("button3");
          checkbox3.checked=globalCheckBox;
          var checkbox4 = document.getElementById("button4");
          checkbox4.checked=globalCheckBox;
          updateTable(5);
}

/* Return an alert of all the states*/
function getStates(){

          var checkbox1 = document.getElementById("button1");
          var alertString="";
          if(checkbox1.checked){
           alertString="Appliance 1 is ON";
          }else{
           alertString="Appliance 1 is OFF";
          }
          var checkbox2 = document.getElementById("button2");

          if(checkbox2.checked){
```

```
                alertString+="\nAppliance 2 is ON";
                }else{
                alertString+="\nAppliance 2 is OFF";
                }
                var checkbox3 = document.getElementById("button3");

                if(checkbox3.checked){
                alertString+="\nAppliance 3 is ON";
                }else{
                alertString+="\nAppliance 3 is OFF";
                }
                var checkbox4 = document.getElementById("button4");

                if(checkbox4.checked){
                alertString+="\nAppliance 4 is ON";
                }else{
                alertString+="\nAppliance 4 is OFF";
                }
                alert(alertString);
}

/* Set the states when opoening the home or the member page*/
function setStates(s1,s2,s3,s4){
                var checkbox1 = document.getElementById("button1");
                if(s1==1)
                 checkbox1.checked=1;
     else
                 checkbox1.checked=0;
                var checkbox2 = document.getElementById("button2");
                if(s2==1)
                 checkbox2.checked=1;
     else
                 checkbox2.checked=0;
                var checkbox3 = document.getElementById("button3");
                if(s3==1)
                 checkbox3.checked=1;
     else
                 checkbox3.checked=0;

                var checkbox4 = document.getElementById("button4");
                if(s4==1)
                 checkbox4.checked=1;
     else
                 checkbox4.checked=0;

}

function updateTable(app_n){

    site="/EHDLOGIN_rpi/updatestate.php?app_n="+app_n;
    window.open(site,"_self");

}
```

## SCRIPTSEC.js : javascript for security page

```
function setSec(s1){
                var checkbox = document.getElementById("securityBtn");
                if(s1==1)
                 checkbox.checked=1;
                else
                 checkbox.checked=0;
}
```

```
function updateSecurity(){
    site="/EHDLOGIN_rpi/updatesecurity.php";
    window.open(site,"_self");
}
function updateState(app_n){
    site="/EHDLOGIN_rpi/updatestate.php?app_n="+app_n;
    window.open(site,"_self");
}
```

# STYLE.css : css for login

```css
body {
        background-image: url("image.jpg");
}

.login {
        width: 300px;
        height: 350px;
        overflow: hidden;
        background: #1e1e1e;
        border-radius: 6px;
        margin: 50px auto;
        box-shadow: 0px 0px 50px rgba(0,0,0,.8);
}

.login .title {
        width: 298px;
        height: 14px;
        padding-top: 13px;
        padding-bottom: 13px;
        font-size: 14px;
        text-align: center;
        color: #bfbfbf;
        font-weight: bold;
        background: #121212;
        border: #2d2d2d solid 1px;
        margin-bottom: 30px;
        border-top-right-radius: 6px;
        border-top-left-radius: 6px;
        font-family: Arial;
}

.login form {
        width: 240px;
        height: auto;
        overflow: hidden;
        margin-left: auto;
        margin-right: auto;
}

.login form input[type=text], .login form input[type=password] {
        width: 200px;
        font-size: 12px;
        padding-top: 14px;
        padding-bottom: 14px;
        padding-left: 40px;
        border: none;
        color: #bfbfbf;
        background: #141414;
        outline: none;
        margin: 0;
}
```

```css
.login form input[type=text] {
        border-top-left-radius: 6px;
        border-top-right-radius: 6px;
        border-top: #0b0b0b solid 1px;
        background: #141414 url(http://dev.dhenriquez.com/test-img/icons/111-user.png) 10px center no-repeat;
}

