

**KLIKREAD**

**A Final Internship Report**

**Submitted To:**

**Institute of Science and Technology, Tribhuvan University**

**In Partial Fulfillment of the Requirements for the Degrees of**

**Bachelor of Science in Computer Science and Information Technology**

**(B.Sc. CSIT)**

**Submitted By:**

**Kanchan Shrestha**

**Exam Roll No.: 21282/075**

**B.Sc. CSIT Program**

**NIST College, Banepa**

**September, 2022**

**Tribhuvan University**

**Institute of Science and Technology**

**B.Sc. CSIT Program**

**Supervisor's Recommendation**

I hereby recommend that the internship work prepared under my supervision by **Kanchan Shrestha** (21282/075) entitled "**KlikRead App**” is accepted as in fulfilling partial requirement for completion of Four Year's Bachelor's Degree in Computer Science and Information Technology and recommend for further evaluation.

……………………….

**Yubaraj Neupane**

Lecturer, NIST College, Banepa

Date: ……………..

**Mentor's Recommendation**



**Tribhuvan University**

**Institute of Science and Technology**

**Approval Sheet**

We recommended the internship work entitled “**KlikRead App**" submitted by **Miss Kanchan Shrestha**(21282/075) in partial fulfillment of the requirements of Four Years Bachelor Degree of Science in Computer Science and Information Technology has been examined by us and accepted for the award of the degree under Tribhuvan University.

………………………..

**Mr.**

Program Coordinator

Bachelor of Science in Computer Science

And Information Technology (B.Sc. CSIT)

**Panels of Examiners**

**Name Signature Date**

**Mr.**

………. ……………….. ………

**External Examiner**

**Mr.**

Chairman,

B.Sc. CSIT Program Nist College, Banepa ……………… ………

**Internal Examiner**

# ACKNOWLEDGEMENT

I would like to express my deepest gratitude to everyone who played a crucial role in helping me successfully complete my final year internship as a "Flutter Developer at **Ktm Bees Pvt. Ltd.**" which was conducted under the Department of Computer Science and Information Technology.

I want to extend my heartfelt thanks to my esteemed mentor, **Mr. Basanta Bhusan**, whose extensive knowledge and invaluable guidance were indispensable throughout the project. His unwavering support and encouragement were instrumental in its successful execution.

Additionally, I wish to convey my appreciation to supervisor **Mr. Yubraj Neupane**, lecturer of **NIST College, Banepa** for his invaluable guidance and constant support.

I would also like to express my sincere gratitude to my parents, the Principal, and the Nist College for their continuous support and encouragement. The realization of this project would not have been possible without the assistance and guidance of numerous individuals.

Lastly, I want to convey my heartfelt thanks to all my friends and well-wishers who provided both direct and indirect support throughout this journey. Your significant contributions are deeply appreciated. Thank you all for being a part of this remarkable experience.

Sincerely,

**Kanchan Shrestha (21282/075)**

# ABSTRACT

**"KlikRead"** is an app designed to enhance the reading experience of book lovers. With this app, users can upload and organize their reading wishlist based on book genres, creating a personalized digital bookshelf. The application was developed using Figma for UI/UX design, Android Studio, Flutter SDK, Visual Studio, and Dart programming language. The SDLC model used to develop this app is incremental development. This report provides insight into the front-end development work carried out during my internship at **KTM Bees Pvt. Ltd.**, I was assigned various tasks by my mentor, **Mr. Basanta Bhusan**, to develop the KlikRead app. Throughout my internship, I gained valuable experience in executing professional tasks such as developing a real-time Android application, understanding how IT professionals work within an organization, and the importance of working in teams and meeting deadlines.

**Keywords:** *KlikRead, Figma, Flutter, Framework, SDK, SDLC, UI/UX*

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# LIST OF ABBREVIATIONS

|  |  |
| --- | --- |
| API | Application Programming Interface |
| BOD | Board of Directors |
| CEO | Chief Executive Officer |
| CIO | Chief Information Officer |
| CMO | Chief Marketing Officer |
| CTO | Chief Technology Officer |
| ICT | Information and Communication Technology |
| IDE | Integrated Development Environment |
| IT | Information Technology |
| JDK | Java Development Kit |
| JVM | Java Virtual Machine |
| SDK | Software Development Kit |
| SDLC | Software Development Life Cycle |
| UI | User Interface |

# Chapter 1: Introduction

## Introduction

In fulfillment of the 8th Semester requirements of the BSc CSIT program at Tribhuvan University, The author of this document completed an internship at **Ktm Bees Pvt. Ltd.** During the internship, the author worked on a project called **"KlikRead",** which is an application designed for book readers to enhance their reading experience. The app allows users to upload and organize their reading wish-list according to book genres, creating a personalized digital bookshelf. The main objective of this app is to improve the reading experience of book enthusiasts by simplifying book organization, enabling users to upload their favorite quotes from books, and fostering a community of readers for book discussions. Additionally, users can set custom notification schedules to receive their favorite book quotes at their preferred time of the day.

