

# **Nimbly: A Mobile Application for Intelligent Loan Inquiry and Assessment**

**A Project Presented to the  
Faculty of  
College of Computer Studies**

**In Partial Fulfillment of the Requirements for the Subject  
SE101 Software Engineering and  
IM101 Advance Database Systems**

**Presented by  
SBIT – 2A  
Group 1**

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### Project Proposal

**Section:** SBIT-2A

**Group No:** 1

<b>Proposed Project:</b>	
Nimbly: A Mobile Application for Intelligent Loan Inquiry and Assessment	
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### Background of the Study

Within the ever-changing realm of financial management, both individuals and corporations face difficulties when navigating through the complexities of loan processing. Conventional approaches frequently require a significant amount of time, are prone to errors, and lack the necessary complexity to provide comprehensive insights. Nimble is a smartphone application that aims to reinvent the loan inquiry landscape for the digital era by addressing its flaws.

Nimble is an innovative solution developed by a team of forward-thinking individuals dedicated to improving the loan inquiry process. By utilizing cutting-edge technology and algorithms, Nimble simplifies the process of loan queries and evaluations, providing users with a user-friendly platform. Nimble aims to revolutionize financial management solutions by prioritizing user-friendly design and universal accessibility, enabling users to make well-informed decisions with confidence.

### Objectives:

#### ❖ General Objective:

The developers aim to develop a mobile application that enhances user-friendliness and effectiveness, speeding up loan application and evaluation processes with algorithms for fast and accurate assessments, empowering consumers to simplify complex loan applications and make confident decisions.

#### ❖ Specific Objectives:

1. To develop a mobile application with a user-friendly interface for easy loan inquiries for individuals and small businesses.
2. To create a secure login system for protecting user data.
3. To use a secure database for storing user and loan information securely.
4. To use algorithms for accurate initial loan evaluations, improving the app's effectiveness.
5. To design an intuitive and visually appealing mobile interface for a better user experience.
6. To ensure the app complies with industry security standards.
7. To develop a desktop web application for administrators to customize loan details.
8. To integrate with external systems for efficient loan data management.
9. To conduct thorough testing for reliability and security.



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10. To evaluate the system using Black box testing.
11. To evaluate the system according to ISO 25010 standards.
12. The system includes administrator and client user levels.

#### Scope:

The intended loan application mobile application aims to optimize the loan application procedure for global consumers. The website will offer a user-friendly interface for customers to navigate loan possibilities, receive initial evaluations, and remain updated on the advancement of their applications.

1. The mobile application will be developed for both Android platforms.
2. The application will prioritize streamlining loan inquiries for both personal and small business loans.
3. The mobile application will provide a secure login and authentication system for inquirers.
4. The application will employ data storage to securely store user information.
5. The application will use intelligent algorithms to provide initial loan assessments.
6. The application will be designed with a user-friendly interface for ease of use.
7. The mobile application built by Nimble will utilize security techniques that comply with industry standards in order to protect user data.
8. The application will allow administrators to customize loan information, including interest rates, terms, and the app's theme, through a desktop web application.

#### Delimitations:

The proposed application establishes particular criteria and constraints that will govern its operation. These constraints guarantee focused development efforts customized to the requirements of the intended consumer and the functionalities provided by the Android platform. Clearly establishing these boundaries serves to precisely define the extent and capabilities of the program, so offering explicit guidance for both development and user expectations.

1. The mobile application will be specifically designed for Android smartphones and will not be compatible with iOS or any other platforms.
2. The application does not provide services for financing mortgages or complex financial goods.



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3. The mobile application will not provide financial advice or personalized financial planning services.
4. The application will not store sensitive financial information, such as bank account numbers or credit card details, locally on the device.
5. The application will not allow users to conduct financial transactions directly through the app.
6. The application will not offer a loan application feature for users.
7. The application will not support offline functionality for loan inquiries and assessments.



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### Feasibility Studies:

#### ❖ Technical Feasibility

Technical Aspect: This Study is the Process of Loan inquiries in any kind of transactions, specifically Mobile and Online Apps, databases with calculators. It is also stated the tools and equipment that will be used as a friendliness app and study with regards to loan processing, loan inquiry, loan apps and rules. It also included the Processing and The services or the flow of the Company stealing businessman's attention towards this study.

