Agenda

for 22 August 2013

Group 2 regular meeting
venue: IW 462

1 Working progress

1.1 SRS

We have done the requirements gathering parts form the first two client meetings. Remember that if we have further questions about requirements, it is possible to ask them in later meetings. The first assignment SRS first draft is only a draft of SRS. We do not need to put all the specifications on SRS. In my opinion, the first assignment is going to check our analysis ability to put the gathered information form client meetings into ordered, specified documentation. Therefore, if you meet a section in SRS that you have totally no information to write, just leave it blank. We are going to complete the whole SRS at the end of this semester.

Reminder: The draft of the first assignment - SRS first draft should be on SVN before 11pm Friday, 23 Aug.

1.2 prototype

We hope the prototyping process can be finished now. Matt and Yu did a great job on prototype design. On group meeting we can have some further discussion about the prototyping. We are going to show the prototype to the lecturer at next meeting and ask for suggestions. I hope the lecturer will not say anything negative such as it is too long.

Next progress should go on to GUI design. Therefore **we are going to do two presentations on next client meeting - the new prototype and the GUI design**.

2 To do in the meeting

2.1 Working on SRS

We are going to finalise the requirements gathering process and work on SRS first draft. If anyone has any question in terms of writing the first assignment, this is the last chance to

get together and communicate face-to-face. Later, the initial version of the first assignment should be on SVN (do not need to be completed, the whole group will help complete it). After the modifications during the weekends, we are going to submit it.

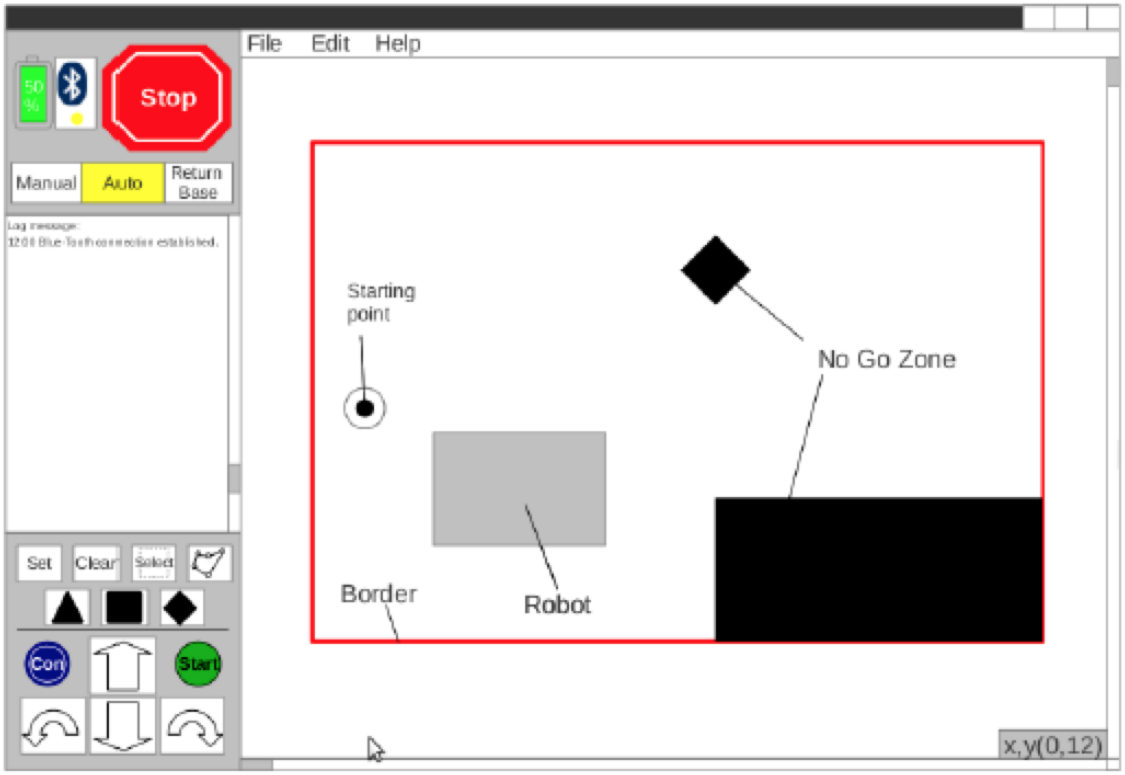
It seems we still have a question to ask: what are the types of road turning angles? Are they constant or not?

