

Short Summer Training Program for Students between

UEC & UESTC

On 24th August to 19th September 2010 in UESTC

Period: 4 weeks from 24th August to 19th September 2010.

Location: UESTC Room 438, Yifu building. Institute of Astronautics & Aeronautics,
No.4, North Jianshe Road, Chengdu, Sichuan, China

UESTC Supervisory staff:

Prof. Xu Limei (xulimei@uestc.edu.cn)

Prof. Li Hui (kelly.li@126.com)

Prof. Kaiyu Qin (kyqin@uestc.edu.cn)

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Dr. Li Xuesheng (allanlxs@163.com)

Engineer. Ren Yuzuo (yuzuo@uestc.edu.cn)

Numbers of students for the training program:

Two students from UEC (Department of Mechanical Engineering and Intelligent Systems) were invited to live on UESTC campus and they accepted some training assignments about robotics and Mechatronics.

Program agenda:

In this training program, students from UEC should assemble a printer mechanism using the LEGO kit at first, and then they should make a program through java to draw some images. At last, they should create a Bluetooth printer which communicates with the PC through Bluetooth.

1st week:

-Adapting the life style in China and UESTC/Lab.

-To connect PC with the Internet of the campus and the dormitory.

-Be invited to attend a symposium by Professor Wang, Vice President of UESTC.

2nd week:

-Assembling the printer mechanics in the lab of UESTC.

3rd week:

-Making the program using java to draw some images.

-Using the Bluetooth to communicate with the PC and the printer.

4th week:

-Finished the report with photographs and videos.

-Attending Graduation Ceremony and Visiting the City of Chengdu.

Summary

During this one month's studies in UESTC, students from UEC have done some specific practice in the field of robotics and Mechatronics. They communicated with Chinese students for study robotics and Mechatronics.



From the right side to the left side

Mr. Yohei Jimbo

Department of Mechanical Engineering and Intelligent Systems of UEC

Mr. Kazuki Hirose

Department of Mechanical Engineering and Intelligent Systems of UEC



Communicating with Chinese students at UESTC new campus



On the UESTC new campus



Talking about the task with Chinese student at the Laboratory



Communicating with Professor Wang, Vice President of UESTC



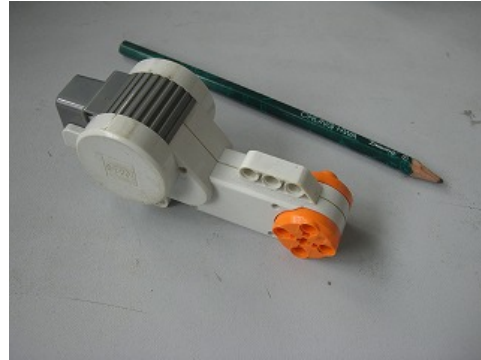
UEC students and Associate Professor Ming of UEC had a photograph with Professor Wang, Vice President of UESTC, and Professor Di, chief of the international department of UESTC, and Professor Liu, Secretary of Institute of Astronautics and Aeronautics of UESTC, and Professor Xu, Institute of Astronautics and Aeronautics of UESTC, and Professor Li, Institute of Astronautics and Aeronautics of UESTC.

(1)Assembling the printer mechanics

The mechanics was assembled by the students.



Parts of LEGO



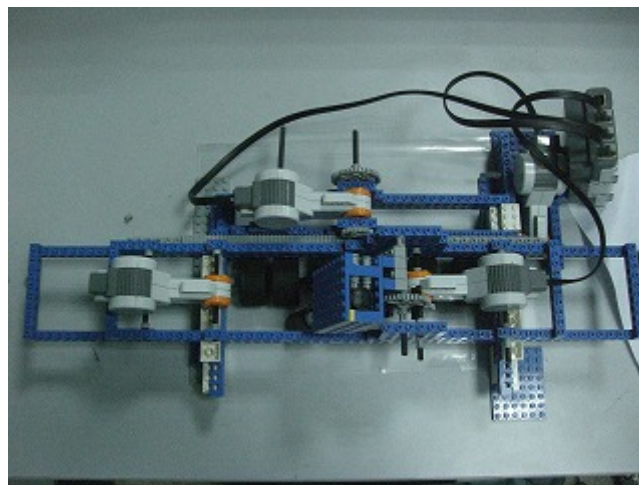
Servo motor



The students assembled parts.