## Problem Statement

The conventional approach to book organization and engagement falls short of catering to the diverse and dynamic needs of modern readers. Users often grapple with cumbersome methods for curating their reading lists, managing quotes from books, and engaging in meaningful discussions within a dedicated reader community. Additionally, there is a lack of flexibility when it comes to receiving book-related content at the user's preferred times. "KlikRead" app aims to bridge these gaps and empower readers to enjoy a more streamlined and personalized reading experience. By simplifying book organization, enabling easy quote collection, fostering a vibrant community of readers, and offering customizable notification schedules, it seeks to revolutionize the way readers engage with literature. In doing so, it aims to empower book enthusiasts to take full control of their reading journey and create a more immersive and tailored reading experience.

## Objective

The study's overarching goal is to meet the requirements for the Bachelor of Computer Science and Information Technology degree. Aside from that, the precise objectives are as follows:

* To acquire new technical skills related to Flutter, mobile app development, and software engineering.
* Gain practical experience by working on real projects.
* To develop an ability to work effectively within a team.
* To develop an app that introduces an innovative approach to enhancing the reading experience for book enthusiasts.

## Scope and Limitations

The scope and limitations are as follows:

### Scope

The various scopes of this project are given below:

* **Reading Wish-list Management:** The project aims to develop a comprehensive reading wish-list management system. Users can upload and organize books they want to read, categorizing them by genres, authors, or other criteria.
* **Quote Collection and Sharing:** The appallows users to collect and share their favorite quotes from books. Readers can highlight passages, jot down notes, and share these memorable excerpts with the reading community.
* **Community Building and Engagement:** The app aims to foster a sense of community among book lovers. Users can participate in book discussions, explore recommendations from others, and connect with like-minded readers. This aspect of the app's scope emphasizes engagement and interaction, creating a space where users can share their thoughts, discover new books, and build connections with fellow readers.

### Limitations

The various limitations of this app are as follows: Some drawbacks faced during internship are:

* **Limited Social Features:** The app lacks advanced social features like direct messaging, book club creation, and collaborative reading, which may limit in-depth discussions and interactions among users.
* **Dependency on User Input:** The app heavily relies on users to manually input quotes and categorize books, demanding user engagement and effort for its features to reach their full potential.
* **Copyright Concerns:** Users can upload and share book quotes, but this raises copyright and ownership issues. Clear guidelines and disclaimers are needed to address potential copyright infringement, ensuring users understand their responsibility to adhere to copyright laws.

## Report Organization

This report has been organized into 4 chapters:

**Chapter 1:** The project's introduction, problem description, objectives, and scope and limits are all included in this part.

**Chapter 2:**  It contains the details of the organization in which the internship was done. It describes the organization, the type of organization, its hierarchy, its working domain, and the departmental unit within an organization

**Chapter 3:** It covers the actual activity performed during the internship. It describes the role and responsibilities of the student, the work the particular student performed weekly, the project in which the student was involved, and the depth of work he/she has done within the internship period. It focuses on the student's technical work within the specified internship period.

**Chapter 4:** It describes what a student learns within the internship period and what conclusion can be drawn from the project they were involved in.

**Chapter 2: Organization Details and Literature Review**

## Introduction to Organization

KTM Bees Pvt. Ltd., founded in 2011, is a Nepal-based software firm committed to delivering a spectrum of services. They provide an array of services ranging from software development and strategic tech consultation to digital marketing, e-commerce platforms, and bespoke application development, tailored to address the unique needs of both organizations and individuals. KTM Bees Pvt. Ltd. aims to foster customized software solutions to the clients by understanding the real time problems and thus providing the clients with high end software solutions. The company emphasizes on creating an ambiance where the customers’ values are well understood and are transformed to user friendly solutions.

KTM Bees has highly technical professionals and support staff. The company also maintains a roster of software consultants and partners with a multitude of organizations with expertise in various domains. The organization is dedicated to delivering added value to the customers by providing innovative, profit-delivering software as well as technical support and expertise to help the clients achieve their business goals.



