

## HOMWORK WEEK 5-6

### TASK 1 (Agile Techniques)

#### Question 1

Complete definitions for Scrum related key terminology provided below.

#### SCRUM CEREMONIES

- **Product backlog refinement:** this is an ongoing process of refining product backlog items – making sure they are understood by the team, ordering them by priority, clarifying details and adding an estimate of completion.
- **Sprint planning:** this is an event that starts a sprint. Team figures out what can be delivered in a sprint and ways to ensure it is achievable.
- **Daily scrum:** short (10-15 minutes) meeting for the Development Team to plan work for the day and identify any blocks that can impact achieving it.
- **Sprint review:** meeting between Scrum Team and stakeholders to discuss the result of the sprint, review the achievements and plan what to do next based on any changes.
- **Sprint retrospective:** meeting of Scrum Team to discuss the sprint – what went well, what could be improved, what problems presented themselves and how they were solved.

#### SCRUM ROLES

- **Scrum Master:** a person that oversees execution of scrum framework, with its values and principles. Their role includes ensuring that the team can work effectively, paying attention to the team dynamics, assuring good relationship between the team and the outside personas, removing obstacles blocking the work, facilitating communication.
- **Product Owner:** is a person responsible for creating a vision for the product, defining goals, ordering product backlog items, ensuring it is easy to understand and clear, being a hub of communication between involved parties, evaluating product during each sprint.
- **Development Team:** team responsible for building the product defined by the vision of Product Owner.

#### 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.

Feature	Priority	Requirements	Notes
UI	High	As a yogi, I want to go to the website to see what yoga studio has to offer.	Can be worked on independently, but keep in mind it will need to retrieve classes info and allow yogi/instructor log in/account creation (add placeholders for those).
Server	High	As a yogi, I want to be able to create an account to book a class.	This will be an essential feature, to be worked on early.
DB	High	As a yogi, I want to be able to see my account details.	To be worked on in parallel to account creation.
Server	High	As a yogi, if I forget my password, I want to be able to retrieve it.	To be worked on in parallel with the account creation and accounts DB.
API	High	As a yogi, I want to see which classes are available through the week, so that I can book them.	This is to be worked on once classes DB and UI are done, to connect both.
Server	High	As an admin, I want to be able to add new instructors to the system.	Can be worked on independently but has to be done before any instructor features.
DB	High	As an instructor, I want to add classes for people to attend.	Can be worked on in parallel with schedule DB.
DB	High	As an instructor, I want to schedule classes for people to attend.	Can be worked on in parallel with classes DB.
Server	High	As an instructor, I want to be able to cancel classes.	To be done once classes/schedule DBs are complete.
Server	Medium	As an instructor, I want to be able to set a maximum number of yogis that can attend a class, to avoid	If time permits, to be picked up once

		overbooking.	classes DB is done.
Server	Medium	As a yogi, I want to be notified if the class is cancelled via email.	If time permits, to be worked on after the cancelling classes feature is done.
DB	Medium	As a yogi, I want to pay for my classes online.	If time permits, add this feature to the booking classes one.

High priority items must be finished before the meeting with the client; medium priority items are *nice to have* for the first meeting, but if there's no time to complete them, they can be signalled and discussed with the client.

## 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:
  - 1) User must be able to view the page and currently played movies
  - 2) User must be able to see movies showed at a specific date
  - 3) User must be able to see the description of a movie with a trailer
  - 4) User must be able to create an account
  - 5) User must be able to book a ticket
  - 6) User must be able to see the layout of the cinema room and clearly marked seats that are already booked
  - 7) User must be able to choose their seat
  - 8) User must be able to pay for their tickets using online services
  - 9) User must have option to receive their ticket in an electronic form
- What are your main considerations?
  - 1) Selected dates should show correct movies
  - 2) Making sure system can handle increased traffic during premieres
  - 3) Making sure it's impossible to select already booked seat
  - 4) Payments must be secure
- What would be your common or biggest problems?
  - 1) Users trying to book the same seat at the same time
  - 2) Time-out of payments
  - 3) Users not receiving their ticket after completion of payments
- What components or tools would you potentially use?
  - 1) To simplify design, we could use third-party payment solution

2) Potentially also use distributor's database to retrieve movie info & trailer

· You are welcome to draw a diagram (a very simple one) for the process flow to explain how it is going to work.