.login form input[type=password] {
        border-bottom-left-radius: 6px;
        border-bottom-right-radius: 6px;
        border-top: #0b0b0b 1px solid;
        border-bottom: #353535 1px solid;
        background: #141414 url(http://dev.dhenriquez.com/test-img/icons/54-lock.png) 10px center no-repeat;
}

.login form .submit {
        width: 240px;
        height: 50px;
        display: block;
        padding-top: 14px;
        padding-bottom: 14px;
        border-radius: 6px;
        border: none;
        border-top: #4eb2a8 1px solid;
        border-bottom: #161616 1px solid;
        background: #349e92;
        text-align: center;
        text-decoration: none;
        font-size: 12px;
        font-weight: bold;
        color: #FFF;
        text-shadow: 0 -1px #1d7464, 0 1px #7bb8b3;
        font-family: Arial;
}

.login .Footer {
        width: 240px;
        height: auto;
        overflow: hidden;
        padding-top: 25px;
        padding-bottom: 25px;
        font-size: 10px;
        text-align: center;
}

.login .Footer .col {
        width: 100%;
        height: auto;
}

.login .Footer .col a {
        color: #fff;
        text-decoration: none;
        font: 12px Arial;
}



html, body, div, span, applet, object, iframe, h1, h2, h3, h4, h5, h6, p, blockquote, pre, a, abbr, acronym, address, big, cite, code,
del, dfn, em, img, ins, kbd, q, s, samp, small, strike, strong, sub, sup, tt, var, b, u, i, center, dl, dt, dd, ol, ul, li, fieldset, form, label,
legend, table, caption, tbody, tfoot, thead, tr, th, td, article, aside, canvas, details, embed, figure, figcaption, footer, header,
hgroup, menu, nav, output, ruby, section, summary, time, mark, audio, video {
        margin: 0;
        padding: 0;
        border: 0;
```

```
            font-size: 100%;
            font: inherit;
            vertical-align: baseline;
}

/* HTML5 display-role reset for older browsers */

article, aside, details, figcaption, figure, footer, header, hgroup, menu, nav, section { display: block }

body { line-height: 1 }

ol, ul { list-style: none }

blockquote, q { quotes: none }

blockquote:before, blockquote:after, q:before, q:after {
            content: '';
            content: none;
}

table {
            border-collapse: collapse;
            border-spacing: 0;
}
```

## STYLEHOME.css : css for main page

```
box-sizing: border-box;
}

body {
 margin:auto;
  font-size: 1em;
  font-family: 'Arial', sans-serif;

}

.heading {
   margin: auto;
            width: 80%;
            border:3px solid #8AC007;
            padding: 10px;
            text-align:center;
   background-color : #8AC007;
   color : #270CAC;
}

.buttonsArea {
 padding-top:10%;
 width:150px;
 margin-left:auto;
 margin-right:auto;
}
.buttonsAreaAll {
 padding-top:5%;
 width:150px;
 margin-left:auto;
 margin-right:auto;
}

.display {
 padding-top: 30px;
 position: relative;
```

```css
   top: 50%;
   left: 50%;
  -webkit-transform: translate(-50%, -50%);
           -ms-transform: translate(-50%, -50%);
           transform: translate(-50%, -50%);
}

.toggle .toggle-control {
  -webkit-transition: 0.3s cubic-bezier(0.98, 0.99, 1, 0.99);
           transition: 0.3s cubic-bezier(0.98, 0.99, 1, 0.99);
  width: 4em;
  height: 2em;
  display: inline-block; /* changed */
  border: 2px solid #8E8E93;
  border-radius: 2em;
  border-color: #ff4c4c;
  background-color: #ff4c4c;
  position: relative;
  vertical-align:middle; /* new; can be removed if desired */
}
.toggle .toggle-control:after {
  -webkit-transition: 0.3s cubic-bezier(0.98, 0.99, 1, 0.99);
           transition: 0.3s cubic-bezier(0.98, 0.99, 1, 0.99);
  content: "";
  width: 2em;
  height: 2em;
  background-color: #fff;
  border-radius: 50%;
  box-shadow: 0 1px 2px rgba(0, 0, 0, 0.4), 0 3px 2px rgba(0, 0, 0, 0.4);
  position: absolute;
  top: 0;
  left: 0;
}
.toggle input {
  display: none;

