**Capstone Project 2**

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**Batch: 10th Aug 2024**

**Scrum Project Name:** Scrum Foods (Foods Delivery Applications)

**Question 1 – write Agile Manifesto – 8 Marks**

**Answer:**

**Four main Values**

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

**Twelve Principles of Agile Software**

1. Satisfy the customer through early and continuous delivery of valuable software.
2. Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. Business people and developers must work together daily throughout the project.
5. Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done
6. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7. Working software is the primary measure of progress.
8. Agile processes promote sustainable development. The sponsors, developers, and users. should be able to maintain a constant pace indefinitely.
9. Continuous attention to technical excellence and good design enhances agility.
10. Simplicity-the art of maximizing the amount of work not done-is essential.
11. The best architectures, requirements, and designs emerge from self-organizing teams.
12. At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

**Question 2 – User Stories- Acceptance Criteria-BV-CP – 40 Marks**

Write minimum 40 User stories and their Acceptance Criteria along with their BV and CP

**Answer:**

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| User Story No. 1 | Tasks: 2 | | Priority: Highest |
| As a Delivery Boy  I want to register in Scrum Foods  So that I can deliver orders | | | |
| BV: 500 | | CP: 2 | |
| Acceptance Criteria:   1. Registration screen with text boxes for User Name, Password, Nation ID, Mobile No, Email, Address, and Phone Number. 2. Click on the Register button. 3. Successful notification is sent to the user. | | | |

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| User Story No. 2 | Tasks: 3 | | Priority: High |
| As a customer I want to browse restaurants based on location So that I can view food options near me | | | |
| BV: 450 | | CP: 3 | |
| Acceptance Criteria:   1. Input for location or automatic location detection. 2. Display restaurants within a 10 km radius. 3. Filter restaurants by cuisine type, ratings, and distance. | | | |

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| User Story No. 3 | Tasks: 2 | | Priority: Medium |
| As a customer I want to view a restaurant's menu So that I can choose food items to order | | | |
| BV: 400 | | CP: 3 | |
| Acceptance Criteria:   1. Display categorized menu sections. 2. Display item details such as price and ingredients. 3. Allow users to add items to their cart. | | | |

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| User Story No. 4 | Tasks: 1 | | Priority: Highest |
| As a Customer I want to securely make payments So that I can complete my order | | | |
| BV: 500 | | CP: 4 | |
| Acceptance Criteria:   1. Support multiple payment methods (credit, debit, UPI). 2. Ensure secure payment processing. 3. Display a confirmation message after successful payment. | | | |

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| User Story No.5 | Tasks: 3 | | Priority: High |
| As a Customer I want to track my food order So that I can see when it will arrive | | | |
| BV: 480 | | CP: 5 | |
| Acceptance Criteria:   1. Display the delivery person’s location on a map. 2. Show ETA for the order. 3. Send notifications when the order is picked up and about to arrive. | | | |

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| User Story No. 6 | Tasks: 2 | | Priority: High |
| As a Customer I want to leave feedback after receiving my order So that I can rate the service | | | |
| BV: 430 | | CP: 2 | |
| Acceptance Criteria:   1. After the order is delivered, prompt the user to rate the service. 2. Provide a rating scale from 1 to 5 stars. 3. Display a text box for additional comments. | | | |

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| User Story No. 7 | Tasks: 2 | | Priority: Medium |
| As a Restaurant Owner I want to update the status of an order So that customers are informed about the progress | | | |
| BV: 400 | | CP: 3 | |
| Acceptance Criteria:   1. Allow changing the order status to “Preparing,” “Out for Delivery,” or “Delivered.” 2. Trigger notifications to customers based on status changes. | | | |

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| User Story No. 8 | Tasks: 1 | | Priority: Medium |
| As a Customer I want to receive a confirmation message when I place an order So that I know my order was successfully submitted | | | |
| BV: 370 | | CP: 2 | |
| Acceptance Criteria:   1. Send a confirmation message via SMS or email after the order is placed. 2. Display the estimated delivery time in the message. | | | |

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| User Story No. 9 | Tasks: 3 | | Priority: High |
| As a Delivery Boy I want to view assigned orders in my dashboard So that I can manage deliveries efficiently | | | |
| BV: 460 | | CP: 4 | |
| Acceptance Criteria:   1. Show a list of assigned orders in the delivery person’s dashboard. 2. Sort the orders by time of request and location. 3. Display customer details and restaurant information for each order. | | | |

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| User Story No. 10 | Tasks: 2 | | Priority: High |
| As a Customer I want to see real-time updates of my order status So that I can follow its progress | | | |
| BV: 480 | | CP: 3 | |
| Acceptance Criteria:   1. Provide status updates as the order moves through different stages (e.g., confirmed, in preparation, out for delivery). 2. Display a progress bar indicating the order's status. | | | |

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| User Story No. 11 | Tasks: 3 | | Priority: Medium |
| As a Customer I want to save my favourite restaurants So that I can quickly access them in the future | | | |
| BV: 400 | | CP: 2 | |
| Acceptance Criteria:   1. Provide an option to "favourite" or "bookmark" restaurants. 2. Display a separate list of favourite restaurants on the customer dashboard. 3. Allow users to remove restaurants from their favourite list. | | | |

