Capstone Project 2

**Q1 - write Agile Manifesto**

**4 Core Values of the tackle Agile Manifesto**

1. **Individuals and Interactions over Processes and Tools**: Focuses on the importance of effective communication and collaboration among team members.
2. **Working Software over Comprehensive Documentation**: Prioritizes the delivery of functional software as the primary measure of progress.
3. **Customer Collaboration over Contract Negotiation**: Encourages customers and stakeholders to have active involvement throughout the development process.
4. **Responding to Change over Following a Plan**: On changing requirements, embracing flexibility and ability to adapt even late in the development process.

**12 Principles of Agile Manifesto**

1. **Customer Satisfaction through Early and Continuous Delivery**: This principle concentrates on the importance of customer satisfaction by providing information to customers early on time and also with consistency throughout the development process.
2. **Welcome Changing Requirements, Even Late in Development**: Agile processes tackle change for the customer's competitive advantage. Even late in development, changes in requirements are welcomed to ensure the delivered software meets the evolving requirements of the customer.
3. **Deliver Working Software Frequently**: This principle encourages the regular release of functional software increments in short iterations. This enables faster feedback and adaptation to changing requirements.
4. **Collaboration between Business Stakeholders and Developers**: This says the businesspeople and developers must work together daily throughout the project. There should be communication and collaboration between stakeholders and the development team regularly. This is crucial for understanding and prioritizing requirements effectively.
5. **Build Projects around Motivated Individuals**: This promotes in giving developers the environment and support they need and trusts them to complete the job successfully. Motivated and empowered individuals are more likely to produce work with quality and make valuable contributions to the project.
6. **Face-to-face communication is the Most Effective**: Face-to-face communication is the most effective method of discussion and conveying information. This principle depicts the importance of direct interaction which helps minimize misunderstandings, and hence effective communication is achieved.
7. **Working Software is the Primary Measure of Progress**: This principle emphasizes delivering functional and working software as the primary metric for project advancement. It encourages teams to prioritize the continuous delivery of valuable features, so it ensures that good progress is consistently achieved throughout the process. The primary goal is to provide customers with incremental value and also gather feedback early in the project life cycle.
8. **Maintain a Sustainable Pace of Work**: Agile promotes sustainable development. All people involved: The sponsors, developers, and users should be able to maintain a constant pace indefinitely. This principle depicts the need for a sustainable and consistent development pace. This helps in avoiding burnout and ensures long-term project success.
9. **Continuous Attention to Technical Excellence and Good design:** This principle is on the importance of maintaining high standards of technical craft and design, so it ensures the long-term ability in maintenance and adaptability of the software.
10. **Simplicity**—the Art of Maximizing the Amount of Work Not Done: Simplicity is essential. The objective here is to concentrate on the most valuable features and tasks and avoid unnecessary complexity as the art of maximizing the amount of work not done is crucial.
11. **Self-Organizing Teams**: Self-organizing teams provide the best architectures, requirements, and designs. These help in empowering teams to make decisions and organize to optimize efficiency and creativity.
12. **Regular Reflection on Team Effectiveness**: This makes the team reflect on how to become more effective at regular intervals and then adjust accordingly. Continuous improvement is very crucial for adapting to changing circumstances and optimizing the team's performance over time

**Q2 Write minimum 40 User stories and their Acceptance Criteria along with their BV and CP**

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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: 02 | |
| ACCEPTANCE CRITERIA  Registration Screen  Text Boxes for User Name, Password, Nation ID, Mobile No, Email, Address, Phone Number.  Click on Register Button.  Send Successful Notification to the user | | | |

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| User Story No: 02 | Tasks: 2 | | Priority: HIGHEST |
| AS A RESTAURANT OWNER I WANT TO VIEW ORDERS  SO THAT I CAN VIEW THE LIST OF ORDERS | | | |
| BV: 500 | | CP: 2 | |
| Acceptance Criteria :  View Order, Display List of orders in the tabular Form | | | |

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| User Story No: 3 | Tasks:2 | | Priority: HIGHEST |
| AS A CUSTOMER  I WANT TO ADD THE ADDRESS  SO THAT I CAN GET THE ORDER TO MY ADDRESS | | | |
| BV: 500 | | CP: 2 | |
| Acceptance Criteria :  Text Box to enter.  Business Rules: Within the radius of 5 km | | | |

