



TRIBHUVAN UNIVERSITY

NIST College, Banepa

An Internship Report On

“KlikRead”

At

KTM Bees Pvt. Ltd.

Submitted By

Bidisha Koirala (21277/075)

An Internship Report Submitted in partial fulfillment of the requirement of **Bachelor of Science in Computer Science & Information Technology (BSc.CSIT) 8th Semester** of Tribhuvan University, Nepal

October, 2023

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 **Bidisha Koirala** (21277/075) 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



REGD. NO: 169366/073/074
New Baneshowr, Kathmandu
info@ktmbees.com

7th Aug 2023

TO WHOM IT MAY CONCERN

This is to certify that Ms. Bidisha koirala, a student of Bachelors of Science in Computer Science and Information Technology (BSc. CSIT) at NIST College, Banepa has completed 3 months long internship at KtmBees as a flutter developer.

During her internship period, she was found to be very hardworking and intuitive. With her enthusiasm for flutter, she was able to learn a lot and hone her skill. She has been a valuable team member and has contributed to some major projects at KtmBees.

We wish her every success in life.

A handwritten signature in black ink, appearing to read "Basanta Bhusan", written over a horizontal line.

Mr. Basanta Bhusan
Flutter developer & Mentor
KtmBees Pvt. Ltd.

www.ktmbees.com

Tribhuvan University
Institute of Science and Technology

Approval Sheet

We recommended the internship work entitled “**KlikRead App**” submitted by **Miss Bidisha Koirala**(21277/075) 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. Yubaraj Neupane

Program Coordinator

Bachelor of Science in Computer Science

And Information Technology (B.Sc. CSIT)

Panels of Examiners

Name	Signature	Date
Mr.
External Examiner		
Mr. Yubaraj Neupane		
B.Sc. CSIT Program Nist College, Banepa
Internal Examiner		

ACKNOWLEDGEMENT

This intern report is prepared in the partial fulfillment of the requirements for the degree of Bachelor in Computer Science and Information Technology. The satisfaction and success of completion of this task would be incomplete without heartfelt thanks to people whose constant guidance, support and encouragement made this work successful.

Firstly, I would like to give my gratitude towards my mentor **Mr. Sagar Mishra**, flutter developer at **KTM Bees Pvt. Ltd.** for his unquestionable support. Without his support and encouragement, it would have been difficult to work on.

I would also like to thank supervisor **Mr. Yubaraj Neupane**, lecturer of **NIST College, Banepa** for his invaluable encouragement, guidance and ever willingness to spare time from his otherwise busy schedule.

I would like to dedicate our heartily gratitude to **KTM Bees Pvt. Ltd.** for providing us with an opportunity to do internship at this reputed organization with full support and cooperation.

I would like to extend our sincere gratitude Head of the Department **Mr. Yubaraj Neupane** for approving this internship project, Department of Computer Science, NIST College, Banepa, for their kind and co-operative support, valuable time and guidance as well as suggestions. Their useful suggestions for this whole work and cooperative behavior are sincerely acknowledged.

At the end, I would like to express my sincere thanks and appreciation to all my colleagues and seniors who have helped me directly or indirectly during this internship period. I would like to make them the part of my success.

Sincerely,

Bidisha Koirala (21277/075)

ABSTRACT

“KlikRead” is an application for book readers to enhance their reading experience. This app allows user to upload and organize their reading wish-list based on book genres, creating a personalized digital bookshelf. The material used for this mobile application software are Figma for UI/UX design, Android studio, Flutter SDK, Visual studio and Dart programming language. The SDLC model that is used to develop this application is the incremental development. This report offers an overview of the work I completed during my internship as a front-end developer for a mobile application. The application was built using Flutter and Dart programming language. During my time at KTM Bees Pvt. Ltd, I worked on various tasks under the guidance of my mentor, Mr. Sagar Mishra, for the development of the KlikRead application. Throughout my internship, I gained valuable experience in working on professional tasks, including developing a real-time Android application. I also learned how IT professionals operate within an organization and came to understand the significance of teamwork 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
OOP	Object Oriented Programming
SDK	Software Development Kit
SDLC	Software Development Life Cycle
UI	User Interface

CHAPTER 1: INTRODUCTION

1.1 Internship Introduction

The internship program is designed to provide students with the opportunity to gain real-world field experience and to work toward accomplishing their goals and aspirations. The primary objective of an internship is to offer students, referred to as interns, a chance to gain hands-on experience in a real-world industry setting.