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| User Story No. 12 | Tasks: 4 | | Priority: High |
| As a Customer I want to apply promo codes or discounts So that I can get a better deal on my order | | | |
| BV: 450 | | CP: 3 | |
| Acceptance Criteria:   1. Provide an input box for entering promo codes at checkout. 2. Validate the code and apply the discount to the total bill. 3. Display the new total with the discount applied. 4. Show an error if the promo code is invalid or expired. | | | |

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| User Story No. 13 | Tasks: 3 | | Priority: Medium |
| As a Restaurant Owner I want to update my menu So that I can reflect changes in available dishes | | | |
| BV: 420 | | CP: 4 | |
| Acceptance Criteria:   1. Provide options to add, edit, or remove menu items. 2. Allow setting availability status (available/unavailable) for items. 3. Changes should reflect in the customer’s view of the menu in real-time. | | | |

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| User Story No. 14 | Tasks: 2 | | Priority: Medium |
| As a Customer I want to reorder my previous orders So that I can quickly place a similar order | | | |
| BV: 380 | | CP: 3 | |
| Acceptance Criteria:   1. Display an option to reorder from order history. 2. Automatically populate the cart with the items from the previous order. 3. Allow customers to modify items in the cart before placing the order. | | | |

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| User Story No. 15 | Tasks: 2 | | Priority: High |
| As a Delivery Boy I want to mark orders as delivered So that the customer and restaurant are notified | | | |
| BV: 430 | | CP: 3 | |
| Acceptance Criteria:   1. Provide a button to mark the order as “Delivered” in the delivery dashboard. 2. Send notifications to both the customer and restaurant once marked. 3. Update the order status to “Completed” in the system. | | | |

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| User Story No. 16 | Tasks: 3 | | Priority: Medium |
| As a Customer I want to view detailed order history So that I can keep track of all my previous orders | | | |
| BV: 390 | | CP: 2 | |
| Acceptance Criteria:   1. Display all previous orders with date and time. 2. Include details such as restaurant name, total cost, items ordered, and delivery status. 3. Provide a filter option to search based on date or restaurant. | | | |

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| User Story No. 17 | Tasks: 3 | | Priority: High |
| As a Restaurant Owner I want to receive notifications for new orders So that I can quickly begin preparing the food | | | |
| BV: 460 | | CP: 3 | |
| Acceptance Criteria:   1. Notify the restaurant immediately when a new order is placed. 2. Provide notification methods through both email and in-app alerts. 3. Show order details such as items, customer address, and payment method. | | | |

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| User Story No. 18 | Tasks: 2 | | Priority: Medium |
| As a Customer I want to filter restaurants based on cuisine So that I can easily find specific types of food | | | |
| BV: 400 | | CP: 3 | |
| Acceptance Criteria:   1. Provide filter options for various cuisines (e.g., Italian, Chinese, Indian). 2. Display only restaurants that match the selected cuisine. 3. Allow users to clear filters to view all restaurants again. | | | |

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| User Story No. 19 | Tasks: 4 | | Priority: High |
| As a System Admin I want to generate reports on order statistics So that I can track system performance and user behaviour | | | |
| BV: 470 | | CP: 5 | |
| Acceptance Criteria:   1. Generate reports on total orders, order trends, peak times, and popular restaurants. 2. Provide options to filter reports by date range and location. 3. Export reports in formats like PDF or Excel. 4. Display graphical representations (e.g., charts) for key data | | | |

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| User Story No. 20 | Tasks: 2 | | Priority: Highest |
| As a Customer I want to receive estimated delivery time before placing my order So that I know how long the food will take | | | |
| BV: 460 | | CP: 3 | |
| Acceptance Criteria:   1. Display estimated delivery time based on restaurant’s current preparation and traffic conditions. 2. Show this estimate in the cart before the order is confirmed. 3. Update the estimate if there are significant changes during the order process. | | | |

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| User Story No. 21 | Tasks: 3 | | Priority: High |
| As a Customer  I want to be able to schedule an order for later So that I can receive food at a specific time | | | |
| BV: 420 | | CP: 4 | |
| Acceptance Criteria:   1. Provide an option to schedule orders in advance (hours or days). 2. Allow users to select a delivery time and date. 3. Notify the restaurant and delivery person closer to the scheduled time. | | | |

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| User Story No. 22 | Tasks: 3 | | Priority: High |
| As a Customer I want to receive push notifications on my mobile So that I can stay updated on my order status | | | |
| BV: 450 | | CP: 4 | |
| Acceptance Criteria:   1. Send push notifications for order confirmation, preparation, out for delivery, and delivery completion. 2. Ensure real-time updates with no delays. 3. Include a link to the app for tracking progress. | | | |

