**CAPSTONE PROJECT – 2**

**Q1.** Write Agile Manifesto ?

**Answer 1 :**

4 core Values

* **Individuals and interactions over processes and tools**

Prioritize collaboration and communication among team members.

* **Working software over comprehensive documentation**

Deliver functional products rather than focusing excessively on documentation.

* **Customer collaboration over contract negotiation**

Foster ongoing communication and cooperation with customers.

* **Responding to change over following a plan**

Embrace change to meet evolving requirements instead of rigidly adhering to a present plan.

**12 Principles**

* Satisfy the customer through early and continuous delivery of valuable software.
* Welcome changing requirements, even late in development.
* Deliver working software frequently, from a couple of weeks to a couple of months.
* Collaborate daily between business stakeholders and developers.
* Build projects around motivated individuals and provide the support they need.
* Use face-to-face conversation as the most efficient method of communication.
* Measure progress primarily through working software.
* Maintain a sustainable development pace.
* Focus on technical excellence and good design to enhance agility.
* Simplicity—the art of maximizing work not done—is essential.
* Encourage self-organizing teams for the best designs and solutions.
* Reflect regularly on how to become more effective and adjust behaviour accordingly.

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| User Story 1 | Task : 1 | Priority : Highest | | |  |
| AS A CUSTOMER, I WANT TO CREATE AN ACCOUNT SO THAT I CAN SAVE MY PERSONAL DETAILS AND PREFERENCES. | |  |  |  |  |
| BV : 500 | CP : 02 | | | | |
| **Acceptance Criteria**   * + Registration form accepts phone/email and password.   + Successful registration sends a confirmation email or SMS.   + System prevents duplicate accounts using the same phone/email. | | | | |  |

**User Stories**

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| User Story 2 | Task :2 | Priority : Highest |
| AS A CUSTOMER, I WANT TO SEARCH FOR RESTAURANTS NEAR MY LOCATION SO I CAN FIND OPTIONS FOR ORDERING FOOD. |  |  |
| BV : 500 | CP : 03 | |
| **Acceptance Criteria**   * Customers can search by location or cuisine. * The results display restaurant names, ratings, and estimated delivery times. | | |

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| User Story 3 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO VIEW A RESTAURANT'S MENU SO I CAN SELECT THE FOOD I WANT TO ORDER. |  |  |
| BV : 500 | CP : 02 | |
| **Acceptance Criteria**   * Menu items are displayed with images, descriptions, and prices. * Items with customization options (e.g., spice level) are clearly marked. | | |

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| User Story 4 | Task : 4 | Priority : Highest |
| AS A CUSTOMER, I WANT TO TRACK MY ORDER IN REAL-TIME SO I KNOW WHEN IT WILL ARRIVE. |  |  |
| BV : 500 | CP : 02 | |
| **Acceptance Criteria**   * Items in the cart show quantities, total price, and customization details. * Users can modify or remove items in the cart. | | |

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| User Story 5 | Task : 5 | Priority : Highest |
| AS A CUSTOMER, I WANT TO APPLY A PROMO CODE TO MY ORDER SO I CAN GET DISCOUNTS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * A promo code field is available at checkout. * Invalid promo codes show an error message. | | |

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| User Story 6 | Task : 6 | Priority : Highest |
| AS A CUSTOMER, I WANT TO SAVE MY CARD INFORMATION FOR FUTURE ORDERS SO I CAN CHECK OUT QUICKLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * + Users can securely save payment methods.   + Saved cards are visible and can be managed in the account settings. | | |

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| User Story 7 | Task : 7 | Priority : Highest |
| AS A CUSTOMER, I WANT TO LEAVE RATINGS AND REVIEWS FOR MY ORDER SO I CAN PROVIDE FEEDBACK ON THE SERVICE. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Users can rate orders from 1 to 5 stars.   Users can write text reviews. | | |

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| User Story 8 | Task : 8 | Priority : Highest |
| AS A CUSTOMER, I WANT TO SCHEDULE AN ORDER FOR A SPECIFIC TIME SO I CAN PLAN IN ADVANCE. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Users can select a delivery date and time during checkout.   Scheduled orders are only accepted for restaurants offering the service. | | |

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| User Story 9 | Task : 9 | Priority : Highest |
| AS A CUSTOMER, I WANT TO CANCEL MY ORDER BEFORE IT IS PREPARED SO I CAN MAKE CHANGES. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Cancellation is only allowed during a specific time frame.   Refund policies are displayed during cancellation. | | |

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| User Story 10 | Task :10 | Priority : Highest |
| AS A CUSTOMER, I WANT TO ORDER FROM MULTIPLE RESTAURANTS AT THE SAME TIME SO I CAN ENJOY VARIETY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Users can add items from multiple restaurants to a single cart.   Each restaurant calculates a separate delivery fee. | | |

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| User Story 12 | Task : 12 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO RECEIVE NOTIFICATIONS FOR NEW DELIVERY ASSIGNMENTS SO I CAN ACCEPT THEM PROMPTLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Notifications include restaurant and delivery address.   Users can accept or reject assignments. | | |