The Bachelor of Science in Computer Science and Information Technology (BSc. CSIT) program mandates that final-year students must complete a six-credit internship, which spans a minimum of ten weeks or 180 hours, as a fundamental course requirement. Students have the flexibility to choose between government or private sector organizations for this internship. Simultaneously, feedback gathered from participating organizations serves as a valuable tool for both students and faculty in enhancing the professionalism and skills of graduates.

Similarly, the intern was assigned to the department of the development of a mobile application for the organization under the supervision of my supervisor. Being there, the main project, the intern had contributed was on “**KlikRead**”.

KlikRead is an application for book readers to enhance their reading experience. This app allows user to upload and organize their reading wish-list based on book genres, creating a personalized digital bookshelf. The objective of this app is to enhance the reading experience of book enthusiasts by facilitating book organization, uploading favorite quotes of the book, and creating community of readers for book discussion. Besides this, the users can also set custom notification schedules, ensuring that their favorite book quotes are delivered to them at their preferred time of the day.

1.2 Problem Statement

The theoretical knowledge given by our curriculum helps to make us intelligent but to work in real world and in companies, we need to have experience and knowledge to apply that theoretical knowledge. It is not sufficient to rely solely on theoretical understanding in the competitive IT industry. To be well-prepared to excel and compete, an internship program is invaluable.

In today's world, securing that crucial graduate job offer no longer depends solely on having a good degree. Employers rely heavily on resumes that show meaningful work history in today's labor market, whether it comes from paid employment, volunteer work, or an internship. When it comes to developing a successful career, relevant work experience is now just as important as your educational background and test scores. As a result, internships have emerged as a crucial tool for individuals looking to differentiate themselves. This provides an additional opportunity for networking when applying for jobs after graduation.

1.3 Objective

This internship program was done to fulfill the academic requirement of B. Sc. CSIT 8th Semester. An internship provides a variety of benefits for the young workers who want to broaden their chances for landing in a job and jump-starting their careers. The main objective of this internship project is to gain practical work experience in the field of mobile development.

1.3.1 Internship Program Objective

The following is the list of objectives that the internship may fulfill:

- To develop an ability to work in the team.
- To gain practical work experience in the field of mobile development.
- To enhance the intern's professional readiness to work in real-world IT industry.

1.3.2 Internship Project Objective

The broad objective of this project are as follows:

- To enhance the reading experience for book enthusiasts.
- To create a community of readers who can engage in book discussion.

1.4 Scope and Limitations

1.4.1 Scope

An internship provide an opportunity to develop skills and experience in a particular field and can help explore different roles within the field so one can figure out which one they would like to pursue long-term. Internships help improve our resume, get a taste of the working world, and network with people who can help to advance our career. It allows participants to develop a deeper understanding of their career interests.

As for my internship, I had the opportunity to contribute to the development of an mobile application named “KlikRead”. The major goal of developing KlikRead is to create a versatile platform that enhances the reading experience by allowing users to upload and organize their books by genre, share their favorite book quotes, and engage in discussions within a community of readers. This real-world application has the potential to empower both readers and writers by connecting them on a global scale, making the literary world more accessible and interactive.

1.4.2 Limitations

Some drawbacks the intern faced during internship are:

- It was challenging to balance internship work and college at the same time.
- Economic details of the project have not been mentioned due to confidentiality issues.
- Not all facts of the organization’s operation can be disclosed due to restrictions imposed by the privacy regulations of the organization.