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| User Story No. 23 | Tasks: 2 | | Priority: Medium |
| As a Customer I want to rate individual dishes in my order So that I can give specific feedback on the food | | | |
| BV: 430 | | CP: 3 | |
| Acceptance Criteria:   1. Provide rating options for each item in the order after delivery. 2. Allow users to rate each dish on a 1-5 star scale. 3. Offer a text box for additional comments on the dish. | | | |

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| User Story No. 24 | Tasks: 2 | | Priority: High |
| As a Customer I want to receive an invoice or receipt for my order So that I can keep a record of my payment | | | |
| BV: 440 | | CP: 2 | |
| Acceptance Criteria:   1. Automatically generate an invoice after payment. 2. Send a copy of the invoice via email and make it accessible in the app. 3. Include details like order breakdown, taxes, and delivery charges. | | | |

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| User Story No. 25 | Tasks: 3 | | Priority: High |
| As a Delivery Boy I want to receive route guidance to the customer’s address So that I can quickly and accurately deliver the order | | | |
| BV: 460 | | CP: 4 | |
| Acceptance Criteria:   1. Integrate GPS navigation in the delivery app. 2. Automatically suggest the shortest route based on traffic. 3. Update route guidance dynamically in case of traffic or roadblocks. | | | |

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| User Story No. 26 | Tasks: 2 | | Priority: High |
| As a Restaurant Owner I want to track my restaurant’s performance So that I can optimize operations and customer satisfaction | | | |
| BV: 450 | | CP: 3 | |
| Acceptance Criteria:   1. Display total sales, most popular dishes, and customer feedback in the restaurant dashboard. 2. Provide insights into peak hours and order trends. 3. Allow exporting performance data in CSV or PDF formats. | | | |

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| User Story No. 27 | Tasks: 3 | | Priority: Medium |
| As a Customer I want to cancel my order before it’s processed So that I can avoid charges for an unwanted order | | | |
| BV: 420 | | CP: 3 | |
| Acceptance Criteria:   1. Allow cancellation of orders before the restaurant accepts them. 2. Send notifications to both the restaurant and the customer upon successful cancellation. 3. Refund the amount automatically in case of prepaid orders. | | | |

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| User Story No. 28 | Tasks: 2 | | Priority: High |
| As a Customer I want to add special instructions for my order So that I can request customizations or preferences | | | |
| BV: 430 | | CP: 2 | |
| Acceptance Criteria:   1. Provide a text box at checkout for customers to add notes or instructions. 2. Ensure the instructions are visible to both the restaurant and the delivery person. 3. Allow modifications to the instructions before the order is accepted. | | | |

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| User Story No. 29 | Tasks: 4 | | Priority: High |
| As a System Admin I want to monitor server performance So that I can ensure the platform runs smoothly without interruptions | | | |
| BV: 470 | | CP: 4 | |
| Acceptance Criteria:   1. Display server performance metrics such as response time, uptime, and load capacity. 2. Provide alerts for any server outages or issues. 3. Ensure automatic scaling during peak traffic periods to avoid downtime. 4. Provide logs for analysis in case of technical issues. | | | |

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| User Story No. 30 | Tasks: 3 | | Priority: High |
| As a Delivery Boy I want to receive notifications of new delivery orders So that I can quickly pick up and deliver orders on time | | | |
| BV: 440 | | CP: 3 | |
| Acceptance Criteria:   1. Notify delivery personnel of new orders via mobile app notifications. 2. Display order details such as restaurant address, customer location, and delivery time. 3. Allow delivery personnel to accept or reject delivery requests. | | | |

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| User Story No. 31 | Tasks: 2 | | Priority: Medium |
| As a Customer I want to save multiple delivery addresses So that I can easily select the correct address during checkout | | | |
| BV: 410 | | CP: 3 | |
| Acceptance Criteria:   1. Provide an option to save and manage multiple delivery addresses. 2. Display saved addresses at checkout for quick selection. 3. Allow users to delete or update addresses as needed. | | | |

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| User Story No. 32 | Tasks: 4 | | Priority: High |
| As a Customer I want to pay using multiple payment methods So that I have flexibility in how I pay for my orders | | | |
| BV: 450 | | CP: 4 | |
| Acceptance Criteria:   1. Integrate multiple payment gateways (e.g., credit/debit cards, e-wallets, net banking). 2. Allow users to save payment methods for future use. 3. Provide secure payment processing and encryption for sensitive data. 4. Ensure users can split payments if needed (e.g., use part credit card, part e-wallet). | | | |

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| User Story No. 33 | Tasks: 3 | | Priority: High |
| As a Customer I want to receive order updates via SMS So that I can stay informed even when I’m not using the app | | | |
| BV: 420 | | CP: 3 | |
| Acceptance Criteria:   1. Send order status updates via SMS (order placed, out for delivery, delivered). 2. Include the estimated delivery time in the messages. 3. Ensure SMS updates are sent in real-time without delays. | | | |

