

**Project Assignment Topic :** Managing a Technology-Based Project

**Objective**:Students will simulate the planning and costing of a technology project by defining its scope, performing a cost-benefit analysis, developing a Work Breakdown Structure (WBS), and estimating the project's time and cost. The assignment emphasizes applying techniques from the lectures and course material.

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**1. Project Charter and Scope**

**Business Case:**

Managing personal finances efficiently is a challenge for many individuals, leading to overspending, poor savings habits, and financial stress. This project aims to develop a **personal finance application** that helps users track expenses, set budgets, and achieve financial goals with AI-powered insights. The app will enhance financial literacy, reduce overspending, and encourage savings, ultimately improving users’ financial well-being.

**Objectives (SMART Criteria):**

* **Specific:** Develop a mobile and web-based personal finance application with expense tracking, budgeting, and financial insights.
* **Measurable:** Achieve 50,000+ downloads and at least a 4.5-star rating on app stores within the first year.
* **Achievable:** Utilize modern technologies and best practices in financial planning apps.
* **Relevant:** Addresses the increasing demand for automated personal finance management.
* **Time-bound:** Complete development and launch within 15 months.

**Deliverables:**

* **Mobile & Web App:** Cross-platform application for tracking income, expenses, and savings.
* **AI-Powered Insights:** Automated budgeting and financial recommendations.
* **Bank Integration:** Secure API connections to fetch and categorize transactions.
* **Data Visualization:** Graphical reports for financial trends and spending habits.
* **Security & Compliance:** Encryption and compliance with financial data security standards.

**Key Milestones:**

1. **Month 1-2:** Requirement gathering and feasibility study.
2. **Month 3-5:** UI/UX design and prototyping.
3. **Month 6-10:** Core development (backend, database, security).
4. **Month 11-13:** AI-powered insights and API integration.
5. **Month 14-15:** Testing, bug fixing, and deployment.

**2. Cost-Benefit Analysis**

**Estimated Costs:**

* **Development Costs:** £600,000 (team salaries, software licenses, cloud hosting).
* **Marketing & Promotion:** £200,000 (advertising, partnerships).
* **Maintenance & Updates:** £100,000 per year post-launch.

**Estimated Benefits:**

* **Revenue Growth:**
  + **Freemium Model:** Free version with ads, premium at £5/month.
  + Estimated **10,000 premium users in Year 1**, growing at **15% annually**.
* **Cost Savings:**
  + Reduction in manual financial management efforts by users (~20% time savings).

**Financial Metrics:**

* **ROI:** (Total Expected Revenue - Costs) / Costs \* 100%.
* **NPV Calculation:** Use an 8% discount rate to project future benefits.
* **Payback Period:** Estimate when the project will break even.

**3. Product Breakdown Structure (PBS)**

1. **Personal Finance App**
   * **User Registration & Authentication**
   * **Expense Tracking Module**
   * **Income Management**
   * **Budgeting & Savings Goals**
   * **AI-Powered Insights**
   * **Bank API Integration**
   * **Reports & Graphs**
   * **Security & Encryption**
   * **Web & Mobile UI**
   * **Notifications & Alerts**
   * **Admin Dashboard**
   * **Subscription & Payment Gateway**
   * **Testing & Bug Fixing**
   * **Deployment & Maintenance**

**4. Activity Definition and Resource Allocation**

**Product Flow Diagram (PFD):**

Create a flowchart mapping task dependencies.

