

Student Expense Tracker for Better Budget Management

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L5 - Changemakers: Creativity and Value Creation

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Task 1 – Ideation and Innovation

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Innovation and Its Importance

Innovation is the ability to convert ideas into products, services, or methods of doing things to meet the needs of individuals, organizations, and societies [1]. It is also known as a key to social development, economic growth, and technological progress. According to innovation theory, there is a difference between having an idea and innovation. An innovation is an idea that has been converted into a product or service that adds value to people's lives. In the 21st century, digital innovation has transformed how people communicate, access information, and perform daily tasks [2]. Technologies such as mobile apps and digital platforms have made services like banking and education more efficient and accessible [2].

Furthermore, innovation is a key competence that allows individuals and organizations to embrace change. It is known that the digital economy is changing rapidly as new technologies emerge, and new market conditions arise. It is, therefore, important for people to have the ability to embrace change by finding new solutions to problems and improving existing processes. In HE and the workplace, individuals with creative and innovative thinking are more likely to tackle real-life problems and improve organizational processes. In addition, innovation should result in value. This could be time efficiency, cost-effectiveness, informed decision-making, and improving the quality of life of individuals. For this reason, innovations should be designed with the needs of their users in mind [3]. A user-centred approach will ensure that the innovations are useful, accessible, and address real-life problems [3].

Students often face challenges such as managing time, academic pressure, and finances. Financial management is particularly difficult because students must pay for accommodation, food, transportation, and entertainment while often relying on limited income or loans [3]. Poor budgeting can lead to unnecessary spending and financial stress [5]. Therefore, there is a need for a digital solution that helps students monitor their spending and make better financial decisions [4].

Project Ideas from Personal Interest

Several ideas were initially considered for the project, including a coursework planner to manage deadlines and revision, a campus events application to notify students at university activities, and a website providing cybersecurity awareness for students. After evaluating these options, the Student Expense Tracker was selected because financial management is a common challenge for many students, and a budgeting tool could provide practical support in improving their spending habits.

Selected Project Idea

Project Title - Student Expense Tracker for Improved Budget Management

INNOVATION PROJECT PROPOSAL: STUDENT EXPENSE TRACKER

Title of the innovation project: Student Expense Tracker

Objective of the innovation project: To design and develop a student expense tracker (web or mobile application) to facilitate university students to keep track of their expenses, budget and raise their financial literacy.

Specific objectives.

To identify the problems of financial management faced by university students

To examine features of existing budgeting apps and identify features that are useful for students

To design an easy-to-use interface that is user-friendly for students

To implement the functionalities of the tracker to add daily expenses, set budgets and generate expense report

To assess the effectiveness of the system in aiding students to make better financial decisions

Brief description

The Student Expense Tracker is a web or mobile application that allows students to record daily expenses such as food, transport, rent, and study materials. The system categorizes spending, allows users to set budgets, and compares actual spending with planned budgets. Visual reports such as

charts help students understand their financial habits and encourage better budgeting.

Research Sources

The project will use academic literature on innovation and student financial behaviour to support the research. Technical documentation and online learning platforms such as LinkedIn Learning and Coursera will support the development of programming, user interface design, and project management skills.

References

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Task 2 – Project Management

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Project Scope

Here is the description of the project. This project intends to plan, design, develop, and test a Student Expense Tracker Application. A Student Expense Tracker Application is a software application that provides features to the university students to track their expenses, manage personal budgets and view spending habits[1]. Therefore, this project seeks to develop a student-centric solution to track only the common student expenses such as food, rent, transport, study materials, and entertainment.

The proposed solution for this problem is to develop a user-friendly Mobile or Web Application that has the features to add income and track expenses in a structured and organized manner. The system allows users to add their income and expenses, categorize their expenses, set budgets for weeks or months, and track their spending habits[2]. Furthermore, the application may consist of a graphical view such as charts, graphs, or progress bars to show the spending of the users[3]. This feature can make decision making easier by just taking a glance at how they are spending their money and where they exceed their limits.

However, the project does not intend to develop a full-fledged financial application that can connect to banks to fetch income and expenses. Therefore, the system will not include the features to manage the income and expense transactions that take place via banks. Instead, the scope of the project will be limited to recording expenses, managing budgets, and tracking spending habits. This will ensure that the project scope is manageable within the time frame allocated for the project[4].

The project may use programming languages such as JavaScript, Python, or Dart depending on whether a web or mobile application is developed. Development tools such as Visual Studio Code, Android Studio, or Flutter may be used for coding and debugging[5]. Figma will be used to design the user interface prototype, while GitHub will manage version control and code backups. Online tutorials, academic articles, and testing devices such as smartphones or computers will also support development.

Project Timeline and Task Schedule

The project will follow typical software development stages including research, requirements analysis, system design, development, testing, and evaluation[4].

Research and literature review will be conducted first to analyze existing expense tracking applications. Requirements of analysis will then identify the functional and non-functional requirements of the system.