Figure 1: Logo of Organization (Inc, 2022)

### **Organization Contact Details**

Table 1: Organization Contact Details

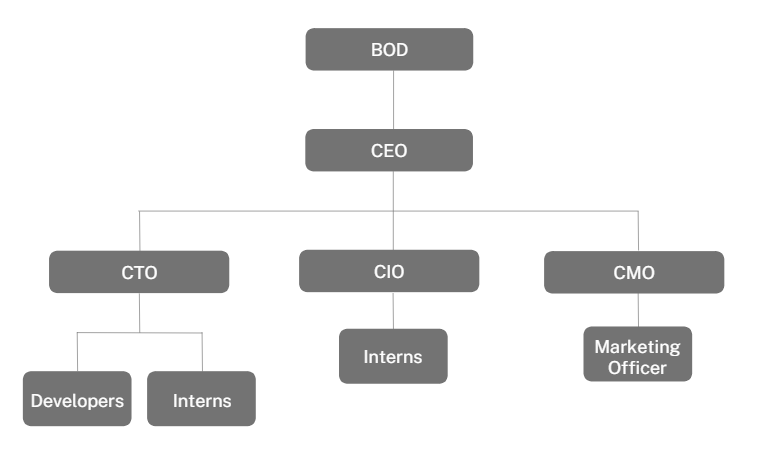
|  |  |
| --- | --- |
| Organization | KTM Bees Pvt. Ltd. |
| Organizational Type | Private Limited |
| Location: | Mid-Baneshwor, Kathmandu |
| Opening Hours: | 9:00am - 4:00pm |
| Contact No.: | 9843187599 |
| Email Address: | info@ktmbees.com |
| Website: | https://ktmbees.com |

Table 2: Internship Period Details

|  |  |
| --- | --- |
| Internship Start Date: | 16 April,2023 |
| Internship End Date: | 3 August, 2023 |
| Office Hour: | 10 AM to 4 PM |
| Working Days: | Monday to Friday |
| Position: | Flutter Development Intern |
| Mentor: | Basanta Bhusan |

## Organization Hierarchy

KTM Bees Pvt. Ltd. comprises of an administrative team along with interns, junior and senior programmers and web designers.

Figure 2: Organizational Hierarchy

## Working Domains of Organization

**KTM Bees Pvt. Ltd.** is a software development company delivering services at the forefront of an ongoing evolution in software development practice. It works in various fields such as graphic designing, Web development and app development.

The organizations chosen field of action, the part of the environment which they choose to be vital to their company, so if that part changes, they must react. It is the area which the organization will sell its products and services. There is different sector which make up the environment for an organization, each of which affect different organizations in different ways. These are shown below:

**Web Development**

* Responsive and dynamic Website development
* Responsive and dynamic Ecommerce website development
* Responsive and dynamic Finance management website development
* Responsive and dynamic Portfolio site development

**Mobile Application Development**

* M-Commerce Solutions
* Finance Management Applications
* Billing apps and Wallets
* Patient and Hospital apps
* Booking and Ticketing apps
* Employee Log management apps
* Application as per customer requirements

**Graphic Designing**

* UI and UX design of Websites
* UI and UX design of Web and Mobile Applications
* Logo Design
* Social media poster design
* Business card design
* Flyers design
* Booklets design
* Company Profile book design
* Banners design

**Software Development**

* Health care management software
* Billing software
* Software as per customer requirements

## Description of Intern Department

I held an internship position within the mobile application development department at the company, which operates as an integral part of the developer and design unit. Within this context, application development encompasses a comprehensive process of creating mobile applications tailored to meet specific user requirements. The company adopts a systematic approach to categorize and organize work into distinct segments, breaking these broad categories down into granular activities and resources to chart the project's trajectory. Specifically, the application development department had a dedicated intern team responsible for various aspects of mobile app development. My project team, comprised of three individuals, was instrumental in delivering the project's objectives. This team structure included one professional handling backend development, another specializing in front-end development, and myself, taking on the role of a Flutter developer.The collective responsibilities of our intern team encompassed both the design and development of the application. Throughout this journey, the senior developers provided invaluable guidance and oversight to the interns, ensuring that our work adhered to industry best practices and met the company's high standards of quality and performance.

## Literature Review

In the realm of mobile applications, there has been a profound impact on various aspects of our society, ranging from business and education to personal lives. Thanks to the mobile app revolution, book enthusiasts can now take full control of their reading journey and create a more immersive and tailored reading experience.

Some notable applications in the world of literature and reading include:

**GoodReads**

Launched in 2007, GoodReads is a platform for readers to create virtual bookshelves, save favorite quotes, and receive personalized book recommendations.

**Wattpad**

Wattpad is a global community for writers and readers. It allows writers to share their stories, and readers can access an extensive library of user-generated content, including novels, stories, and poetry.

**Libby**

Libby, created by OverDrive, is a library app that connects users to their local libraries' digital collections. Users can borrow and read ebooks and listen to audiobooks for free.