Technical Process: The developers company will use any opportunities to be the best developers in terms of Conducting mobile application features the Loan inquiries which will be a guide or a online Inquiry bank app that allows people to inquire everytime, anywhere they want , by just using a Online app, the process of the Mobile apps Created by the developers company are the following:

- The mobile application will be developed for both Android platforms. The application will prioritize streamlining loan inquiries for both personal and small business loans. The mobile application will provide a secure login and authentication system for inquirers.
- The application will employ data storage to securely store user information. The application will use intelligent algorithms to provide initial loan assessments.
- The application will be designed with a user-friendly interface for ease of use. The mobile application built by Nimble will utilize security techniques that comply with industry standards in order to protect user data.
- The application will allow administrators to customize loan information, including interest rates, terms, and the app's theme, through a desktop software. Technical Requirements and tools Equipment When developing the Loan Inquiry App for Nimble, the following tools and technologies will be utilized:

- **Programming Languages:**

- Java: for developing both the mobile and desktop applications.
- C#

- **Minimum Desktop System Requirements:**

- Processor: At least a quad-core processor (4 cores) or higher.
- RAM: 8 GB of dedicated RAM.
- Storage: At least 256 GB storage capacity (recommended Solid State Drive).



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- **Minimum Android Requirements:**
  - At least Android Version 8.0 (Oreo)
  - 2 GB of dedicated RAM
- **Integrated Development Environment (IDE):**
  - Apache NetBeans 11.3
  - Android Studio Hedgehog (2023)
  - Microsoft Visual Studio
- **Open Source Web Server:**
  - XAMPP 8.0.28
  - Oracle SQL Developer
  - Firebase by Google
- **Application Program Interface (API) and Frameworks:**
  - Java Swing (Graphical User Interface)
  - Java Database Connectivity (MySQLconnector 8.0)
  - JasperReports 6.17.0
  - JavaBeans Activation Framework 1.2.1
  - ASP.NET
  - Gradle (Testing and deployment of the mobile application)

### ❖ Operational Feasibility

Evaluate how the proposed mobile application will integrate into existing loan inquiry and assessment processes. Consider factors like user training requirements, changes to workflow, and potential disruptions during implementation.

- **User Acceptance:** Evaluate whether the target users, such as loan applicants and financial professionals, would be willing and able to use the mobile application effectively. Consider factors like user interface design, ease of navigation, and compatibility with different devices and operating systems.
- **Workflow Integration:** Assess how the mobile application will fit into existing loan inquiry and assessment processes. Determine if any modifications or adjustments to workflow are necessary to accommodate the introduction of the new technology. Consider factors like data flow, communication channels, and handoffs between different stages of the loan assessment process.





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- **Training and Support:** Determine the level of training and support required for users to effectively utilize the mobile application. Consider offering training sessions, user guides, and ongoing technical support to ensure smooth adoption and usage.
- **Scalability:** Consider how the mobile application will scale as the volume of loan inquiries and assessments increases over time. Assess whether the infrastructure and systems supporting the application can accommodate growth without compromising performance or user experience.
- **Security:** Evaluate the security measures implemented to protect sensitive information collected and processed by the mobile application. Ensure compliance with industry standards and regulations related to data security, encryption, and access control.
- **Feedback Mechanisms:** Establish mechanisms for gathering feedback from users about their experience with the mobile application. Use feedback to identify areas for improvement and make iterative enhancements to enhance operational efficiency and user satisfaction.
- **Risk Management:** Identify potential risks and challenges associated with the operation of the mobile application, such as technical issues, data breaches, or regulatory non-compliance. Develop strategies to mitigate these risks and ensure uninterrupted operation of the application.



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### Market Analysis:

- Market Overview

- The financial technology sector has witnessed exponential growth in recent years, with mobile applications playing a pivotal role in transforming traditional banking processes.
- The demand for convenient and efficient loan inquiry and assessment solutions has surged, driven by consumers seeking streamlined access to financial services.

- Market Size and Growth

- The global mobile application market for loan inquiry and assessment is projected to experience significant growth, fueled by increasing smartphone penetration and digital adoption.
- According to Statista, the global mobile app revenue is forecasted to reach \$935 billion by 2023, indicating immense potential for financial service applications.

- Key Market Trends

- Digital Transformation: Traditional banking processes are being replaced by digital solutions, prompting financial institutions to invest in mobile applications for loan management.
- Personalized Services: Consumers expect tailored loan offerings based on their financial profile and preferences, driving the need for intelligent assessment algorithms.
- Data Security: With rising concerns over data privacy, there's a growing demand for mobile applications that ensure robust security measures to safeguard sensitive financial information.

