Software Engineering and Project
Group 2 *Coding Pharaohs*
MILESTONES draft for Week 9 and Week 10

1 Milestones for Week 9

1. Refer to GUI. Depicting the area explored by the robot.

   including

   - representation of different structures on the map, both in existed map and detected by the robot

   - current location of the robot and the representation of the robot

   - the ability of saving new explored map

   - real-time map generation, the newly explored area will be presented on the GUI in real-time

2. Communication

   including

   - button on GUI to control the connection

   - initiating the connection, message will be showed on screen, ask for confirmation and running connection

   - show real-time message on the display of control panel of GUI

   - ensure the real-time control with connection

   - ability to detect the battery life and signal strength, and show them on screen

3. The manual control of the robot

   including

   - moving and rotating, including move forward and backward, turn left, and turn right.

   - ability to stop the robot

   - road closure marking

4. Safety performance

   including

   - movement speed should be an accepted constant low speed (5cm/s?)

5. Map site testing designed by the group.

   including

   - A1 size map with basic features

2 Milestones for Week 10

1. Refer to GUI.

   including

   - proper presentation of the map, a smaller sized full view on side and a bigger sized partial view in the main map panel. (this was discussed on last client meeting. This may be hard to achieve. We can eliminate this item on Week 8 if we think it's too hard to achieve)
   - traversed path by the robot, using a different colour to display

2. AI mode of the robot

   including

   - automatically follow the road and explore uncleared area
   - obstacle and disaster area avoidance
   - automatically road closure marking
   - if stop, the robot has the ability to continue AI mode exploration
   - the robot has the ability to go back to the starting position in AI mode (Exit)

3. Mission completion control

   - after finishing the exploration of the whole map, the robot should wait for a while (1 minute?), and send the mission completion message to the operator asking for manual control. If the operator did nothing, the robot will automatically come back to the starting position.

4. Safety performance

   including

   - collision detection. Once collision happens, the robot should stop immediately.

- low power performance. (10% or 5%?) send a warning to the operator and immediately stop, waiting for the manual control.

- lost of connection performance. Stop, and once connected go to manual control mode.

- dangerous zone. the robot should never go into the dangerous zone. once it reaches the edge of the area, it will immediately stop.

5. Map site testing designed by the group.

   including

   - put obstacles on the map and test

   - road closure marking features on real map