Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject:Capstone Project	**Project Definition and Scope - Intermediate Review**	
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Project Title: Welth - Manage your finances with intelligence

1. Introduction:

In today's digital economy, financial literacy and management are essential for individuals and organisations. Traditional methods like manual bookkeeping or spreadsheet-based
Expense tracking often results in inaccuracies, inefficiencies, and a lack of actionable insights. With the advancement of Artificial Intelligence (AI), Optical Character Recognition(OCR), and Data Analytics, it is now possible to build intelligent platforms that can automate financial management.

The proposed project, **Welth – AI Powered Finance Management Platform**, addresses this challenge by offering an AI-driven system that helps users track income, expenses, and budgets. It integrates receipt scanning, automated expense categorisation, predictive analysis, and interactive visualisations, making financial management smarter and more
accessible.

2. Problem Statement

Financial management is a real-world challenge faced by individuals, students, and small businesses. Despite the existence of finance apps, several gaps persist:

- **Manual dependency:** Users still need to input transactions manually, leading to inefficiency and errors.

- **Unstructured receipt data:** Paper receipts often go unused due to lack of automated digital entry methods.

- **Limited personalisation:** Most apps provide generic dashboards without AI-driven insights tailored to spending habits.

- **Data security concerns:** Financial applications store sensitive data, and a lack of robust privacy measures can discourage adoption.

Thus, there is a pressing need for a secure, AI-powered finance management platform that automates data entry, provides meaningful insights, and ensures strong privacy protection.

3. Objectives (SMART)

The objectives of the project are:

1. Automate data entry by integrating OCR to extract information from receipts with at least 90% accuracy by the end of development.

2. Implement AI-based expense categorisation that classifies transactions into categories (e.g., food, travel, utilities) with a target precision of 85%.

3. Develop budget tracking and overspending alerts, enabling users to set limits and receive real-time notifications within 2 seconds of a transaction.

4. Build interactive dashboards and reports for income-expense analysis, ensuring 100% mobile and web responsiveness before deployment.

5. Ensure data privacy and security by implementing end-to-end encryption and role-based authentication within the first release cycle.

4. Relevance to ICT Domain

The project is deeply aligned with the ICT domain, leveraging multiple subfields:

- Artificial Intelligence & Machine Learning (AIML): Used for expense categorisation, forecasting, and recommendation systems.

- Computer Vision & OCR: Extracting transaction details from scanned or uploaded receipts.

- Data Analytics: Generating real-time insights and visual reports for better financial decisions.

- Web/Mobile Development (MERN Stack): Ensuring cross-platform usability and scalability.

- Information Security: Implementing encryption and authentication to protect sensitive financial data.

This aligns with current ICT trends such as AI in FinTech, automation of personal finance, and cloud-based financial systems, ensuring strong academic and industry relevance.

5. Feasibility Analysis

a) Technical Feasibility:

- **Frontend:** React.js for dynamic UI.
- **Backend:** Node.js + Express.js for robust server-side logic.
- **Database:** MongoDB for scalable and flexible data management.
- **AI/ML:** Python-based libraries (TensorFlow, scikit-learn) for classification and forecasting.
- **OCR:** Tesseract OCR or Google Vision API for receipt scanning.
- **Deployment:** Cloud hosting (AWS/GCP).

b) Economic Feasibility:

- **Development Tools:** Open-source (React, Node.js, MongoDB, Python).
- **Hosting Costs:** Deployed on a free-tier cloud platform
- **API:** Gemini API.
- **Total Initial Cost:** This project was developed entirely using free resources, making it cost-free.

c) Ethical Considerations:

- **Data Privacy:** Encrypting sensitive financial data to prevent misuse.
- **User Consent:** Explicit permissions for data collection and usage.
- **Transparency:** Informing users how AI models classify transactions and generate insights.
- **Fair Use:** Ensuring accessibility for students and low-income users by offering a free version.

6. Market/User Needs Analysis

The demand for smart financial apps is growing in India as more people use smartphones for banking and expense tracking. Many users struggle with manually recording expenses and understanding their spending abilities.

Target Users:

- Students managing allowances.
- Working professionals tracking income, bills, and expenses.
- Small businesses or freelancers keeping records of their earnings nd expenses.

Users Needs:

- Easy-to-use apps that automatically track income and expenses.
- Quick categorisation of spending.
- Notifications and insights to help manage budgets.
- Security and privacy to protect sensitive financial data.

Solution Fit:

Our project, Welth - Manage your finances with intelligence, addresses these needs by offering automated expense tracking, AI-powered insights, budget alerts, and a secure platform suitable for Indian users.

7. Literature Review

- Smith & Johnson (2021, IEEE): AI helps users make better financial decisions through predictive analysis.
- Patel et al. (2020, ACM): OCR technologies can automate receipt-based expense entry effectively.
- Lee & Kim (2019, IEEE): Data privacy is a major factor in adopting financial applications.
- Deloitte Insights (2022): AI-driven finance tools are expected to dominate FinTech by 2030.
- Singh & Sharma (2023, ACM): AI-powered budgeting tools significantly improve user savings and financial discipline.

This literature supports the originality of Wealth, which integrates AI, OCR, and data visualisation into a single comprehensive platform.

8. Novelty

Existing finance apps focus on either budgeting or expense tracking, but they often lack:

- Integrated OCR receipt scanning.
- AI-based personalised insights.
- Strong data privacy focus with end-to-end encryption.

Welth introduces a hybrid solution that combines automation, intelligence, and security, making it more original and impactful than existing alternatives.

9. Conclusion

The project **Welth - Manage your finances with intelligence** provides a comprehensive, AI-driven approach to solving the real-world problem of inefficient financial management. By integrating **AI, secure databases, and interactive dashboards**, the platform addresses gaps in current solutions while ensuring feasibility, affordability, and ethical responsibility.