- Competitive Landscape:

- Established financial institutions and emerging fintech startups are actively developing mobile applications for loan inquiry and assessment to gain a competitive edge.
- Major players such as Chase, Wells Fargo, and Goldman Sachs have launched mobile apps with loan inquiry features, while startups like LendingClub and SoFi offer innovative lending solutions through their mobile platforms.
- Differentiation factors include user experience, speed of loan processing, accuracy of assessments, and integration of artificial intelligence for personalized recommendations.



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- Target Audience:
  - The target audience for the mobile application includes:
    - Individuals seeking quick and convenient access to loan information and assessment services.
    - Small business owners require timely financial assistance for business expansion or operational needs.
    - Tech-savvy consumers who prioritize digital banking solutions and expect seamless user experiences.
- Market Challenges:
  - Regulatory Compliance: Adherence to strict financial regulations and compliance standards poses a significant challenge for mobile application developers.
  - Trust and Security: Building trust among consumers and ensuring the security of their financial data is essential for widespread adoption.
  - Market Saturation: With numerous players entering the market, standing out amidst competition requires innovative features and effective marketing strategies.
- Future Outlook:
  - The market for mobile applications facilitating intelligent loan inquiry and assessment is poised for continued growth, driven by advancements in artificial intelligence, machine learning, and data analytics.
  - Integration with emerging technologies such as blockchain for secure transactions and decentralized lending platforms could further disrupt the industry landscape.

In conclusion, the mobile application market for intelligent loan inquiry and assessment presents lucrative opportunities for financial institutions and fintech companies alike. Success in this competitive landscape hinges on delivering seamless user experiences, personalized services, and robust security measures to meet the evolving demands of consumers in the digital era.



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Diagrams:

❖ Use Case Diagram





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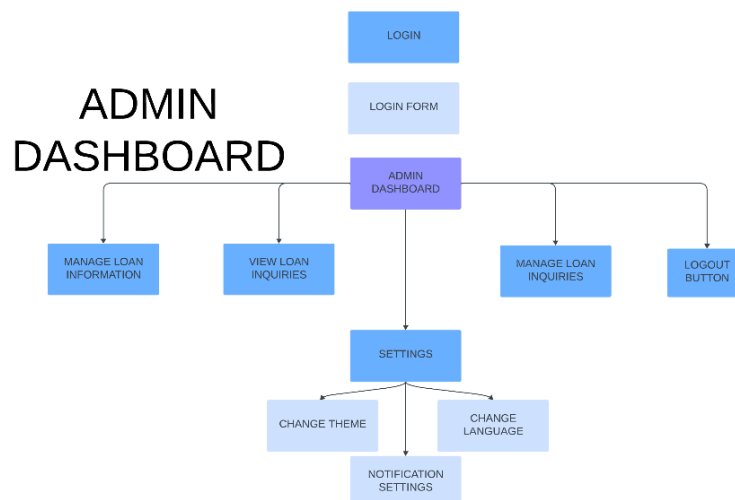
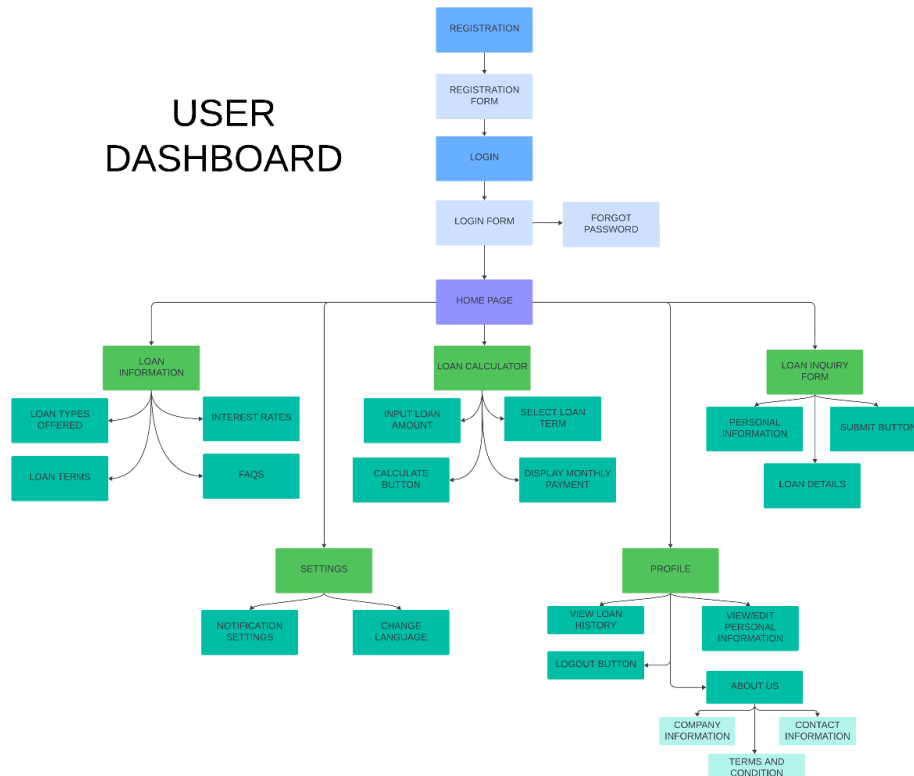
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### ❖ Site Map