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| User Story No. 34 | Tasks: 4 | | Priority: High |
| As a System Admin I want to have a disaster recovery plan So that I can restore services in case of system failures | | | |
| BV: 470 | | CP: 5 | |
| Acceptance Criteria:   1. Implement a backup system that saves data regularly. 2. Provide quick system recovery in case of database or server failure. 3. Ensure minimal downtime during recovery operations. 4. Test disaster recovery plans quarterly to ensure effectiveness. | | | |

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| User Story No. 35 | Tasks: 3 | | Priority: Medium |
| As a Restaurant Owner I want to manage delivery zones So that I can control where my restaurant delivers | | | |
| BV: 420 | | CP: 4 | |
| Acceptance Criteria:   1. Provide a map interface to set delivery zones by pin code or region. 2. Ensure customers outside the delivery zone cannot place orders. 3. Allow restaurant owners to adjust delivery zones based on demand. | | | |

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| User Story No. 36 | Tasks: 2 | | Priority: High |
| As a Customer I want to track my delivery driver in real-time So that I know when to expect my order | | | |
| BV: 460 | | CP: 4 | |
| Acceptance Criteria:   1. Provide real-time GPS tracking of the delivery driver’s location. 2. Display an estimated time of arrival on the tracking screen. 3. Update the driver’s location dynamically as they approach the customer’s address. | | | |

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| User Story No. 37 | Tasks: 3 | | Priority: High |
| As a Delivery Boy I want to view customer contact details So that I can reach out to them if there are any issues during delivery | | | |
| BV: 440 | | CP: 2 | |
| Acceptance Criteria:   1. Display the customer’s phone number and email on the delivery dashboard. 2. Ensure contact details are hidden after delivery to maintain privacy. 3. Provide an option to contact the customer directly from the app. | | | |

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| User Story No. 38 | Tasks: 2 | | Priority: High |
| As a Customer I want to receive loyalty points for each order So that I am rewarded for using the platform frequently | | | |
| BV: 450 | | CP: 3 | |
| Acceptance Criteria:   1. Assign points for every order based on the total bill amount. 2. Display accumulated loyalty points on the customer dashboard. 3. Allow customers to redeem points for discounts or free items. | | | |

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| User Story No. 39 | Tasks: 3 | | Priority: Medium |
| As a System Admin I want to ensure data security and privacy So that customer and restaurant data is protected | | | |
| BV: 470 | | CP: 5 | |
| Acceptance Criteria:   1. Implement data encryption for all sensitive information (e.g., payment details, contact info). 2. Ensure compliance with local and international data privacy regulations (e.g., GDPR). 3. Provide secure user authentication with options for two-factor authentication. | | | |

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| User Story No. 40 | Tasks: 4 | | Priority: High |
| As a Customer I want to have a smooth onboarding process So that I can quickly start using the platform without confusion | | | |
| BV: 430 | | CP: 4 | |
| Acceptance Criteria:   1. Provide a step-by-step onboarding guide when users first sign up. 2. Highlight key features of the app (e.g., placing orders, tracking deliveries, managing addresses). 3. Offer an option to skip the onboarding guide and revisit it later. | | | |

**Question 3– What is epic? Write 2 epics – 5 Marks**

Business Value and Complexity Points

**Answer:**

**Epic-**

An epic is a large body of work that can be broken down into smaller user stories. Each epic represents a major functionality or feature that delivers significant value to the product.

**Epic 1: Real-Time Order Tracking System**

* Description: Implement a system that allows customers to track their food orders in real time from the moment the order is placed until it reaches their doorstep.
* Business Value: High. It enhances customer satisfaction and trust, reducing the need for customer service inquiries.
* Complexity Points: 8 (Moderate to High, as it involves GPS integration, real-time data handling, and UI updates).

**Epic 2: 24/7 Food Ordering and Delivery Service**

* Description: Provide 24/7 service availability where customers can place food orders at any time of the day, with integrated time-sensitive delivery management.
* Business Value: High. It expands the customer base, allowing late-night and early-morning orders, thus increasing revenue.
* Complexity Points: 5 (Moderate, involving scheduling, workforce management, and coordination with restaurants).

**Question 4 –What is the difference between BV and CP – 2 Marks**

**Answer:**

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| **Aspect** | **Business Value (BV)** | **Complexity Points (CP)** |
| Definition | Importance or benefit a feature brings to the business or client. | Measure of the effort, difficulty, or uncertainty of implementing a feature. |
| Purpose | Helps prioritize tasks based on their impact on the business or customer. | Helps estimate the amount of work required and plan sprint capacity. |
| Determined By | Product Owner and Stakeholders. | Development Team. |
| Focus | Value or benefit to the end-user or business. | Technical complexity and effort involved in development. |
| Scale | Often measured in terms of financial value or priority scale (e.g., High, Medium, Low). | Measured in Story Points (e.g., 1, 2, 3, 5, 8) or through methods like Planning Poker. |
| Influences | Prioritization of features for development. | Workload estimation and sprint planning. |
| Time Impact | Determines the sequence in which tasks are developed. | Determines the effort and time required to complete tasks. |
| Example | Feature that generates the most revenue has a high business value. | Feature with unknown technology may have higher complexity points. |

**Question 5 –Explain about Sprint– 5 Marks**

**Answer:**

Sprint is a time-boxed period, usually two weeks, during which the team focuses on completing specific goals or features. Sprints are a key component of Agile methodologies, particularly Scrum, which helps teams to break down complex projects into smaller, manageable chunks.

