**Day 4: Assignment 1,2,3&4**

**Assignment 1:**

Difference between Scrum vs Kanban

**Scrum**

**1. Structure and Roles:**

* Fixed Roles: Scrum defines specific roles such as Product Owner, Scrum Master, and Development Team.
* Time-boxed Iterations: Work is divided into fixed-length iterations called Sprints, usually lasting 2-4 weeks.
* Ceremonies: Includes predefined meetings like Sprint Planning, Daily Stand-ups, Sprint Review, and Sprint Retrospective.

**2. Planning and Process:**

* Sprint Planning: At the beginning of each Sprint, the team plans what work will be completed during the Sprint.
* Backlog Management: The Product Owner prioritizes a list of work (Product Backlog) that the team pulls from during Sprint Planning.
* Commitment: The team commits to completing a set amount of work during the Sprint.

**3. Metrics and Improvement:**

* Velocity: Measures the amount of work completed in a Sprint to help with future Sprint planning.
* Retrospectives: At the end of each Sprint, the team reflects on their process and makes improvements.

**Kanban**

**1. Structure and Roles:**

* Flexible Roles: Kanban does not prescribe specific roles. Teams can retain their existing roles and responsibilities.
* Continuous Flow: Work items are continuously pulled from a backlog as capacity allows, rather than in fixed-length iterations.

**2. Planning and Process:**

* + Visual Workflow: Uses a Kanban board to visualize the flow of work items through different stages (e.g., To Do, In Progress, Done).
  + Work-in-Progress (WIP) Limits: Sets limits on the number of work items in each stage to ensure focus and prevent bottlenecks.
  + Pull System: Team members pull work items into the next stage only when they have the capacity to do so.

**3. Metrics and Improvement:**

* + Lead Time and Cycle Time: Measures the time taken for a work item to move through the entire process (Lead Time) and through individual stages (Cycle Time).
  + Continuous Improvement: Emphasizes ongoing process improvements based on real-time feedback and metrics.

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**Assignment 2:**

write 3 user stories with acceptance criteria.

**User Story: Login**  
As a [user], I want to [login into my account] so that [I can check the Account details]

**Acceptance criteria:**  
->User should be able to access the login page.  
->User should be able to enter their username and password.  
->Upon successful login, the user should be redirected to dashboard.  
->If login credentials are incorrect, the user should see an error message.

**User Story: Flight Booking**  
As a user, I want to [book a flight] so that [I can explore the places]

**Acceptance Criteria:**  
->User should be able to select the flight.  
->User should be able to choose boarding and destination details.  
->User should be able to review the selected booking details before confirming.  
->Upon confirmation, email should be sent to the user.  
->The booking should be reflected in the user's account or profile.

**User Story: Payment Processing**

As a [customer] I want to [make a payment for my purchase] so that [I can complete my transaction and receive my order]

**Acceptance Criteria**

- >Display options for credit/debit card, PayPal, and Apple Pay on the checkout page.

-> Process payment with valid card details and show confirmation message.

- >Redirect to PayPal for login and authorization, then return with confirmation.

- >Process payment with Apple Pay authentication and show confirmation message.

- >Show error message for invalid card details and prompt for correction.

- >Show error message for insufficient funds and prompt for alternative payment.

- >Display payment amount, method, and confirmation number on confirmation page and send confirmation email.

- >Show detailed receipt in order history including payment method and amount.

**Assignment 3:**

write product backlog and backlog for your project.

Product Backlog for Online Flight Booking

**High Priority:**

1. **Search Flights:** This is the core functionality and should be prioritized.
   * User Stories:
     + As a traveller, I want to search for flights by specifying origin, destination, and travel dates (round trip or one-way) so I can easily find available options. (Very High)
     + As a traveller, I want to filter search results by airline, price range, number of layovers, departure/arrival time, and travel duration to narrow down my choices. (High)
     + As a traveller, I want to see a clear overview of each flight option, including airlines, departure/arrival times, layovers, travel duration, and baggage allowance. (High)
2. **Select Flights:** This allows users to choose their preferred flights.
   * User Stories:
     + As a traveller, I want to select the flight(s) I want to book by clicking on them. (Very High)
     + As a traveller, I want to see the total price breakdown for the selected flights, including base fare, taxes, and any additional fees. (High)
3. **Passenger Information:** This captures traveller details for the booking.
   * User Stories:
     + As a traveller, I want to enter my passenger information, including name, contact details, and date of birth for each passenger traveling. (High)
4. **Payment:** This enables secure payment processing for the booking.
   * User Stories:
     + As a traveller, I want to securely pay for my flight booking using a credit card or debit card. (Very High)
     + As a traveller, I want to see confirmation of my payment and receive a booking confirmation email with all flight details. (High)

**Lower Priority - for later releases:**

* **Account Management:** Allow users to create accounts for managing bookings and travel preferences.
* **Advanced Search:** Enable searching by specific airports, preferred airlines, frequent flyer programs, etc.
* **Price Tracking:** Allow users to track flight prices and receive alerts for price changes.
* **Additional Services:** Integrate booking of hotels, rental cars, and travel insurance.

**Backlog Management:**

The product backlog is a living document that should be constantly reviewed and updated based on user feedback, market trends, and business goals. Here are some tips for managing the backlog:

* **Prioritize:** Use a scoring system or Moscow method (Must-Have, Should-Have, Could-Have, Won't-Have) to prioritize backlog items.
* **Estimate:** Assign effort estimates (e.g., story points) to user stories for better development planning.
* **Refine:** Regularly review and refine backlog items to ensure they are clear, concise, and achievable.

**Assignment 4:**

Set a Kanban board for your project.

**To Do**

* Design wireframes for the homepage
* Develop basic flight search functionality
* Integrate basic payment gateway for credit card processing
* Implement user registration and login functionality
* Set up FAQ and help centre page
* Set up email notifications for booking confirmation
* Design wireframes for user account creation and management pages
* Integrate additional payment gateways (PayPal, Apple Pay)
* Implement live chat support

**In Progress**

* Design wireframes for the flight search page
* Implement profile management features
* Display search results with flight details
* Integrate advanced filtering options (e.g., direct flights, price range, airlines)
* Implement responsive layout for mobile and desktop

**Review**

* Add seat selection and baggage options to booking form
* Implement booking confirmation page
* Develop secure payment processing
* Implement option to save payment details for future bookings
* Generate invoicing and billing system

**Done**

* Implement responsive layout for homepage
* Set up email notifications for booking confirmation
* Develop basic admin panel to manage flight listings
* Optimize SEO for search engines
* Set up FAQ and help centre page