**Anobii**

Anobii, a social network for book enthusiasts, it enables users to discover, catalog, and discuss their favorite books, fostering a global community of readers.

**Litsy**

Litsy, a social media platform for book lovers, it combines elements of social networking and book-focused discussions, creating a unique space for bibliophiles.

Developed using Flutter, **"KlikRead"** offers a consistent user interface and engaging user experience across multiple platforms. Unique features like book tracking, quote notifications, and a dynamic reader community make it a one-stop solution for book enthusiasts. The app also has plans to introduce a text scanning feature, enhancing the overall reading experience and making it a must-have for those seeking a personalized way to engage with literature.

# 

# Chapter 3: Internship Activities

## Roles and Responsibilities

During my tenure as an intern at Ktm Bees Pvt. Ltd., various tasks, and activities were assigned as per the requirement of the organization and project. The roles and responsibilities conducted were:

1. App Development: Collaborate on Flutter-based mobile app development.
2. Code Quality: Write clean, efficient code following coding standards.
3. Bug Resolution: Identify and fix app bugs and performance issues.
4. UI/UX Improvement: Enhance user interface and experience.
5. API Integration: Integrate third-party services for data.
6. Problem Solving: Tackle complex technical challenges.
7. Continuous Improvement: Suggest app enhancements.

## Weekly log

Following table shows the weekly activities I performed throughout my internship period.

|  |  |
| --- | --- |
| Week | Activities |
| Week 1  (April 16 to April 22) | * Setup flutter and dart to the system * Setting up emulator * Coordinate with mentors * Basic Discussion about internship |
| Week 2  (April 22 to April 28) | * Dart Basics : Environment , Syntax , Data Types, Variables, Operators, Loops ,Decision making, List, Map, Functions , Parameters ( Default+ Named ) * OOP with Dart : Class, Constructor, Inheritance, Interfaces, Overriding , Operator overloading |
| Week 3  (April 29 to May 5) | Git Basics   * Creating repository on local and GitHub * Pushing local changes into the repository * Pulling and cloning projects from the repository * Branching   Merging and pull requests |
| Week 4  (May 6 to May 12) | UI design with flutter (Google)   * Flutter App Structure * Introduction to Widgets * Scaffold widget * Image widget * Container widget * Column and row widget * Icon widget * Layouts in flutter * Card widget * Stateful and stateless widgets * Button widget |
| Week 5  (May 13 to May 19) | Navigation and Routing   * Navigate to a new screen and back * Navigate with name routes * Passing data via the constructor * Tabs and drawers * Stack widget ‘ * Basic State management approaches (Provider/GetX/BLOC) |
| Week 6  (May 20 to May 26) | Building some UI using flutter   * Basic Dash-Board and Login UI * Basic Ecommerce UI * Basic Hotel Booking UI * Basic Movie UI using Bloc/Cubit |
| Week 7  (May 27 to June 2) | Database setup   * Firebase setup with flutter * Local storage such as shared preference, SQlite, * Designed To-do app using SQlite * Designed hotel app with CRUD features using firebase |
| Week 8  (June 3 to June 9) | Learning API   * Using postman for response collections * Consuming REST API’s * Working with JSON * Created a movie App using Movie API with GetX . * Pokemon App using pokedex API. |
| Week 9  (June 10 to June 16) | Developing UI   * Developed UI for project ‘CityTours’ * Landing Page * Package Booking Page * Implemented GetX |
| Week 10  (June 17 to June 22) | Developing UI   * Continued UI for project “CityTours” * Experiences Page * Contact Us Page * Integrate drawer feature in app |
| Week 11  (June 23 to June 29) | Developing UI   * Developed UI for project ‘Niwaas’ * Property Details Page * Forgot Password Pages * Bottom Navigation Bar and Side Navigation Bar * User Profile Page * Setting Page |
| Week 12  (June 30 to July 6) | Starting of Project “KlikRead”   * Converting given design to application * Develop Login Page * Develop Home Page * Develop Bottom Navigation * Start documentations |
| Week 13  (July 6 to July 12) | Continuation of “KlikRead design”   * Develop Books Page * Develop Notes Page * Develop Settings Page * Develop Menu Bottom Sheet * Update the documentation |
| Week 14  (July 13 to July 19) | API integrations   * Integrate Get All Books/BookNotes/Quotes API to application * Integrate the application using GetX state management * Navigation/Routing using GetX to required screens |
| Week 15  (July 14 to July 20) | API Integration   * Filter the Book Lists obtained from the API * Validate data to be sent/receive from the API * Testing And Documentation |
| Week 16  (July 21 to July 27) | * Display filtered books to respective category * Testing and Documentation |
| Week 17  (July 28 to August 3) | * Integrate Camera to the application * Update the UI and make it responsive. * Testing and Update application * Build release APK * Review and Documentation |

## Description of the Project

During my internship, I actively participated in several projects, with the most notable being the development of the "KlikRead" Application. Collaborating closely with my mentor and the design team, I played a pivotal role in crafting the application's user interface (UI) utilizing the versatile Flutter framework. Following the design phase, I undertook the task of translating the design into a fully functional application.

