HOMEWORK WEEK 5-6

TASK 1 (Agile Techniques)

Question 1

Complete definitions for Scrum related key terminology provided below.

SCRUM CEREMONIES

- **Product backlog** refinement is the ceremony of adding detail, estimates, and order to items in the Product Backlog. It's during the ongoing process, like when we run the current sprint. Product owner and development team revisit and refine the requirements together.

- **Sprint planning** - one of the most important meetings for the whole team. The product owner will define the priorities from the backlog and assign them to the development team. Each point will be discussed with development team memebers and the time will be assigned.

- **Daily scrum** - a quick daily meeting run by Scrum Master to share updates and keep everyone accountable, mostly what has been achieved since the previous day, plan for the current day and any issues that can be on the way.

- **Sprint review** feedback and evaluation on added functionality session after each sprint , the product backlog can be revisited as some of the discussion points can be added to the backlog that can be used for the future sprint. The meeting is run by product owner and all the stakeholders of the project.

- **Sprint retrospective** - Feedback session where all the aspects of the sprint are discussed. If there are any problems or delays the team comes up with the action plan. The three main questions are discussed: what went well, what did not and what can be improved.

SCRUM ROLES

- **Scrum Master** - Is the team member who is in charge of making sure the processes go within the Scrum Guide framework. SM helps the team understand Scrum theory and practice of Scrum. SM is accountable for the team's effectiveness, and helps improve practices, challenges the team. SM can be seen as a project leader and a coach, helping in the development of self-management and cross-functionality in the team and advising the organization as a whole on scrum implementations.

- **Product Owner** - is the team member who is in charge of maximizing the value of the product during its development stage within the Scrum framework. PO makes sure that Product Backlog is transparent, visible and understood and is managed effectively communicating the product goals to the team. PO represents the interest of all the stakeholders.

Development Team - Developers are the people in the Scrum Team that are working on the product creating any aspect of a product usable feature. The team works in sprints and is accountable for planning each sprint, and taking the tasks from the backlog, working together towards the product goals, keeping each other accountable and updating on project progress.

Question 2

You are leading a development team that was given a task to create a new **yoga booking system.**

High level description of the system is as follows:

- It has a very simple interface to accept user input (bookings) and display classes information

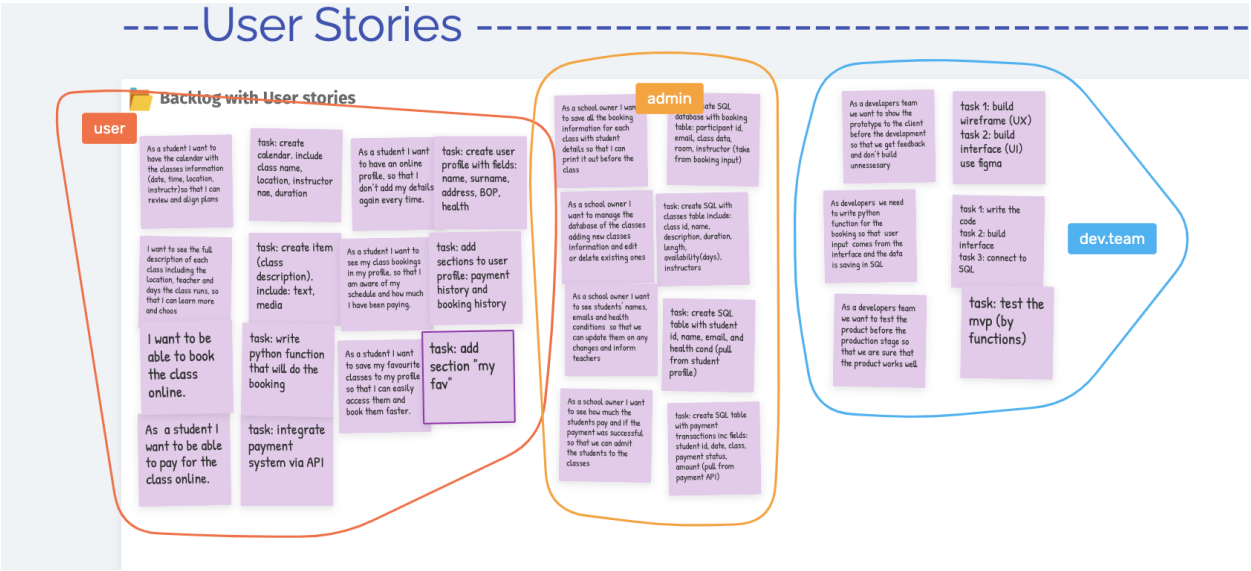
· All bookings, appointments, schedules etc should be stored in a SQL database.