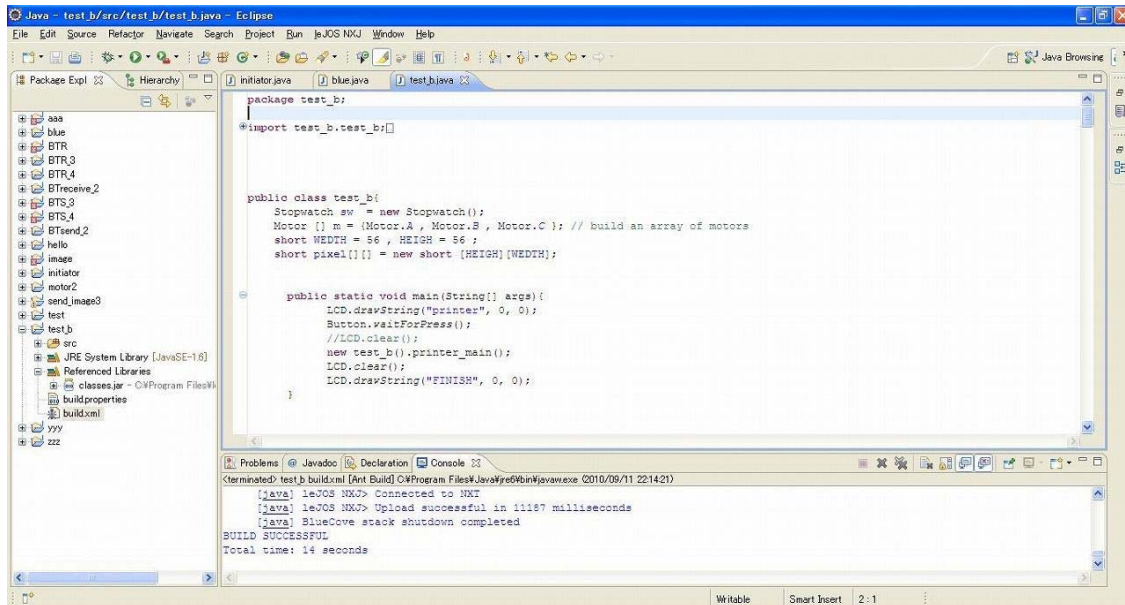
NXT



Finished mechanics

(2) Making the program

The printer can be programmed through java. The program was created by the students.



```
package test_b;

import test_b.test_b;

public class test_b {
    Stopwatch sw = new Stopwatch();
    Motor [] m = {Motor.A, Motor.B, Motor.C}; // build an array of motors
    short WEDTH = 56, HEIGH = 56;
    short pixel[][] = new short [HEIGH][WEDTH];

    public static void main(String[] args){
        LCD.drawString("printer", 0, 0);
        Button.waitForPress();
        //LCD.clear();
        new test_b().printer_main();
        LCD.clear();
        LCD.drawString("FINISH", 0, 0);
    }
}
```

Terminated: test_b build.xml [Ant Build] C:\Program Files\Java\jre6\bin\javaw.exe [2010/09/11 22:14:21]

```
[java] leJOS NXJ> Connected to NXJ
[java] leJOS NXJ> Upload successful in 11187 milliseconds
[java] BlueCove stack shutdown completed
BUILD SUCCESSFUL
Total time: 14 seconds
```

