PRACTICAL - 4

AIM: Study and apply stepwise project planning activities

Scenario: Airbnb and Farfetch.

Task:
1. Study the steps and activities involved in project planning.
2. Create project planning for a given scenario

Team Details :

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Project Title : Airbnb System

1. Identify Project Scope and Objectives

1. Identify Objectives and Measures of Effectiveness in Meeting Them:

   ○ Objective:

     ■ Provide a seamless booking experience for users worldwide.

     ■ Enable property hosts to efficiently list and manage properties.

     ■ Ensure secure and fast transactions with integrated payment systems.

     ■ Support multiple languages and currencies for a global user base.

   ○ Effectiveness Measure:

     ■ User satisfaction through surveys and feedback.

     ■ Increased number of bookings.

     ■ Platform uptime and performance metrics.

     ■ Successful processing of payments and security compliance.

2. Establish Project Authority:

   ○ Project manager (Team Leader) is responsible for the oversight, while technical leads will oversee specific modules (frontend, backend, database, security)

3. Identify Stakeholders:

- Airbnb users (guests)

- Hosts providing experiences

- Airbnb operations and customer support teams

- Marketing and Sales teams

- Technology/Development team

4. Modify Objectives in Light of Stakeholder Analysis:

- Adjustments for local cultural nuances in booking experiences based on different regions.

5. Establish Methods of Communication with All Parties:

- Weekly updates with the team via Slack and bi-weekly meetings for detailed progress reviews.

2. Identify Project Infrastructure

1. Establish Relationship Between Project and Strategic Planning:

- The integration of experiences directly supports Airbnb's strategy to diversify offerings and increase customer engagement.

2. Identify Installation Standards and Procedures:

- The feature will be built using Airbnb's existing tech stack (React, Node.js, AWS).

- Standard procedures will involve using a CI/CD pipeline for updates and testing.

3. Identify Project Team Organization:

- The project team is organized into sub-teams: development, UX/UI, marketing, and testing.

3. Analyze Project Characteristics

1. Distinguish the Project as Either Objective-Driven or Product-Driven:

- The project is **product-driven**, as it focuses on introducing a new feature for Airbnb users (experience bookings).

2. Analyze Other Project Characteristics:

- ○ The project will be phased, starting with a beta test in a limited region before a global rollout.

3. Identify High-Level Project Risks:

- ○ Risk of low adoption if users do not see value in the experience booking feature.

- ○ Potential integration issues between the accommodation and activity booking systems.

4. Take into Account User Requirements Concerning Implementation:

- ○ The platform needs to be easy to use, with the ability to filter experiences by location, type, and rating.

5. Select General Life-Cycle Approach:

- ○ The project will use an **Agile approach**, with sprints lasting 2 weeks, ensuring continuous feedback and improvement.

6. Review Overall Resource Estimates:

- ○ Estimated resources: 4 developers, 2 UX/UI designers, 1 QA tester, 2 marketing professionals. Also include server infrastructure, cloud services and third-party integrations

4. Identify Project Products and Activities

1. Identify and Describe Project Products (Including Quality Criteria):

- ○ Product 1: Web and mobile application

    - ■ Quality criteria: User interface for booking, profile management.

- ○ Product 2: Payment integration system.

    - ■ Quality criteria: Seamless integration, intuitive UI/UX, reliable transaction process.

2. Document Generic Product Flows:

- ○ Flow 1: User logs in → searches for properties → filters results → makes a booking → payment → receives confirmation.

- ○ Flow 2: Host lists a property → manages listing → receives booking requests → communicates with guests.

3. Recognize Product Instances:

- ○ Different product instances: Activity categories such as different user profiles (traveler, host, admin) or booking instances (new, canceled, confirmed).

4. Produce Ideal Activity Network:

- ○ Ideal activity flow: Design → Development → Testing → Deployment → Maintenance

- ○ Activity flow includes system architecture, UI/UX design, database creation, and integration

5. Modify Ideal to Take into Account Need for Stages and Checkpoints:

- ○ Critical checkpoints: Planning → Design → Development → Testing → Deployment → Feedback → Maintenance.

5. Estimate Effort for Each Activity

1. Carry Out Bottom-Up Estimates:

- ○ Estimation based on prior similar feature builds:

    - ■ Front-end development: 120 hours

    - ■ Back-end development: 150 hours

    - ■ UI/UX design: 100 hours

    - ■ Marketing and promotion: 80 hours

2. Revise Plan to Create Controllable Activities:

- ○ The activities are broken into smaller tasks, each reviewed during sprint retrospectives.