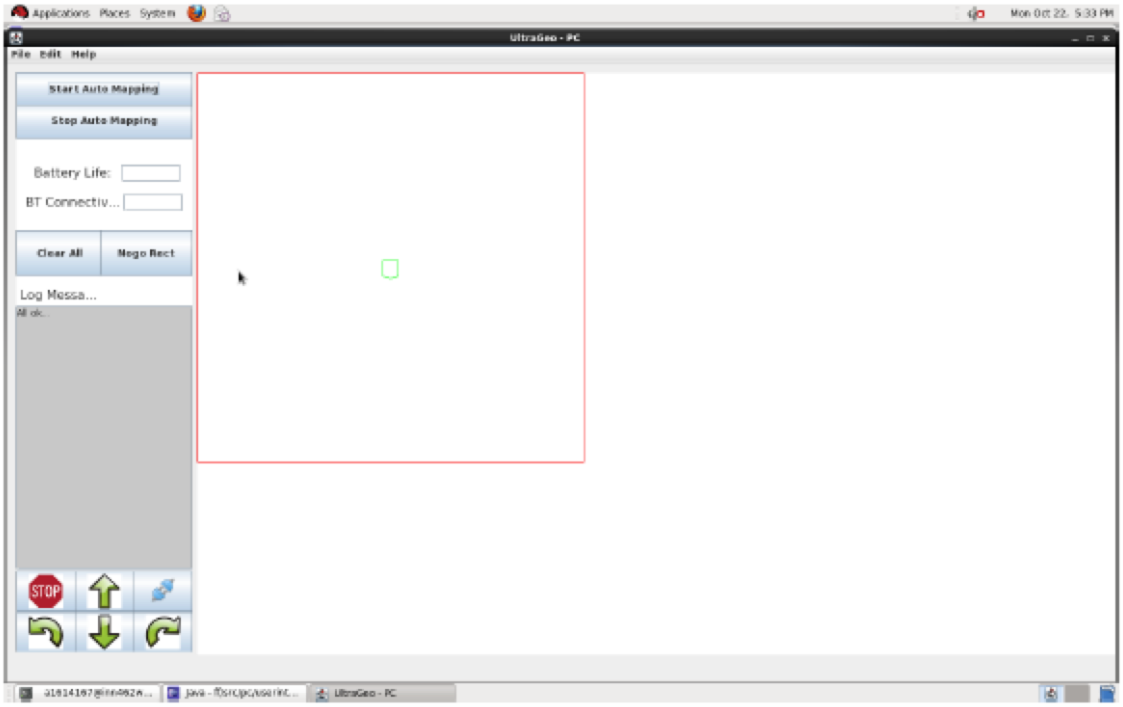
From the DTD , I guess only 90 degrees. However, I also see a video which is `https://www.youtube.com/watch?v=Zi7pdofJBy4&list=PL10C015A47579DC7C`. If I were the lecturer, I may require the robot to pass various turning angles.

2.2 GUI design

We are going to show our GUI design on next client meeting. We need to discuss the GUI design and find an individual who is responsible for GUI design. Let's go to the programming role allocation process so everyone has an edge about his coding tasks.

GUI examples:





2.3 Programming role allocation

Please note that this allocation is about the coding tasks. Testing tasks are not inclusive here. (Testing is another process and remember we have individual assignment regarding the test report)

The detailed architecture for the project has not been produced. According to the information we have so far, there are several roles in programming:

GUI designer

two people should work on this (one doing the GUI design and frame coding, the other doing icon editing and the linking with other parts (link the GUI with map and robot movement))

Robot movement designer

two people should work on this (including the manual movements and automated movements)

Mapping programmer

Communication programmer

The one who is reponsible for linking GUI with other parts should also act as a manager role so he can see the whole programming work in a comprehensive way and link all the parts together as a whole.

2.4 Milestone discussion

According to `http://forums.cs.adelaide.edu.au/mod/forum/discuss.php?d=27215` and `http://forums.cs.adelaide.edu.au/mod/forum/discuss.php?d=27219`, I'm a bit confused. I'm asking questions on forum to get clear answers.