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| User Story 13 | Task : 13 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO NAVIGATE TO THE RESTAURANT AND CUSTOMER’S ADDRESS SO I CAN COMPLETE THE DELIVERY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   The app provides GPS navigation links.   Routes optimize for shortest travel time. | | |

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| User Story 14 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO MARK MYSELF AS AVAILABLE OR UNAVAILABLE SO I CAN MANAGE MY WORKING HOURS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * A toggle button changes availability status. * Availability updates in real time. | | |

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| User Story 15 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO VIEW MY EARNINGS SO I CAN TRACK MY INCOME. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Earnings display by day, week, and month.   Payment history is accessible. | | |

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| User Story 16 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO CALL OR MESSAGE THE CUSTOMER SO I CAN CLARIFY ANY ISSUES WITH DELIVERY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * + A contact option is available for each delivery.   + Messages are anonymized for privacy. | | |

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| User Story 17 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO REPORT ISSUES WITH DELIVERIES SO I CAN RESOLVE THEM QUICKLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Users can select from predefined issue types (e.g., "Wrong Address").   Admins receive issue reports in real time. | | |

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| User Story 18 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO ADD MENU ITEMS SO CUSTOMERS CAN SEE WHAT I OFFER. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Menu items include images, prices, and descriptions.   Items can be organized into categories | | |

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| User Story 19 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO UPDATE MY BUSINESS HOURS SO CUSTOMERS KNOW WHEN I’M OPEN. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Business hours update in real time.   Holiday-specific schedules are supported. | | |

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| User Story 20 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO RECEIVE NOTIFICATIONS FOR NEW ORDERS SO I CAN PREPARE THEM PROMPTLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Notifications include order details and timestamps.   Accepted orders update customer status. | | |

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| User Story 21 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO CREATE PROMOTIONS SO I CAN ATTRACT MORE CUSTOMERS |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Promotion types include discounts and free items.   Promotion periods can be scheduled in advance | | |

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| User Story 22 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO VIEW SALES ANALYTICS SO I CAN UNDERSTAND MY PERFORMANCE. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Data includes total orders, revenue, and popular items.   Filters allow analysis by day, week, and month. | | |

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| User Story 23 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO CREATE AN ACCOUNT SO THAT I CAN SAVE MY PERSONAL DETAILS AND PREFERENCES. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria | | |

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| User Story 24 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO FILTER RESTAURANTS BY DIETARY PREFERENCES (E.G., VEGETARIAN, VEGAN) SO I CAN FIND SUITABLE OPTIONS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Filters include common dietary tags like "Vegan," "Gluten-Free," etc.   Results update dynamically based on selected filters. | | |

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| User Story 25 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO SAVE MY FAVOURITE RESTAURANTS SO I CAN QUICKLY ACCESS THEM FOR FUTURE ORDERS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   A "Favourite" button is available on restaurant pages.   Saved restaurants are accessible in the customer profile. | | |

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| User Story 26 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO PAY IN MY LOCAL CURRENCY SO I CAN EASILY UNDERSTAND THE COST. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Currency changes based on the customer’s region.   Currency conversion rates are updated regularly. | | |

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| User Story 27 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO CHAT WITH CUSTOMER SUPPORT IN REAL TIME SO I CAN RESOLVE ISSUES QUICKLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   A "Live Chat" option is available under the help menu.   Chats are responded to within 2 minutes. | | |

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| User Story 28 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO BUY AND SEND GIFT CARDS TO FRIENDS SO THEY CAN ENJOY FOOD DELIVERY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Gift cards include customizable amounts.   Recipients receive a redeemable code via email. | | |

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| User Story 29 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO CREATE AN ACCOUNT SO THAT I CAN SAVE MY PERSONAL DETAILS AND PREFERENCES. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria | | |

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| User Story 30 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO REQUEST CONTACTLESS DELIVERY SO I CAN AVOID DIRECT INTERACTION WITH THE DELIVERY PERSON. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * A "Contactless Delivery" option is available during checkout. * Delivery instructions clarify the drop-off location. | | |

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| User Story 31 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO EARN BADGES OR REWARDS FOR MILESTONES SO I FEEL MOTIVATED. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * + Badges are earned for milestones (e.g., 100 deliveries).   + Rewards are redeemable for perks or bonuses. | | |

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| User Story 32 | Task : 3 | Priority : Highest |
| As a delivery person, I want to prioritize orders based on proximity or urgency so I can optimize delivery time. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Orders are sorted by prep time and distance.   Urgent orders are highlighted in the queue. | | |

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| User Story 33 | Task : 3 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO TEMPORARILY PAUSE MY DELIVERIES SO I CAN TAKE BREAKS WHEN NEEDED. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   A "Pause" button temporarily disables assignment notifications.   Users must confirm before resuming availability. | | |

