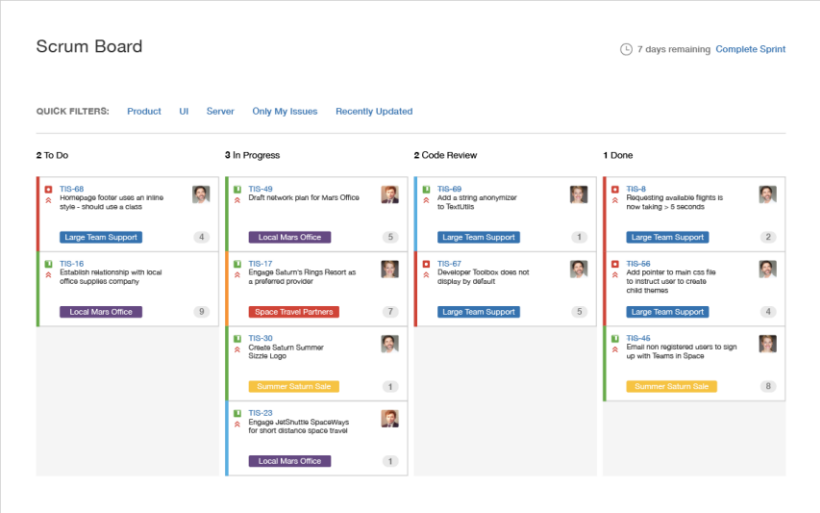
Capstone Project Weekly Progress Report

Project Title	Air Canvas
Group Name	Python Thinkers
Student names/Student IDs	Anto Francis (C0825095) Omer Volkan(C0856373) Rupesh Chandran(C0826779) Sachin Sreekumar (C0825096)
Reporting Week	22nd Jan 2022 – 28th Jan 2022
Faculty Supervisor	Prof. Parissa Naraei

1. **Tasks Outlined in Previous Weekly Progress Report** (Provide detailed information on the tasks to be completed in this week)
   a. Get familiarized with the project management tool, Jira. From the numerous numbers of project management tools available at the fingertip, we opt for Jira as it is best known for its software development capabilities using agile methodology. We aim to get familiarized with Jira's user interface. Also, we look forward to understanding how scrum and Kanban boards are managed in Jira.
   b. Identify tasks under each module and assign the tasks to team members. Identify tasks under the four modules and assign it to the responsible member.
   c. Discuss about the challenges in implementation.

2. **Progress Made in Reporting Week** (Provide detailed information on the progress that you made in the reporting week. Limit your write-up to no more than two page)
   - Each member created profile in Jira and are added to the project, 'Air Canvas'. We got a basic knowledge about the various features in Jira like board & Kanban free tutorials available in YouTube.



- Tasks identified under each module as follows.
  - **i.** Input modification module
    - The incoming image from the webcam is to be converted to the HSV colour space for detecting the coloured object at the tip of the finger
  - **ii.** Canvas Layout module
    - Canvas or the boundary within which the sketching is to be done has to be detected.
  - **iii.** Trackbar setup module
    - Make Trackbars to arrange the HSV values to the required range of color of the colored object that we have placed at our finger
  - **iv.** Contour detection module
    - After detecting the Mask in Air Canvas, Now is the time to locate its center position for drawing the Line.
    - We have to create a python data Structure that will store the position of the contour on each successive frame, and we will use these stored points to make a line using OpenCV drawing functions.

3. **Difficulties Encountered in Reporting Week** (Provide detailed information on the difficulties and issues that you encountered in the reporting week. Limit your write-up to no more than one page)

   The main difficulty was in deciding if the user should input using bare finger or using a coloured object on fingertip. Understanding that the detection of fingertip accurately maybe out of scope given the timeline of project, we decided to move forward with the latter. Detection of bare fingertip is being considered as a future improvement.

4. **Tasks to Be Completed in Next Week** (Outline the tasks to be completed in the following week)
   - Find reference papers and study what has been done already and what are the practical project scopes
   - Start reading the frames and convert the captured frames to HSV color space (Easy for color detection).
   - Prepare canvas area
   - Further breakdown of tasks