UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF MALAYSIA-JAPAN INTERNATIONAL INSTITUTE OF TECHNOLOGY

SECJH – BACHELOR OF COMPUTER SCIENCE (SOFTWARE ENGINEERING)

SECD2613 – SYSTEM ANALYSIS & DESIGN

PROJECT PROPOSAL

Prepared by:

Adam Iskandar bin Mazlan	A23MJ8056
Muhammad Syafi bin Mohd Fauzi	A23MJ8016
Muhammad Iman bin Salehuddin	A23MJ8055
Muhammad Hadi bin Abdullah	A23MJ0152

Contents

Executive Summary

The proposed project aims to develop an innovative Expense Tracking System (ETS) to assist users in managing their finances effectively. In today's fast-paced world, where financial management is crucial for individuals and businesses alike, the need for a user-friendly and comprehensive expense-tracking solution has never been greater.

The Expense Tracking System will offer users a centralized platform to record, categorize, and analyze their expenses effortlessly. By leveraging advanced technologies, such as cloud computing and mobile accessibility, the ETS will provide users with real-time access to their financial data anytime, anywhere.

By implementing the Expense Tracking System, users will not only gain better control over their finances but also enhance their financial literacy and decision-making abilities. The project aims to empower individuals to achieve their financial goals and aspirations, ultimately leading to improved economic well-being and stability.

Overall, the Expense Tracking System represents a valuable investment in promoting financial responsibility and accountability among users. With its user-centric design and comprehensive features, the ETS is positioned to become a leading solution for personal finance management.

Background

Our company, a pioneer in financial technology solutions, has a history of innovation and customer focus. With a solid commitment to excellence and a deep understanding of evolving consumer needs, we have continuously delivered cutting-edge solutions to empower individuals and businesses alike. The development of the Expense Tracking System represents a natural progression in our mission to provide comprehensive tools for financial management. Leveraging our expertise in software development and industry insights, we are passionate about delivering a solution that revolutionizes how individuals track and manage their expenses, maintaining our position as a trusted provider of innovative financial solutions.

Objectives

1. Develop a user-friendly Expense Tracking System (ETS) that allows individuals to record and categorize their expenses effortlessly.

2. Implement robust reporting and analytics functionalities within the ETS to enable users to gain insights into their spending habits and financial trends.

3. Ensure multi-platform accessibility of the ETS, enabling users to access their financial data seamlessly across various devices.

4. Provide budget management features within the ETS, allowing users to set and track budgets for different expense categories.

5. Support the organization's vision of empowering individuals to achieve financial stability and well-being through practical financial management tools.

Methodology

The development of the Expense Tracking System will follow a structured approach to ensure efficient project execution and achievement of objectives. The methodology will consist of several key phases:

i. **Requirements Gathering:** This phase will involve conducting thorough research and analysis to identify the specific needs and preferences of the target users. Stakeholder consultations and user interviews will be conducted to gather insights into desired features and functionalities.

ii. **System Design:** Based on the gathered requirements, the system architecture and design will be conceptualized. This phase will include the creation of

wireframes and prototypes to visualize the user interface and functionality flow. Iterative refinements to the design will be made based on feedback from stakeholders and usability testing.

iii. **Development:** Once the design is finalized, the development of the Expense Tracking System will commence. This phase will involve coding the backend infrastructure, database management, and front-end user interface components. Agile development methodologies will be used to facilitate flexibility and responsiveness to changing requirements.

iv. **Testing and Quality Assurance:** Throughout the development process, rigorous testing procedures will be implemented to ensure the stability, security, and usability of the Expense Tracking System. Automated testing scripts and manual testing procedures will be employed to identify and address any bugs or issues.

v. **Deployment and Implementation:** Upon successful completion of testing, the Expense Tracking System will be deployed to production environments. User training and onboarding materials will be developed to facilitate a smooth transition to the new system. Ongoing technical support and maintenance will be provided to ensure optimal performance post-implementation.

vi. **Evaluation and Iteration:** Following deployment, continuous assessment and feedback means will be established to monitor user satisfaction and system performance. Iterative updates and enhancements will be implemented based on user feedback and emerging technological trends.