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| User Story 34 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO MARK ITEMS AS OUT OF STOCK SO CUSTOMERS DON’T ORDER UNAVAILABLE ITEMS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Managers can toggle item availability in the menu.   Out-of-stock items are automatically hidden from the customer’s view. | | |

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| User Story 35 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT TO REQUEST ECO-FRIENDLY PACKAGING SO I CAN REDUCE ENVIRONMENTAL IMPACT. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   An "Eco-Friendly Packaging" option is available at checkout.   Additional costs (if any) are shown upfront. | | |

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| User Story 36 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO VIEW FEEDBACK FROM CUSTOMERS SO I CAN IMPROVE MY SERVICE. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * + Feedback is categorized by ratings and reviews.   + Customers who leave 1–2 stars can be contacted through support. | | |

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| User Story 37 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO ADJUST PRICES DYNAMICALLY DURING PEAK HOURS SO I CAN MAXIMIZE PROFITS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Managers can define time-based pricing rules.   Customers are informed of peak hour surcharges during ordering. | | |

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| User Story 38 | Task : 3 | Priority : Highest |
| AS A CUSTOMER, I WANT THE APP TO RECOMMEND FOOD BASED ON MY PAST ORDERS SO I CAN DISCOVER NEW OPTIONS. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Recommendations appear on the home screen.   Filters allow customers to refine recommendations by cuisine or dietary needs. | | |
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| User Story 39 | Task : 3 | Priority : Highest |
| AS A RESTAURANT MANAGER, I WANT TO UPLOAD MY MENU IN BULK SO I CAN SAVE TIME DURING ONBOARDING. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   Menus can be uploaded via CSV or Excel files.   File validation highlights errors before final upload. | | |

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| User Story 40 | Task : 4 | Priority : Highest |
| AS A DELIVERY PERSON, I WANT TO REQUEST HELP FOR HARD-TO-FIND ADDRESSES SO I CAN DELIVER EFFICIENTLY. |  |  |
| BV : 500 | CP : 02 | |
| Acceptance Criteria   * + A "Request Help" button connects delivery personnel to support.   + Assistance includes GPS adjustments or contacting the customer. | | |

Q3 ) What is epic? Write 2 epics

**Ans-3**

In Agile methodology, an **epic** is a large body of work that can be broken down into smaller, more manageable tasks called **user stories**. Epics typically represent high-level objectives or features that span across multiple sprints or releases. They provide a framework for organizing related user stories and are usually defined based on business goals.

**Examples of Epics**

**Epic 1: Seamless Food Ordering Experience**

* **Description**: Enable customers to easily browse, select, and order food from their favourite restaurants with a streamlined interface and secure payment options.
* **Related User Stories**:
  1. As a customer, I want to search for restaurants based on location and cuisine so I can find options that suit my taste.
  2. As a customer, I want to view detailed menus with images and prices so I can make informed choices.
  3. As a customer, I want to save my favorite restaurants so I can order from them more easily in the future.
  4. As a customer, I want to securely save my payment details so I can quickly complete transactions.

#### ****Epic 2: Efficient Delivery Management System****

* **Description**: Create a robust system to manage delivery personnel assignments, real-time tracking, and seamless communication to ensure timely and efficient deliveries.
* **Related User Stories**:
  1. As a delivery person, I want to receive notifications for new delivery assignments so I can accept them promptly.
  2. As a delivery person, I want to use GPS navigation to find the best route to the restaurant and customer’s address.
  3. As a delivery person, I want to report issues such as wrong addresses or delays so I can resolve them quickly.
  4. As a customer, I want to track my order in real time so I know the exact delivery status.

Each epic provides a broader objective that aligns with business goals while tying multiple related user stories under one umbrella.

**Answer-4**

### ****Business Value (BV):****

* **Definition**: Business Value refers to the **impact or benefit** a feature, task, or initiative brings to the organization. This value is usually assessed in terms of revenue generation, cost reduction, market competitiveness, or strategic alignment.
* Usually assigned as a numeric score (e.g., 1 to 10), where a higher value means greater business impact.
* Sometimes measured in **revenue impact, customer satisfaction, or market differentiation.**
* **Focus**: Organization's needs and goals.
* **Examples of BV**:
* A feature that increases revenue by attracting more customers.
  + An automation tool that reduces operational costs.
  + A compliance-related update to avoid fines or legal issues.
* **Key Stakeholders**: Product owners, stakeholders, and executives.
* **Feature: One-click reorder option** → **Business Value = 9** (Increases repeat orders).
* **Feature: Customizable profile pictures** → **Business Value = 3** (Nice to have, but not critical) .

**Complexity Points (CP) :**

Complexity Points (also called **Story Points**) estimate how difficult a task or feature is to complete.

**Development Team** assigns complexity points during Sprint Planning.

 **Uses relative estimation**(e.g., Fibonacci sequence: 1, 2, 3, 5, 8, 13, etc.).

**** Based on**effort, uncertainty, and dependencies.**

 **Feature: One-click reorder option** → **Complexity Points = 3** (Straightforward logic, minimal changes).

* **Feature: Real-time driver tracking** → **Complexity Points = 13** (High complexity due to GPS, APIs, and real-time updates).