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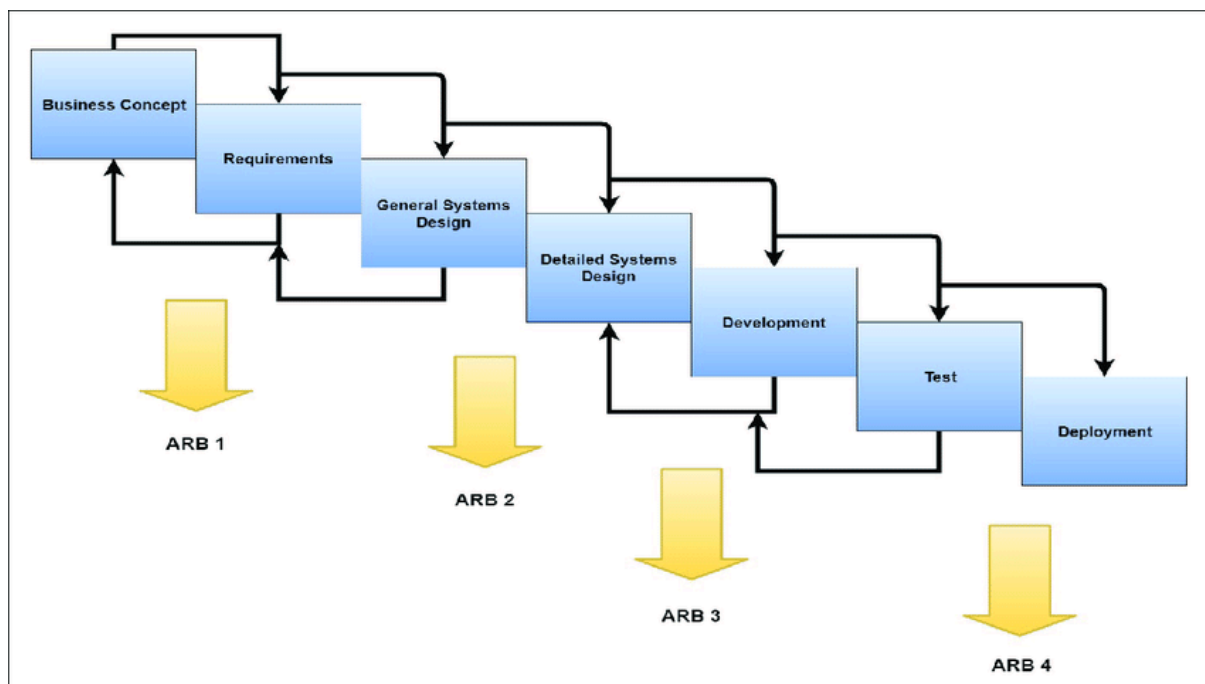


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#### ❖ Software Process Model

- Modified Waterfall Model



The modified waterfall model for developing the loan inquiry Android app is a systematic and sequential approach that ensures a structured development process. This model consists of several distinct phases, each building upon the results of the previous phase, with feedback loops incorporated to allow for adjustments and improvements throughout the development lifecycle.

- Requirements Gathering:
  - The project starts with gathering and analyzing requirements from stakeholders, including users and administrators of the app. Detailed documentation of requirements is created, specifying the features, functionalities, and constraints of the app.
- System Design:
  - Based on the requirements, a system design is created, including the architecture, user interface design, and database design. The design phase focuses on creating a blueprint for the app's development, ensuring that all aspects are well-thought-out and align with the requirements.



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- Implementation:
  - The actual development of the app takes place in this phase, following the design specifications. Developers use Java and Android Studio to code the app, integrating features such as the loan inquiry form, calculator, user authentication, and data management.
- Testing:
  - Once the implementation is complete, thorough testing is conducted to identify and fix any defects or issues. Testing includes functional testing, usability testing, performance testing, and security testing to ensure the app meets quality standards.
- Deployment:
  - After successful testing, the app is prepared for deployment to the Google Play Store. This phase involves creating necessary documentation, such as user guides and release notes, and marketing materials to promote the app.
- Maintenance:
  - The app is continuously monitored and maintained to ensure it remains functional and meets user expectations. Updates and bug fixes are implemented as needed to improve the app's performance and address any issues that may arise.

