Readme for Setting up Beeblebrox for Operation

Step 1: Install the Eclipse IDE

- Download Eclipse IDE from this website and install

Step 2: Install the Tomcat Server

- Download Apache Tomcat from this website and install

Step 3: Start the Appengine Server

- Place the BeebleboxServer in the directory of your choice
- Open a terminal and connect to the directory
- Execute the command `ant runserver -Dserver.host=ipaddress`
- Replace IP address with your IP address

Step 4: Install MySQL

- Download MySQL from this website and install

Step 5: Create database sensordata

- Open a new terminal and connect to MySQL instance using the command `mysql -u <username>`
- Replace username with your user name
- Create the database and the corresponding table as follows:

```
create database sensordata;

CREATE TABLE sensorinfo (
TIME VARCHAR(15) NOT NULL,
SENSOR_DATATYPE VARCHAR(15) NOT NULL,
ISMITIGATED VARCHAR(6) NOT NULL,

UNIQUE KEY UNI_TIME (TIME) USING BTREE);
```

Step 6: Start the Appengine Server

- Place the BeebleboxServer in the directory of your choice
- Open a terminal and connect to the directory
- Execute the command `ant runserver -Dserver.host=ipaddress`
- Replace IP address with your IP address

Step 7: Start the Tomcat Server

- Place the BeebleboxMvcServer in the directory of your choice
- Export the project into your Eclipse workspace
- Add a Tomcat Server in Eclipse to deploy the BeebleboxMvcServer

- Add the BeebleboxMvcServer to Tomcat and start the server

Step 8: Start the IRobot Server

- Place the IRobotServer in the directory of your choice
- Export the project into your Eclipse workspace
- Right click on the project and select “Run as Java Application”

Step 9: Install the Beeblebrox app in your android

- Copy the Beeblebrox.apk to your Android’s memory card
- Refer to the instructions in this website to install the app in your phone

Step 10: Install the Player for IRobot Create

- Install Ubuntu 10.04
- Install Player 2.1.3 using link
- Enable the "festival" driver while installing
- Create a config file as mentioned here
- Test whether the player server is working using the commands as mentioned in the website.
- Install festival using this Web site

Step 11: Install SunSPOT sdk

- Download and install the SunSPOT sdk from here (Choose the default option, which should install the sdk in ~/SunSPOT/sdk.)
- Install the sdk "yellow-101117-1"
- Upgrade all the SunSPOT’s using SunSPOTManager (Refer to this Web site for details.)

Step 12: Execute Player

- Place the file `beebleboxrobot.cc` in the directory `/usr/local/share/player/examples/libplayerc++`
- Place the Makefile in the directory `/usr/local/share/player/examples/libplayerc++`
- Place the config file "roomba_loc.cfg" in the directory `/usr/local/share/player/config/`
- Open a new terminal and connect to the directory `/usr/local/share/player/config`
- Execute the command `player roomba_loc.cfg` to the run the player
- Open another terminal and connect to the directory `/usr/local/share/player/examples/libplayerc++`
- Execute the command `make beebleboxrobot`
- Run the program using the command `./beebleboxrobot`

(**Note:** Placing the files elsewhere instead of the directories mentioned above probably will work too, but I did not try that so if you do then you are on your own.)

Step 13: Deploy the SenseFire code on free range SunSPOT

- Place the `SenseFire-onSPOT` code in the path `~/SunSPOT/sdk/Demos/SendDataDemo`
- Clean and Build the Program using NetBeans IDE 7.3.1
- Connect the base station to the laptop
- Open a terminal and connect to the directory `~/SunSPOT/sdk/Demos/SendDataDemo`
- Execute the command `ant info` to check whether the connected SunSPOT is acting as a base station (Refer to this Web site)
- Deploy the code on the free range SunSPOT's using the command `ant -DremoteId=nnnn.nnnn.nnnn.nnnn deploy` where nnnn.nnnn.nnnn.nnnn is the IEEE address of the SunSPOT (Refer to this Web site.)

Step 14: Run the Desktop portion of the SenseFire code

- Place the `SenseFire-onDesktop` code in the directory `~/SunSPOT/sdk/Demos/SendDataDemo`
- Clean and Build the Program using NetBeans IDE 7.3.1
- Connect the base station to the laptop
- Execute the command `ant host-run` to run the application on the free range SunSPOTs (Refer to this Web site.

  Note: Before running this code change the IEEE address of the free range SunSPOTS in the code to the IEEE address of the SunSPOT to be used for running the code.)

Step 15: Deploy the SenseMotion code on free range SunSPOT

- Place the `SenseMotion-onSPOT` code in the path `~/SunSPOT/sdk/Demos/SendDataDemo`
- Clean and Build the Program using NetBeans IDE 7.3.1
- Connect the base station to the laptop
- Open a terminal and connect to the directory `~/SunSPOT/sdk/Demos/SendDataDemo`
- Execute the command `ant info` to check whether the connected SunSPOT is acting as a base station (Refer to this Web site)
- Deploy the code on the free range SunSPOT's using the command `ant -DremoteId=nnnn.nnnn.nnnn.nnnn deploy` where nnnn.nnnn.nnnn.nnnn is the IEEE address of the SunSPOT (Refer to this Web site.)

Step 16: Run the Desktop portion of the SenseMotion code

- Place the `SenseMotion-onDesktop` code in the directory `~/SunSPOT/sdk/Demos/SendDataDemo`
- Clean and Build the Program using NetBeans IDE 7.3.1
- Connect the base station to the laptop
- Execute the command `ant host-run` to run the application on the free range SunSPOTs (Refer to this Web site.

  Note: Before running this code change the IEEE address of the free range SunSPOTS in the code to the IEEE address of the SunSPOT to be used for running the code.)

Beeblebrox is ready!