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| **Feature** | **Business Value** | **Complexity Points** |
| **Purpose** | Measures impact on business and customers. | Measures difficulty of implementation. |
| **Who Decides?** | Product Owner & Stakeholders | Development Team |
| **Measurement** | Revenue, customer impact, strategic goals. | Relative effort using Story Points. |
| **Higher Score Means?** | More valuable to the business. | More difficult and time-consuming. |
| **Used For** | Prioritizing backlog items. | Sprint planning and capacity estimation. |
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Q5) Explain about Sprint.

**Answer-5**

A **Sprint** is a time-boxed period (typically 1 to 4 weeks) in which a Scrum team works on a set of predefined tasks to deliver a potentially shippable product increment. It is a key element of the **Scrum framework** and helps teams work in an iterative and incremental manner.

Characteristics :

**Time-Boxed:** Sprints have a fixed duration (e.g., 2 weeks).  
**Goal-Oriented:** Each sprint aims to deliver a usable product increment.  
**Predictable Cadence:** New sprints start immediately after the previous one.  
**No Scope Change:** Once a sprint starts, the work planned should not change.  
**Team Collaboration:** Developers, testers, designers, and stakeholders collaborate.

**Short Sprints (1-2 weeks):** Ideal for **fast-paced** projects needing quick feedback.  
**Longer Sprints (3-4 weeks):** Used for **complex** projects requiring more development time.

## **Sprint Workflow**

1. **Sprint Planning:** The team selects backlog items to work on.
2. **Daily Stand-Ups:** A 15-minute daily meeting to track progress.
3. **Development & Testing:** The team works on tasks and continuously tests.
4. **Sprint Review:** Demonstrate the completed work to stakeholders.
5. **Sprint Retrospective:** Reflect on what went well and what to improve.

Q6) Explain Product backlog and sprint back log.

**Answer-6**

In **Agile/Scrum**, both the **Product Backlog** and **Sprint Backlog** help in managing work efficiently. However, they serve different purposes in the development lifecycle.

**Product Backlog**

The **Product Backlog** is a prioritized list of all features, enhancements, bug fixes, and other work items needed for the product. It acts as the **single source of truth** for everything that must be built.

**Product Owner** is responsible for maintaining and prioritizing it.

**Key Characteristics:**

* Contains **high-level** user stories and features.
* Continuously updated and refined (Backlog Refinement).
* Work items are **prioritized** based on business needs and value.
* Includes items that may be worked on in future sprints.

**Sprint Backlog**

The **Sprint Backlog** is a subset of the Product Backlog that contains the specific work items the development team commits to completing in a sprint.

**Development Team** is responsible for managing and completing it.

Characteristics

* Contains **only** the user stories/tasks selected for the **current sprint**.
* More **detailed**, broken into smaller tasks.

 Once a sprint starts, the Sprint Backlog is **fixed** (unless critical changes are needed).

* Provides **real-time visibility** into sprint progress.

Q7) What is impediments log? write 2 impediments.

**Answer-7**

An **Impediments Log** is a documented list of obstacles that block or slow down the Scrum team's progress. These impediments can be technical, organizational, or process-related.

#### ****Key Characteristics:****

* Maintained by the **Scrum Master**.
* Helps in tracking and resolving issues **efficiently**.
* Updated **regularly** to ensure smooth sprint execution.

1. **Impediment:** **Third-Party Payment Gateway Issues**

* **Issue:** The payment gateway API is down, preventing users from completing orders.
* **Impact:** Customers are unable to make payments, leading to lost revenue.
* **Resolution:** Scrum Master coordinates with the payment provider for a fix and implements a temporary **cash-on-delivery** option.

1. **Impediment:** **Real-Time Order Tracking Not Working**

* **Issue:** GPS tracking is failing due to server downtime, making it impossible for users to track their delivery.
* **Impact:** Customers complain, and support tickets increase, affecting user experience.
* **Resolution:** The team investigates server issues while providing estimated delivery times via SMS as a temporary solution.

Q8) Explain Velocity of the Team.

**Answer-8**

Velocity represents the **total number of Story Points (or work items) completed** by a team in a sprint.

It helps teams set realistic expectations for future work.

**Measured in: Story Points,** Tasks, or User Stories.

**Calculated as: Total Story Points completed at the end of a sprint.**

**Importance of Velocity :**

**Predictability:** Helps forecast how much work can be completed in upcoming sprints.  
**Capacity Planning:** Helps teams avoid overloading or underloading themselves.  
**Progress Tracking:** Indicates if the team is improving or facing issues.

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| **Sprint** | **Completed Story Points** |
| Sprint 1 | 20 |
| Sprint 2 | 25 |
| Sprint 3 | 22 |
| Average Velocity | (20+25+22) / 3 = 22.3 |

The team’s average velocity is **22 Story Points per sprint**, meaning they can plan for around **22 points** in future sprints.

