**COMP220 - Software Engineering**

**Project Proposal**

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1. ***Introduction:***

***Vaulty*:** *Your Smart Savings Companion:*

In an era of digital transactions, traditional piggy banks are becoming obsolete. Our Digital Piggy Bank reinvents the concept of saving by offering a smart, user-friendly platform to help individuals set financial goals, track their savings, and build better money habits.

1. ***Problem Statement:***

In today’s cashless world, saving money has become more abstract and challenging, especially for young individuals who struggle with financial discipline. Traditional piggy banks no longer serve the needs of a digital-first generation, and existing banking solutions often lack engagement, making it difficult for users to develop consistent saving habits.

**Vaulty** addresses this gap by providing an interactive, goal-driven savings platform that simplifies money management. Studies show that 69% of adults lack emergency savings, and nearly 40% of young adults struggle with budgeting effectively. With digital transactions replacing physical cash, the psychological impact of "saving spare change" is diminishing, leading to poor saving behaviors.

Our solution is designed for students, young professionals, and individuals looking for an intuitive way to build financial discipline. By gamifying the saving process and offering real-time tracking, Vaulty makes saving money more accessible, engaging, and rewarding.

1. ***Motivation:***

With cashless transactions becoming the norm, saving money feels less tangible, making it harder for individuals, especially students and young professionals—to build financial discipline. Traditional piggy banks are obsolete, and banking apps lack engagement. Vaulty aims to fill this gap by offering a smart, interactive savings solution that makes goal-based saving effortless, engaging, and rewarding.

1. ***Literature Review:***

Apps like Digit, Chime and Cleo are in the market that work by analyzing spending patterns and automatically transfer small amounts into savings when deemed affordable. The disadvantages that they have are,

* Loss of Control, Users of these apps may feel disconnected from their savings due to the automated nature.
* Subscription Fees, some apps in the market charge monthly fees which may not justify the savings benefits for all users.

1. ***Project Overview & Goal:***

As the world is shifting into digital transactions and currencies, the traditional concept of saving money has become obsolete.

Vaulty aims to reinvent the savings experience by offering an interactive platform that helps users set financial goals, and track progress in real time. Our primary goal with Vaulty is to bridge the gap between traditional piggy banks and modern digital banking, ensuring that savings remain engaging, and rewarding in a digital cash society like today’s world.

* **AI-Powered Smart Saving Recommendations**, Vaulty will have AI-Powered Smart Saving Recommendations which will provide Real-Time insights on spending behavior and personalized nudges to help users stay on track with their goals.
* **Video Game element**, it also countians an element of Video Games for motivation where users can earn rewards, and streaks for consistent savings and also have interactive challenges encouraging healthy financial habits.
* Social and Community Features, Vaulty will allow users to interact with friends and other users in saving challenges like who saved money for the longest period. This encourages accountability and motivation.
* Goal-Based, Users of Vaulty can create multiple savings goals like travel, emergency funds etc. This will engage visual elements making saving feel more exciting and make the user focused on the end goal.

1. ***Project Development Methodology / Architecture:***

The development model that Vaulty will follow is an Agile Methodology, ensuring flexibility, iterative improvements, and continuous user feedback.

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| Module | Objective | Deliverables |
| User Authentication and Profile Management | Secure sigh-up/login, user profiles, and account settings | Secure authentication system, user profile dashboard |
| Saving Goal Management | User set and track financial goals | Goal Creation interface, progress tracking system |
| Gamification and Rewards System | Encourage savings though badges, streaks, and challenges | Gamification engine, reward allocation system |
| AI-Powered Insights and Smart Recommendations | AI-Based suggestions for savings and spending adjustments | Machine learning model, real-time spending insights |
| Bank Interaction and Transaction Tracking | Sync transactions from bank accounts for automated savings recommendations | Secure API integration with banking platforms |
| Community and Social Features | Savings challenges with friends for accountability | Community leaderboard, group saving challenges |
| User Notifications and Social Features | Timely reminders for savings and goal updates | Push notification system, email alerts |

1. ***Project Milestones and Deliverables:***

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| Milestone | Task Description | Deliverables |
| Phase 1: Research and Planning | Conduct market research, define requirements | Research report, feature list |
| Phase 2: UI | Design UI | Finalized UI design |
| Phase 3: Backend Development | Set up database | Functional database |
| Phase 4: Frontend Development | Develop interface | Interactive app interface |
| Phase 5: Core Features Implementation | Implement savings goals, gamification, notifications | Goal tracking system, rewards engine, notification system |
| Phase 6: Testing and Refinement | Conduct user testing, fix bugs | Beta version, bug fixes |
| Phase 7: Deployment and Final Deliverables | Publish app, prepare final documentation | Published app, project report |