· There is a ‘backend’ system that should be written in Python to handle the logic and manage the data flow.

Your team has two weeks to build a simple prototype that will be shown to the client to seek their feedback and discuss further enhancements.

I would approach the task taking the higher level requirements as epic guidance, and subdividing them into user stories (in categories) and tasks derived from them for the development team.

The scale of the project is quite small and can be completed in one sprint, however I split it into two sprints assuming that we are working in a very small team and the everyone has similar skills and just perform different roles based on requirements and need a proper feedback session after the wireframe design (sprint 1) before actually moving to the development of the MVP.



Profile 1 -student (user)

As a student I want to have the calendar with the classes information on the website that will include the date, time, location and instructor so that I can review the information before booking the class and align it with my plans.

As a student I want to have access to the full description of each class including the location, teacher and days the class runs, so that I can learn more and make my class choice.

As a student I want to be able to book the class online.

As a student I want to be able to pay for the class online.

As a student I want to have an online profile, so that I don’t add my details again every time.

As a student I want to see my class bookings in my profile, so that I am aware of my schedule and how much I have been paying.

As a student I want to save my favourite classes to my profile so that I can easily access them and book them faster.

Profile 2 - school owner (admin)

As a school owner I want to save all the booking information for each class with student details like name, email and any health conditions so that I can print out the list before the class for the teacher.

As a school owner I want to be able to manage the database of the classes adding new classes information like description, availability, and teachers and also to be able to change or delete the existing ones so that I can always keep the website up to date.

As a school owner I want to see students' names, emails and health conditions so that we can update them on any changes and inform teachers on restrictions

As a school owner I want to see how much the students pay and if the payment was successful so that we can admit the students to the classes and not overcharge them.

Profile 3- guest

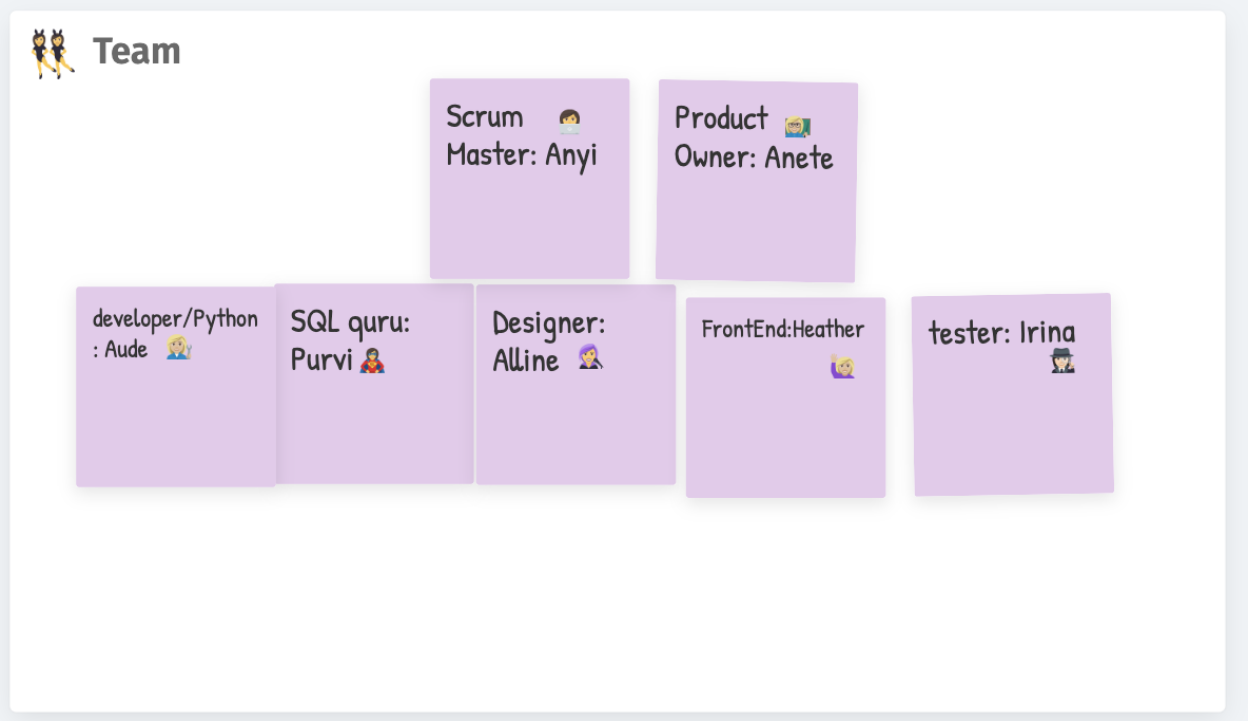
As I curious individual I just want to browse along the site so that I can decide to register or not.

