**Summary Sheet for System Function**

Group Number: L0 1/ Gp: 11 (Project Type: **Bike Rider Facilitating System**)

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|  |  | Score (Lecturer use only) |
| Name: JOO SUNG JAE |  |  |
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| **Description of Functions** (one row for one function; add more row if needed. They are also the functions that you will give in the demonstration) | **Student who responsible to this part. If more than one student, put down weighting.** | **For marking (Lecturer use only)** |
| Example: Press Button B in a remote unit to play “do re mi” at the station unit; communicated via Radio communication | Chan Tai Man (80%);  Wong Tai Man (20%) |  |
| Glove Gesture  It will detect tilting directions and send corresponding radio numbers to micro:bit of Speaker. In order to prevent false alarm, it has to two mode which are 0/1.  Mode 0: Tilting detection is off, so do not detect anything.  Mode 1: Tilting detection is on, so it will detect direction and send radio numbers.  **The actions is as followed**  UP - It will detect up motion and send radio number ‘1’ to micro:bit on speaker.  Down - It will detect Down motion and send radio number ‘2’ to micro:bit on speaker.  Right - It will detect Left motion and send radio number ‘3’ to micro:bit on speaker.  Left - It will detect up motion and send radio number ‘4’ to micro:bit on speaker. | JOO SUNG JAE(100%) |  |
| Speaker  The micro:bit attached to the speaker has three main functions.  Firstly, it is responsible for receiving radio numbers sent by the detection glove and the gesture detection module. After receiving certain radio numbers by those two parts, it will display the corresponding direction on the micro:bit.  Secondly, the speaker’s micro:bit will also control the LED board. It will give power to LED board by using digital write pin according to radio numbers that it will receive.  Lastly, if radio number ‘5’ is received, a high E note will be played for 300ms as an alarm warning and If radio number ‘6’ is received, All LED will be blinked twice for 500ms for warning pedestrian.  **configuration is as followed**  (power pins according to directions)  GLOVE UP - receive radio number ‘1’ and digital write pin to pin ‘14’  GLOVE Down - receive radio number ‘2’ and digital write pin to pin all pins  GLOVE LEFT -receive radio number ‘3’ and digital write pin to pin’8’  GLOVE RIGHT - receive radio number ‘4’ and digital write pin to pin ‘13’  (power pins according to directions)  Motion UP - receive radio number ‘7’ and write digital write pin to pin ‘14’  Motion Down -receive radio number ‘8’ and write digital write pin to all pins  Motion RIGHT - receive radio number ‘9’ and write digital write pin to pin ‘8’  Motion LEFT - receive radio number ‘10’ and write digital write pin to pin ‘13’  Press A  receive radio number ‘5’  make high E sound for 300ms  Press B  receive radio number ‘6’  blink all LED twice for 500ms each  **LED board pin connections to speaker micro:bit**  PIN 8 -LEFT  PIN 13 - RIGHT  PIN 14 - UP (BLUE ONLY)  DOWN - ALL PINS | JOO SUNG JAE(100%) |  |
| LED BOARD  It will receive power from micro:bit of speaker according to corresponding directions from different modules and light up corresponding directions.  **Motion:**  UP - The front arrow(Blue) will light up, mean the driver want to accelerate the car.  Down - All LED light will light up for warning signal.  Right - The right arrow will light up and show the driver want to turn right.  Left - The left arrow will light up and show the driver want to turn left. | JOO SUNG JAE(100%) |  |
| Gesture detection board  If you do certain gestures on “gesture detection module”, it will send corresponding radio numbers to micro:bit which is mounted on speaker.  Moreover, it will play high E warning sounds when you press button A of micro:bit on gesture detection board and Blinking all the LED for twice for each of 500 ms interval when you press button B.    **The actions is as followed**  UP - It will detect up motion and send radio number ‘7’ to microbit on speaker.  Down - It will detect Down motion and send radio number ‘8’ to microbit on speaker.  Right - It will detect Left motion and send radio number ‘9’ to microbit on speaker.  Left - It will detect up motion and send radio number ‘10’ to microbit on speaker.  Press A - radio number ‘5’ to microbit on speaker.  Press B - radio number ‘6’ to microbit on speaker. | JOO SUNG JAE(1OO%) |  |

Any special feature that cannot be demonstrated in the lab, but only shown in the video? (Yes / No) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ . If Yes, give details of the feature.

(NOTE: Use this only if the feature cannot be demonstrated in the lab)

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| **Description of special feature** | **Student who responsible to this part. If more than one student, put down weighting.** | **For marking (Lecturer use only)** |
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