1.5 Report Organization

This report has been organized into 4 chapters:

Chapter 1: Here, Introduction about internship and my project with statement of the problem has been stated. The scope and limitations of the internship are listed along with the objectives of the internship and what it hopes to achieve.

Chapter 2: Here, I have introduced about the company details including the organization's structure, its area of operation, and the literature review, which describes various, articles related to the application. Also this chapter contains the descriptions of related works that I enrolled.

Chapter 3: Here, I have illustrated the roles and responsibilities i had at the organizations. Things such as Weekly log, Description of the Project Involved during Internship, Tasks/Activities such as requirement, system design, and implementation of the project that indicates how the system is implemented using what tools, testing has been clarified.

Chapter 4: This section concludes the project that I have enrolled in. It gives a summary of what system was developed and learning outcomes of the internship including references. The lesson learnt is also included in this chapter.

CHAPTER 2: ORGANIZATION DETIALS AND LITERATURE REVIEW

2.1 Introduction to Organization

KTM Bees Pvt. Ltd. was established in 2011 as a software firm based in Nepal with an aim to provide services like: software development, free tech consultation, digital marketing, ecommerce platforms, and tailor application on demand to multifarious organizations/personnel. 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

2.1.1 Organization Contact Details

Table 1: Organization Contact Details

Organization	KTM Bees Pvt. Ltd.
Organizational Type	Private Limited
Location:	New-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:	Sagar Mishra

2.2 Organization Hierarchy

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

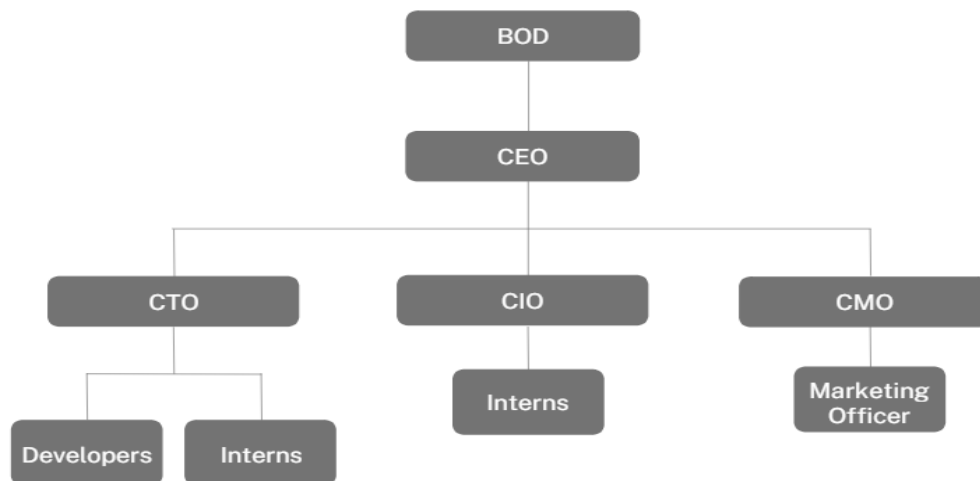


Figure 2: Organizational Hierarchy

2.3 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. The management team at KTM Bees is strong, and the company's knowledgeable computer engineers, digital marketers, and IT professionals have experience in a range of ICT and digital marketing-related fields, including software development, business application solutions, and issues related to digital marketing.

- Web Development
- Mobile Application Development
- Portfolio site development
- M-Commerce Solutions
- Finance Management Applications
- Booking and ticketing apps
- Employee log management apps
- UI/UX

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

2.4 Description of Intern Department

2.4.1 Introduction

The intern was placed in the Development department. It deals with researching, ideating, designing different mockups, layouts and designs for various products and develop the system according to client's requirement and specification. All in all, the department deals with all the research, designing, development related works of the product in the organization.