The "KlikRead" mobile application was conceived to elevate the reading experience for users. It boasted a user-friendly and aesthetically pleasing interface, ensuring ease of navigation and access from any location and at any time. Some key features of the "KlikRead" Application include:

* Personalized Digital Bookshelf
* Reading wish-list organization
* Uploading the quotes
* Creating a community of readers
* Custom Notification Schedules

My role in bringing these features to life was instrumental in creating an engaging and immersive reading experience for users.

### **Development Methodology**

***Incremental Model***

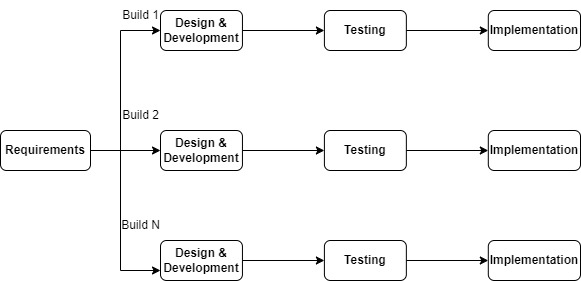
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Figure 3: Incremental Model

Incremental Model of the system development life cycle is used for the development of this project. Software development using the incremental paradigm divides requirements into numerous independent software development cycle modules. In each increment, the requirements were gathered and designed, implemented and testing was done (Point).

1. **Requirement analysis:** In this step, existing systems were examined, and all the specifications required to create the new system were determined. The knowledge about the different existing application was obtained in this phase either through journals, articles, or research papers. All sources that were discovered were examined and noted.
2. **Design and Development:** During this phase, the design of the system was created and the development of the prototype based on the functionalities was built. The data or requirement obtained during the requirement phase was transformed into a design. Examples of diagrams that were built were Context Diagram (CD), Data Flow Diagram (DFD), and Entity Relationship Diagram (ERD). All of these diagrams were built as a guideline of the flow of the system. After the successful design, we wrote codes based on design. The system was built using Flutter framework and API given.
3. **Testing:** Each sub-module must be tested before being integrated into the system. All coding modifications, errors, functionality changes, and updates were also tested. The user interface was examined to make sure it was connected to the API and compatible with the system.
4. **Implementation**: Once the testing was over, the system was put into use so that the intended user could utilize it.

### **Software Tools and Language Used**

The following software tools and programming language were used in project development:

**Figma:**

Figma is a vector graphics editor and prototyping tool which is primarily web-based, with additional offline features enabled by desktop applications for macOS and Windows. The Figma mobile app for Android and iOS allows viewing and interacting with Figma prototypes in real-time mobile devices.

**Frontend:**

* **Flutter:** Flutter is an open source framework by google for building beautiful, natively compiled, multi-platform applications from a single codebase. Deploy to multiple devices from a single codebase: mobile, web, desktop and embedded devices. Flutter apps are written in the dart language and make use of many of the language’s more advanced features.

**Backend:**

Developers can use almost any modern programing language (like JavaScript, Ruby, Python or Java, larval) for their own API coding.

**Software tools:**

* Visual studio code is used for the text editor.
* GitHub is used for code sharing.
* Android studio for android emulator which is used to debug and run the code.

**Documentations:**

* MS word is used for documentation process.
* Draw.io is used to draw various diagram like flowchart, use case and many more.

### Requirement Analysis

The requirement includes both functional and non-functional requirements.

* + - 1. **Functional Requirements**

Functional requirements aim to provide the overview of how the system works. It specifies what a system should do. Functionalities such as services, tasks and functions required for the system is described here. They are:

* **User Registration and Authentication:** The user should be able to register for an account and log in using their credentials. This includes features such as email verification.
* **Book Wish-List Management:** The system should allow users to categorize books based on genres and based on their status (Reading/ Completed) for easier organization.
* **Book shelf creation: U**sers should have the ability to create a digital bookshelf. The bookshelf should display book covers and relevant information.
* **Quote Uploading:** User must be able to save their favorite book quotes and the system should associate quotes with the respective books.
* **Community Interactions:** Users should be able to engage in discussion with other readers about books. The system should provide features like commenting, sharing book-related content.
* **Notification Setting:** Users should have the option to set custom notification schedule and the system should send notification with user’s preferred book quotes at specified times.
  + - 1. **Non-Functional Requirements**

Non-functional requirements are often called “quality attributes” of the system. The non-functional requirements of the system are as follows:

* **Performance**

The mobile app should load quickly, be responsive, and have seamless page changes. Additionally, the application must be able to withstand heavy traffic levels without stuttering or going offline.