Timeline:

- Requirements Gathering: 2 weeks
- System Design: 3 weeks
- Development: 8 weeks
- Testing and Quality Assurance: 4 weeks
- Deployment and Implementation: 2 weeks

- Evaluation and Iteration: Ongoing

This methodology and timeline are designed to facilitate the timely and successful completion of the Expense Tracking System project, ensuring alignment with project objectives and stakeholder expectations.

Resources

i. Personnel
   - Project Manager
   - Software Developers (Frontend and Backend)
   - UI/UX Designer
   - Quality Assurance Engineer
   - Technical Support Staff

ii. Equipment
   - Development computers/laptops
   - Testing devices (smartphones, tablets, desktops)
   - Servers for hosting and deployment

iii. Software
   - Integrated Development Environment (IDE)
   - Version Control System (e.g., Git)
   - Project Management Tools (e.g., Jira, Trello)
   - Design Tools (e.g., Adobe XD, Sketch)
   - Testing Tools (e.g., Selenium, JUnit)

iv. Dedicated Task Time
   - Project Manager: Full-time

- Software Developers: Full-time
- UI/UX Designer: Part-time
- Quality Assurance Engineer: Full-time
- Technical Support Staff: As needed, post-implementation

Budget

1. Personnel costs
   - Project Manager: RM10,000 per month
   - Software Developers (4): RM40,000 per month (RM10,000 per developer)
   - UI/UX Designer: RM15,000 per month
   - Quality Assurance Engineer: RM20,000 per month
   - Technical Support Staff: RM5,000 per month

2. Equipment costs
   - Development computers/laptops: RM8,000 (one-time cost)
   - Testing devices: RM3,000 (one-time cost)
   - Servers for hosting and deployment: RM5,000 per year (estimated annual maintenance and hosting fees)

3. Software costs
   - Integrated Development Environment (IDE): RM2,000 (one-time cost)
   - Version control system (e.g., Git): RM0 (open-source)
   - Project management tools (e.g., Jira, Trello): RM1,500 per year (estimated annual subscription fee)
   - Design tools (e.g., Adobe XD, Sketch): RM1,000 (one-time cost)
   - Testing tools (e.g., Selenium, JUnit): RM500 (one-time cost)

4. Miscellaneous costs

- Training and onboarding materials: RM2,000 (one-time cost)
- User documentation: RM1,000 (one-time cost)
- Marketing and promotion: RM3,000 (optional, one-time cost)

5. Contingency

Contingency fund (10% of total estimated costs): RM9,800 (allocated as a buffer for unexpected expenses)

Total estimated budget: RM106,800

Justification

1. **Personnel costs:** Monthly salaries and benefits for project team members based on industry standards.

2. **Equipment costs:** One-time expenses for purchasing the necessary hardware, with an estimated annual maintenance cost for servers.

3. **Software costs:** One-time or annual subscription fees for essential software tools.

4. **Miscellaneous costs:** One-time expenses for training materials, user documentation, and optional marketing activities.

5. **Contingency:** A buffer to accommodate unforeseen expenses or project scope changes.

Measurement and Reporting

To ensure effective project management and transparent communication, we will implement a robust measurement and reporting framework. This framework will