We need to discuss the milestones for Week 9 and Week 10. I recommend we do not make too aggressive milestones.

I think they should be a combination of the milestones from Week 5 to Week 8.

For example, in **Week 9**:

Graphical User Interface (GUI)

Presentation of a beta version GUI with the following features:

1. Map: field depicting the area explored by the robot;
2. Controls: accessible and easy-to-use controls including buttons for Stop, Go, Rotate Left and Rotate Right.

(Ref: SRS 6.1 User Interfaces) A User interface is needed for remote control of the robot. This interface must be provided in the form of a GUI with the following components: Commands to move the robot forward and backward; Commands to turn the robot left and right; An emergency stop button, which will stop any current movement and freeze any automated behaviour; An ability to start or resume automated behaviour; A display of the current map; An ability to load pre-existing partial maps.

Mapsite

1. Presentation of a basic mapsite in which to run and test the robot. The map will feature above-ground walls of sufficient height, width and strength/resistance for robot detection.

Bluetooth Communication

Demonstration of successful communication with robot from PC via Bluetooth communication as per the following:

1. Initiating connection program on robot ('waiting' displayed on screen); running connection software on PC; confirming connection from PC;
2. Running manual controls (see below milestones) on robot from PC.

(Ref: SRS 5.1.1 Description)
3. The Operator shall be able to make connection with the robot from the pc via Bluetooth connection. (Ref: SRS 6.2 Hardware Interfaces)

... details regarding operating and robot control software... The operating software will communicate with the robot control software over Bluetooth version 2.0.

(Ref: SRS 6.4 Communications interfaces)
All communication between the robot and the operating software will occur over Bluetooth version 2.0. No encryption is required.

Manual Control

1. Under Operator direction, the robot will be directed to:
   - move forward
   - move backward
   - rotate left
   - rotate right

(Ref: SRS 4.1.3 R0003: Movement Controls) The Operator shall be able to direct the robot to move forward, backwards, rotate left, and rotate right.

Movement Speed

1. When travelling forwards or backwards, or rotating, the robot will travel at a speed below or equal to 5cm per second. This will be demonstrated with simple timing and measurements.

(Ref: SRS 7.2.1 Movement Speed) The robot shall not move with a speed greater than 5cm/s.

in **Week 10**:

Graphical User Interface (GUI)

Addition of features to the GUI:

1. Mapping: Load XML map file;

   (Ref: SRS 4.2.5 R0105 Mapping Resume)
   The user must be able to load partial and completed map files

2. Represent map described by file, including above- and below-ground walls;

3. Represent walls detected by robot (navigating under manual control) within on-screen map.

(Ref: SRS 4.2.2 R0102 Above-ground detection)
The Robot shall detect and map walls that project 15cm or higher from the map surface.

(Ref: SRS 4.2.4 R0104 Below-ground detection)
The robot shall be able to detect and map below ground objects, represented in the prototype as solid black markings on the surface.

4. Ability of user to enter 'no-go zones' via the GUI;
5. Ability of user to delete 'no-go zones' via the GUI;

   (Ref: SRS 4.1.2 R0002 No Go Zones)
   The Operator shall be able to mark "No-Go zones" on the map through the user interface.

Mapsite

1. Addition of markings representing below ground 'walls'.

Collision Detection

1. In the event of making contact with a wall or other object the robot shall stop its movement instantly.

(Ref: SRS 7.2.2 Collision Detection)
The robot must stop moving instantly upon contact with a wall.

3 Preparation for next meeting

The chair for next client meeting is Bowen and the one who is going to record the client meeting is Jianqiu. The agenda must be put on SVN 24 hours before the client meeting, which is **2.30pm Sunday**. Bowen needs to print the agenda out and bring it to the client meeting next Monday. Jianqiu should record carefully about the client meeting and generate the minutes after the meeting. He has to put the minutes on SVN 24 hours after the client meeting, which is **2.30pm Tuesday** of next week.

In the client meeting, we are going to:

Demonstrate the prototype

Demonstrate the GUI, if possible

Deliver the documents containing the Milestones for Week 9 and Week 10

4 Any other issues

4.1 Free discussions

4.2 Learning of tools

5 Date of next group meeting

29 August 2013.