6. Identify Activity Risks

1. Identify and Quantify Activity-Based Risks:

- ○ Risk 1: Integration issues with current Airbnb backend (impact: medium).

- ○ Risk 2: Low user engagement (impact: high).

2. Plan Risk Reduction and Contingency Measures Where Appropriate:

- ○ Develop a contingency plan to enhance the user interface if engagement is low (e.g., additional features like instant booking confirmation).

3. Adjust Plans and Estimates to Take Account of Risks:

- ○ Allocate additional time for troubleshooting potential backend issues.

7. Allocate Resources

1. Identify and Allocate Resources:

   ○ Development: 4 developers, 1 QA tester

   ○ Design: 2 UX/UI designers

   ○ Marketing: 2 professionals for outreach and content creation

2. Revise Plans and Estimates to Take Account of Resource Constraints:

   ○ Ensure that the resources allocated to each team are sufficient to meet deadlines while considering potential delays in the design phase.

8. Review/Publicize Plan

1. Review Quality Aspects of Project Plan:

   ○ Ensure that the feature is user-friendly, scalable and adheres to Airbnb's standards of accessibility and security.

2. Document Plans and Obtain Agreement:

   ○ Present the plan to Airbnb stakeholders (e.g., product managers and executives) for approval.

9/10. Execute Plan/ Lower Levels of Planning

   ○ Begin development and design sprints, prioritizing core features.

   ○ Break down the tasks into smaller sub-tasks, assigning them to specific team members.
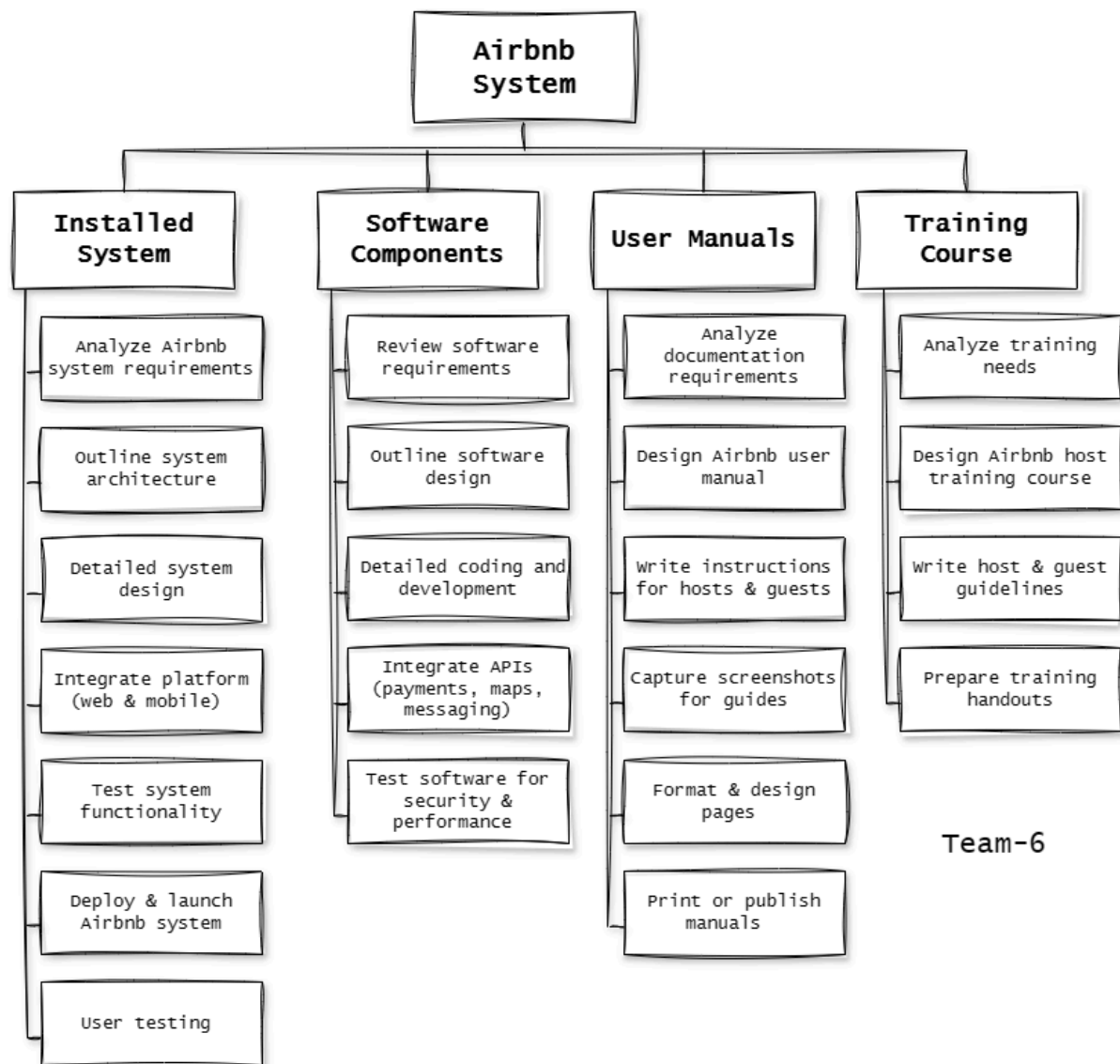
Work Breakdown Structure for AirBnb System

