**HOMEWORK WEEK 5-6**
(handout for students)

**TASK 1 (Agile Techniques)**

## Question 1

**Complete definitions for Scrum related key terminology provided below**.

SCRUM CEREMONIES

- Product backlog refinement

It is an ongoing process that involves product owner and team to creating shared understanding on what the Product will, and won't, do and on what it will take to create it.

- Sprint planning.

Spring planning starts off the sprint by laying out the tasks and work for the sprint

- Daily scrum.

Daily scrum is an internal meeting for the Scrum, they will use this time to inspect progress toward the Sprint Goal and adapt the Sprint Backlog as necessary, adjusting the upcoming planned work and produces an actionable plan for the next day of work.

- Sprint review.

Sprint review happens at the end of a Sprint, before the Sprint Retrospective. Its purpose is to inspect the work that has been done to date and to decide what next steps make sense based on what was learned from that and it's the moment where the Product Owner invites stakeholder to inspect the product together

- Sprint retrospective

Spring Retrospective is time for team to discuss the ways to increase quality and effectiveness.

SCRUM ROLES

- ScrumMaster

The Scrum Master is responsible for promoting and supporting Scrum, as same time supports the Product Owner, also helps team in making Scrum successful and ensures a proper work environment for the scrum team

- Product Owner

The Product owner is one person responsible for maximizing the value of the product and managing the product backlog and stakeholders

- Development Team.

The team creates the deliverable of the project, and demonstrates product increment to Product Owner during the sprint review meeting

**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.

TASK

· Break this task into smaller stories (chunks of work) for the team to work on.

· Assume that one person works on one task.

· Mark tasks that can be worked on in parallel and perhaps those that need to be worked on in particular order.

**Task: Create a customer interface**

Create a log in page for customers or sign in page for guests

Collect customer information for confirm booking details

e.g customer name, email

It shows a list of classed with:

- Class name, Timetable, instructor name, Studio location e.g Studio 1
- ‘Book’ button to book a lesson
- Price for each lesson

Create secure payment method with third party payment companies

Send booking confirmation to customers’ email address

Sending the information to the database by API route

**Task: Create a SQL database for a yoga booking system**

Create tables like:

Classes/bookings/customer_information/payment

**Task: Connect database with python**

For interacting with web server, install requests library and use 'GET','POST''PUT','DELETE'…….. methods to manage and talk to SQL database, make queries like ' SELECT customer_name, sum(fee) FROM payment Group by customer_name' to know who is the most value customer.

**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.

Diagram uploaded separately