During the design stage, wireframes and interface layouts will be created to visualize the

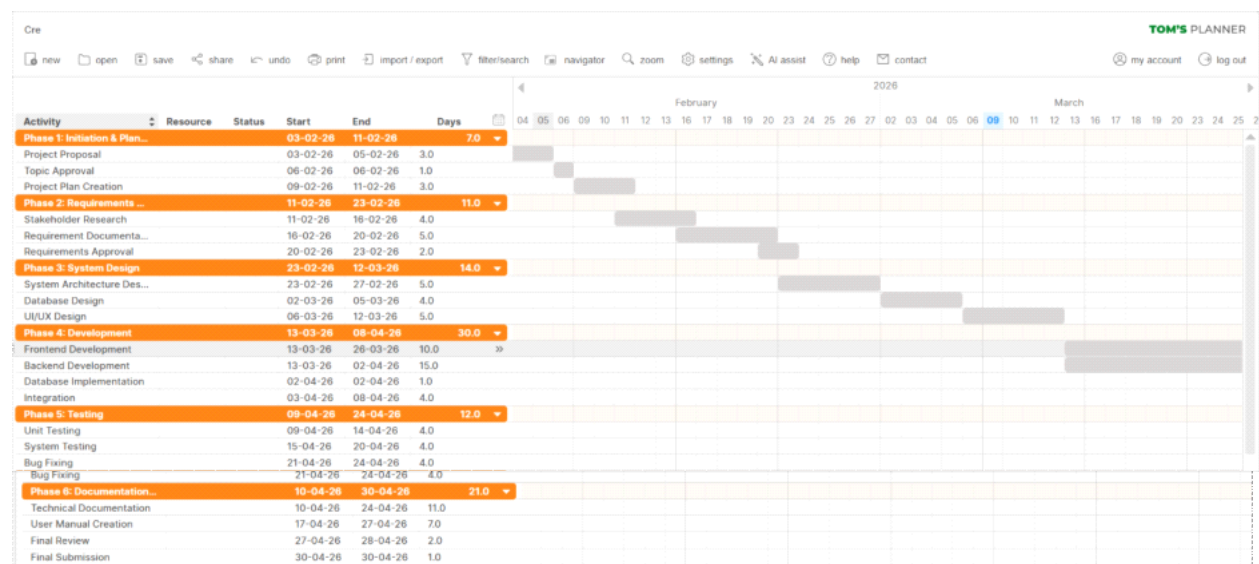
system structure. Development will then implement key features such as recording expenses, categorizing spending, budgeting, and generating reports.

Testing will ensure the system works correctly and is free from errors. The final stage will involve evaluation and documentation of the project results.

The project will be completed within ten weeks. Weeks 1–2 will focus on research and background study. Week 3 will cover requirements for analysis. Weeks 4–5 will focus on system design. Development will take place during weeks 6–8. Week 9 will involve testing and debugging, while week 10 will focus on evaluation and final submission preparation.

Gantt Chart

A Gantt chart will be used to display the project schedule and monitor progress. It will include the main project activities such as literature review, requirements analysis, system design, development, testing, and evaluation. The chart will visually show when each task begins and ends, helping ensure the project stays on schedule. The chart will be created using a project planning tool and inserted into the project proposal.



Risks and Challenges

There are some risks and problems that could impact on the project:[6]

Time Risk-Poor time management could delay development and testing. This risk will be reduced by setting weekly milestones and following the project schedule.

Technical Risk-Technical challenges may occur if unfamiliar technologies are used. This will be mitigated by using familiar tools and consulting documentation or online resources when needed.

Functionality Risk-Time constraints may prevent implementation of all planned features. To

reduce this risk, essential features such as expense entry, categorization, and budgeting will be prioritized.

Usability Risk-If the interface is unclear, students may find the application difficult to use. This risk will be mitigated through simple interface design and usability testing with peers.

References

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Task 3 – Project Development Method & Design Work

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Development Method

In the case of the Student Expense Tracker, I would recommend using the Agile development method. The Agile method is an iterative software development process that is characterized by flexibility, continuous improvement, and the delivery of system features in small increments[1]. In contrast to other development models such as the waterfall model, where each phase of development is performed in a linear sequence, the Agile method breaks down the process into cycles (sprints) that comprise of designing, developing and testing before proceeding to the next phase[2].

Agile is suitable for this application because system requirements may change over time. The first version of the Student Expense Tracker may only include basic features such as recording expenses and viewing transaction history. Later versions could include expense categories, budgeting tools, and visual reports. Agile allows these features to be added gradually while testing is carried out throughout development, helping developers identify errors early and reduce major issues later in the project[3].

Agile also improves project management by dividing development into smaller tasks with specific deadlines. For the Student Expense Tracker, tasks may include designing the user interface, creating the expense input form, implementing budgeting features, and generating graphical spending reports. Breaking the work into smaller tasks ensures that the most important features are completed first and helps the project stay within the required timeframe.

