**LoanEase: Money Lending App**

A Project

Presented to

The Faculty of Visayas State University

In Partial Fulfillment

of the requirements for the Course

CSci 23 - Applications Development and Emerging Technologies

by:

Clyde Xavier S. Salar

Rodney M. Maniego Jr.

Instructor

MARCH 2023

**Chapter 1**

**INTRODUCTION**

LoanEase is a mobile application that simplifies lending and borrowing money for individuals. With LoanEase, you can easily access loans and manage repayments with a built-in calculator that provides you with accurate information about your repayment options. Whether you need a loan for personal reasons, or to grow your business, LoanEase makes it easy to connect with lenders and borrowers, and get the funds you need quickly and efficiently. With a user-friendly interface and intuitive features, LoanEase is the ultimate solution for anyone looking to manage their finances and access loans on-the-go.

* 1. **Statement of the Problem**

Despite the growing need for access to credit, traditional lending institutions often have stringent requirements that exclude many people from obtaining loans. For this reason, many people still go to a local money lender to loan money. However, many local money lenders still uses primitive technologies like paper, and basic calculator to store the data and do the calculations. To address these issues, this paper presents LoanEase, a mobile application that allows individuals to lend and borrow money easily, with a built-in calculator that provides users with clear and accurate information about their loan repayment options. The problem this paper aims to address is the lack of accessible and user-friendly loan platforms that can help bridge the gap between borrowers and lenders, enabling more people to access credit and manage their finances more effectively.

* 1. **Current State of Technology**

There are mobile payment apps, such as Venmo and GCash, which allows users to send and receive money to and from other users. These apps typically link to a user's bank account or credit card and use advanced encryption and authentication technologies to ensure the security of the transaction. There are also blockchain-based lending platforms that use smart contracts to automate the lending process. These platforms are decentralized, meaning that there is no central authority controlling the lending process. Instead, borrowers and lenders interact directly with each other through the blockchain network. However, they often have tringent requirements that exclude many people from obtaining loans that is why many people still go to a local money lender to loan money which still uses primitive technology when conducting its transaction.

**1.3 Objectives**

**1.3.1 General Objectives**

The general objectives for this application are:

1. To simplify the loan application and approval process for borrowers, making it faster and more efficient.
2. To create a trustworthy and reliable community of borrowers and lenders who can connect and build long-term relationships through the app.

**1.3.2 Specific Objectives**

The specific objectives for this application are:

1. To provide a convenient and user-friendly platform for individuals to borrow and lend money.

2. A To provide a convenient and user-friendly platform for individuals to borrow and lend money.

**1.3.3 Scope and Limitations**

LoanEase is a mobile application designed to simplify the lending and borrowing process for individuals. The app provides a user-friendly platform for users to create a profile, submit loan requests, negotiate loan terms with lenders, and securely transact payments. The built-in calculator allows borrowers to get a clear understanding of their repayment options. The app aims to facilitate fair and transparent lending and borrowing, building a trustworthy community of borrowers and lenders.

LoanEase is subject to legal and regulatory restrictions and will only be available in countries where online lending and borrowing are allowed. Users will be responsible for negotiating the terms and conditions of loans, and LoanEase will not be liable for any disputes or repayment issues. The accuracy of the calculator is dependent on user input, and LoanEase will not be responsible for any errors or miscalculations. The app will not offer financial advice or recommendations, and users must make their own financial decisions. Loan availability and lender matches are not guaranteed, and users may experience difficulty finding suitable matches for their lending or borrowing needs.

**Chapter 2**

**STEEPLE ANALYSIS**

**Social**

LoanEase is designed to address the increasing need for access to credit among individuals who are excluded from traditional lending institutions. Many people struggle to obtain loans from banks or other established financial institutions, either because they do not meet the strict eligibility requirements or because they lack a credit history. Furthermore, there is a growing acceptance of peer-to-peer lending as a legitimate alternative to traditional banks. By connecting borrowers with lenders directly through a mobile app, LoanEase helps individuals overcome the social barriers that can prevent them from accessing credit.

**Technological**

The technological landscape is highly favorable for LoanEase, as advancements in mobile technology and app development have made it easier and more convenient for individuals to access financial services. People are increasingly using their smartphones to manage their finances, and the widespread use of online platforms and digital payments has paved the way for new forms of lending. The app's user-friendly interface and built-in loan calculator take advantage of these technological trends, making it easier for users to navigate the lending process and manage their finances.