* **Usability**

The mobile app should have a simple layout, an intuitive design, and be simple to use. It should be easy for the users to use with basic concepts and understanding.

* **Reliability**

There should be minimal downtime for maintenance or upgrades, and the app should be accessible and function 24/7.

* **Maintainability**

The mobile app should be simple to edit and maintain, with well-organized code and comprehensive documentation. It should be maintained in an easy efficient manner.

## Tasks/Activities Performed

### **System analysis**

Systems analysis the process of observing systems for troubleshooting or development purposes. It is applied to information technology, where computer-based systems require defined analysis according to their makeup and design. It is a process of collecting and interpreting facts, identifying the problems, and decomposition of a system into its components. System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem-solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. Analysis specifies what the system should do.

**Requirement gathering methods**

The creation of the system is heavily influenced by the requirements. The system's structure, functions, and operating limitations are established once the requirements are gathered. Due to the dynamic and contingent character of the needs, they are difficult to predict. One demand may be dependent on another, so changing lower requirements affects upper requirements and vice versa. Data required for requirement identification was collected from following sources:

* Brainstorming
* Document reviews
* Observation

**Feasibility Analysis**

Feasibility is defined as the practical extent to which a project can be performed successfully. A feasibility study is an analysis of the potential success of a proposed project or business idea. It is typically conducted before a project or business is launched, to determine whether it is feasible to proceed with the project or idea based on a variety of factors, including economic, technical, legal, and operational considerations.[4] Various other objectives of feasibility study are listed below.

* To analyze whether the software will meet organizational requirements.
* To determine whether the software can be implemented using the current technology and within the specified budget and schedule.
* To determine whether the software can be integrated with other existing software.

**Technical:** The entire set of hardware and software needed to build this project is easily accessible online. No particular setting is necessary for it to operate. These factors are all easily attainable.

**Operation:** It is concerned with the operating capabilities of the system. All the functions of the system are possible to create. Overall, the system is feasible operationally.

**Economic:** Development of this project is highly economically feasible. All the tools required for the development of the project is free and for the deployment of this app in the Google’s play store is also cheaper which can be easily affordable by the organization. Due to all this development of this project is economically feasible.

### **System Implementation and Testing**

#### Implementation:

Implementation starts with the converting the logical design into physical and into a working system.

* **Tools and Software Used**
* **Figma:** Figma was used to make the prototype design of the application and design thumbnail of video.
* **Android Studio:** Android Studio is the official IDE for the android application developed as stated by the Google. So Android Studio was used to develop the overall application.
* **Java Development Kit (JDK):** JDK was used to run and write the Android Application. As it is the latest version of Java in the market and it supported lambda functions.
* **Flutter SDK:** SDK is an open-software UI Software development kit. It has the packages and command-line tools that you need to develop Flutter apps across platform.
* **Visual Studio:** Visual Studio is the IDE to write and run the code. Visual Studio Code combines the simplicity of a source code editor with powerful developer tooling, like IntelliSense code completion and debugging.
* **Dart:** Dart is a programming language designed for client development, such as for the web and mobile apps. It is developed by Google and can also be used to build server and desktop applications. Dart is an object-oriented, class-based, garbage-collected language with C-style syntax.

#### Testing:

Software testing is a process of running with intent of finding errors in software. Software testing assures the quality of software and represents final review of other phases of software like specification, design, code generation etc.

##### Unit Testing

Unit testing emphasizes the verification effort on the smallest unit of software design i.e.; a software component or module. Unit testing is a dynamic method for verification, where program is actually compiled and executed. In unit testing, the whole system is designed in a modularized pattern and each module was tested. Each module was broken down, parallelly tested and after getting a bug it was made bug free.

Table 3: Test Cases for Unit Testing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.N. | Test description | Input test data | Expected Result | Actual Result | Status |
| 1 | Enter valid  Google login  details | Email:  kanchanmahaju@gmail.com  Password:  \*\*\*\*\*\*\*\*\*\* | It should  redirect to  Onboarding Page. | Redirected to  Onboarding Page. | Pass |
| 2 | Enter invalid  Google login  details | Email:  kanchanmahaju@gmail.com  Password:  \*\*\* | It shouldn’t  redirect to  Onboarding Page. | Didn’t redirected to Onboarding Page. | Pass |
| 3 | Add book  to user’s  digital bookshelf | Submit book details with empty book title field | Data shouldn’t  be added  and display error message. | Data wasn’t  added and error message was displayed. | Pass |

##### System Testing

Here, complete and integrated software is tested. The purpose of this test is to evaluate the systems compliance with the specified requirements.