Team stories

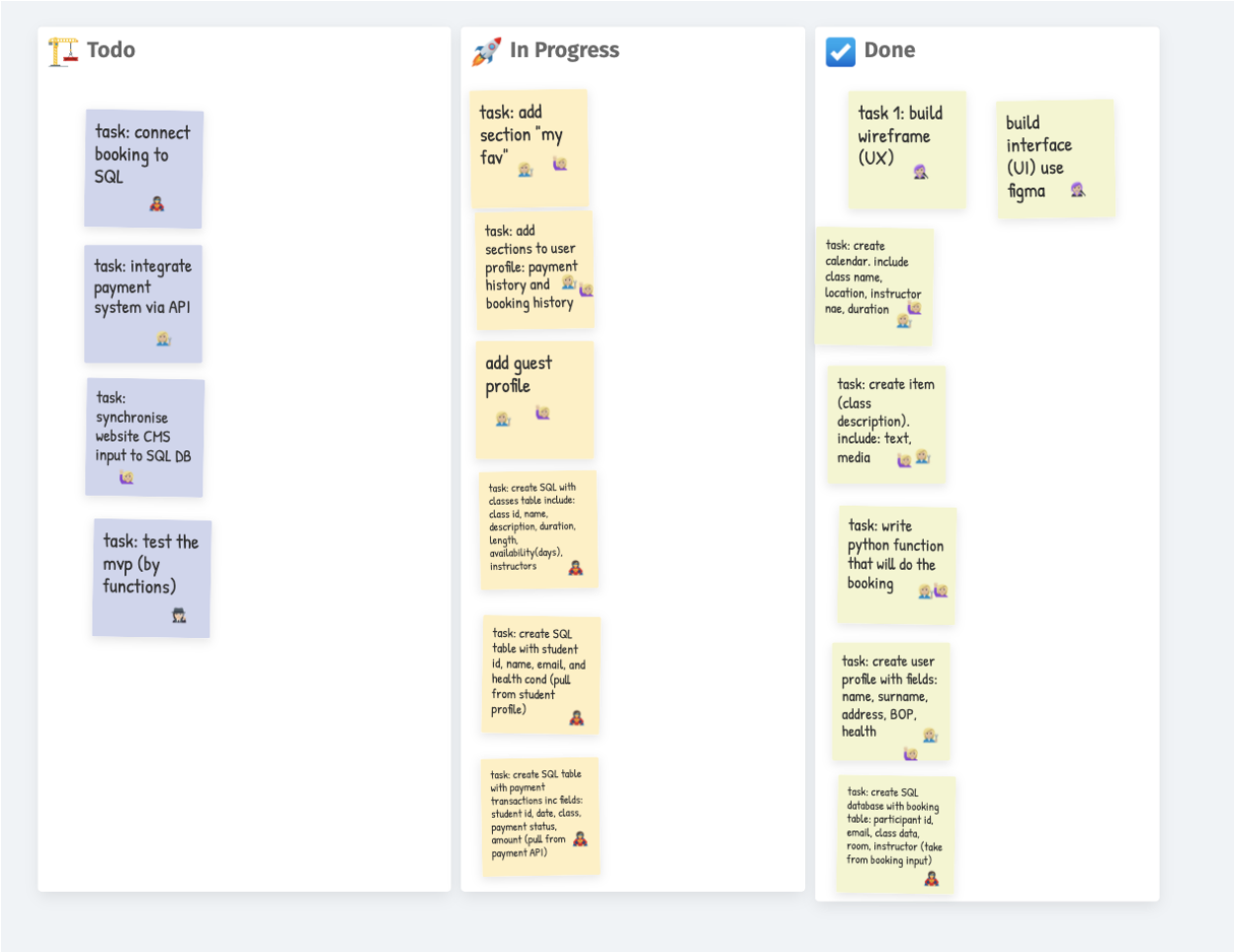
As a developers team we want to show the prototype to the client before the development so that we get feedback and don’t build things that are unnecessary.