**Activity List:**

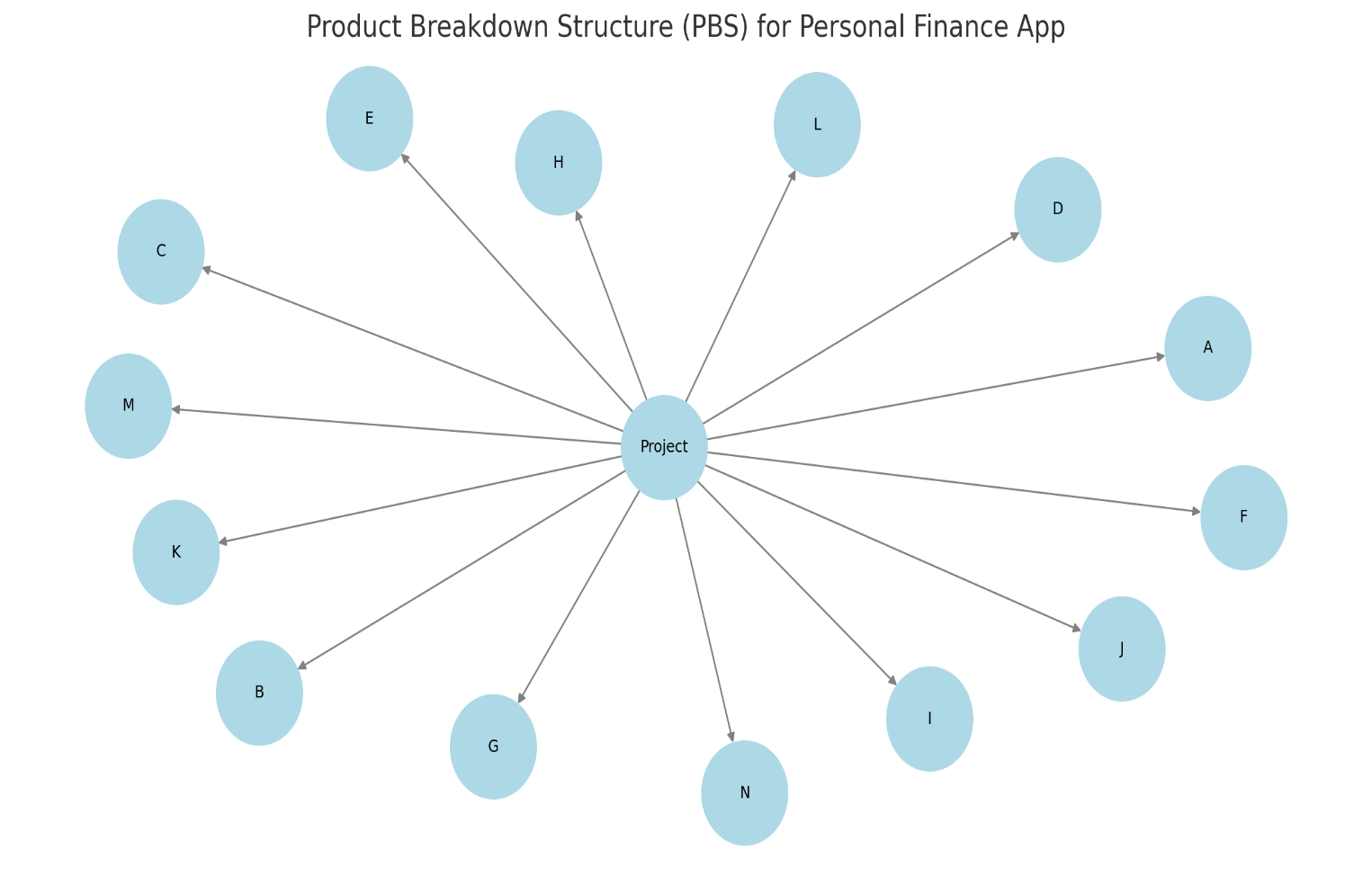
* **Design Phase (2 months)**: UI/UX, wireframes.
* **Development Phase (7 months)**: Backend, frontend, security.
* **Integration Phase (3 months)**: Bank APIs, AI module.
* **Testing & Refinement (2 months)**: QA, bug fixes.
* **Launch & Marketing (1 month)**: App release, promotional campaigns.

**Resource Allocation:**

* **Developers (4):** Backend, frontend, AI.
* **UI/UX Designers (2):** App design.
* **QA Testers (2):** Testing & debugging.
* **Project Manager (1):** Coordination & monitoring.
* **Marketing Specialist (1):** Promotion & growth strategy.

**5. Gantt Chart for Time and Cost Estimation**

* **X-Axis:** Timeline (Months 1–15).
* **Y-Axis:** Project Tasks (Design, Development, Testing, etc.).
* **Markers:** Key Milestones & Budget Distribution.

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