**Team Experience:** More experienced teams have higher velocity.  
**Sprint Length:** Shorter sprints may have lower velocity.  
**Dependencies & Blockers:** External issues can slow down work.  
**Team Stability:** Frequent team changes impact velocity.

Q9) Draw Sprint Burn Charts and Product Burn Down Charts.

**Answer-9**

**Sprint Burn-Down Chart**

**Purpose:** Tracks progress within a single sprint by showing the remaining work.

* **X-Axis:** Days of the sprint (e.g., 1 to 14 for a 2-week sprint).  
  **Y-Axis:** Remaining work (Story Points, Hours, or Tasks)/ Issue count)

**Key Insights:**

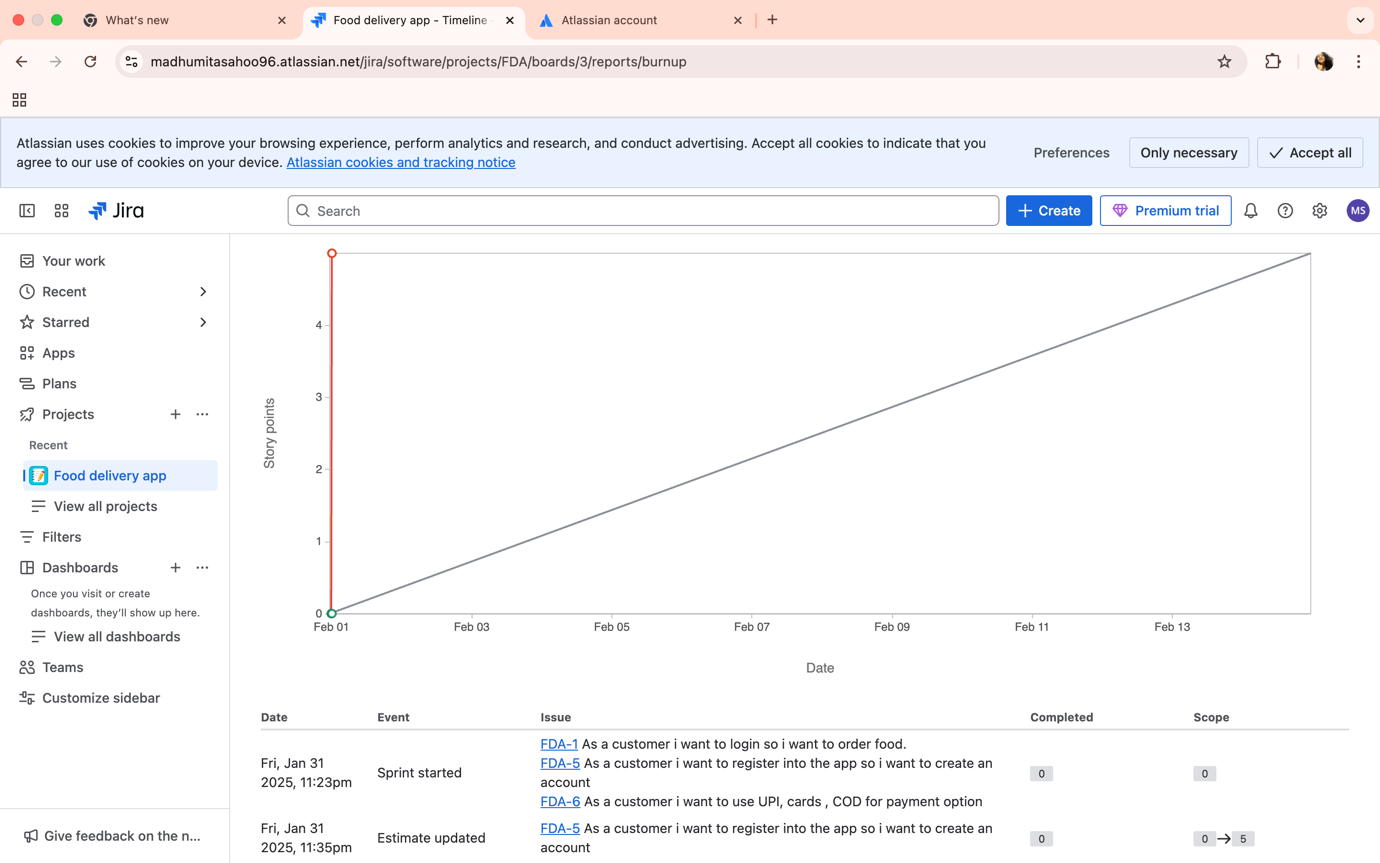
* Helps track daily progress.
* Indicates if the team is ahead or behind schedule.
* Detects sprint scope changes or impediments.

