COMP 4073-Y01 Embedded Systems

Project 5: Challenge – more ideas

This project is for you to select an idea from the given challenge ideas listed in the next page. Once you complete your project, please submit a project report in the project report format to eCourses. Please follow the report format and make sure you include as much details as you can.

Please make a short video to demonstrate your project. You have to describe your problem first, then describe your solution, then demonstrate your project, as well as describe your team work, if you have. Upload the video to YouTube, then include the link in the project report. Make sure your link is valid and I can download your video from that link.

Notes:

1. Name your report file as "Last name, First name_pj5.docx/.pdf", for example, my last name is Wang and first name is Yonghui, so, my word file will be named as "Wang, Yonghui_pj5.docx"
2. Submit your project report to eCourses either in a word file or in a pdf file;
3. Due time: 11/19/2020, 11:59pm

Step 12 Challenge: more ideas

Now that you have explored the basics of the Sense HAT, you might want to investigate other things to do with it:

- Tell a joke on the LED screen.
- If your Sense HAT is connected to the internet, you could use a Twitter API library to make it display incoming tweets.
- Create your own images to display on the LED matrix.
- Can you alternate between images to create an animation? Check out this **Geek Gurl Diaries** (https://www.youtube.com/watch?v=b84EywkQ3HI) video for some inspiration.
- Create an electronic die**like this one** (https://www.youtube.com/watch?v=UfP-R6ArMSk). Shaking the Pi triggers the roll of the die.
- Create a simple graphical thermometer which outputs different colours or patterns depending on the temperature.
- Write a program that displays an arrow (or other symbol) on screen; this symbol could be used to point to which way is down. This way, astronauts in low gravity always know where the Earth is.
- Use the accelerometer to sense small movements — this could form part of a game, alarm system, or even an earthquake sensor.
- Make use of the humidity sensor to detect breath and display a colour depending on the humidity.