* 1. Cellphone Functional Requirement

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| Display Module | |
| CFR001 | Main Activity |
|  | Display user interface which user is using. |
| CFR002 | Notification |
|  | Notify user when the event is occurred .e.g. the appliance need to be turn on or off.  Notification is a yes-no message box.  Notification will raise another thread to listen the event in the background.  Notification will send message to appliance module. |
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| Authentication Module | |
| CFR003 | User Login |
|  | Check whether the password which users enter correspond to the email address of users.  Password will be encode with DES encoder before sending |
| CFR004 | User Registration |
|  | Handle the user list for different email address. When some users start to use the product. Check the correctness of product ID and make sure the user's email address isn’t duplicated.  Password will be encode with DES encoder before sending |
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| Appliance Module | |
| CFR005 | Favorite |
|  | Favorite is a user interface which user can set his favorite appliances to this module  Favorite need to display favorite choice as circular button. |
| CFR006 | Appliance |
|  | Appliance is a user interface which displays all the appliances.  Include special appliance: TV , Light , Air , Conditioner |
| CFR007 | TV |
|  | TV is a user interface which looks like as remote controller  TV must send command to the appliance module when user click button. |
| CFR008 | Light |
|  | Light is a user interface which display in normal. |
| CFR009 | Air Conditioner |
|  | Air Conditioner is a user interface which let user to set the temperature up or down. |
| CFR010 | Others |
|  | Others are also user interface which display in normal view. |
| CFR011 | Add |
|  | Add is a user interface which let user to add appliance  Add will send scan-IR code command when user click other option |
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| Chart Module | |
| CFR012 | Chart |
|  | Chart delegate the plot mission to chart Light and chart AC and displayed what they plot. |
| CFR013 | Chart Light |
|  | Chart light plot a chart which shows light used time.  User can select year month and days to be plotted  Chart light will send a message to ask data to plot when needed |
| CFR014 | Chart AC |
|  | Chart AC plot a chart which shows air conditioner used time.  User can select year month and days to be plotted  Chart AC will send a message to ask data to plot when needed |
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| User Module | |
| CFR015 | Account |
|  | Account is a user interface which lets user to click and enter another UI such as profile and Contact us |
| CFR016 | Profile |
|  | Profile is a user interface which appears when user click a button on Account interface.  Profile shows user’s account and password and let user to change the password.  Profile must to make sure user input the same password when they want to change password. |
| CFR017 | Contact Us |
|  | Contact us provide email address |
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| Communication Module | |
| CFR018 | Send |
|  | Receive data from other module.  Send data, command, and user information to main controller by cloud server. |
| CFR019 | Receive |
|  | Receive data from main controller by cloud server.  Send data to other internal module. |
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| Setting Module | |
| CFR020 | Time Setting |
|  | Time Setting is a UI let user to set when will the appliance to be turned on/off  Time setting must have a on/off button to set whether user may get notification or not. |
| CFR021 | Proximity Setting |
|  | Proximity Setting is a UI to let user to set how close they are to the home to turn on/off the appliance  Proximity setting must have on/off button to set whether user may get notification or not.  Proximity takes GPS location of user to calculate the distance between location and home address. |
| CFR022 | Energy Saver |
|  | Energy Saver is a user interface which user can set turn on/off appliance when motion sensor don’t detect any person for how many time.  Energy Saver setting must have a on/off button to set whether user may get notification or not. |
| CFR023 | Ideal Temperature |
|  | Ideal temperature is a user interface which lets user to set the ideal temperature they want. Briefly the ideal temperature module turn on/off the appliance when time arrived.  Ideal Temperature must have on/off button to set whether user may get notification or not. |
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| Bluetooth Module | |
| CFR024 | Controller connection |
|  | Connect to controller through Bluetooth.  Send Wi-Fi information to controller. |