**Key Elements of a Sprint:**

1. Time Duration:

Sprints typically last for a fixed time frame, which in this case is two weeks. This allows teams to plan and deliver work predictably.

1. Scrum Duration:

A Scrum is a subunit within a sprint. Typically, scrums are one day long, where daily tasks are discussed and tracked.

1. Sprint Planning:

At the beginning of the sprint, the team plans which Product Backlog Items (PBI) to work on. These are user stories or features that the team will focus on during the sprint.

1. Task:

Each PBI is broken down into smaller tasks. A task is a unit of work done by a single developer during a day (within a scrum). For example, a task could be writing a specific module of code or testing a feature.

1. Work In Progress (WIP):

During the sprint, some tasks will be marked as WIP (Work in Progress). This means that the task has been started but not yet completed.

1. Daily Stand-ups:

The team holds daily stand-up meetings to discuss what was done, what's being worked on, and any blockers. This ensures everyone is aligned and helps resolve issues quickly.

1. Sprint Backlog:

The Sprint Backlog is a list of the PBIs and tasks for the sprint, divided into different states such as:

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| PBI | Tasks | WIP | Done |
| The features or stories to be developed. | The breakdown of work for each PBI. | Work in progress tasks. | Completed tasks. |

1. Sprint Review and Retrospective:

At the end of the sprint, the team conducts a Sprint Review to showcase what has been done and a Retrospective to reflect on what went well and what can be improved for future sprints.

**Question 6 – Explain Product backlog and sprint backlog– 5 Marks**

**Answer:**

**Product Backlog:**

* The Product Backlog is a comprehensive list of all the features, enhancements, bug fixes, and tasks required for the project. It is maintained by the Product Owner and is a dynamic entity, meaning it evolves as the project progresses.
* It includes all the user stories, features, and changes that might be needed to deliver the product.
* The items in the Product Backlog are prioritized based on business value, technical complexity, and customer feedback. In the case of Scrum Foods, features like real-time tracking or 24/7 service functionality might be high-priority items.
* The backlog follows the MoSCoW prioritization (Must have, should have, Could have, Won't have) and also considers business value (BV) and complexity points (CP) when planning features.

**Sprint Backlog:**

* The Sprint Backlog is a subset of the Product Backlog. It consists of specific Product Backlog Items (PBIs) that the team commits to completing in the current Sprint (which is typically a 2-week period).
* These PBIs are broken down into smaller, actionable tasks, and they are moved through the stages of Work In Progress (WIP) to Done during the sprint.
* The Sprint Backlog also reflects ongoing tasks and their statuses, allowing the Scrum Team to track the progress of each sprint. For Scrum Foods, this could include tasks like developing the real-time tracker or integrating payment gateways.

**Question 7 – What is impediments log? write 2 impediments – 5 Marks**

**Answer:**

An impediments log is a tool used in Scrum to track and manage obstacles that hinder the progress of the development team during a sprint. These impediments can be anything that slows down or blocks the team from completing their tasks efficiently. The Scrum Master is responsible for identifying and resolving these impediments to ensure the team's progress remains smooth.

Two Examples of Impediments:

* Technical Debt: Old code or outdated systems that require refactoring before new features can be implemented, slowing down the team's progress. For example, the team might be working on adding new functionality for real-time delivery tracking in the Scrum Foods project, but old or inefficient code is causing issues.
* Resource Unavailability: A key team member, such as a developer or tester, is unavailable due to illness or leave, causing delays in completing assigned tasks. For instance, if a developer responsible for integrating the payment gateway is on leave, it could create a bottleneck.

**Question 8 – Explain Velocity of the Team – 1 Marks**

Velocity – How many CP is covered in this sprint

**Answer:**

* Velocity is a measure of how much work a team can complete in a single sprint, typically expressed in Complexity Points (CP) or story points. It reflects the team's capacity to deliver tasks during each sprint.
* Velocity is calculated by summing up the total number of CP covered for all fully completed tasks or user stories in the sprint.
* It is an important metric for the team as it helps to estimate how much work they can take on in future sprints based on historical data.