Design Work

The design phase is important because it defines the structure and functionality of the system before coding begins[4]. A clear design helps identify usability issues and ensures the application meets user requirements. For the Student Expense Tracker, two design tools will be used: wireframes and a system flow diagram.

Wireframe

Wireframe is a low-fidelity sketch or digital drawing of the skeleton of the interface of a website or mobile application[5]. It is used to visualize the structure and the organization of a system using rectangles for boxes, lines for buttons, and text for labels instead of having the final design elements.

Several screens have been identified to be included in the wireframe for the Student Expense Tracker application. For example, the dashboard screen will be included to provide an overview of the users' financial data, such as recent expense records and budget status. The Add Expense screen will also be included to enable users to add the amount, category, and transaction date of an expense record. Furthermore, the Budget screen will also be

included to provide information on how much of the monthly budget the user has used.

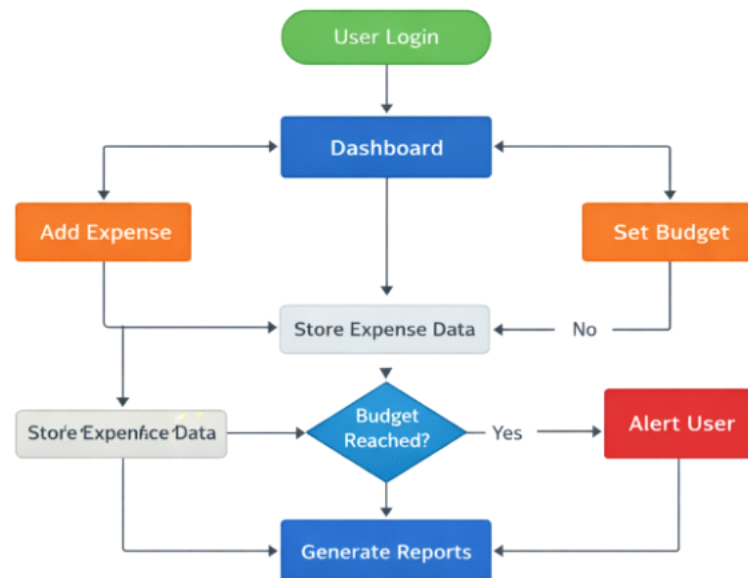
System Flow Diagram

The system flow diagram is a visual representation of how the data will flow in the system and how the different components of the system will interact with each other[6]. In the Student Expense Tracker system, for example, the process will begin when the user logs onto the application dashboard. The user can then click on the Add Expense button to add details of the new expense record. Once the user clicks on the submit button, the system will store the record and update the dashboard screen to show that the new record has been added. The system may also match the user's expenses against his budget and alert him when he exceeds his budget. Making use of design tools such as wireframes and system flow diagrams will help to envision how the system will look like and how it will function before the actual development of the system begins.

Initial Practical Implementation Work

Implementation is the stage where the application is developed. The Student Expense Tracker will be built using Visual Studio Code, which provides tools for coding, debugging and testing. A form will be created to allow users to enter expense details such as amount, category and date. Once submitted, the data will be stored and displayed on the dashboard, showing the user's recent expenses. Screenshots of the development environment and interface will be included to demonstrate the practical implementation of the design.

Finally, this project has used innovation and Information Technology to address the real life problems faced by students in the University. It has used the theories of innovation, project management and software development in proposing a system that will have a framework to help improve the financial literacy and budgeting habits of students. It has also given the phases that will be used to develop the system, from research phase to the testing phase, all of which can be completed within the time that will be allocated for the project. It has proposed the use of development methodologies such as Agile as well as design tools such as wireframes and system flow diagrams to come up with the proposed expense tracker application.



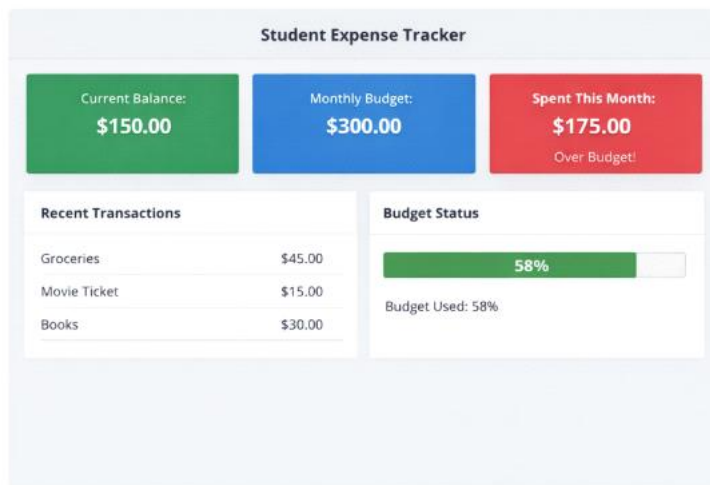
Add Expense

Amount:

Category: Food ▼

Date: 📅

Add Expense



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