As a developers team we want to test the product before the production stage so that we are sure that the product works well and if not we can debug errors.

So we got the team to work on the project:



·with the help of the Scrum Master and Product Owner the tasks are distributed and the Kanban shows project after the first week with half of the tasks implemented and some being in progress with the team members assigned.



Most of the tasks can be broken down further, like e.g testing, or UX/UI or even each user profile, but my approach was a general overview.

TASK 2 (SQL)

Question 1

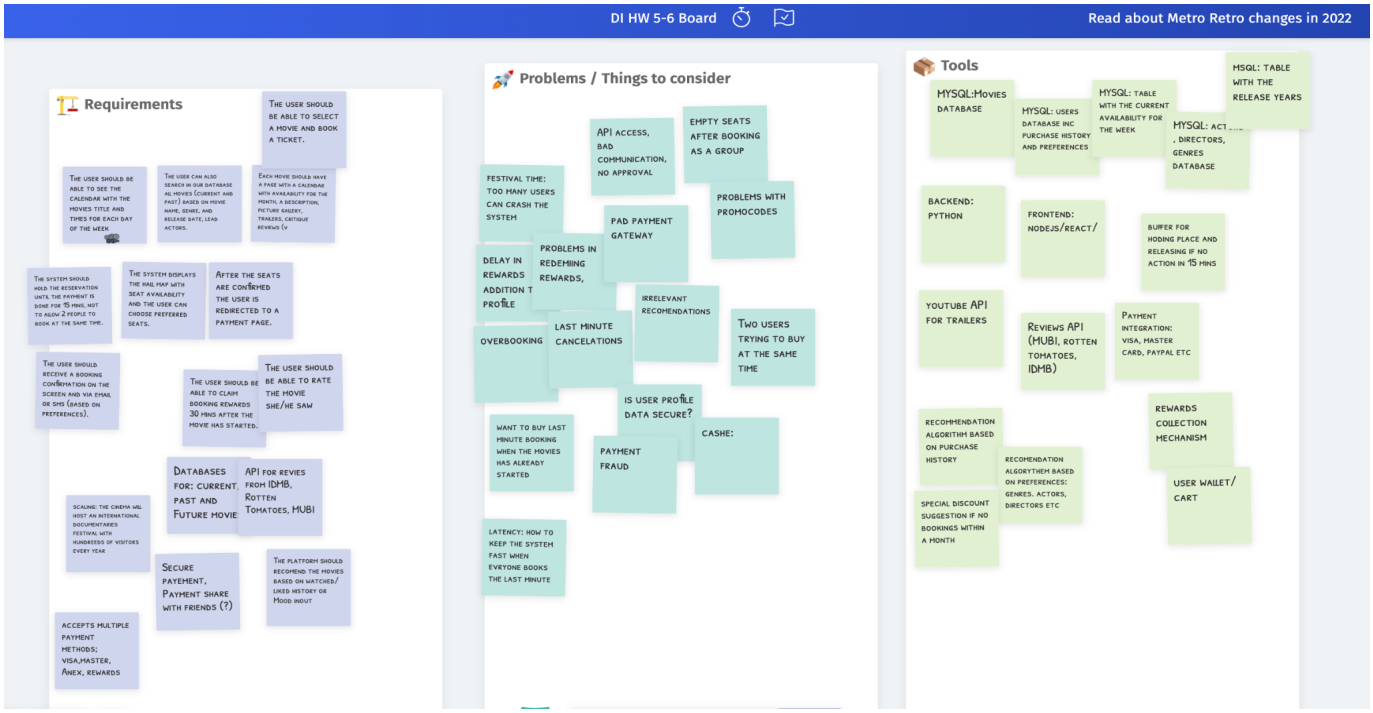
Design a cinema booking system.

