北京邮电大学

BBC6521 Project 毕业设计 2017/18

Early-term Progress Report

初期进度报告

学院 School	International School	专业 Programme	IoT (H6N1)	班级 Class	2014215120
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设计（论文）题目 Project Title	An IoT system for smart building monitoring				

已完成工作：
Finished Work：

The followings are what I have done until this report:

1. Review and master the IOT system's architecture;
2. Have decided which platform and sensors I will use in the project and understand the existing solution of smart building;
3. Design the architecture of the system;
4. Write the document about the Introduction and the Architecture part in the final report;
5. Have done some experiments about the communication between the WiPy board and the Cloud Service.

There are some problems happening when I achieve the goals listed above and I have solved these problems. And next I will introduce what problems I have met and how I solved them.

The first problem is happening when I use the WiPy board for the first time. When I followed the instructions on the document in the Pycom website, I found that I couldn't upload the Python files to the board. Firstly I thought the problem is about the serial port driven program, however after I re-installed the driven program, the problem still had. And then I thought the problem may be related to the firmware in the board, so I updated the firmware in the board. After the updating, the problem is solved. So from the problem, I learn that I should update the firmware firstly before I actually do the programming on the board in order to avoid the similar problem.

The second problem happens when using the WiPy to connect the router in order to access the Internet. Because I didn't know that our router is set to DHCP, I found that the WiPy can connect to the router but it can't connect to Internet. After I figure out what happens, I buy a new router and through the new router to connect the Internet. I think in the next step I can use the Raspberry Pi to solve the problem completely or I can write a small program to solve the problem in the LoPy board.

All of things above is the summery about what I have done in the early term.

I also refer some books and materials when I complete the tasks I list above, they are:

1. *Introduction to Internet of Things* which is a book about the introduction of the basic things about the IoT written by a Professor named YunHao Liu. I use this book to review and master the fundamental knowledge about IoT;
2. The officially documents about the Pycom whose URL is https://docs.pycom.io . I base this material to operate the WiPy board and do the tutorials in the document.
3. The smart building solution of Microsoft, which has a detailed document to explain it and the URL where you can download the file is https://www.microsoft.com/en-gb/internet-of-things/smart-building .

是否符合进度？On schedule as per GANTT chart?	YES

下一步：
Next steps:

The followings are what I will finish before the next report:

1. Install the sensors on the LoPy board and ensure the developing board can read the correct data from the sensors
2. Make the LoPy boards communicate with each other and use the LoPy to access the Cloud Service
3. Realize the designed the architecture
4. Try to combine the LoPy board and the Raspberry Pi together to make an advanced gateway
5. Develop the back-end programs in the cloud servers and the Web Application based on the server
6. Write the related documents.