}
.toggle input:checked + .toggle-control {
  border-color: #4cd964;
  background-color: #4cd964;
}
.toggle input:checked + .toggle-control:after {

left: 2em;
}

.clearfix:after {
        display:block;
        clear:both;
}

/*----- Menu Outline -----*/
.menu-wrap {
        width:100%;
        box-shadow:0px 1px 3px rgba(0,0,0,0.2);
        background:#3e3436;
        margin-left: auto;
        margin-right: auto;
}

.menu {
        width:1000px;
        margin:0px auto;
}
```

```css
.menu li {
        margin:0px;
        list-style:none;
        font-family:"Comic Sans MS", cursive, sans-serif;
}

.menu a {
        transition:all linear 0.15s;
        color:#919191;
}

.menu li:hover > a, .menu .current-item > a {
        text-decoration:none;
        color:#be5b70;
}

.menu .arrow {
        font-size:11px;
        line-height:0%;
}

/*----- Top Level -----*/
.menu > ul > li {
        float:left;
        display:inline-block;
        position:relative;
        font-size:19px;
}

.menu > ul > li > a {
        padding:10px 40px;
        display:inline-block;
        text-shadow:0px 1px 0px rgba(0,0,0,0.4);
}

.menu > ul > li:hover > a, .menu > ul > .current-item > a {
        background:#2e2728;
}

/*----- Bottom Level -----*/
.menu li:hover .sub-menu {
        z-index:1;
        opacity:1;
}

.sub-menu {
        width:160%;
        padding:5px 0px;
        position:absolute;
        top:100%;
        left:0px;
        z-index:-1;
        opacity:0;
        transition:opacity linear 0.15s;
        box-shadow:0px 2px 3px rgba(0,0,0,0.2);
        background:#2e2728;
}

.sub-menu li {
        display:block;
        font-size:16px;
}

.sub-menu li a {
        padding:10px 30px;
```

```
         display:block;
}

.sub-menu li a:hover, .sub-menu .current-item a {
         background:#3e3436;
}
```

# SPEECH_RECOGNITION.py

```python
import os
import speech_recognition as sr
import urllib2

r=sr.Recognizer()


while True :
        print "say"
        os.system("arecord -D plughw:0,0 --duration=3 test.wav")
        with sr.WavFile("/home/pi/new/test.wav") as source:
        #print "say"
        audio=r.record(source)
        try:
        audio1=r.recognize_google(audio)
        print("you said"+audio1)
        if audio1=="start one" or audio1=="start 1" or audio1=="tart 1" or audio1=="tart one":
        print("Doing light 1 on")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=11')
        print("Done light 1 on")
        if audio1=="stop one" or audio1=="stop 1" or audio1=="top 1" or audio1=="top one":
        print("Doing light 1 off")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=10')
        print("Done light 1 off")
        if audio1=="start two" or audio1=="start 2" or audio1=="tart 2" or audio1=="tart two":
        print("Doing light 2 on")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=21')
        print("Done light 2 on")
        if audio1=="stop two" or audio1=="stop 2" or audio1=="top 2" or audio1=="top two":
        print("Doing light 2 off")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=20')
        print("Done light 2 off")
        if audio1=="start three" or audio1=="start 3" or audio1=="tart 3" or audio1=="tart three":
        print("Doing light 3 on")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=31')
        print("Done light 3 on")
        if audio1=="stop three" or audio1=="stop 3" or audio1=="top 3" or audio1=="top three":
        print("Doing light 3 off")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=30')
        print("Done light 3 off")
        if audio1=="start four" or audio1=="start 4" or audio1=="tart 4" or audio1=="tart four":
        print("Doing light 4 on")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=41')
        print("Done light 4 on")
        if audio1=="stop four" or audio1=="stop 4" or audio1=="top 4" or audio1=="top four":
        print("Doing light 4 off")
        urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_n=40')
        print("Done light 4 off")
        except sr.UnknownValueError:
        print("Google did not understand")
```

# MotionDetectionUsingWebCam.py: detects and captures photos with motion>40%