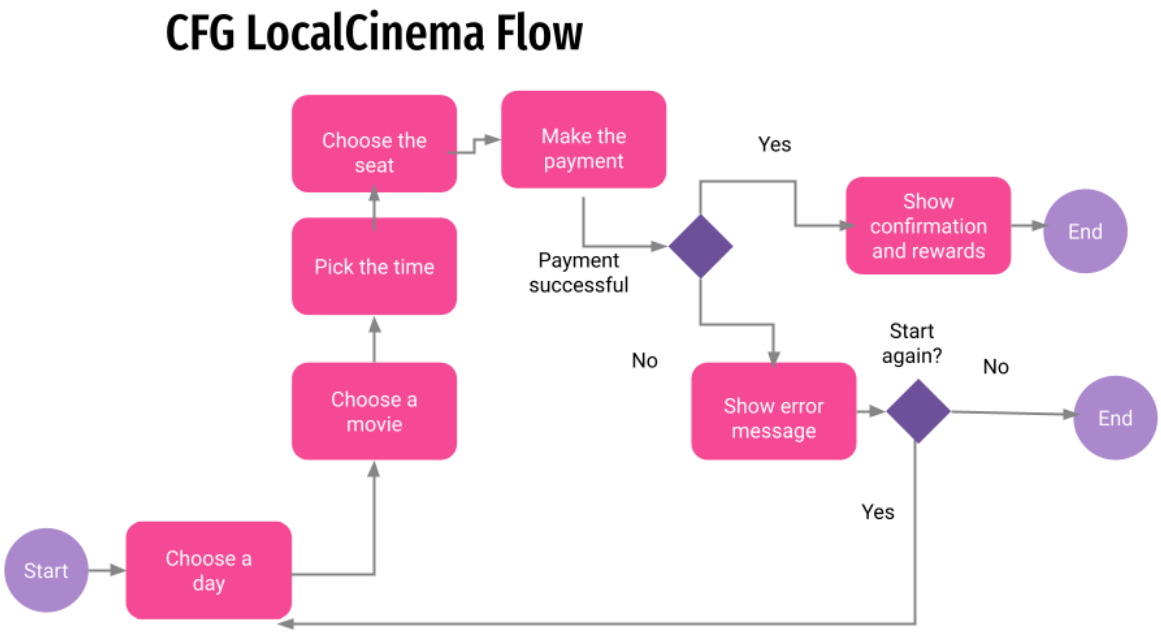
Think how you would approach the problem and what are potential ways of solving it?

You do not need to write actual code, but describe the high-level approach:

- Draw a list of key requirements
- What are your main considerations?
- What would be your common or biggest problems?
- What components or tools would you potentially use?
- You are welcome to draw a diagram (a very simple one) for the process flow to explain how it is going to work.

In my scenario I design a system that will do the bookings for one cinema in one location (not a chain like Omni or Cineworld, but has a potential to scale up).



Large pictures attached separately

And here's the flow diagram: