User Manual

Name: Xuhua Le

Student ID: z5047516

1. How to wire up the AVR lab board?

Most of the wires are connected following the lab instruction, except for some wires used for input and output functions. In my project, I used PortA to control LCD, and the PortF was used for LCD data register and display, and PortE was connected to the motor, and PortC was connected to the LED.

1. How to implement the emulating system?

At the beginning, user could push the RESET button to start the program, the LCD would show: ‘status ’ on the first line and ‘location ’ on the second line, and the LED light would flash for 3 times (interval time: 1/4 second) to indicate the start process of searching. After that, user could input the location of accident: input a number through keyboard as accident x, then input ‘\*’ through keyboard to input the second number, and then input another number through keyboard as accident y, after that, input ‘#’ through keyboard to start the searching process. Now, the LCD would show ‘St: fly’ on the first line which means the drone is flying to other points search the accident point, and the second line would show ‘loc: (x, y, z)’ to indicate the current location of drone. If the drone is searching the accident position, then it would show ‘sta: search’ on the first line to indicate that it is searching the accident now, and the second line would show ‘loc: (x, y, z)’ to indicate the current location of drone. Besides, the motor would spin at the fastest rate in the whole process. After the drone has found the accident position, the motor would stop and LCD would show ‘acci: (x, y, z)’ on the first line as the input location of accident, and the second line would show the current location of the drone, and a ‘F’ would be shown to indicate the drone has found the accident position.