2.4.2 Mentors

After joining the Developers Team at KTM Bees Pvt. Ltd., The intern got an opportunity to work and be supervised by professional mentor, Mr. **Sagar Mishra** who has been working in this field for many years and helped the intern and guided them through their internship period.

2.4.3 Team

In KTM Bees, the intern got an opportunity to work in a team for the first time in their professional career. The intern was guided by a very professional mentor and got the opportunity to work under the expertise of the mentor and a supportive team which helped them to develop and nourish their skills and experience new things.

2.5 Literature Review

The advent of digital technology has revolutionized many aspect of our lives, including how we read and engage with books. Here, the intern explores the existing body of knowledge and research related to the objective of their internship project, which are to enhance the reading experience for book enthusiasts and create a community of readers who can engage in book discussion through the development of dedicated mobile application. Convenience is the primary motivator for customers to choose an effective

digital organization method over a traditional one, according to Siomara Valladares. (2022).[2] According to Salah. (2016), if an application can demonstrate how simple it is for the end user, customers would be happier and more eager to use such digital technology. [6]

The emergence of online communities built around common interests, like books and reading, is a well-established idea. Platforms like GoodReads and LibraryThing have become widely appreciated for enabling readers to connect, express their opinions, and uncover fresh books [7][8]. These communities promote dialogues and offer readers a chance to interact with people who share their interests. The aim of establishing such application resonates with the existing body of literature emphasizing the significance of online book communities in enriching the reading experience.

Similarly, The success of any mobile application significantly hinges on user experience (UX) and interface design. Studies in this domain have consistently demonstrated that a thoughtfully crafted app with an intuitive user interface tends to result in increased user satisfaction and higher retention rates [9][10]. Consequently, giving careful thought to user experience and interface design is pivotal in realizing the goals of the project.

Hence, concept of digital organizing, online book communities, user experience and data security are key areas of focus. By synthesizing these concepts, this project can draw from existing knowledge to create a noble, user-centric, and secure platform that enhance the reading experience and fosters a vibrant community of readers. This study highlights the importance of addressing these dimensions in the app development process.

Existing Systems

GoodReads

Goodreads is the world's largest site for readers and book recommendations. Their mission is to help people find and share books they love. Goodreads launched in January 2007. Goodreads is a popular platform for readers. You can create virtual bookshelves, add books you're currently reading, save your favorite quotes, and receive updates and recommendations based on your reading preferences. [3]

Bookly

Bookly is a versatile reading tracker app that allows users to log and organize their reading progress. It features a user-friendly interface, enabling users to add books they are currently reading, want to read, or have finished, with an integrated barcode scanner for quick additions. Users can set reading goals, record reading sessions, and track their progress over time. Bookly also allows readers to highlight and save quotes from their books, create personal book notes, and review their reading history. [4]

Anobii

Anobii is a social networking platform for book enthusiasts that allows users to discover, catalog, and discuss their favorite books. It was founded in 2006 and developed by a company called Moleskine S.p.A., known for its iconic notebooks and stationery. Anobii offers users the opportunity to create virtual bookshelves, share reading experiences, and connect with a global community of readers, making it a valuable resource for those seeking book recommendations and literary discussions.[1]

Litsy

Litsy is an iOS and Android social media application and website that is based around reading books. It was launched in April 2016. Litsy offers users the ability to post about the books they are reading, share reviews and recommendations, and engage in discussions with other readers through comments and likes. It combines elements of a social network and a book-focused community, making it a unique space for bibliophiles to connect and interact with one another while celebrating their love for literature. The platform is often praised for its user-friendly interface and the sense of camaraderie it fosters among book enthusiasts.[5]