**Economic**

LoanEase is well-positioned to take advantage of the current economic climate, as many individuals seek access to credit that may not be available through traditional financial institutions. The app's peer-to-peer lending model provides borrowers with an alternative source of funding that can be more accessible and convenient than traditional bank loans. Interest rates are expected to remain low for the foreseeable future, which could further increase the demand for credit and contribute to the app's success. Although fluctuations in the economy could impact the app's profitability, the potential market for peer-to-peer lending remains strong, providing opportunities for growth and expansion.

**Environmental**

There are no significant environmental factors that directly impact LoanEase. However, as a responsible lender, the app must consider the environmental impact of its operations and encourage sustainable practices among its users.

**Political**

LoanEase is well-positioned to operate in the current political landscape. The app provides an alternative source of credit for individuals who may not have access to traditional lending institutions, which aligns with the current trend towards financial inclusion. There is growing recognition among policymakers of the importance of peer-to-peer lending platforms in providing greater access to credit, which could bode well for LoanEase's long-term prospects. The app can also take advantage of new opportunities that may emerge from changes in regulations related to lending or financial services, which could further strengthen its position in the market.

**Legal**

LoanEase must operate within the regulatory framework governing peer-to-peer lending, which can impact its ability to operate. However, the app has been designed to comply with legal requirements related to consumer protection and privacy, which can help to avoid any legal challenges. The regulatory environment surrounding peer-to-peer lending is evolving, and there is a growing recognition of the importance of these types of lending platforms in providing greater access to credit. This trend bodes well for LoanEase's long-term prospects. Furthermore, the app can also take advantage of new opportunities that may emerge from changes in regulations related to lending or financial services. By remaining responsive to changes in the regulatory environment, LoanEase can establish itself as a leader in the peer-to-peer lending space.

**Ethical**

The app's success will depend on its ability to ensure that lenders and borrowers are treated fairly and that the terms of the loans are transparent and understandable. LoanEase must provide clear information about loan terms, interest rates, and repayment schedules to help users make informed decisions about borrowing and lending money. Moreover, the app must ensure that personal data is used ethically and stored securely to protect the privacy of its users. By prioritizing ethics, LoanEase can build trust with its users and establish itself as a responsible lending platform.

**Chapter 3**

**FEASIBILITY STUDY**

Assumptions:

* The application will be sold at P10,000 in 2 installments.
* *The application will be leased at fixed-price of P1000 per month or P12,000 a year.*
* *The application will earn P50 a day on Cost per Action through in-app advertisements.*
* *The application will earn P100 a day on in-app purchases.*
* *The application will bring in additional 12% sales every year.*
* The application will be used in operation on 7 days a week or a total of 365 days a year.
* Depreciation expense is computed using the straight-line method.
* The prices of equipment and services are based on prevailing market prices.
* The application will not need additional hardware to be used.
* The total investment will be financed by XYZ.
* All milestones are performed in accordance with the schedule.
* All transactions are closed yearly with no carry-over to subsequent years.

**3.1 Financial Analysis**

*This part should include a cost-benefit analysis, risk analysis, and an Net Present Value (NPV) calculation to evaluate the profitability of the project. For exploratory projects that do not intend to scale, a feasibility study is still required to determine the economic feasibility for use in further studies.*

The expected financial results of the operations in a given period of time can be determined from its projected financial statements. The projected income statement indicates the sales, expenses, and net income in operating the business. On the other hand, the cash flow statement provides cash inflows, cash outflows, and net cash flows that are useful in computing the financial indicators that could help determine the financial feasibility of the business.

Three financial measures of the worth of the business are used including Net Present Value (NPV) and payback period. The discount rate used is equivalent to the forecasted Philippine inflation rate of 3% for 2024 by Bangko Sentral ng Pilipinas[1].

The NPV measures the present value of the streams of net benefits of the business. It is determined by subtracting the net present value of total cash outflows from the total cash inflows. For the investment to be worthwhile, NPV must be greater than zero or positive. On the other hand, the payback period determines the number of years it takes to recover the initial cost of the project. It is the point in time where initial capital investment is equal to the accumulated yearly net benefits or cash flow of the business. The project is acceptable if the payback period is less than the project life.