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| User Story No: 4 | Tasks:2 | | Priority: HIGHEST |
| AS A CUSTOMER  I WANT TO SELECT THE PAYMENT MODE  SO THAT I CAN MAKE PAYMENT OF MY CHOICE | | | |
| BV: 500 | | CP: 3 | |
| Acceptance Criteria :  Display payment modes, radio buttons to select payment modes, payments button.  Business Rule. Can select only one payment mode | | | |

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| User Story No: 5 | Tasks:2 | | Priority: HIGHEST |
| AS AN ADMIN  I WANT TO VIEW THE RESTAURANTS  SO THAT I CAN APPROVE THEIR REGISTRATION | | | |
| BV: 500 | | CP: 2 | |
| ACCEPTANCE CRITERIA  List of restaurant, select Restaurants, verify restaurant details, approve button, reject button, notification to the restaurant. | | | |

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| User Story No: 6 | Tasks:2 | | Priority: LOW |
| AS ACUSTOMER  I WANT TO VIEW THE PRICE  SO THAT I CAN ORDER THE FOOD | | | |
| BV: 50 | | CP: 1 | |
| Acceptance Criteria :  1. Display price in the list of menu items | | | |

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| User Story No:7 | Tasks:2 | | Priority: LOW |
| AS A CUSTOMER  I WANT TO VIEW THE CONTACT NUMBER OF DELIVERY BOY SO THAT I CAN CONTACT DELIVERY BOY FOR THE STATUS | | | |
| BV: 50 | | CP: 1 | |
| Acceptance Criteria :   1. Display delivery boy mobile number 2. Display delivery boy name in tracking field 3. Display delivery boy picture | | | |

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| User Story No: 8 | Tasks:2 | | Priority: MEDIUM |
| AS A RESTAURANT OWNER  I WANT TO PROVIDE TIME SLOTS  SO THAT CUSTOMER CAN CHECK OPENING AND CLOSING HOURS | | | |
| BV: 100 | | CP: 2 | |
| Acceptance Criteria :   1. Click on restaurant dashboard 2. Add from time to time 3. Click on submit 4. Display updated successfully | | | |

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| User Story No: 9 | Tasks:2 | | Priority: HIGH |
| AS A Business OWNER  I WANT TO VIEW RESTAURANT REVENUE REPORT SO THAT I CAN VIEW THE RESTAURANT’S REVENUE | | | |
| BV: 200 | | CP: 3 | |
| Acceptance Criteria : Select Reports  Select Revenue Reports Select to and from date Select Region (can select all) Generate Report  Download Report in EXCEL | | | |

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| User Story No: 10 | Tasks: 03 | | Priority: High |
| AS A REG ADMIN  I WANT TO MANAGE REGIONAL RESTAURANTS,  SO THAT, I CAN TRACK THE PERFORMANCE OF REGIONAL RESTAURANTS. | | | |
| BV: 200 | | CP: 03 | |
| Acceptance Criteria :  CLICK ON PERFORMANCE OF RESTAURANTS SELECT FROM DATE TO DATE  CLINCK ON GENERATE REPORT WHICH INCLUSES RESTAURANTS ID, NAME, REVENUE  CLICK ON DOWNLOAD REPORT SHOULD BE IN EXCEL | | | |

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| User Story No: 11 | Tasks: 01 | | Priority: High |
| AS A Customer  I want to register on the website so that I can order food through SCRUM FOOD Application. | | | |
| BV: 700 | | CP: 05 | |
| Acceptance Criteria:  Registration Screen  Text Boxes for User Name, Password, Nation ID, Mobile No, Email, Address, Phone Number.  Click on Register Button.  Send Successful Notification to the user | | | |

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| User Story No: 12 | Tasks: 01 | | Priority: High |
| AS A Customer  I want to view no of restaurants available so that I can order food from their restaurants & what all dishes are available with them. | | | |
| BV: 500 | | CP: 05 | |
| Acceptance Criteria:  Search for Food Item, List of restaurants, select Restaurants, Place an order, get the Order placement notification. | | | |

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| User Story No: 13 | Tasks: 01 | | Priority: High |
| **As a** delivery person, **I want to** view my assigned orders **so that** I can deliver food efficiently. | | | |
| BV: 300 | | CP: 03 | |
| Acceptance Criteria:  Display a list of assigned orders with status.  Show pickup and drop-off locations.  Button to update the order status (e.g., Picked Up, Delivered). | | | |