Table 5: For System Testing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.N. | Test description | Input test data | Expected Result | Actual Result | Status |
| 1 | Application  Installation | Install KlikRead app on mobile device | Application opens with splash screen page | Application executed with splash screen | Pass |
| 2 | Enter valid  Google login  details | Email:  kanchanmahaju@gmail.com  Password:  \*\*\*\*\*\*\*\*\*\* | It should  redirect to  Onboarding Page. | Redirected to  Onboarding Page. | Pass |
| 3 | Enter invalid  Google login  details | Email:  kanchanmahaju@gmail.com  Password:  \*\*\* | It shouldn’t  redirect to  Onboarding Page. | Didn’t redirected to Onboarding Page. | Pass |
| 4 | Add book  to user’s  digital bookshelf | Submit book details with empty book title field | Data shouldn’t  be added  and display error message. | Data wasn’t  added and error message was displayed. | Pass |
| 5 | Add book  to user’s  digital bookshelf | Enter book related data and click add to submit | Data should  be added  and display success message. | Data was  added  and success message was displayed. | Pass |
| 6 | Enter details to search book | Enter book tile or author | It should display books according to the query. | Books according to query displayed. | Pass |
| 7 | Share posts and display the post | Enter your current readings and click post | It should display review message. | Post under review message displayed. | Pass |

# Chapter 4: Conclusion and Learning Outcome

## Conclusion

In conclusion, the intern's time spent working on the KlikRead application as a Flutter developer at Ktm Bees Pvt. Ltd. has been rewarding and educational. I've not only learned diverse UI building techniques and technologies but have also gained a valuable understanding of testing procedures. This internship has been a rich source of both hard and soft skills, including effective communication, teamwork, problem-solving, and bug identification. These skills will undoubtedly be invaluable for future endavours. Moreover, this experience has allowed me to expand my professional network within the IT industry. I've improved my communication skills through interactions and learned valuable insights on managing pressure and meeting deadlines from senior colleagues. The connections I've made during this internship will undoubtedly play a pivotal role in my future career.

## Learning Outcome

The varieties of things learned during the internship period are:

● Hands-on experience with real-world application.

● Gained experience of how to work collaboratively within the group with proper team communication and different sets of skills.

● Developed work habits and attitude necessary for successful projects and tasks.

● Communication and time management skills.

● Handling work pressure and completing the tasks within the deadlines.

● Detailed understanding of different tools like Postman , VScode, Figma.

● Learned and tested APIs using Postman and their usage in the application.

● Learned to handle projects in an agile environment using ClickUp as a collaboration tool.