The analysis assumes that all computed costs and sales are constant. The application will earn through LoanEase app monetization and/or projected sales.

Table 1. Net Cash Flow

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Measure** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **5 Year Total** |
| App Monetization | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Sales Projection | 10,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10,000.00 |
| Cash Inflow | 10,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  |  |  |  |  |  |  |
| Contract for Design, Development, and Implementation of the Application | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Hosting and Add-ons Costs | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Maintenance Costs | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 5,000.00 |
| Training for Staff | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Additional Staffing Costs | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cash Outflow | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 5,000.00 |
|  |  |  |  |  |  |  |
| Net Cash Flow | 9,000.00 | -1,000.00 | -1,000.00 | -1,000.00 | -1,000.00 | 5,000.00 |

Table 2. Financial Analysis

|  |  |
| --- | --- |
| Cash Out flow | 1,000.00 |
| Cash Inflow | 10,000.00 |
| Net Present value (NPV) | 5129.03 |
| Discount Rate | 3.00% |
| Payback Period | 0.10 |

Considering all the assumptions above, the ABC application is economically feasible because it has a positive NPV amounting to P5129.03 and with an Discount Rate of 3%, higher than the supposed cost of capital. The payback period is also 0.10 years only.

**Chapter 4 REQUIREMENTS**

**4.1 Functional Requirements**

**4.1.1 Administrator**

* The administrator should have the ability to manage user accounts, including verifying user identities and approving loan requests.
* The administrator should have the authority to approve or reject loan applications based on the lender's qualifications and creditworthiness.
* The administrator should ensure that the app is compliant with legal and regulatory requirements, such as data privacy and anti-money laundering regulations.

**4.1.2 End-users**

* The end user should be able to register for an account on the app, including providing personal and financial information.
* The end user should be able to submit loan applications through the app, including specifying the loan amount, interest rate, and repayment terms.
* The end user should be able to use the built-in loan calculator, which provides clear and accurate information about their loan repayment options.

**4.2 Non-functional Requirements**

**4.2.1 Accessibility**

* The app should include accessibility features, such as screen readers, and adjustable text sizes to cater more users.

**4.2.2 Availability**

* The app should be available and accessible to users, with minimal downtime or maintenance disruptions, ensuring that users can access and use the app whenever they need it.

**4.2.3 Compliance**

* The app should comply with legal and regulatory requirements, such as data privacy and anti-money laundering regulations, to ensure that the app is legally and ethically sound.

**4.2.4 Maintainability**

* The app must be designed in a way that makes it easy to maintain and update.

**4.2.5 Performance**

* The app should be fast, responsive, and able to handle high volumes of user traffic and data, with minimal downtime or lag.

**4.2.6 Reliability**

* The app should be reliable and consistent, with minimal errors or crashes, ensuring that users can access and use the app when needed.

**4.2.7 Scalability**

* The app should be designed to handle increasing user demand and data growth, with the ability to scale up or down as needed.

**4.2.8 Security**

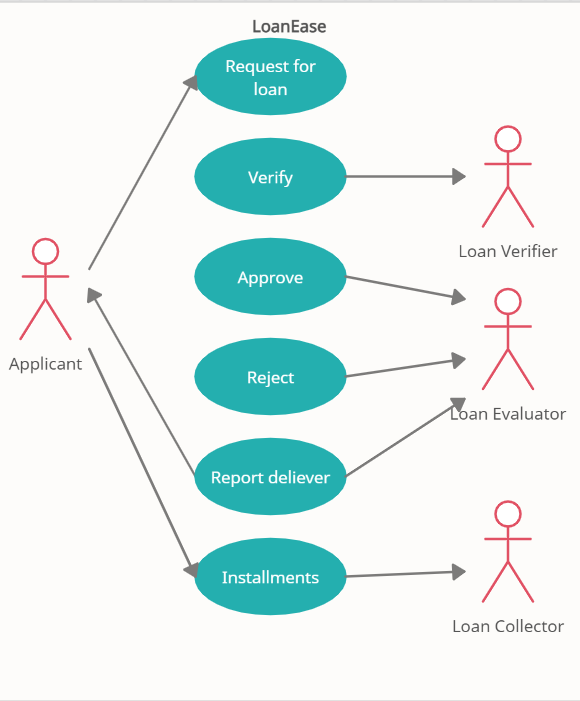
* The app should be designed with robust security measures to ensure the safety and privacy of user data and transactions, protecting against potential threats such as hacking or fraud.