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| User Story No: 14 | Tasks: 01 | | Priority: High |
| As a restaurant owner, I want to manage my restaurant’s menu so that I can update item availability and prices. | | | |
| BV: 400 | | CP: 04 | |
| Acceptance Criteria:  Ability to add, edit, or delete menu items.  Changes should reflect in real-time for customers.  Validation for input fields like item name, price, and category. | | | |
| User Story No: 15 | Tasks: 03 | | Priority: Medium |
| **As a Customer, I want to apply discount coupons** so that I can get offers. | | | |
| BV: 350 | | CP: 02 | |
| Acceptance Criteria:  Coupon code field, validation, and discount application | | | |

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| User Story No: 16 | Tasks: 01 | | Priority: High |
| **As a Restaurant Owner, I want to view incoming orders** so that I can prepare them on time. | | | |
| BV: 500 | | CP: 03 | |
| Acceptance Criteria:  Order list, order details, and preparation status. | | | |
| User Story No: 15 | Tasks: 03 | | Priority: Medium |
| **As a Customer, I want to apply discount coupons** so that I can get offers. | | | |
| BV: 350 | | CP: 02 | |
| Acceptance Criteria:  Coupon code field, validation, and discount application | | | |

**Q3 What is epic? Write 2 epics**

An Epic is a large user story that cannot be completed in a single sprint and is broken down into multiple user stories.

An epic is a feature or functionality consisting of multiple building blocks and scenarios. Epics are derived from themes or initiatives and can be segmented into smaller pieces called [user stories](https://en.wikipedia.org/wiki/User_story). An epic can span across multiple sprints, teams, and even projects. The theme, epic, and user stories share the same strategic goal at different levels of the focus area.

Consider the example of building a house. If an initiative is like building the ground floor, an epic is like creating a kitchen and a user story is like building a wall, with each brick being a task.

For this case scenario if creating a online food platform than EPIC could be registration of users and individual registration of User, Delivery boy are different User stories.

**Epic Examples**

1. Customer Order Management – Covers user stories related to ordering, payment, and tracking.
2. Delivery Boy Operations – Covers registration, order acceptance, and delivery tracking.

**Q4 What is the difference between BV and CP?**

Story points/velocity help development team to plan their work and to have better delivery predictability. On other hand, business value is what delivered to end customer and how they recieved it. Feedback from customer is good measure to know the value delivered.  Delivered feature may or may not have same value for customer when compare to how many story points taken to develop that feature.

Other point, Story points may vary from team to team within organization based on approach team taken for feature/story implementation and how team understands its complexity but business value delivered will not change based on which/how team perceived that feature/story.

**Q5 –Explain about Sprint**

A Sprint is a time-boxed period (usually 2 weeks) during which a Scrum team works on a set of user stories from the product backlog. It is a fundamental part of the Scrum framework, ensuring continuous delivery of small, working increments of the product.

Each sprint follows a structured process:

1. Sprint Planning: The team selects user stories from the product backlog to work on during the sprint.
2. Development & Testing: Team members complete tasks associated with the sprint backlog.
3. Daily Scrum Meetings: Short stand-up meetings to track progress and address challenges.
4. Sprint Review: The team demonstrates the completed work to stakeholders.
5. Sprint Retrospective: The team reflects on the sprint and identifies areas for improvement.

PBI: Product Backlog Item

Task: Unit of Work done by 1 Developer in 1 Scrum WIP: Work in Progress

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| PBI | Tasks | WIP | Done |
| Customer Registration  Delivery Boy Registration  As a Customer I want to add the address in the portal  AS A CUSTOMER  I WANT TO SELECT THE PAYMENT MODE  SO THAT I CAN MAKE PAYMENT OF MY CHOICE | Create page for user registration  Create page for delivery boy registration  Text box to be added where address could be entered by customer.  Add multiple payments modes for the customer | Development team is working on creating the online registration, Page.  Development team has completed on creating the online registration, Page for delivery boy.  Team is working on creating the Text box.  Team would be working on setting up the payment gateway | Completed  Done  In Progress  In progress. |

**Question 6: Explain Product Backlog and Sprint Backlog (5 Marks)**

* Product Backlog: A prioritized list of features and requirements for the project.
* Sprint Backlog: A subset of the product backlog selected for development in a sprint.
* Product Backlog: A dynamic, prioritized list of features, enhancements, and bug fixes maintained by the Product Owner. It evolves throughout the project as requirements change.
* Sprint Backlog: A subset of the product backlog, selected during sprint planning, which the team commits to completing within a sprint. It contains user stories, tasks, and acceptance criteria.