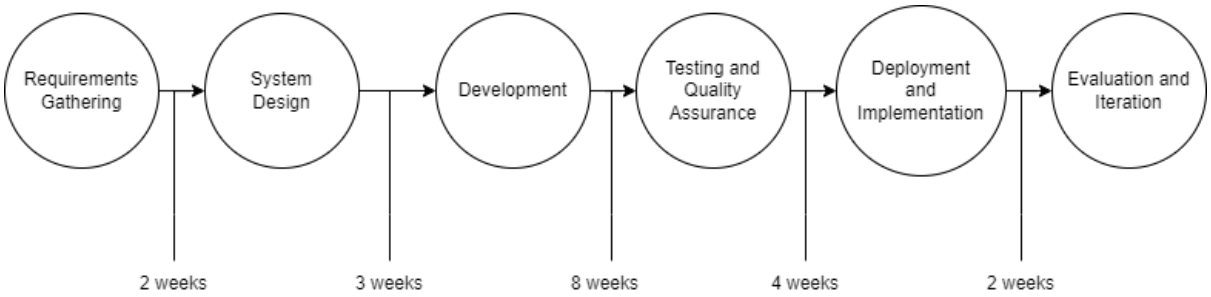
include regular progress updates, milestone tracking, and performance metrics to evaluate project success.

i. **Progress updates:** Weekly progress meetings will be conducted to review task status, identify any issues or roadblocks, and adjust project plans as necessary. These updates will ensure that stakeholders are kept informed of project progress and any deviations from the original schedule.

ii. **Milestone tracking:** Key project milestones will be identified and tracked throughout the project lifecycle. Milestones will include the completion of major deliverables such as system design, development sprints, testing phases, and deployment milestones. Achieving these milestones will serve as indicators of project progress and adherence to the timeline.

iii. **Performance metrics:** Performance metrics will be established to evaluate project success and effectiveness. These metrics may include measures such as adherence to project timeline, budget variance, quality of deliverables, and user satisfaction levels. Regular monitoring of these metrics will enable us to identify areas for improvement and make data-driven decisions to optimize project outcomes.

Pert diagram



Risks

1. Technical Complexity

- Probability: Moderate
- Impact: High
- Mitigation: Conduct thorough feasibility studies and prototype testing to identify potential technical challenges early. Allocate additional resources and expertise if needed. Implement agile development methodologies to adapt to changing requirements and mitigate technical risks incrementally.

2. Resource Constraints
   - Probability: High
   - Impact: Moderate
   - Mitigation: Regularly monitor resource utilization and adjust project plans accordingly. Prioritize tasks based on resource availability and critical path dependencies. Consider outsourcing or reallocating tasks to mitigate resource constraints.

3. Scope Creep (Uncontrolled changes)
   - Probability: Moderate
   - Impact: High
   - Mitigation: Define clear project scope and objectives at the outset. Establish change management procedures to evaluate and approve scope changes. Communicate regularly with stakeholders to manage expectations and ensure alignment with project goals.

4. Security Vulnerabilities
   - Probability: Low
   - Impact: High
   - Mitigation: Implement robust security measures throughout the development process, including encryption protocols, access controls, and regular security audits. Stay informed about emerging security threats and vulnerabilities, and promptly address any identified risks.

5. User Adoption
    - Probability: Moderate
    - Impact: Moderate
    - Mitigation: Conduct user research and usability testing to ensure the Expense Tracking System meets user needs and preferences. Provide comprehensive training and support to users to facilitate adoption. Solicit feedback and iterate on the system based on user input to enhance usability and user satisfaction.

6. External Dependencies
    - Probability: High
    - Impact: High
    - Mitigation: Identify and document external dependencies early in the project planning phase. Establish communication channels with external stakeholders and vendors to ensure timely resolution of dependencies. Develop contingency plans and alternative solutions for critical dependencies to mitigate risks of delays or disruptions.

7. Regulatory Compliance
    - Probability: Low
    - Impact: High
    - Mitigation: Stay informed about relevant regulations and compliance requirements related to financial management software. Conduct regular compliance assessments and audits to ensure adherence to regulatory standards. Engage legal experts or consultants to provide guidance on compliance issues and mitigate regulatory risks.

By identifying these potential risks and implementing proactive mitigation strategies, we aim to minimize their impact on the project and ensure successful project delivery.

Regular risk monitoring and proactive risk management will be essential throughout the project lifecycle to address emerging risks and maintain project resilience.