```python
#!/usr/bin/python

import os
from datetime import datetime
import io
import urllib2
import RPi.GPIO as GPIO
from PIL import Image
scan = True
#images1
#images2

threshold=40
color_offset = 25 # Adjusts for slight varitaions in color

while(scan):
    flag=0
    #os.system calls
    try:
            response = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/buttonstatus5.php')
            status = response.read()
    except urllib2.HTTPError, e:
            print e.code

    except urllib2.URLError, e:
            print e.args

    print status
    if status=='1':

        os.system("fswebcam --no-banner -i 0 -q -r 250x120 pixelImage1.jpg")
        os.system("fswebcam --no-banner -i 0 -q  -r 250x120 pixelImage2.jpg")

    #capture 2 images store it in pixelImage1.jpg and pixelImage2.jpg
            images1=Image.open("pixelImage1.jpg")
            images2=Image.open("pixelImage2.jpg")
            print "Captured 1 and 2"
                    x = 0
                    y = 0
            diff = 0

    #if len(images) == 2:
            #Start On X and Move Down Y
            while(x < images1.size[0]):
                    while(y < images1.size[1]):

                            #Add Up All RGB Values For Current Pixel
                    img1 = images2.getpixel((x,y))
                    val = img1[0] + img1[1] + img1[2]
                    img2 = images1.getpixel((x,y))
                    val2 = img2[0] + img2[1] + img2[2]

                    pd = abs(val2-val)

                    if(pd > color_offset):
                            diff += 1
                    y += 1
                    changed  = (diff * 100) / (images1.size[0] * images1.size[1])
                    if(changed > threshold):
                            flag=1
                            break
```

```
                #Move Right 1 & Reset Y For Next Loop
                if(flag==1):
                flag=0
                break
                x+=1
                y=0

        changed  = (diff * 100) / (images1.size[0] * images1.size[1])
        print "processed 1 and 2"
        if(changed > threshold):
                now=datetime.now().time()
                cmd="mkdir "+str(now)
                os.system(cmd)
                cmd="sudo cp -rf pixelImage1.jpg "+str(now)+"/"
                os.system(cmd)
                cmd="sudo cp -rf pixelImage2.jpg "+str(now)+"/"
                os.system(cmd)
#    break
        print str(changed) + "% changed."



    #images[1] = images[0]
```

## KEYPAD.py: get the keys pressed on keypad and turn off the security

```
import RPi.GPIO as GPIO
import time
import urllib2
GPIO.setmode(GPIO.BOARD)

MATRIX = [    [1,2,3,'A'],
              [4,5,6,'B'],
              [7,8,9,'C'],
              ['*',0,'#','D']    ]
ROW = [12,16,18,22]
COL = [32,36,38,40]
count =0
password=[1,5,9]
a=['$','$','$','$']
flag=0
tries=0
buzzer=37
GPIO.setup(buzzer,GPIO.OUT)
threshold=0.2
def LockedPosition(var):
        if(var==1):
        print "Wrong Password"
        elif(var==0):
        print "Correct Password Security System disabled"
        try:
                response = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/buttonstatus5.php')
                status = response.read()
                if (status=='1') :
                try:
                        response = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatesecurity.php')
                        status = response.read()
                except urllib2.HTTPError, e:
                        print e.code
                except urllib2.URLError, e:
                        print e.args
        except urllib2.HTTPError, e:
                print e.code
```