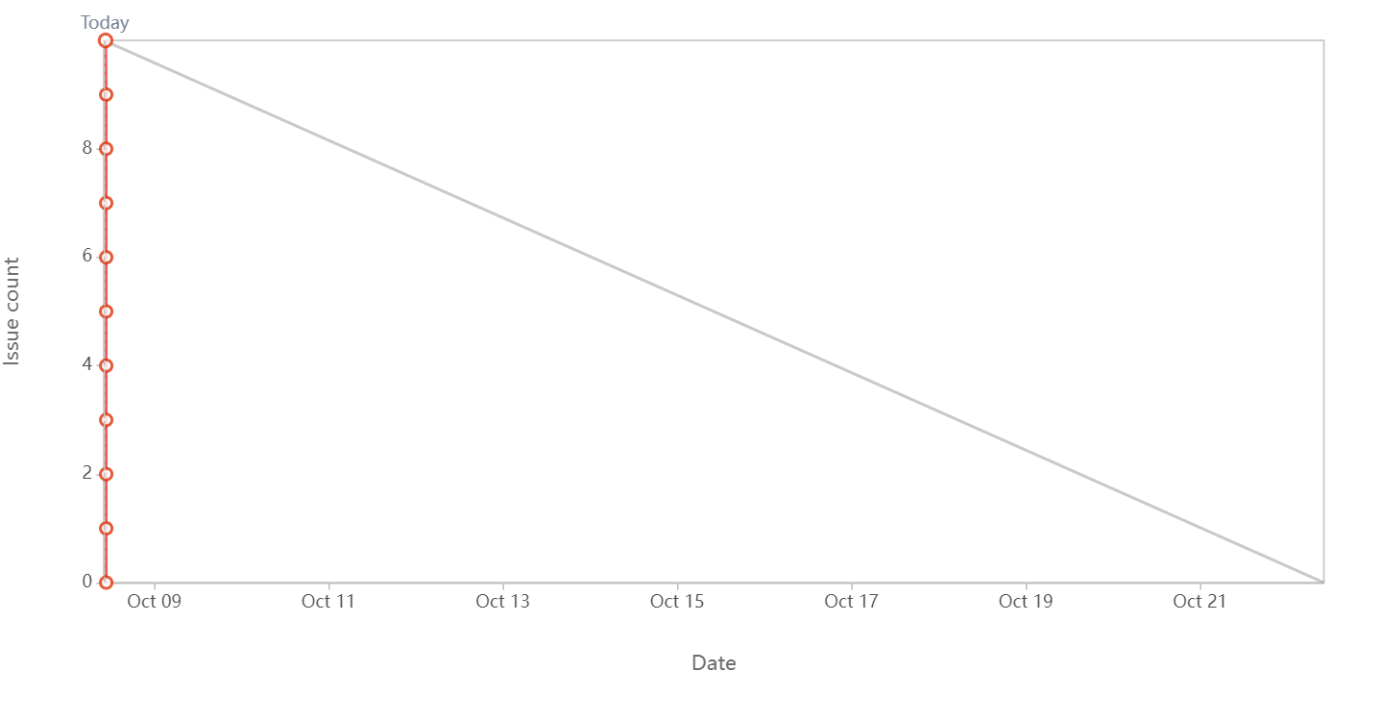
**Importance:**

* Helps in Sprint Planning: Based on the team's historical velocity, the team can plan how many tasks or user stories they can reasonably complete in future sprints.
* Tracks Progress: Velocity gives stakeholders a transparent view of the team's progress and capacity to deliver features.

**Question 9 – Draw Sprint Burn Charts and Product Burn Down Charts– 3 Marks**

**Answer:**

**Sprint Burndown chart:**

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**Product Burndown Chart:**

**Question 10 – Explain about Product Grooming – 2 Marks**

**Answer:**

Product Grooming (also known as Backlog Refinement) in the Scrum framework is a recurring activity where the Scrum team reviews, discusses, and updates the items in the Product Backlog. The goal is to ensure that backlog items are well-defined, understood, and prioritized, preparing them for upcoming sprints.

**Key aspects of Product Grooming include:**

* **Clarifying Product Backlog Items (PBIs):** The team ensures that PBIs have enough detail, including acceptance criteria, to be worked on.
* **Prioritization:** PBIs are re-evaluated and prioritized based on current business needs or goals.
* **Effort Estimation:** Scrum developers estimate the complexity of tasks using methods like planning poker.
* **Splitting User Stories:** Larger PBIs may be broken down into smaller, more manageable tasks for future sprints.

**Purpose:**

* **Improve Sprint Efficiency**: By refining backlog items before the sprint begins, the team can focus on execution during the sprint without getting bogged down in clarifications or rework.
* **Enhance Collaboration**: It fosters collaboration between the Product Owner, stakeholders, and the Scrum Team, ensuring alignment on project goals and priorities.
* **Continuous Improvement**: Grooming sessions happen regularly (typically once per sprint), keeping the backlog updated with current priorities and improving the development process.

**Question 11 – Explain the roles of Scrum Master and Product Owner – 3 Marks– 3 Marks**

**Answer:**

Role of scrum Master:

* **Facilitator & Servant Leader:** The Scrum Master helps the team to adopt and follow Scrum practices, ensuring that Scrum principles are maintained throughout the project.
* **Impediment Remover:** The Scrum Master identifies and removes any obstacles that may hinder the development team’s progress.
* **Protects the Team:** Acts as a buffer between the team and external interferences, allowing the team to stay focused on their work.
* **Facilitates Meetings:** Manages key Scrum events such as daily stand-ups, sprint planning, reviews, and retrospectives.
* **Coaches the Team:** Works to build self-organizing, cross-functional teams, helping team members improve collaboration and efficiency.

