

## Problem Set:

Your consulting job at Driverless Cars is going very well! You're earning \$1,000/day based on your extensive knowledge of Agile methods and how well you've been able to help the company understand how to optimize those methods for the automatic parking application. Your next task is to help the developers and management at Driverless Cars understand how to use Scrum for this application.

For this assignment, you will have the following deliverables:

1. Provide an overall description of the Scrum process and roles.
2. Explain the planning process for Sprint 1. Who is involved? What are the work products? What are the roles and deliverables of each participant? Who delivers what and when?
3. Describe what happens, day to day, during Sprint 1. Who is involved? What are the work products?
4. Describe what happens at the end of Sprint 1. Who is involved? What are the work products?
5. How does the team measure progress?
6. How and when can the team adjust priorities? Who sets the priorities? When can changes be made?

# Solution:

## I. Provide an overall description of the Scrum process and roles

- a) The product owner is the project's leader who oversees the Driverless Parking project, assigns priority values to product backlogs, and makes crucial project decisions.
- b) At the sprint review, there will be internal stakeholders who will work with the Product Owner and interact with the development team.
- c) The scrum team, which includes a Scrum master and a development team.
- d) The scrum master does not lead the development team; rather, he supports the development team and ensures that all agreed-upon scrum rules are followed, as well as coaching the development team. The scrum master also assists the product owner in identifying approaches for product backlog management, as well as assisting the product owner in communicating with the development team and ensuring that the development team completely understands all aspects of product backlog management.
- e) The development team will create the software for the driverless parking car and will be in charge of the daily scrum meetings. The development team will work with internal stakeholders who have been invited by the product owner to discuss the current sprint review.

## II. Explain the planning process for Sprint 1. Who is involved? What are the work products? What are the roles and deliverables of each participant? Who delivers what and when?

- a) The product owner, scrum team, and scrum manager will participate in sprint planning and decide on the product backlogs, and the product owner will give a priority to each user story item and debate the inclusion of new features and technologies.
- b) Sprint planning involves the product owner, development team, and scrum master.
- c) Each backlog will be prioritized by the Product Owner.

- d) The development team will provide information on the apps that will be created this spring, and the product owner will review the backlogs with the development team.
- e) The development team will complete the task, and the product owner can explain the importance of backlogs to determine the strategy.
- f) If the workload is severe or light, the development team can renegotiate with the product manager.
- g) The developers present the product to the product owner at the conclusion of the sprint, and the product owner is responsible for the product's labeling and other characteristics.

### III. Describe what happens, day to day, during Sprint 1. Who is involved? What are the work products?

- a) A sprint is a time of one month or less in which to fulfill the sprint goal.
- b) Sprint planning is done by the product owner and development team, who break down the work and frame it in a time window known as a sprint objective.
- c) The day begins with Daily Scrum, in which the development team discusses their work that helped the development team reach the sprint target. They also express their thoughts if something might prevent the development team from meeting the sprint target.
- d) The development team is in charge of running the daily scrum. The scrum master is responsible for ensuring that the development team arranges the daily scrum.
- e) They will depict the backlogs vs. time in a graphical representation known as a Burn-Down chart, so that all development team members may carefully monitor and improve their team's performance.
- f) The scrum master enables the scrum and trains development team members to follow the scrum and assist the product owner in communicating with the development team.
- g) The development team will ensure that the task is completed on time so that they do not fall short of the sprint target.

- h) A sprint review will be organized at the end of the sprint by the product owner, development team, and stakeholders invited by the product owner.

#### IV. Describe what happens at the end of Sprint 1. Who is involved? What are the work products?

- a) The product owner will organize a sprint review. The sprint review will be attended by the development team and stakeholders invited by the product owner.
- b) The development team will discuss their experience and any issues they encountered while building the product in that sprint during the sprint review.
- c) Sprint planning for the next sprint will begin soon once the current sprint is completed.
- d) They will talk about increasing the functionality of the product.
- e) Product backlog, Sprint backlog, Burn-down chart, and increment of product feature are examples of work products.
- f) They will review the new features that can be incorporated in the next sprint, providing a clear picture for next sprint planning.

#### V. How does the team measure progress?

- a) Burn-down Chart is a graphical depiction of the amount of work remaining vs the amount of time available. Backlogs are on the Y-axis (vertical axis), time left is on the X-axis (horizontal axis), and there is an estimation line and an actual status report of the task in the graph chart.
- b) The burn-down chart provides an accurate status report.
- c) The burn-down chart provides insight into team performance; if the team is constantly ending work early or failing to finish work on time, they are not breaking down the work effectively in sprint planning.

**d)** The burn-down chart illustrates how much work has been performed and how much work remains to be finished. They may also observe if the task is done on time or if it takes longer than expected.

**e)** Because of its simplicity, the burn down chart is also incredibly useful. It's a terrific method to see the project's velocity history. Velocity is an agile phrase that refers to the overall effort estimates connected with completed user stories within an iteration.

## VI. How and when can the team adjust priorities? Who sets the priorities? When can changes be made?

**a)** The properties may only be adjusted during sprint planning, and all other properties that come in at any moment throughout the sprint must be included in the product backlogs for the following sprint.

**b)** The priority is assigned to each user story item or product backlog by the product owner and the development team cannot set the priority to each user item or product backlog.

**c)** There are no modifications that would influence the Sprint Goal, and "If the work turns out to be different than the Development Team intended, then they interact with the Product Owner to negotiate the scope of the Sprint Backlog inside the Sprint." It goes on to mention in the Sprint Backlog discussion.

**d)** Any adjustments to the sprint product backlogs can be negotiated by the development team with the product owner.

**e)** During a Sprint, only the Development Team has the ability to update its Sprint Backlog.