Throughout the development process, the modified waterfall model allows for feedback loops between phases, enabling adjustments to be made based on testing results and stakeholder feedback. This iterative approach ensures that the final app meets the requirements and expectations of its users and stakeholders.



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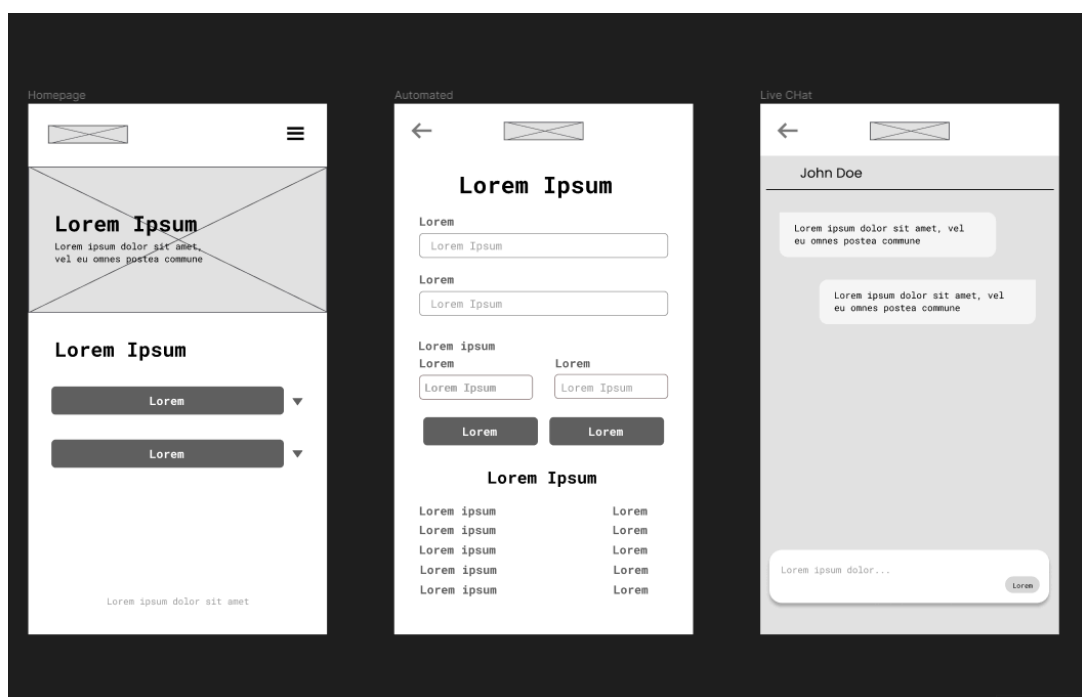
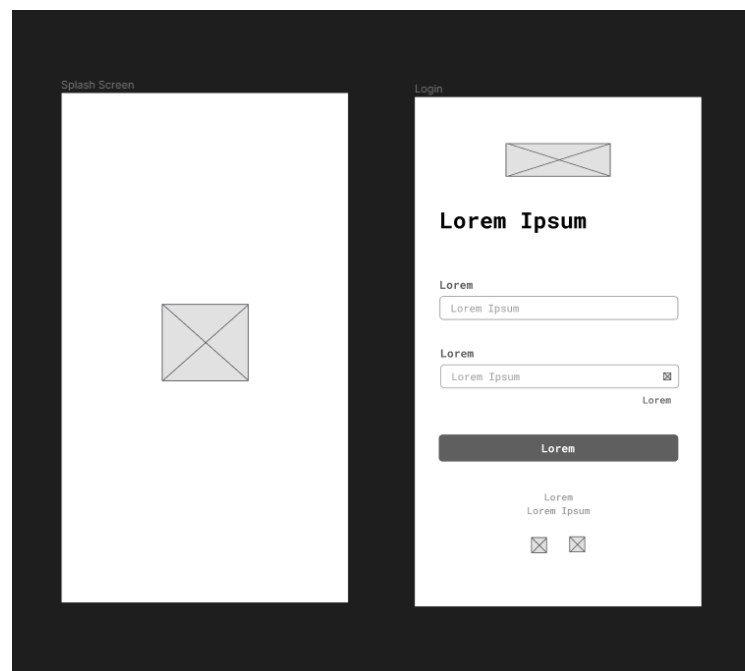
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UI/UX Prototype:







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**Remarks:**

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