**4.2.9 Usability**

* The app should be user-friendly and easy to use, with clear and intuitive interfaces, accessible help menus, and minimal user errors.

**4.3 Use Case Model**

**4.3.1 System Use Case Diagram**



**4.3.2 Use Case Descriptions**

| **Use Case Name** | **An Applicant Applying a Loan** | |
| --- | --- | --- |
| Summary: | An applicant wants to apply for a loan using LoanEase | |
| Actors: | Applicant, Loan Verifier, Loan Evaluator, Loan Collector | |
| Preconditions: | 1. All actors must install LoanEase in their devices. 2. All actors must have a LoanEase account one their devices that are logged in. | |
| Postconditions: | 1. The applicant selects the loan offer that best fits his budget and needs. He accepts the offer, and successfully borrowed money fitting his budget needs. | |
| Basic Flow: | **Actor Action** | **System Response** |
| 1. The applicant applies for a loan. | 1. The loan verifier will verify the application. |
| * 1. The applicant selects the loan with the best offer.   2. The successful applicant will pay the loan in installments with the corresponding interest. | * 1. The loan evaluator will evaluate the application and will accept the application.   2. The loan collector will collect the payment. |
| Exceptions: | 1. If the applicant does not pay, the lender may take legal action to recover the unpaid balance of the loan. | |

**4.4 Summary**

To apply for a loan using LoanEase, the applicant must download the app and complete the built-in application process. The applicant will be required to provide information such as their name, and contact information. Once the application is complete, the applicant can then review the loan offers and select the one that best fits their budget and needs using the built-in calculator. If the applicant accepts an offer, they can collect the money physically to the branch within hours. It is important for applicants to carefully review the loan terms and repayment schedule before accepting a loan to ensure that they can afford the payments.

**Chapter 5 TECHNOLOGICAL ENABLERS**

This part should include a description of the technologies used to enable the project, such as software, hardware, networking, communication systems, tools, and services.

**Chapter 6 SOFTWARE ARCHITECTURE**

This part should include a description of the system's components and how they interact with each other, as well as an overview of the system's design, including the hardware and software requirements.

**Chapter 7 SOFTWARE DESIGN**

**7.1 Class Diagram**

**Chapter 8 IMPLEMENTED FEATURES**

**8.1 Administrator**

**8.2 End-users**

**Chapter 9 PERFORMANCE ANALYSIS**

**9.1 Introduction**

The application has undergone functional and non-functional testing as performed by the developer, testers, the instructor, and panelists. The areas that were observed, validated, and tested are the requirements and the additional features.

The minimum requirements are the functionalities that make the application practical and usable. These are the workflows that must be undergone to simulate the complete stakeholders’ flowchart. The additional features are what makes the application unique. The additional features are not found in the stakeholders’ flowchart but are implemented because it is beneficial to its end-users. The application… *briefly define the main usage of the application*.

**9.2 Experimental**

The “one-cycle” was carefully followed to test whether the requirements were met. This begins with… *enumerate and explain the steps of all the workflow one-after-another based on the most appropriate order*.

The additional features were also tested whether it is functional. These additional features are… *enumerate the additional features. Also explain the necessary steps to perform the workflow of the additional features*.

**9.3 Result and Analysis**

The application was able to perform the requirements and additional features which state that it is functional and usable.

**9.4 Summary**

The application was able to perform all the requirements which state that it is functional and usable.

**Chapter 10 CONCLUSION**

The conclusion of a project proposal should summarize the key points of the proposal and provide a clear recommendation as to whether the project should be pursued or not. It should also include a summary of the potential risks and benefits associated with the project.

**BIBLIOGRAPHY**

Use Chicago Manual of Style (CMS) in citing references throughout the document. Adjust the numbering order as needed.

[1] “BSP sees inflation below 2% by 2024.” 2023. BusinessWorld Online. https://www.bworldonline.com/top-stories/2023/01/24/500416/bsp-sees-inflation-below-2-by-2024/.

**ACKNOWLEDGEMENTS**

**APPENDICES**

**User Manual**