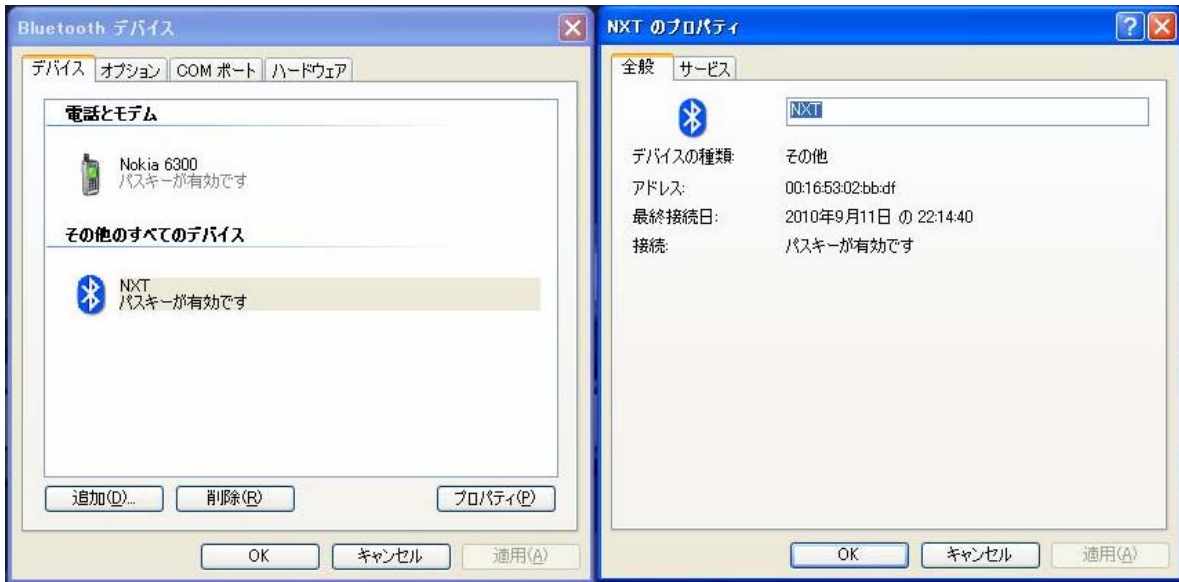
Java software: Eclipse



The students created the program.

(3) Bluetooth printer

The printer received the data from the PC through Bluetooth.



The PC recognized the printer through Bluetooth.

The PC sent the image data to the printer through Bluetooth.

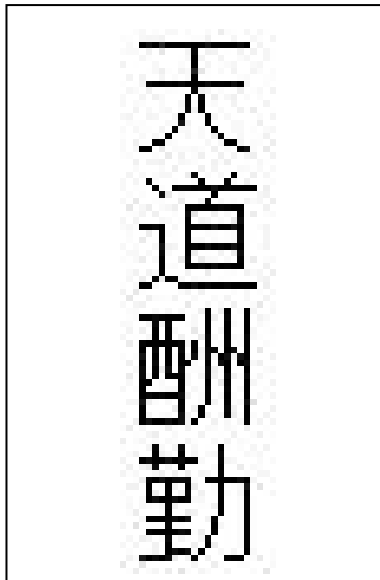
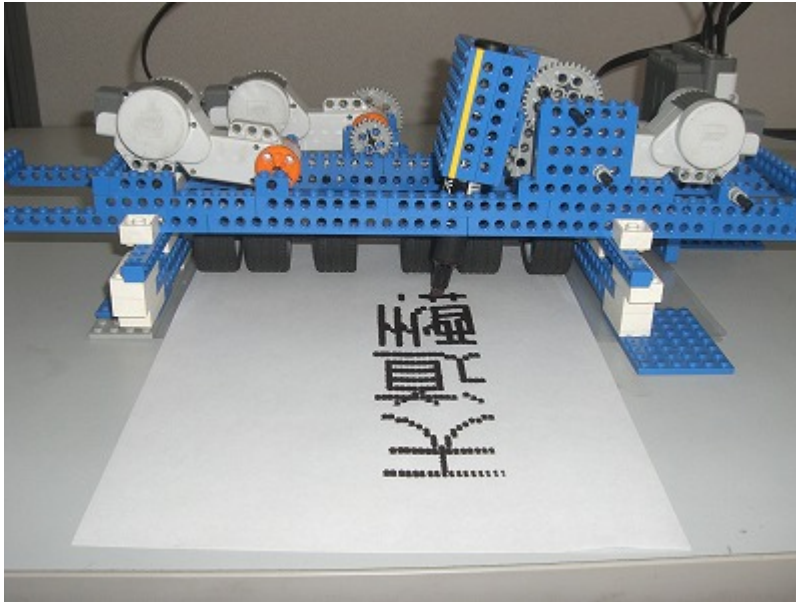