**Question 7: What is Impediments Log? Write 2 Impediments (5 Marks)**

An **Impediments Log** records obstacles preventing the Scrum team from progressing. **Impediments Log** records obstacles preventing the Scrum team from progressing efficiently. The Scrum Master is responsible for identifying and resolving these impediments.

Examples:

1. Internet downtime affecting remote team collaboration.
2. Dependency on an external API that is not yet available.
3. **Technical Dependency:** A feature relies on an external API that is not yet available.
4. **Lack of Resources:** Team members need access to testing environments or tools that are delayed.

**Question 8: Explain Velocity of the Team (1 Mark)**

Velocity is the number of story points completed in a sprint. It helps in sprint planning and estimating future sprints**.** Velocity is a measure of the amount of work a Scrum team completes during a sprint, expressed in story points. It helps predict future sprints and ensures better sprint planning**.**

**Question 10: Explain Product Grooming (2 Marks)**

Product grooming involves reviewing, refining, and prioritizing the product backlog to ensure clarity and readiness for development. Product grooming (or backlog refinement) is the process of reviewing and updating the product backlog to ensure the backlog items are well-defined, estimated, and prioritized. It helps the team prepare for upcoming sprints by refining user stories and ensuring clarity.

**Question 11: Explain the Roles of Scrum Master and Product Owner (3 Marks)**

* **Scrum Master:** Facilitates Scrum practices, removes impediments, and ensures smooth sprint execution.
* **Product Owner:** Defines product vision, prioritizes the backlog, and communicates with stakeholders.
* Scrum Master:Acts as a servant-leader, ensuring that Scrum principles are followed. They remove impediments, facilitate meetings, and support the development team.
* Product Owner: Owns the product vision and manages the backlog. They prioritize features based on business value and ensure stakeholder requirements are met.

**Question 12: Explain all Meetings Conducted in Scrum Project (8 Marks)**

1. Sprint Planning Meeting: Determines what can be delivered in the sprint and how the work will be accomplished.
2. Daily Scrum Meeting: A 15-minute stand-up where the team discusses progress and impediments.
3. Sprint Review Meeting: The team presents completed work to stakeholders and gathers feedback.
4. Sprint Retrospective Meeting: The team reflects on the sprint, discussing what worked well and what needs improvement.

**Question 13: Explain Sprint Size and Scrum Size (2 Marks)**

* **Sprint Size:** Number of story points a team can complete in a sprint.
* **Scrum Size:** The number of tasks handled per day in a Scrum meeting.
* **Sprint Size:** Represents the total story points a team commits to completing in a sprint, typically based on past velocity.
* Scrum Size: Refers to the number of team members participating in daily scrums and contributing to sprint goals.

**Question 14: Explain DOR and DOD (2 Marks)**

* **Definition of Ready (DOR):** Criteria that a user story must meet before it is accepted into a sprint.
* **Definition of Done (DOD):** Criteria that a user story must meet before it is considered complete.
* Definition of Ready (DOR): Criteria that a user story must meet before being added to a sprint, such as having clear acceptance criteria.
* Definition of Done (DOD): Criteria that must be met for a user story to be considered complete, including successful testing and documentation.

**Question 15: Explain Prioritization Techniques and MVP (3 Marks)**

Prioritization Techniques: **Methods to rank backlog items, including:**

* MoSCoW Method: **Categorizing features into Must-Have, Should-Have, Could-Have, and Won’t-Have.**
* Kano Model: **Classifying features based on customer satisfaction impact.**
* Value vs. Effort Matrix: **Weighing business value against development effort.**

MVP (Minimum Viable Product): **A version of the product with the essential features to satisfy early adopters and gather feedback for future development.**

**Question 16: Difference between Business Analyst and Product Owner (3 Marks)**

* **Business Analyst (BA):** Focuses on requirement gathering and analysis.
* **Product Owner (PO):** Manages the backlog and aligns the product vision with business goals.
* Business Analyst (BA): Primarily focuses on gathering, analysing, and documenting requirements to ensure alignment with business goals.
* Product Owner (PO): Defines the product vision, maintains the backlog, and works closely with stakeholders and development teams to deliver value.