SI100B Python Programming Project

Who is Flying Over?

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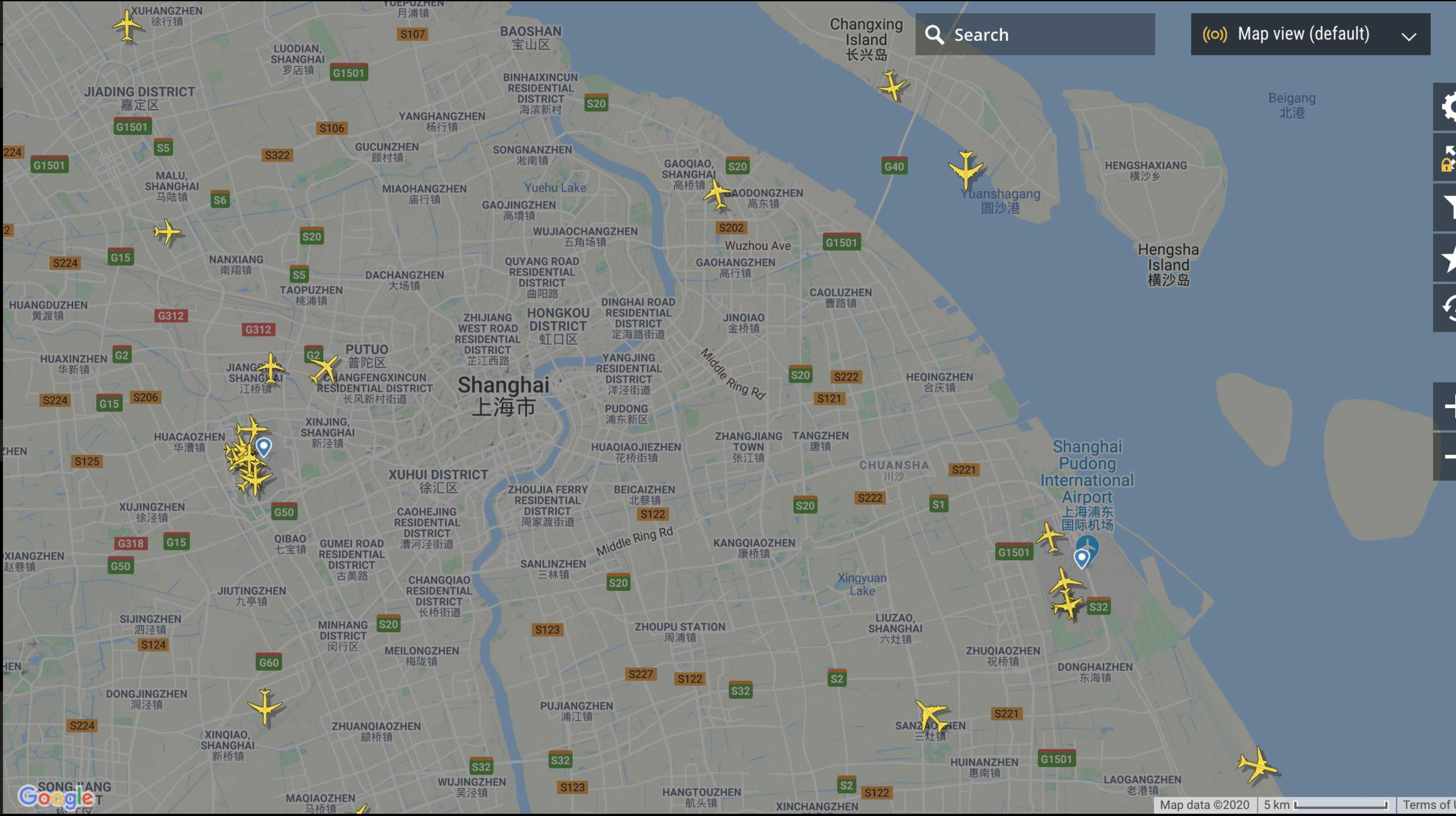