```
                except urllib2.URLError, e:
                        print e.args
            elif(var==-1):
            GPIO.output(buzzer,GPIO.HIGH)
            #ON ONE LED
for j in range(4):
    GPIO.setup(COL[j],GPIO.OUT)
    GPIO.output(COL[j],GPIO.HIGH)

for i in range(4):
    GPIO.setup(ROW[i],GPIO.IN,pull_up_down = GPIO.PUD_UP)

try:
    while(True):
            for j in range(4):
                    GPIO.output(COL[j],GPIO.LOW)
                    for i in range(4):
                            if GPIO.input(ROW[i])==GPIO.LOW:
                                    key=MATRIX[i][j]
                                    time.sleep(threshold)
                                    print key
                                    if(key==1 or key==2 or key==3 or key==4 or key==5 or key==6 or key==7 or key==8 or
key==9 or key==0 or key =='#' or key=='*'):
                            a[count]=key
                            #print key
                            count=count+1
                            if(key=='*'):
                                    count=0
                                    #LockedPosition(1)
                            if(a[3]=='#' and count==4):
                                    flag=1
                                    for i in range(0,3):
                                    #print "hey"+str(i)
                                    if(a[i]!=password[i]):
                                            flag=0
                                    if(flag==1):
                                    tries=0
                                    count=0
                                    LockedPosition(0)
                                    else:
                                    tries+=1
                                    count=0
                                    LockedPosition(1)
                            elif(count==4):
                                    count=0
                                    tries+=1
                                    LockedPosition(1)
                            if(tries>=3):
                            count=0
                            print "Trying to breakin"
                            LockedPosition(-1)
                                    while(GPIO.input(ROW[i])==GPIO.LOW):
                                            pass

                    GPIO.output(COL[j],GPIO.HIGH)
except KeyboardInterrupt:
    GPIO.cleanup()
```

# CountNumberOfPeopleInRoom.py

```
import RPi.GPIO as GPIO
```

```
import time
import urllib2
from datetime import datetime
#pin number for pir 1
threshold=0.6
doorIn=29
GPIO.setmode(GPIO.BOARD)
GPIO.setup(doorIn,GPIO.IN)
hangState=0
doorIn1=31
GPIO.setmode(GPIO.BOARD)
GPIO.setup(doorIn1,GPIO.IN)
hangState1=0
value=0
value1=0
count=0
prevcount=0;
def check(var_in,var_out):
        if(var_in<var_out):
        return 1
        else:
        return 0


while(True):
        doorInstate=GPIO.input(doorIn)
   if(doorInstate==GPIO.HIGH and value==0):
        #getting time
        now=datetime.now()
        time.sleep(threshold)
        hangState=GPIO.input(doorIn)
        if(hangState!=doorInstate and doorInstate==GPIO.HIGH and hangState==GPIO.LOW):
                now2=now
                print "entered1"
                 value=1
        doorInstate1=GPIO.input(doorIn1)
   if(doorInstate1==GPIO.HIGH and value1==0):
        #getting time
        now1=datetime.now()
        time.sleep(threshold)
        hangState1=GPIO.input(doorIn1)
        if(hangState1!=doorInstate1 and doorInstate1==GPIO.HIGH and hangState1==GPIO.LOW):
                now3=now1
                print "entered2"
                 value1=1
   if(value==1 and value1==1):
        x=check(now2,now3)
         value=0
         value1=0
         print "here"+str(x)+"\n"
        if(x==1):
                count=count+1
                print "in"
        if(x==0):
                if(count!=0):
                count=count-1
                print "out"

        if(count==0 and prevcount==1):
                try:
                response = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/NoPerson.php')
                        response1 = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/updatestate.php?app_num=0')
                status = response.read()
                print "States successfully changed No person"
                except urllib2.HTTPError, e:
```

```python
                print e.code
            except urllib2.URLError, e:
                print e.args

    if(count==1 and prevcount==0):
                try:
                response = urllib2.urlopen('http://localhost/EHDLOGIN_rpi/AtleastOnePerson.php')
                status = response.read()
                print "States succesfully changed AtLeastOnePerson"
            except urllib2.HTTPError, e:
                print e.code
            except urllib2.URLError, e:
                print e.args

     prevcount=count;
    print count
```