Role of Product Owner:

* **Defines Product Vision:** The Product Owner is responsible for creating and communicating the product vision, aligning it with business objectives and stakeholder needs.
* **Manages the Product Backlog:** The Product Owner creates, prioritizes, and maintains the product backlog, ensuring that it is always up-to-date and reflects business value.
* **Prioritizes Requirements:** Decides which features or user stories are of the highest priority and must be worked on in upcoming sprints.
* **Acts as Liaison:** Works closely with stakeholders, customers, and the Scrum team to ensure the product delivers maximum value.
* **Accepts or Rejects Work:** During sprint reviews, the Product Owner assesses completed work to ensure it meets acceptance criteria and decides if it is acceptable or needs further development.

**Question 12 – Explain all Meetings Conducted in Scrum Project – 8 Marks**

**Answer:**

In a Scrum project, there are five key meetings or ceremonies,

**1. Sprint Planning:**

* **Objective:** To plan the work for the upcoming sprint.
* **Participants:** Scrum Master, Product Owner, Scrum Team.
* **Duration:** Time-boxed to 4 hours for a two-week sprint.
* **Process:**
  + The Product Owner presents the most important Product Backlog Items (PBIs) to the team.
  + The Scrum Team discusses, clarifies, and selects PBIs that they believe can be completed in the sprint.
  + The team breaks the PBIs into tasks and estimates the effort needed for each.
* **Outcome:** A **Sprint Backlog** with clear tasks and a **Sprint Goal** that defines the objective of the sprint.

**2. Daily Scrum (Daily Stand-Up):**

* **Objective:** To synchronize activities and identify impediments.
* **Participants:** Scrum Master, Scrum Team.
* **Duration:** 15 minutes daily.
* **Process:**
  + Team members answer three key questions:
    1. What did I do yesterday?
    2. What will I do today?
    3. Are there any obstacles in my way?
  + The Scrum Master notes any impediments and helps remove them.
* **Outcome:** Alignment on daily tasks and quick resolution of roadblocks.

**3. Sprint Review:**

* **Objective:** To inspect the increment of work completed and gather feedback.
* **Participants:** Scrum Master, Product Owner, Scrum Team, Stakeholders.
* **Duration:** Time-boxed to 2 hours for a two-week sprint.
* **Process:**
  + The team demonstrates the completed work (shippable product increment) to stakeholders.
  + Stakeholders provide feedback, and the Product Owner may update the Product Backlog based on this feedback.
* **Outcome:** Stakeholder feedback and a decision on whether the work is acceptable.
* **4. Sprint Retrospective:**
* **Objective:** To reflect on the sprint and identify improvements for future sprints.
* **Participants:** Scrum Master, Scrum Team.
* **Duration:** Time-boxed to 1.5 hours for a two-week sprint.
* **Process:**
  + The team discusses what went well, what didn’t go well, and what can be improved.
  + They agree on actions to enhance their workflow and collaboration.
* **Outcome:** A list of actionable improvements to be implemented in the next sprint.

**5. Product Backlog Refinement (Product Grooming):**

* **Objective:** To ensure the Product Backlog is well-defined, estimated, and prioritized.
* **Participants:** Product Owner, Scrum Master, Scrum Team.
* **Duration:** Ongoing activity (typically 10% of the Sprint).
* **Process:**
  + The team refines backlog items by breaking down large stories, estimating effort, and clarifying details.
  + The Product Owner ensures that the most valuable and high-priority items are at the top of the backlog.
* **Outcome:** A well-groomed Product Backlog with clearly defined PBIs, ready for the next Sprint Planning.

**Question 13 – Explain Sprint Size and Scrum Size– 2 Marks**

**Answer:**

**1. Sprint Size:**

* **Definition**: Sprint size refers to the duration or length of a sprint in a Scrum project. It is a fixed period during which the team works to complete a set of tasks (Product Backlog Items).
* **Typical Size**: A sprint typically lasts between 1 to 4 weeks. In the case of Scrum Foods, the sprint size is 2 weeks.
* **Purpose**: The sprint size should be long enough to complete meaningful work but short enough to get regular feedback and allow for quick iterations.

**2. Scrum Size:**

* **Definition**: Scrum size refers to the number of members in a Scrum team. It includes the Scrum Master, Product Owner, and Developers who collaborate to complete the work in each sprint.
* **Typical Size**: The ideal size for a Scrum team is 3 to 9 members. For Scrum Foods, the team consists of 10 members (1 Scrum Master, 1 Product Owner, and 8 Developers).
* **Purpose**: The Scrum team size should be manageable for effective communication and collaboration, ensuring that tasks are completed within the sprint.

**Question 14 – Explain DOR and DOD – 2 Marks**

**Answer:**

* **DOR**: The Definition of Ready (DOR) is a set of criteria that a user story or task must meet before the team can consider it "ready" to begin work. It ensures that the item is well-prepared and provides enough information for the development team to start work without confusion.
* **Purpose:** DOR helps ensure that the team is aligned on what work can be pulled into a sprint and avoids delays caused by unclear or incomplete requirements.
* **DOD:** The Definition of Done (DOD) is a shared understanding within the Scrum team of what it means for a piece of work (user story, task, or product increment) to be considered complete.
* **Purpose:** DOD ensures quality and completeness in the deliverable, confirming that the product is potentially shippable or can be released.