**Product Burn-Down Chart**

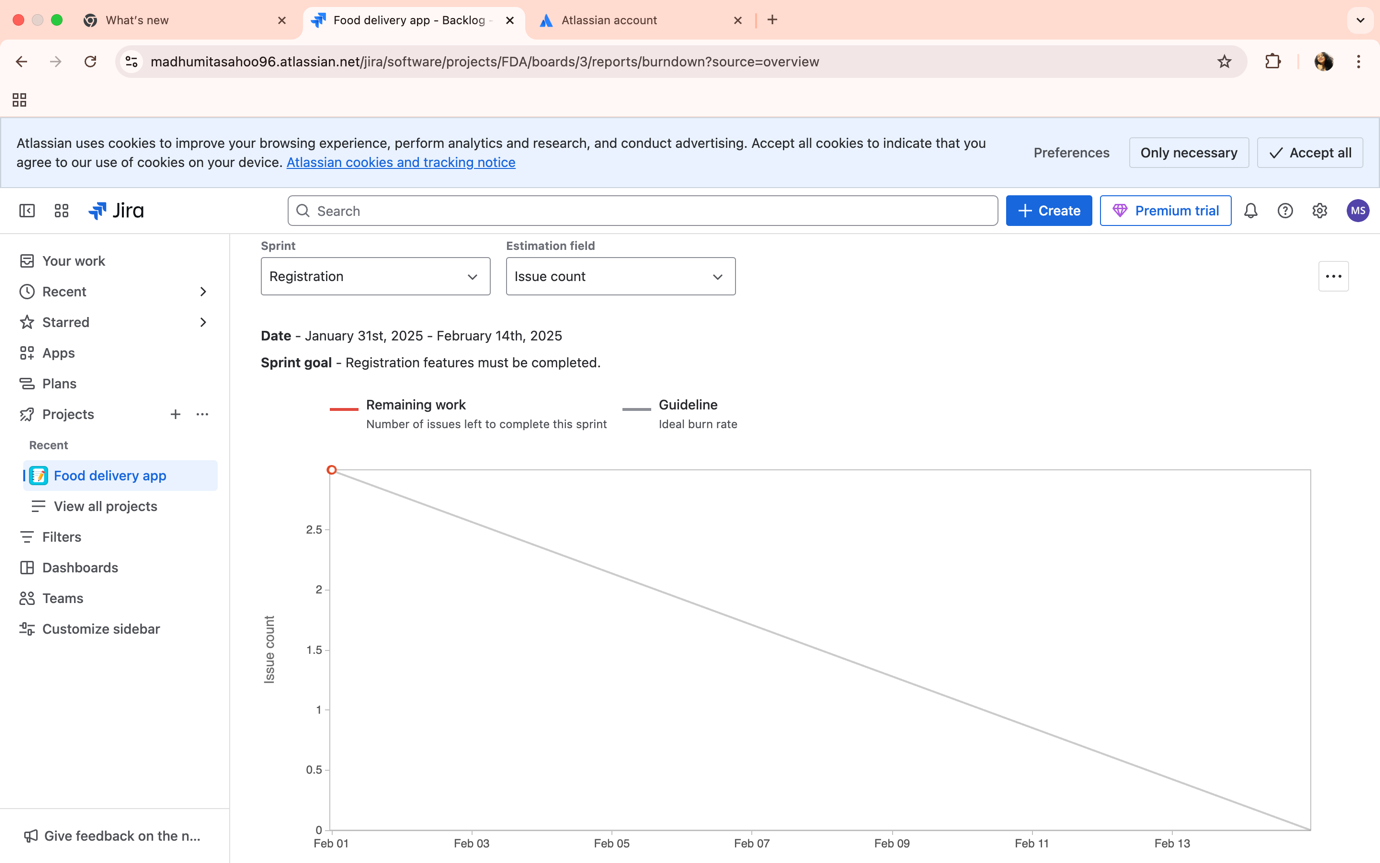
**Purpose:**Tracks progress over multiple sprints, showing how much work remains in the **entire product backlog.**

* Shows long-term project progress.
* Helps predict the product’s completion date.
* Assists in **release planning.**

Burn up chart



Burn down chart



Q10) Explain about Product Grooming

**Answer-10**

**Product Grooming**, also known as **Backlog Refinement**, is an ongoing process in Agile where the **Product Owner and the Development Team** review, prioritize, and improve items in the **Product Backlog** before sprint planning.

A process to **keep the Product Backlog well-organized, detailed, and prioritized.** Ensures that backlog items are **ready for future sprints**. Helps the team **understand requirements clearly**before starting development.

**Also known as:** Backlog Refinement or Backlog Grooming.  
Product Owner, Scrum Master, Development Team, and sometimes Stakeholders.

**Key Activities**

**Prioritization:** Product Owner ranks backlog items based on business value.  
**Adding Details:** User stories are refined with acceptance criteria and descriptions.  
**Breaking Down Large Stories:** Splitting Epics into smaller, manageable user stories.  
**Estimation:** Development Team assigns Story Points to measure effort.  
**Removing Outdated Items:** Irrelevant backlog items are removed to avoid clutter.