“KlikRead” addresses the limitations of current book apps on the market. It was developed using Flutter, a versatile framework that ensures a consistent user interface and business logic across multiple platforms, making it available to users on Android, iOS, Windows, and the web, all from a single codebase. Flutter's custom and animated UI capabilities create an engaging and enjoyable user experience. Unlike many other book apps, "KlikRead" combines multiple unique features within one platform, making it a standout choice for avid readers. The unique combination of features such as encompassing book tracking, quote notifications, and a dynamic reader community, makes "KlikRead" a truly exceptional app. Few book apps offer such a well-rounded and

inclusive reading experience, making "KlikRead" a one-stop solution for book lovers who crave both personal reading organization and the camaraderie of a global reading community. KlikRead team is also planning to update the feature on scanning book text by using a camera and converting it into textual format in the future to make reading experience more enhanced. These unique features not only distinguish "KlikRead" from other book apps but also enhance the overall reading and community-building experience, making it a must-have app for book enthusiasts looking for a more immersive and personalized way to engage with literature.

CHAPTER 3: INTERNSHIP ACTIVITIES

3.1 Roles and Responsibilities

During my internship period, I was entrusted with a range of responsibilities by my mentor, Mr. Sagar Mishra. These responsibilities encompassed various tasks vital to the internship experience. Initially, my mentor assigned me the task of studying and conducting research on the forthcoming application that was to be developed. This phase allowed me to acquire a firm grasp of the foundational aspects of app development. Subsequently, I was responsible for implementing the core functionalities that needed to be integrated into the project.

As a Flutter Developer (Intern) at KTM Bees Pvt. Ltd., various tasks that were assigned are as follows:

- Understand the working patterns of the organization.
- Complete the task assigned by the supervisors on weekly basis.
- Update the supervisor on a regular basis.
- Work on the frontend of the project using flutter and dart.
- Integrating frontend with backend part of the project.
- Handling the errors that occur in the project.
- Testing various part of the system.
- Create good network with the professionals.
- Discipline and respect to all the staff.
- Practice to use the tools and technology correctly.
- Code review and optimization.

3.2 Weekly log

During my internship period at KTM Bees, I immersed myself in hands-on learning and practice focused on the Flutter framework for app development. My commitment to this IT Company involved a five-day workweek, from 10:00 am to 4:00 pm, allowing me to gain valuable experience in the field. The following table summarizes weekly log of my work during the internship period:

Table 3: Weekly Log

Week	Activities
Week 1 (April 16 to April 22)	<ul style="list-style-type: none">• Setup flutter and dart to the system• Setting up emulator• Coordinate with mentors• Basic Discussion about internship
Week 2 (April 22 to April 28)	<ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• Flutter App Structure• Introduction to Widgets• Scaffold widget• Image widget• Container widget• Column and row widget• Icon widget

	<ul style="list-style-type: none"> • Layouts in flutter • Card widget • Stateful and stateless widgets Button widget
<p>Week 5</p> <p>(May 13 to May 19)</p>	<p>Navigation and Routing</p> <ul style="list-style-type: none"> • 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)
<p>Week 6</p> <p>(May 20 to May 26)</p>	<p>Building some UI using flutter</p> <ul style="list-style-type: none"> • Basic Dash-Board and Login UI • Basic Ecommerce UI • Basic Hotel Booking UI • Basic Movie UI using Bloc/Cubit
<p>Week 7</p> <p>(May 27 to June 2)</p>	<p>Database setup</p> <ul style="list-style-type: none"> • 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
<p>Week 8</p> <p>(June 3 to June 9)</p>	<p>Learning API</p> <ul style="list-style-type: none"> • Using postman for response collections • Consuming REST API's • Working with JSON