Project Topic

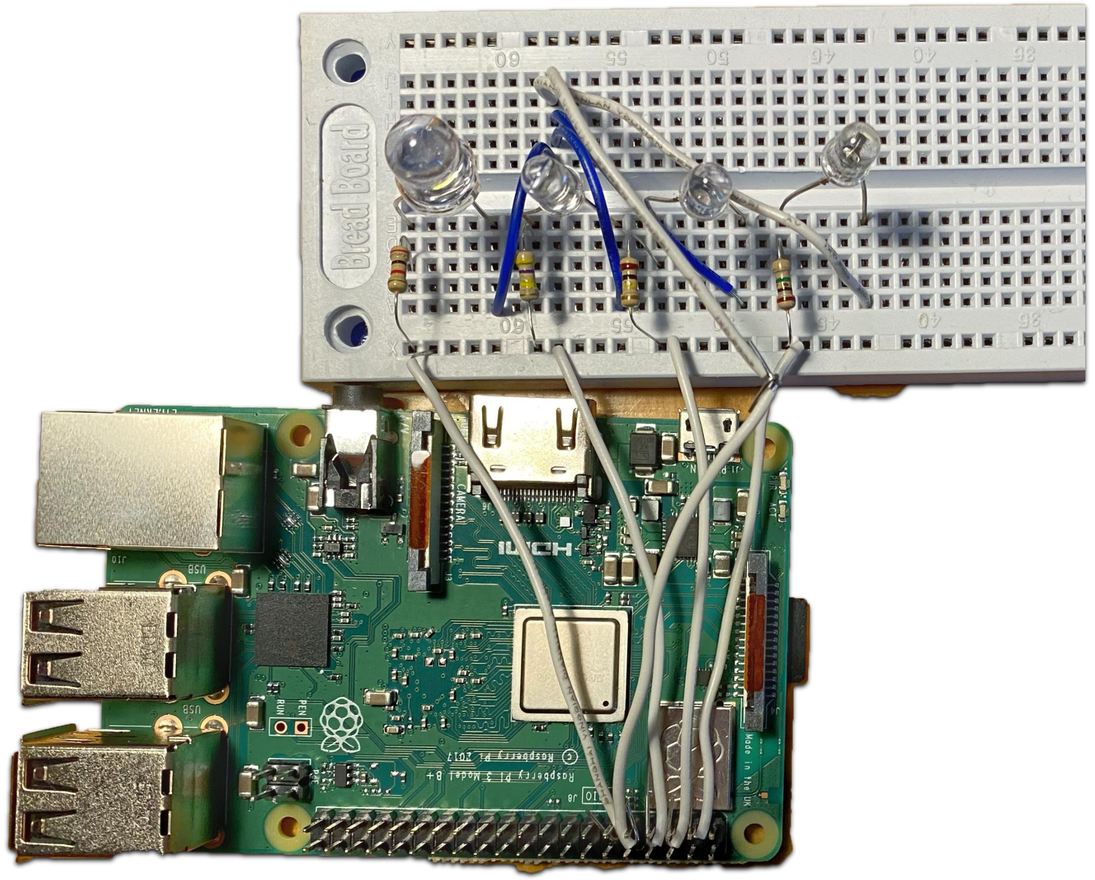
Who is Flying Over?

- What you will do in this project:
  - Get flight information from Web with a crawler (start from week 13)
  - Analyze the data and control LED light to show some results (week 14)
  - Control your crawler with a panel (week 15)
  - Further analyze the data and visualize the results by plotting graphs or building a website (bonus, week 16)

Project Requirement

Who is Flying Over?

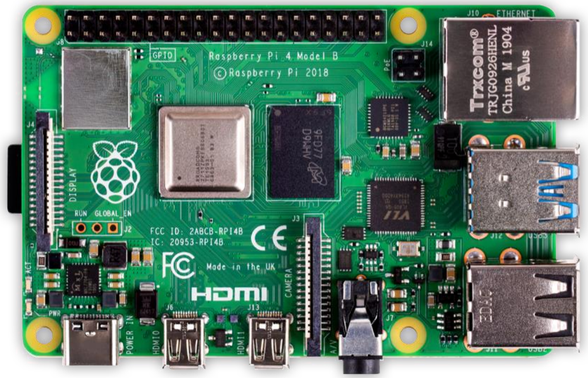
- Your program will need to run on a Raspberry Pi:
  - A mini computer that runs Linux;
  - GPIO pins for controlling external circuits;
  - IO ports like HDMI for display, USB for external devices and Wi-Fi/Ethernet for network access;



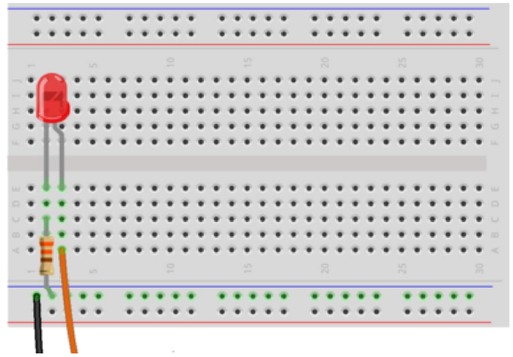
Project Topic

Who is Flying Over?

Crawl real time flight data from flight information websites like FlightRadar24 and FlightWare



Data processing with Raspberry Pi and Python



Control LED with GPIO port on the Raspberry Pi

Build web / command line interface to show your data as plot and control your crawler

Project Topic

Who is flying Over?

- Skills and knowledge you will gain from the project:
  - Python programming skills: both write your own program and use existing modules;
  - Basic skill of working on a Linux computer;
  - Skill of building simple circuit and using high-level hardware-software interface to communicate with your circuit
  - Web programming

Project Requirement

Who is Flying Over?

- Form a team of 3 people:
  - Collaborate with other people;
  - Divide your work fairly and wisely among your teammates;
  - Your work division will be taken into consideration when grading.

Project Schedule and Grading

Who is Flying Over?

- **Schedule:**
  - 1 task for 1 week: latter tasks may depend on earlier ones (reference implementation will be provided for week 1 task);
- **Grading:**
  - 1. Submit your implementation code and a report describing your implementation (report template will be provided); (weekly)
  - 2. You need to explain your work in face-to-face check; (weekly)