**Question 15 – Explain Prioritization Techniques and MVP – 3 Marks**

**Answer:**

**Prioritization Techniques:**

1. **MoSCoW:**

This technique helps categorize features based on their importance.

* **Must have**: Essential features that are necessary for the system to work (e.g., food ordering and real-time delivery tracking).
* **Should have:** Important features that add significant value but are not critical (e.g., detailed food preferences or personalized recommendations).
* **Could have**: Nice-to-have features that can be deferred (e.g., loyalty rewards system).
* **Won't have:** Features that are not included in this sprint or MVP (e.g., augmented reality for virtual restaurant tours).

1. **Business Value**: This technique involves prioritizing based on the feature’s potential to generate revenue or provide a competitive advantage. For example, prioritizing features that help customers quickly find and order food (core value of Scrum Foods).
2. **Complexity Points**: Teams use techniques like **Planning Poker** to estimate the complexity or effort required to implement a feature. Features with low complexity and high business value are prioritized for early delivery.

**Minimum Viable Product (MVP):**

The MVP is the simplest version of the product that delivers just enough value to satisfy early users while providing feedback for future improvements. This allows early feedback from users, ensuring that the team builds features that truly meet customer needs while minimizing wasted effort. For Scrum Foods, the MVP might include:

* Basic user registration and login functionality.
* The ability to browse restaurants or food menus.
* Placing and tracking food orders in real-time.
* Payment integration.

**Question 16 – Difference between Business Analyst and Product Owner – 3 Marks**

**Answer:**

|  |  |  |
| --- | --- | --- |
| **Aspect** | **Business Analyst (BA)** | **Product Owner (PO)** |
| **Focus and Ownership** | Gathers requirements and analyzes business needs. | Owns and prioritizes the product backlog. |
| **Decision-Making** | Provides input but does not make final decisions. | Has authority over product priorities and sprint content. |
| **Interaction with Team** | Works as a liaison between stakeholders and developers | Works directly with the Scrum team to ensure priorities are aligned with business goals. |
| **Responsibilities** | Focuses on ensuring the solution meets business needs. | Maximizes product value by managing the product backlog. |
| **Involvement in Scrum** | Not a defined role in Scrum but can assist in clarifying requirements. | A key role in Scrum, attending sprint planning, backlog refinement, and standups. |
| **Deliverables** | Provides detailed specifications, business process models, and reports. | Provides prioritized backlog, defines product goals, and makes critical decisions for product development. |

**Question 17 – Prepare a sample Resume of 3yrs exp Product Owner – 3 Marks**

**Answer:**

Product Owner

++91-98765-43210 · [product.owner@email.com](mailto:product.owner@email.com) · @productowner Plot 45, Road No. 12, Banjara Hills, Hyderabad, Telangana 500034

# PRODUCT OWNER

Product Owner with 3 years of experience in driving product development, defining product vision, and collaborating with cross-functional teams to deliver high-value solutions. Proven track record in managing product backlogs, translating business needs into user stories, and ensuring timely delivery of features. Strong communicator with a deep understanding of Agile methodologies and a focus on maximizing product value for stakeholders. Skilled in stakeholder management, prioritization, and iterative product enhancements

# KEY COMPETENCIES

* Driving product development
* Managing cross-functional Agile teams
* Proficient in Scrum methodologies
* Guiding iterative development cycles
* Data analysis with Excel/Google Sheets
* Creating product vision presentations
* Developing product roadmaps
* Aligning business objectives
* JIRA project management

# PROFESSIONAL EXPERIENCE

# XYZ Corp Product Owner

**Feb 2021 - Present**

* Defined and refined user story acceptance criteria, ensuring stakeholder alignment and smooth

development processes.

* Led the planning and execution of two-week sprints, achieving 95% of product goals within the first year.
* Managed and prioritized the product backlog, successfully delivering projects 20% under budget

## ABC Ltd

**Agile Product Owner**

## June 2019 - Jan 2021

* Collaborated with cross-functional teams, including IT and marketing, to align the product roadmap with business priorities.
* Delivered 5 key features ahead of deadlines, increasing product adoption by 18%.
* Created detailed user stories for a new digital platform, driving a 12% increase in customer retention.

## DEF

**Associate Product Owner**

## May 2018 - May 2019

* Assisted in backlog management and refinement of user stories, ensuring clear acceptance criteria for development teams.
* Worked closely with Scrum Masters to facilitate sprint planning, backlog grooming, and reviews, adhering to Agile best practices.

# EDUCATION & CERTIFICATIONS EXTRACURRICULAR ACTIVITIES

## Bachelor of Business Administration President, Business Club

Majors: Analytics and Project Management

## Graduate Project Management Certification

Community Volunteer