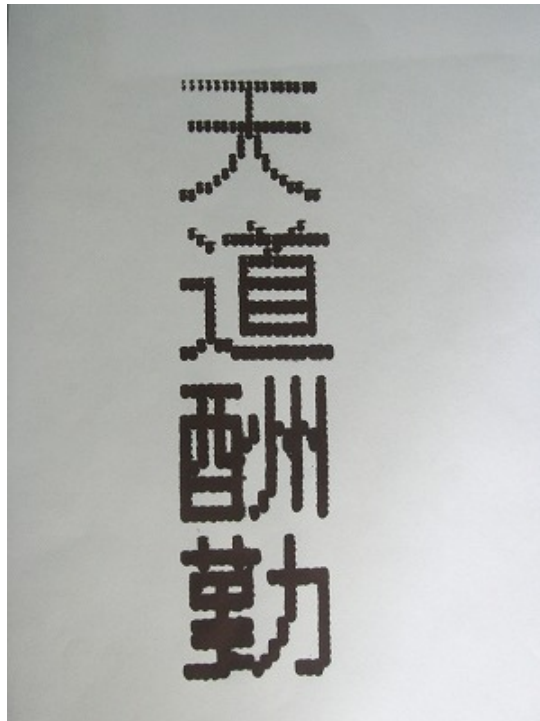
Image data:

The printer received the image data then the printer worked.



Working the Bluetooth printer

Finally, the students have finished their work.



The results of printing the image

(4)Attending Graduation Ceremony hold by UESTC

At the last week, the students from UEC attending a graduation ceremony hold by UESTC.



The students from UEC have finished their studies in UESTC



The students from UEC had a photograph with UESTC Supervisory staff.



Mr. Hirose's comment:

I am honored to take part in the Short Summer Training Program for Students between UEC and UESTC.

UESTC teachers and students are kind. I can not speak Chinese very well. They helped my Chinese life. Especially, Mr. Ren and Mr. Niu are very kind to us. They took me eating dinner everyday and going shopping. I had many delicious Chinese foods through their help. I think Chengdu food is a very hot but taste is a very good. They set up my PC to use the Internet. In the UESTC campus, many Chinese students were playing some sports. I played some sports with Chinese students. I think UESTC students live a healthy life. In the weekend, I met three UESTC students who came to UEC for Short Summer Training Program. They and their friends showed many good places in Chengdu. I went to panda base, Jinli, central of Chengdu-city, Sichuan University, Mt. Emei and so on. I felt Chinese culture in my body.

In the project, I studied a Mechatronics through making the Bluetooth printer. This task is a good experience for me. Making a programming was a little difficult because I had never studied java. I needed to study java. And I used Bluetooth for the first time. Sometimes the laboratory members gave us some advices. Finally, we succeeded in working the Bluetooth printer.

In the 4 weeks, I talked with UESTC students many times. I knew Chinese students opinion. I am more interested in China before I come to China. I try to study Chinese after come back to Japan. I had a very good time in UESTC. At last, I would like to express my graduate again to both UEC and UESTC for giving me the chance to participate in this Short Summer Training Program for Students between UESTC and UEC.



廣瀬一樹の感想

私は、電子科技大学（UESTC）のサマーレーニングに参加できたことを光栄に思います。

UESTC の先生及び学生方は初日から親切にしてくださいました。私はほとんど中国語を話すことができません。そのため、中国での生活において、彼らに手助けをしてもらいました。特に、任先生と牛氏はとても親切にしてくださいました。毎日、夕食や買い物に付き添ってくれました。彼らのおかげで、数多くのおいしい中華料理を食べることができました。四川料理は非常に辛いのですが、味は非常に良いものでした。また、宿舎や研究室のネットワークの設定もしてくださいました。UESTC のキャンパス内では、多くの学生がスポーツを楽しんでいたことが印象的です。私も UESTC の学生と一緒にスポーツをしました。UESTC の学生は電気通信大学（UEC）の学生より健康的な生活を送っていると思います。週末には、7 月に UEC のサマーレーニングに参加した UESTC の 3 人の学生と再会することができました。彼らとその友達が、成都の様々な場所へ案内してくれました。パンダ基地、錦里、成都の中心街、四川大学や峨眉山などに行くことができました。これらの生活の中で、中国の文化を肌で感じることができました。