Typically **once per sprint**, before Sprint Planning.

**Before Grooming:**  
**User Story:** "AS A CUSTOMER, I WANT TO TRACK MY ORDER." (NO DETAILS, UNCLEAR SCOPE).

**After Grooming:**  
**User Story:** "AS A CUSTOMER, I WANT TO TRACK MY ORDER ON A REAL-TIME MAP SO THAT I CAN SEE WHEN IT WILL ARRIVE."

**Acceptance Criteria:**

* Show driver location in real-time.
* Update estimated arrival time every minute.
* Notify customer when the order is 5 minutes away.
* **Story Points Assigned:** 8 (Based on complexity).

Explain the roles of Scrum Master and Product Owner.

**Answer-11**

he **Scrum Master** and **Product Owner** play essential roles in a Scrum team. While their responsibilities overlap in ensuring the success of a Scrum project, they focus on different aspects and have distinct roles within the Agile framework.

### ****Role of a Scrum Master****

The **Scrum Master** is a **servant leader** responsible for ensuring the Scrum process is followed effectively by the team, removing obstacles, and fostering an environment conducive to high performance.

#### ****Responsibilities****:

1. **Facilitating Scrum Events**:
   * Organizes and facilitates daily stand-ups, sprint planning, sprint reviews, and retrospectives.
   * Ensures these events adhere to Scrum guidelines.
2. **Coaching the Team**:
   * Helps the team understand and implement Agile principles and the Scrum framework.
   * Mentors team members on collaboration and self-management.
3. **Removing Impediments**:
   * Identifies and removes obstacles that block the team’s progress.
   * Coordinates with stakeholders or other teams to resolve issues.
4. **Shielding the Team**:
   * Protects the team from external distractions or interruptions.
   * Ensures the team can focus on the sprint goals.
5. **Promoting Continuous Improvement**:
   * Encourages the team to reflect and improve processes during retrospectives.
   * Helps the team evolve into a high-performing unit.
6. **Facilitating Collaboration**:
   * Works as a bridge between the Product Owner, development team, and stakeholders.
   * Fosters communication and transparency.

### ****Role of a Product Owner****

The **Product Owner** is responsible for maximizing the **value of the product** delivered by the development team. They act as the **voice of the customer** and own the **product backlog**.

#### ****Responsibilities****:

1. **Defining the Product Vision**
2. **Managing the Product Backlog**
3. **Stakeholder Collaboration**
4. Prioritizing Features
5. **Acceptance Criteria and Feedback**
6. Customer Focus

Q12) Explain all Meetings Conducted in Scrum Project.

**Answer-12**

Scrum follows an **iterative**and **collaborative**approach, where key meetings (ceremonies) ensure **transparency, alignment, and continuous improvement.**

1. Sprint Planning
2. Daily Scrum (Daily Stand-up)
3. Sprint Review
4. Sprint Retrospective
5. Backlog Grooming

**Answer-13**

* **Sprint Size** and **Scrum Size** are two important concepts related to **workload management**and **team capacity planning.**

**Sprint size:** Team’s **velocity** (average Story Points completed in past sprints).  
Sprint duration (e.g., 1, 2, or 4 weeks).  
Team capacity (availability of developers, testers, etc.).  
Complexity of the backlog items.

Sprint Size = Team Velocity × Sprint Duration (in weeks)

Scrum Size- Scrum Size refers to the number of people in a Scrum Team, including the Product Owner, Scrum Master, and Development Team.

**Q14)** Explain DOR and DOD

**Answer-14**

In Agile, **Definition of Ready (DoR)** and **Definition of Done (DoD)** help teams maintain clarity on when a user story is **ready for development** and when it is **fully completed.**

**DoR ensures that a user story is well-defined, clear, and ready to be worked on in a sprint.**

### **Key Criteria for DoR:**

**Clear User Story:** Well-written in **User Story format (**e.g., “As a user, I want to...”).  
**Acceptance Criteria:** Defines what must be met for the feature to be accepted.  
**Dependencies Identified:** No blocking issues preventing development.  
**Estimated:** Story points assigned by the development team.  
**Approved by the Team:** Developers, testers, and the Product Owner agree that it is ready.

### ****Example of DoR for a Food Delivery App:****

User Story: "As a customer, I want to track my order on a real-time map."

* User story is well-written and understandable.
* Acceptance criteria are defined (e.g., GPS updates every 10 seconds).
* API access is available for tracking.
* The team has estimated effort (e.g., 8 story points).

## **Definition of Done (DoD)**

**DoD ensures that a user story or task is fully completed and meets quality standards.**

### **Key Criteria for DoD:**

**Code Developed:** Feature is implemented as per requirements.  
**Code Reviewed:** Peer-reviewed for best practices and quality.  
**Unit Tested:** Basic functional tests are passed.  
**Integration Tested:** Works well with existing features.  
**Accepted by Product Owner:** Meets acceptance criteria.  
**Deployed to Staging/Production:** Ready for end users.