Project Title : Farfetch E-commerce System

1. Identify Project Scope and Objectives

   1. Identify objectives and measures of effectiveness in meeting them:

      ○ Objectives:

         ■ Create an intuitive and user-friendly platform for luxury fashion shopping.

         ■ Enable boutiques and brands to list and manage their products.

         ■ Ensure secure, reliable payment processing and multiple payment options.

         ■ Provide personalized product recommendations based on customer browsing behavior and preferences.

      ○ Measures of effectiveness:

         ■ Customer satisfaction: Measure through customer feedback, reviews, and ratings.

         ■ Conversion rate: Track the percentage of visitors who complete purchases.

         ■ Platform uptime: Ensure availability and responsiveness of the platform at all times.

         ■ Order fulfillment: Monitor delivery times and success rates for global shipping.

   2. Establish a project authority:

      ○ The Project Manager (PM) will oversee the entire project.

      ○ Technical Leads: Oversee various modules (Frontend, Backend, Payment Systems, etc.).

      ○ Stakeholders: Users (buyers, boutiques, brands), payment gateways, delivery services, admins.

   3. Identify stakeholders:

      ○ Primary stakeholders:

         ■ Customers (shoppers who buy luxury fashion products).

         ■ Boutiques and Brands (sellers listing products).

- Admins (platform management and oversight).

  - Secondary stakeholders:

    - Payment gateway providers (Stripe, PayPal, etc.).

    - Shipping and logistics partners (FedEx, DHL).

    - Third-party APIs for inventory, recommendations, etc.

    - Compliance and regulatory authorities (GDPR, PCI-DSS).

4. Modify objectives in light of stakeholder analysis:

  - Consider region-specific shipping regulations and payment methods.

  - Enhance personalized recommendations based on data analytics to better match products with customer preferences.

5. Establish methods of communication with all parties:

  - Internal communication: Slack or Microsoft Teams for team collaboration.

  - Stakeholder meetings: Weekly Zoom meetings to discuss project progress, updates, and risks.

  - Project management tools: Jira or Trello to track tasks, milestones, and progress.

2. Identify Project Infrastructure

1. Establish relationship between project and strategic planning:

  - The project supports Farfetch's business goal of increasing global sales in the luxury fashion market and providing a seamless customer experience.

  - Global scalability: The system must handle a large number of international users, transactions, and product inventories.

2. Identify installation standards and procedures:

  - Cloud infrastructure (AWS, Google Cloud) to handle scaling and ensure high availability.

  - Multi-platform development: Web and mobile app (React Native for iOS and Android).

  - Continuous integration/continuous delivery (CI/CD) for regular updates and testing.

3. Identify project team organization:

- ○ Project Manager (PM): Leads the project, handles stakeholder communication, ensures deadlines.

- ○ Technical Leads:

    - ■ Frontend Lead (UI/UX design for web and mobile).

    - ■ Backend Lead (server-side functionality, database, API design).

    - ■ Security Lead (payment security, data privacy).

- ○ Developers: Full-stack and mobile developers.

- ○ QA Engineers: Ensuring the platform is bug-free and secure.

- ○ DevOps: Managing cloud infrastructure, scaling, and deployment.

3. Analyze Project Characteristics

1. Distinguish the project as either objective- or product-driven:

- ○ Product-driven: The goal is to develop the Farfetch platform where users can shop luxury items and boutiques can list products.

2. Analyze other project characteristics:

- ○ Medium to large-scale with a global audience, handling high traffic and transactions.

- ○ Third-party integrations: Payment gateway, shipping services, and recommendation engines.

- ○ Real-time data: Personalized recommendations, live inventory updates.

- ○ High availability and scalability required due to international users.

3. Identify high-level project risks:

- ○ Data breaches: Potential security risks involving user data and payment details.