課題においては、Bluetooth プリンタの製作を通じて、メカトロニクスの勉強をすることができました。この課題を通じて、良い経験を積むことができたと感じています。私は今まで、java を学んだことがありませんでした。そのため、プログラムの作製は少し大変でした。また、Bluetooth も初めて使用しました。研究室の方々からアドバイスを受けながら、最終的に Bluetooth プリンタを動かすことに成功しました。

この 4 週間、UESTC の学生と数多くの会話をしました。その中で、中国人の学生の考え方を知りました。今、私は中国に来る以前よりも、より一層中国に興味を持っています。日本に帰国した後に、中国語の勉強を本格的に始めてみたいと考えています。UESTC のキャンパスで、本当に良い時間を過ごすことができました。最後に、改めて、UEC と UESTC に感謝の辞を述べたいと思います。UESTC サマーレーニングに参加する機会を設けていただき、本当にありがとうございました。



Mr. Jimbo's comment:

In this time, I can get many meaningful experiences by UESTC summer training. First, I feel the difference of culture. Chinese have pride own country and they talked about culture of China. If I ask questions about China, most of them can answer my question. I thought that I should learn Japanese culture.

I feel people are friendly in China. They talk with stranger as a friend, and I feel Chinese's a sense of unity. But, it is not limited Chinese, they talk with Japanese as a friend. And they took us many places such as sports watching, climbing mountain, and meal. However, I can not understand most of Chinese, so I can not go out except for my Chinese friend. Through this summer training, I get desire that I want to learn Chinese.

At the last, I say about subject of summer training. In this time, we made printer that used LEGO blocks. I have never used LEGO blocks. So it was interesting. If I make wrong, I can remake LEGO blocks easily. I thought it is convenience. However, Programming is so difficult. Fortunately, my research also use image, so I can make program about writing image. But I have never used Bluetooth communication, so I spend much time to make communication program. As for my own research, it fought hard in the communication part of two modules, and I realize difficulty of the communication.

I want to express my graduate again to both UEC and UESTC for giving me the chance to participate in this Short Summer Training Program for Students between UESTC and UEC.



神保陽平の感想

今回、電子科技大学でのスマートレーニングに参加して、多くの貴重な経験を積むことができました。まず、肌で感じたことは、文化の違いです。中国人は、自国に強い誇りを持っていて、よく、中国の文化について話していました。また、私が疑問に思ったことを質問すると、たいいていのことは答えることができました。私も、日本の文化について学ばなければならないと思いました。

中国では、人と人との境界が薄いように感じられました。初対面の人でも友人であるかのように会話をしており、中国人同士の一体感というのを感じました。しかし、それは、中国人同士に限ったことではなく、私たちに対しても初めから友人であったかのように接してくれ、中国で初めて会ったのに、食事やスポーツ観戦、登山などいろいろな場所に連れて行ってくれました。ただ、中国語が何もわからないので、友達がいなければほぼどこにも出かけることができませんでした。今回のスマートレーニングを通して、中国人と中国語を用いてコミュニケーションを図りたいという思いが強く芽生えました。

最後に、今回行ったスマートレーニングの課題についてです。今回私たちは、レゴブロックを用いて、プリンタを製作しました。今まで、レゴブロックを使用したことがなかったので、新鮮でした。構造に欠陥があってもすぐに取り外して、組み立て直すことができるのは便利だと思いました。ただ今回苦労したのは、プログラムでした。幸い私の研究も画像を用いたものなので、画像を格納して、プリンタに送り、印刷するというプログラムは、順調に進めることができました。しかし、Bluetoothを用いた通信は、今まで経験したことがなかったので、多くの時間を取られてしまいました。私自身の研究でも、二つのモジュールの通信部で苦戦しており、通信の難しさを改めて実感させられました。

電気通信大学と電子科技大学に改めて感謝の辞を述べたいと思います。電子科技大学のスマートレーニングに参加する機会を設けていただき、本当にありがとうございました。