### **Example of DoD for a Food Delivery App:**

For the same **“Order Tracking”** feature:

* Code for tracking is implemented and pushed to the repository.
* Code is peer-reviewed and approved.
* Automated tests confirm the GPS updates work.
* The feature is successfully tested in staging.
* Product Owner confirms it works as expected.
* The feature is deployed and visible to customers.

**DoR ensures work starts smoothly.**  
**DoD ensures high-quality completion.**  
Following both prevents rework and delays.

Q15) Explain Prioritization Techniques and MVP.

**Answer -15**

Prioritization techniques are frameworks or methods used to decide the order in which tasks, features, or requirements should be addressed based on their value, effort, urgency, and impact.

Below are some widely used prioritization techniques:

#### ****MoSCoW Method****

* **What it is**: Classifies features or tasks into four categories:
  + **M**ust-Have: Essential features required for the product's core functionality.
  + **S**hould-Have: Important features, but not critical for the initial release.
  + **C**ould-Have: Nice-to-have features, add value but are not immediately needed.
  + **W**on’t-Have
* **When to use**: For clearly identifying high-priority vs. low-priority items.

**Value vs. Effort Matrix (or Impact vs. Effort)**

#### ****RICE Scoring Model****

* **What it is**: Prioritizes features based on a scoring system:
  + **R**each: How many people will it impact?
  + **I**mpact: How much will it improve user experience or achieve business goals?
  + **C**onfidence: How confident are you in your estimates?
  + **E**ffort: How much time/resources will it take?

#### ****What is an MVP?****

An **MVP (Minimum Viable Product)** is the simplest version of a product that includes only the **core features**necessary to solve the primary problem or deliver value to users. It allows teams to:

* Test the product concept.
* Validate market demand.
* Gather real user feedback with minimal effort and resources.

#### ****Key Characteristics of an MVP****:

1. **Core Functionality**: Focuses on solving the primary user problem.
2. **Testable**: Can be released to real users for feedback.
3. **Iterative**: Used as a foundation for further development.

**Answer-16**

Difference between BA and Product Owner

|  |  |  |
| --- | --- | --- |
| **Aspect** | **Business Analyst (BA)** | **Product Owner (PO)** |
| **Requirement Gathering** | Collects and analyses business needs | Defines product backlog and prioritizes features |
| **Documentation** | Creates BRDs, FRS, user stories, and process flows | Writes and manages user stories in the backlog |
| **Stakeholder Interaction** | Bridges business and IT teams | Communicates product vision to all stakeholders |
| **Decision-Making** | Recommends solutions but doesn’t decide product features | Owns and makes final decisions on product features |
| **Development Team Interaction** | Supports by clarifying requirements | Actively collaborates with developers to refine and adjust priorities |
| Approach & Methodology | Works in both Agile and Waterfall models. | Primarily works in Agile/Scrum environments. |

**Answer-17**

**Resume of Product owner with 3 years exp.**

**Madhumita Sahoo**

**Product Owner**

**Professional Summary**

Results-driven **Product Owner** with 3 years of experience in Agile environments, driving product vision, roadmap, and backlog management. Adept at working with cross-functional teams to deliver customer-centric solutions that align with business objectives. Strong expertise in stakeholder communication, user story development, and iterative product delivery.

### **Skills & Competencies**

* Agile & Scrum Methodologies
* Product Roadmap Planning
* Backlog Prioritization
* User Story Creation & Management
* Stakeholder Communication
* Market & Competitor Analysis
* Data-Driven Decision Making
* Jira, Confluence, and Aha!
* UX/UI Collaboration
* KPI & Performance Metrics

### **Professional Experience**

#### ****Product Owner****

[Company Name] | [Location] | [Year – Present]

* Define and prioritize product backlog to align with business goals and customer needs.
* Collaborate with cross-functional teams (engineering, UX, marketing, sales) to ensure timely and high-quality product deliveries.
* Conduct stakeholder interviews and translate feedback into actionable user stories and requirements.
* Work closely with Scrum Masters and Agile teams to refine and adjust product goals.
* Monitor and analyze key performance metrics to measure product success.

#### ****Associate Product Owner / Business Analyst****

[Company Name] | [Location] | [Year – Year]

* Assisted in backlog grooming and sprint planning sessions.
* Conducted user research and market analysis to identify new product opportunities.
* Worked with developers and designers to ensure alignment on product requirements.
* Created and maintained product documentation in Confluence.
* Led A/B testing initiatives to improve product adoption and engagement.

### **Education**

**[Degree Name]** – [University Name] | [Year]  
**Certifications:**

* Certified Scrum Product Owner (CSPO) – [Year]
* Professional Scrum Product Owner (PSPO) – [Year]

### **Projects & Achievements**

* Successfully launched [Product Name], leading to a [X]% increase in customer engagement.
* Optimized feature release process, reducing time-to-market by [X]%.
* Led a team in developing a new feature that increased customer retention by [X]%.