**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 – The scrum process starts with the backlog. The product owner creates a product backlog, which is a list of specifications from the client or end-users. Using input from all the stakeholders, all the requirements are entered into the backlog as user stories.
* Sprint planning – After the backlog is finalized, the product owners and development team conduct sprint planning. During sprint planning, the team pulls a small chunk from the top of product backlog to work on during the sprint. That chunk becomes the sprint backlog.
* Daily scrum – On a daily basis the develop team coordinates their work in a daily scrum. Along the way the scrum master helps the scrum team perform at their highest level and make smooth progress towards their sprint goal.
* Sprint review - At the end of each sprint, the development team delivers a functioning piece of the product to show for their work. The development team holds a sprint review to demonstrate what they have accomplished during the sprint. Any stakeholders, senior managers and other effective departments such as marketing, customer support and others are invited to give feedback.
* Sprint retrospective – After the sprint review, the team gathers for a sprint retrospective, to discuss what went well, what went badly and what could be improved in further sprints. They make tangible plans for how to improve their own process, tools and relationships. Unlike in the sprint review where the focus is on the product, in sprint retrospectives the focus is on the process. As the next sprint begins, the team chooses another chunk of the product backlog and begins working again. Beyond the sprint, the cycle repeats until enough items in the product backlog have been completed, the budget is depleted or a deadline arrives. This way, scrum ensures the most value work is being completed by the time the project ends.

SCRUM ROLES

* ScrumMaster – This person is a process expert that manages work with a dedicated timeline. S/he acts as a coach and servant-leader of the agile development team. They help the scrum team perform at their highest level. They are responsible for ensuring that everyone on the team understands scrum theory, roles, practices and values. The Scrum master allows the team to self – organize and make necessary changes accordingly owing to agile principles. They protect the team from external and internal disturbance, by removing all sort of impediments hindering projects progress, facilitate meetings and provide a high performing working environment.
* Product Owner – This person defines what the product will look like and what features it should contain. They keep track of project stake holders’ expectations; define and gather the required tools and resources required by the scrum team. In addition, the product owner communicates the project’s vision with the team to help them dissect priorities. They are responsible for maximizing the product resulting from the work of the team.
* Development Team – These people are professionals who do hands on work of developing and testing products put forward by the product owner. The team consists of self-organizing, cross disciplinary teams including engineers, designers, architects and testers. The development teams are structured and empowered by organizations to organize and manage the work.

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.

Frontend task – UX/UI designer create an interface

As a user I want to be able to input my data.

When the data has been put in.

Create the criteria for the user to be able to input their login details.

The 2nd task is for database engineer to create a database where this info can be stored and queried using the SQL data. This task should contain input and output of data.

The backend -

(User stories – acceptance criteria =how you can tell whether the criteria have been met.

The boundaries of that user story

How to write an acceptance criterion

User story: Sky garden yoga booking search

Narrative: Person looking for a new yoga class with a view. I want to search for tickets, providing dates so that I can book a session.

Scenario: Saturday morning session search

If I click on ‘book your ticket here’

When I choose ‘today’

And I choose the option value of “3” in the field “Number of people”

And I choose the time of “6:30” referring to the time

And I type “Ada, Rene, Francine” in name of people

And I click ‘book’

**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.

Go to cinema world, see how they onboard their customers

Step by step then cancel

Payments …painless…price …process of buying the tickets

A system for a cinema that allows the user to log in as a customer or an engineer. They will have different options based on what they choose. A customer can view films showing and reserve tickets. An engineer has greater privileges and can also perform administrative tasks.

|  |  |
| --- | --- |
| Advantages | Disadvantages |
| The booking system is available 24/7 | Internet access will be needed |
| Reservations can be maximized | System can crash if there’s an influx of customers |
| Payments is quicker and safer |  |
| Low cost as no need for customer service rep |  |
| Gain insight on data and customers with sell ons |  |
| Reservations and availability on all devices |  |

Tools needed

HTML, CSS, JavaScript, MongoDB, React native for interface, Python, SQL, a domain name