- ○ Payment failures or fraud during transactions.

- ○ Shipping delays or issues with international deliveries.

- ○ Integration issues: Problems integrating payment gateways or shipping APIs.

4. Take into account user requirements concerning implementation:

- ○ Functional Requirements:

    - ■ Easy navigation for product search and purchase.

- - ■ Secure payment gateway integration.

    - ■ Global shipping and order tracking.

    - ■ Personalized product recommendations.

  - ○ Non-functional Requirements:

    - ■ Scalability to handle traffic surges, especially during sales events.

    - ■ High availability to ensure the system is up and running 24/7.

    - ■ Data security to protect customer information and prevent fraud.

5. Select general life-cycle approach:

   - ○ **Hybrid Agile** Approach: Iterative development, allowing flexibility to adjust features based on feedback.

   - ○ Scrum framework for sprint-based development and regular updates.

6. Review overall resource estimates:

   - ○ Personnel: Developers, designers, security experts, DevOps, QA engineers.

   - ○ Technological resources: Cloud infrastructure, payment gateway APIs, shipping service APIs.

   - ○ Financial resources: Budget for cloud services, third-party integrations, marketing campaigns.

4. Identify Project Products and Activities

1. Identify and describe project products (including quality criteria):

   - ○ Products:

     - ■ E-commerce website for browsing and purchasing products.

     - ■ Payment system integration (secure payments via Stripe, PayPal).

     - ■ Product catalog with detailed descriptions, images, and prices.

     - ■ Admin Panel for managing products, users, and orders.

     - ■ Order management system with real-time order tracking.

   - ○ Quality Criteria:

     - ■ User experience: Easy navigation, fast load times, intuitive design.

     - ■ Security: Secure payment processing, encrypted user data.

     - ■ Scalability: Ability to handle large numbers o f users and transactions.

2. Document generic product flows:

- ○ Customer Flow: Login → Browse Products → Add to Cart → Checkout → Payment → Order Confirmation.

- ○ Admin Flow: Login → Manage Products → Review Orders → Manage Users.

3. Recognize product instances:

- ○ User Types: Customers, Admins.

- ○ Order Status: Pending, Processed, Shipped, Delivered.

4. Produce ideal activity network:

- ○ Design → Development → Testing → Deployment → Maintenance.

5. Modify ideal to take into account need for stages and checkpoints:

- ○ Phase 1: Requirements gathering and design (UI/UX, database).

- ○ Phase 2: Backend and frontend development.

- ○ Phase 3: API integration (payment, shipping).

- ○ Phase 4: Testing and quality assurance.

- ○ Phase 5: Deployment and monitoring.

- ○ Phase 6: Ongoing maintenance and updates.

5. Estimate Effort for Each Activity

1. Carry out bottom-up estimates:

- ○ Estimate the time required for each module, such as payment gateway integration, product catalog setup, and user authentication.

2. Revise plan to create controllable activities:

- ○ Break tasks into manageable sprints (e.g., sprint 1 for product catalog, sprint 2 for payment integration).

6. Identify Activity Risks

1. Identify and quantify activity-based risks:

- ○ Integration risk: Failure of payment gateway or shipping API.

- ○ Security risk: Data breaches or fraud during payment transactions.

2. Plan risk reduction and contingency measures:

- ○ Implement multi-factor authentication (MFA) for payment processing.

- ○ Use encryption for sensitive data (credit card numbers, addresses).

3. Adjust plans and estimates to take account of risks:

- ○ Add buffer time for third-party API integration and security testing.

7. Allocate Resources

1. Identify and allocate resources:

- ○ Personnel: Developers, security specialists, designers, QA engineers.

- ○ Technology: Cloud infrastructure, payment gateways, shipping APIs.

2. Revise plans and estimates to take account of resource constraints:

- ○ Adjust plans to ensure timely integration of critical systems, such as the payment gateway.