	<ul style="list-style-type: none"> Designed a movie App using Movie API with GetX . Pokemon App using pokedex API.
Week 9 (June 10 to June 16)	<p>Designing UI</p> <ul style="list-style-type: none"> Designed UI for project ‘CityTours’ Package Details Page Experience Page
Week 10 (June 17 to June 22)	<p>Designing UI</p> <ul style="list-style-type: none"> Continued UI for project “CityTours” Shop and Eat Page About Us Page Integrate Sync-Fusion calendar within app Integrate In-app location surfing feature
Week 11 (June 23 to June 29)	<p>Designing UI</p> <ul style="list-style-type: none"> Designed UI for project ‘Niwaas’ Invoice Details Design Notification Page Water Meter History page Sign-Up Page
Week 12 (June 30 to July 6)	<p>Starting of Project “KlikRead”</p> <ul style="list-style-type: none"> Converting given design to application Develop Book Page Develop Add Book Page Start documentations
Week 13	Continuation of “KlikRead design”

(July 6 to July 12)	<ul style="list-style-type: none"> • Develop Quotes page • Develop Add Quotes Page • Develop On-Boarding Screen • Update the documentation
Week 14 (July 13 to July 19)	<p>API integrations</p> <ul style="list-style-type: none"> • Integrate Add Book/ Create BookNotes API to application • Integrate the application using GetX state management • Navigation/Routing to required screens
Week 15 (July 14 to July 20)	<p>API Integration</p> <ul style="list-style-type: none"> • Integrate Google Login API to application • Integrate Firebase to the application • Integrate Add-Image-Upload API
Week 16 (July 21 to July 27)	<ul style="list-style-type: none"> • Integrate Search functionality and navigate to respective pages • Testing and Documentation
Week 17 (July 28 to August 3)	<ul style="list-style-type: none"> • Integrate Create-Quotes and Get-All-Quotes API to the app • Update the UI and make it responsive. • Testing and Update application • Build release APK • Review and Documentation

3.3 Description of the Project

During my internship, I had the opportunity to participate in several projects. The most significant project I was involved in was the development of the "KlikRead Application." Initially, I collaborated with my mentor and the design team to create the application's user interface (UI) using the Flutter framework. Upon completing the design phase, my task was to implement the design, transforming it into a functional application.

The "KlikRead" mobile application was designed to enhance the reading experience for users. It featured a user-friendly interface with a good design. The application was easy to navigate, and users could access it conveniently from any location and at any time. Some features of "KlikRead Application" are:-

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

3.3.1 Development Methodology

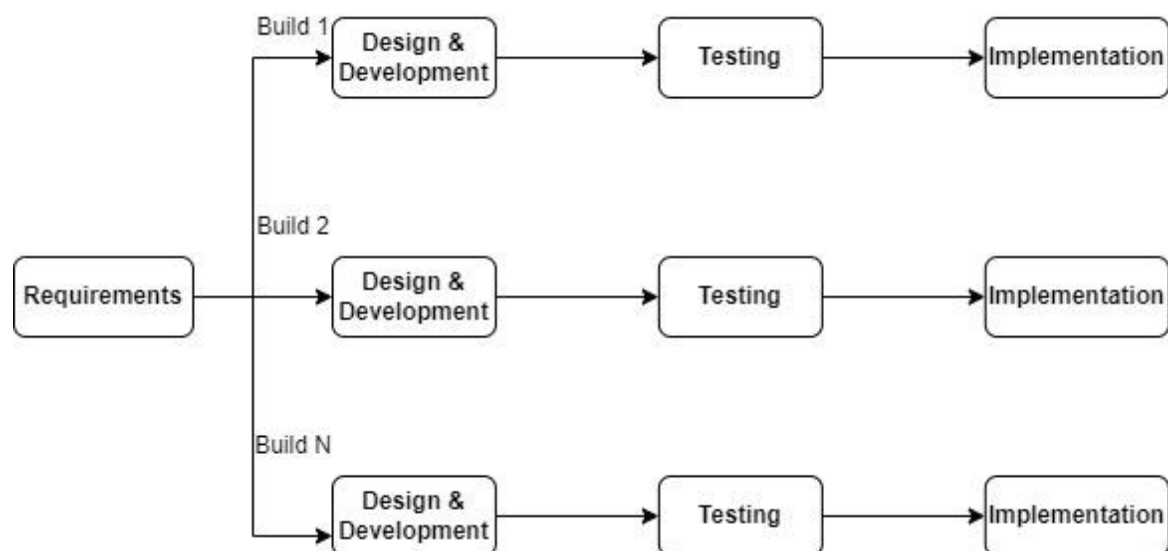


Figure 3: Incremental Model

Incremental Model of the system development life cycle is used for the development of this project. In each increment, the requirements were gathered and designed, implemented and testing was done.