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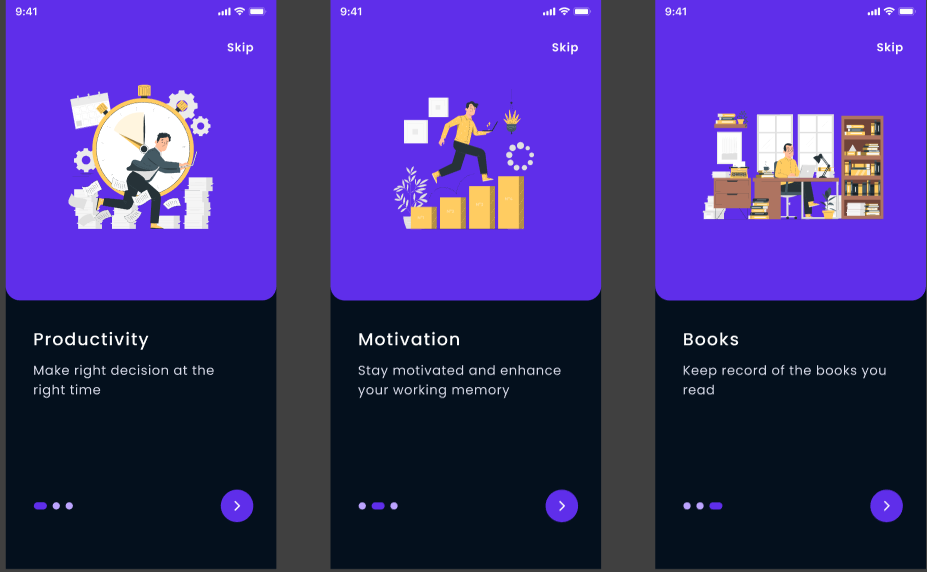
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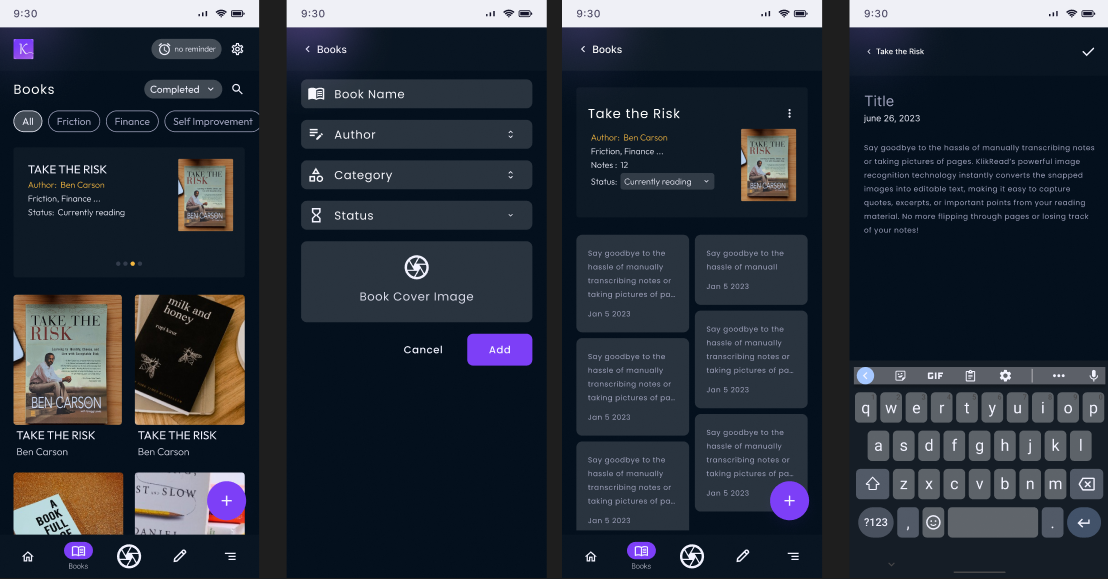
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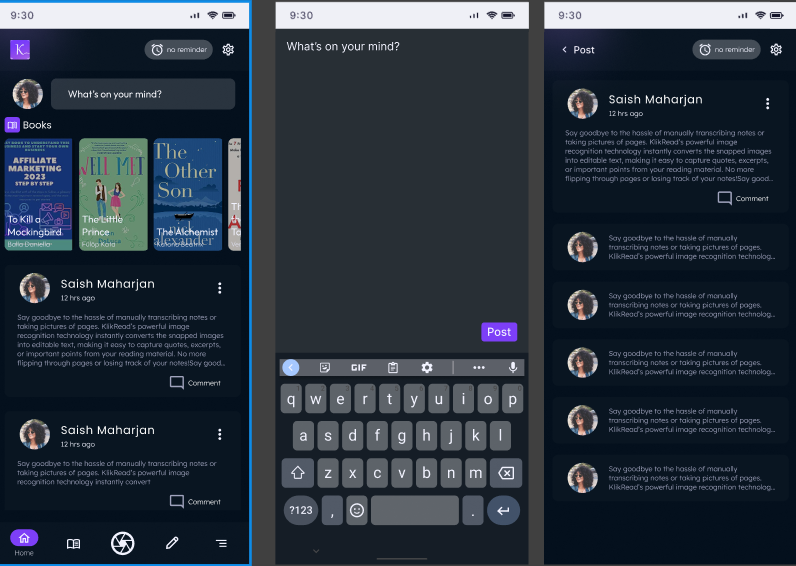
# Appendix



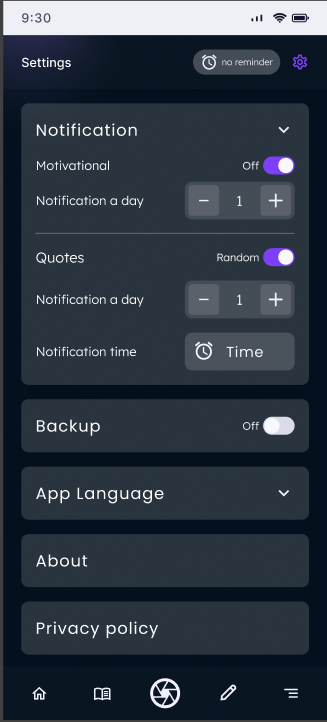
**Appendix 1: UI Design of On-Boarding Screen**



**Appendix 2: UI Design of Book Page, Add-Books, Book Quotes and Add Quotes Page**



**Appendix 3: UI Design of Home Page, and it’s respective pages**



**Appendix 4: UI Design of Settings Page**