

PRACTICAL - 2

AIM: Categorization of software projects (select any two projects from annexure – I)

Task:

1. Study and Identify the requirements, modules and list the key objectives for the mobile application project
2. Study the different categories of software projects.
3. Categorize projects based on size, complexity, and criticality.
4. Justify your categorization decisions.

Solution :

Team Details :

Sr. No.	Name	Enrollment No.
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Project Title : Airbnb System

Introduction :

Airbnb is a digital marketplace that connects travelers with property owners who offer short-term accommodations. The platform allows users to browse, book, and manage stays, while hosts can list and monetize their properties. The system includes web and mobile applications, ensuring a seamless experience for users worldwide.

Key Objective :

- Provide a seamless booking experience for users
- Enable hosts to list and manage properties efficiently
- Ensure secure transactions and payments
- Maintain a user-friendly interface
- Support multiple languages and currencies

Modules:

- User Management – Registration, login, profile setup.
- Property Listings – Add, update, delete properties.
- Search & Booking – Filtering, availability checks, reservations.
- Payments & Transactions – Payment gateway integration.
- Reviews & Ratings – Feedback system.
- Messaging & Notifications – In-app communication, alerts.

- Admin Panel – Manage users, listings, and disputes.

Requirements:

- User authentication and profile management
- Property listing and management
- Booking and payment system
- Review and rating system
- Search and filter functionalities
- Messaging and notifications

Based on Size:

- Large-scale system due to its extensive global user base.
- Requires a distributed cloud infrastructure to handle high traffic.
- Involves multiple integrations (payments, maps, messaging).
- Manages large volumes of data, including images, transactions, and user activity.

2) Study the Different Categories of Software Projects

Software projects can be classified into:

- Application Software – User-centric, such as Airbnb, Uber.
- System Software – OS, drivers, middleware.
- Embedded Software – Used in IoT, robotics.
- Web-based Software – Websites, cloud platforms.
- Mobile Applications – Native or hybrid mobile apps.

Airbnb falls under Application Software and Web-based Software.

3) Categorization Based on Size, Complexity, and Criticality**Size: Large**

- Airbnb is a large-scale system with millions of users.
- Requires vast server infrastructure and cloud scalability.

Complexity: High

- Multiple integrations (payment systems, maps, messaging).
- Secure transactions and real-time data processing.
- Advanced search and recommendation algorithms.

Criticality: Moderate to High

- Financial transactions make security crucial.
- User data privacy and compliance (GDPR, PCI-DSS) are mandatory.

- Service downtime impacts business operations and user experience.
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4) Justification for Categorization

- Size: Large due to global reach and extensive features.
 - Complexity: High because of real-time updates, dynamic pricing, and fraud prevention mechanisms.
 - Criticality: Moderate to high since security and uptime are essential, but not life-critical (e.g., unlike healthcare or aviation systems).
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Project Title : Farfetch E-commerce System

Introduction :

Farfetch is an online luxury fashion marketplace that connects customers with boutiques and brands around the world. The platform allows users to browse and purchase high-end clothing, shoes, accessories, and more. It provides a seamless shopping experience, including secure payments, order management, and global shipping options, catering to the needs of fashion-conscious consumers worldwide.

Key Objective :

- Provide an intuitive and user-friendly platform for luxury fashion shopping.
- Enable boutiques and brands to list and manage their product inventory.
- Ensure secure and reliable payment processing.
- Offer personalized recommendations based on customer preferences and browsing behavior.
- Provide global shipping and easy returns for international customers.

Modules:

- User Management – Account creation, login and profile management.
- Product Catalog – Displaying products, product descriptions and sorting.
- Shopping Cart & Checkout – Add products to the cart, handle order processing.
- Payment Gateway – Secure online payment processing with multiple payment methods.
- Order Management – Track orders, delivery status and manage returns.
- Inventory Management – Real-time stock updates, alerts for low stock.
- Personalized Recommendations – Suggest products based on browsing history and preferences.
- Admin Panel – Manage product listings, user accounts and order data.

Requirements:

- User authentication and profile management
- Product Listing and Inventory Management

- Shopping Cart & Checkout System
- Payment System Integration
- Order Tracking and Delivery Management

Based on Size:

- Medium to Large-scale system due to its global reach and complex operations.
- Requires an extensive server infrastructure to handle large numbers of users and transactions.
- Involves multiple third-party integrations (payment gateways, delivery services).
- Handles a large variety of products, brands, and customer data.

2) Study the Different Categories of Software Projects

Software projects can be classified into:

- Application Software – User-centric, such as Farfetch, Amazon.
- System Software – OS, drivers, middleware.
- Embedded Software – Used in IoT, robotics.
- Web-based Software – Websites, cloud platforms.
- Mobile Applications – Native or hybrid mobile apps.

Farfetch falls under Application Software and Web-based Software.

3) Categorization Based on Size, Complexity and Criticality**Size: Medium to Large**

- Farfetch is a large-scale system with a global user base.
- Requires robust server infrastructure and cloud scalability to handle high traffic.
- Manages extensive product catalogs, user data, and transactions across different regions.

Complexity: Medium to High

- Involves multiple integrations (payment systems, logistics, inventory management).
- Real-time inventory updates and personalized product recommendations.
- Requires secure transactions and global shipping management.

Criticality: Moderate to High

- Financial transactions and customer data security are essential.
 - Compliance with international data protection regulations (e.g., GDPR).
 - Downtime or service failures could lead to loss of sales and damage to customer trust.
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4) Justification for Categorization

- Size: Medium to Large due to its global reach, diverse product offerings, and large user base across multiple regions.
- Complexity: Medium to High because of the need for real-time inventory management, integration with third-party services, and the implementation of personalized recommendations and dynamic pricing.
- Criticality: High since financial transactions and customer data security are vital, and any downtime could lead to significant financial loss and impact customer trust.