8. Review/Publicize Plan

1. Review quality aspects of project plan:

- ○ Ensure all quality aspects (security, scalability, performance) are adequately addressed.
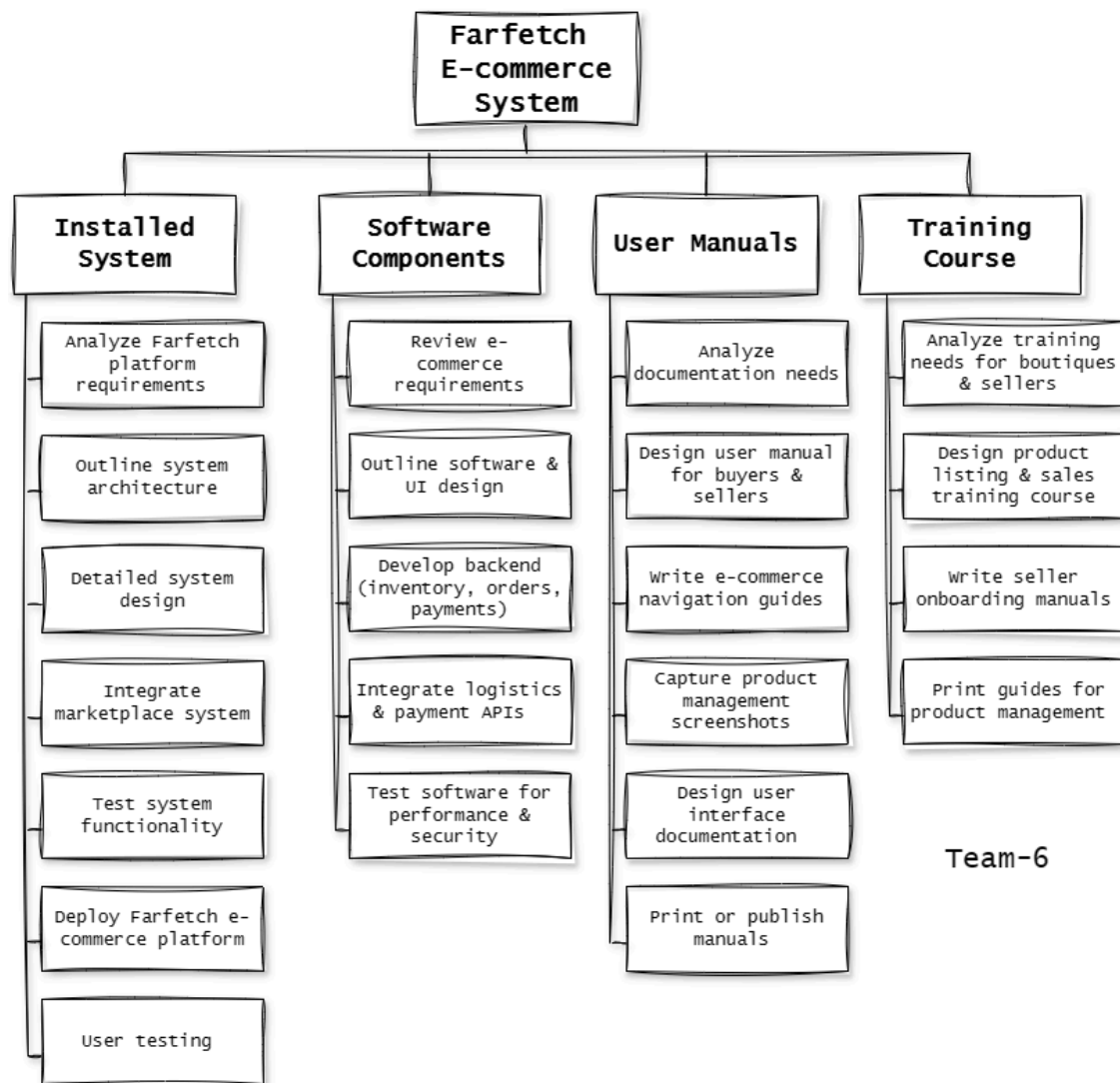
2. Document plans and obtain agreement:

- ○ Stakeholder sign-off for the project plan to ensure alignment with business goals.

9/10. Execute Plan/Lower Levels of Planning

- ● Execution:

- ○ Sprint 1: Set up cloud infrastructure and begin UI/UX design.

- ○ Sprint 2: Develop product catalog, integrate basic features.

- ○ Sprint 3: Complete payment system integration, begin testing.

Farfetch E-commerce System

Installed System
- Analyze Farfetch platform requirements
- Outline system architecture
- Detailed system design
- Integrate marketplace system
- Test system functionality
- Deploy Farfetch e-commerce platform
- User testing

Software Components
- Review e-commerce requirements
- Outline software & UI design
- Develop backend (inventory, orders, payments)
- Integrate logistics & payment APIs
- Test software for performance & security

User Manuals
- Analyze documentation needs
- Design user manual for buyers & sellers
- Write e-commerce navigation guides
- Capture product management screenshots
- Design user interface documentation
- Print or publish manuals

Training Course
- Analyze training needs for boutiques & sellers
- Design product listing & sales training course
- Write seller onboarding manuals
- Print guides for product management

Team-6

Work Breakdown Structure for FarFetch