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.
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.

3.3.2 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. Flutter apps are written in the dart language and make use of many of the language's more advanced features.

Backend:

The backend of the project is done using python, Django, PostgreSQL and REST Framework.

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.

3.4 Tasks/Activities Performed

In the starting of the internship the intern was assigned to learn about the fundamentals of flutter development which included OOP concept with Dart. The intern was also assigned to make UI's for practice and to learn fundamentals of flutter and how it could be integrated with the backend .

During the intern's internship period a project named "KlikRead" was assigned to the intern. The related work is to build UI for the mobile application. The author built several components of the UI. After that, the intern studied about using Restful API in flutter which includes sending and fetching the data. The intern performed integrating various API from the backend. The intern built various UI for displaying data from the database.

3.4.1 System analysis

System analysis includes the functional and non-functional requirements as shown below:

3.4.1.1 Functional Requirements

The functional requirement outlines the system's expected response to inputs and the desired outputs that result from those inputs. These requirements include functions needed for the system to perform well.

- **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:** Users 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.

3.4.1.2 Non Functional Requirements

These requirements for the system outline how it performs a certain function. It describes the system's anticipated behavior as well as any functional limitations

Following are a few non-functional requirements that our app satisfies:

1. 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.

2. 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.

3. Reliability

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

4. 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.

3.4.1.3 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:

Testing is one of the major tasks performed during the software development process. Testing verifies whether the developed software works correctly or not. It is done to make the developed software error free. Before launching the software, it is very important to test the application. Number of test had been conducted during the development of this project in-order to declare application as error free.

Test Cases for Unit Testing

In an organization, the software is not made by a single person, there is always a team that distributes the work and works on different independent modules. It is the job of each developer to check whether the module developed by him/her works correctly or not. The process of checking/testing each module separately is known as Unit testing.

Table 4: Test Case for Unit Testing

S.N.	Test description		Input test data	Expected Result	Actual Result	Status
1	Enter valid Google login details		Email: Bidishakoirala3@gmail.com Password: *****	It should redirect to dashboard.	Redirected to dashboard.	Pass
2	Enter invalid Google login details		Email: Bidishakoirala3@gmail.com Password: ***	It shouldn't redirect to dashboard.	Didn't redirect to dashboard.	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
4	Add Book Quotes to the digital bookshelf		Submit book quotes with title, date and description.	Data should be added and displayed properly.	Data displayed properly in User Interface.	Pass
5	Searching of book by book name or author's name		Enter book title or author's title	Book name with it's respective author name should be displayed.	Data displayed properly	Pass
6	Route to respective page after searching		Enter book title or author's title and route	The Respective page that contains the necessary information should navigated	Navigated to the particular page	Pass

CHAPTER 4: CONCLUSION AND LEARNING OUTCOME

4.1 Conclusion

The “KlikRead” application allows the users to enhance their reading experience. This app allows user to upload and organize their reading wish-list based on book genres, creating a personalized digital bookshelf. This application helps to enhance the reading experience of book enthusiasts by facilitating book organization, uploading favorite quotes of the book, and creating community of readers for book discussion. This project would not have been accomplished without the support and consultation provided by KTM Bees Pvt. Ltd. The internship enabled me to gain practical work experience and, most importantly, teamwork skills. Through this internship, I have had the chance to learn about the cultural norms of the field and how work is done. To sum up, this internship has been instrumental in my professional growth, and the knowledge and experience acquired will undoubtedly prove invaluable in future opportunities.

4.2 Learning Outcome

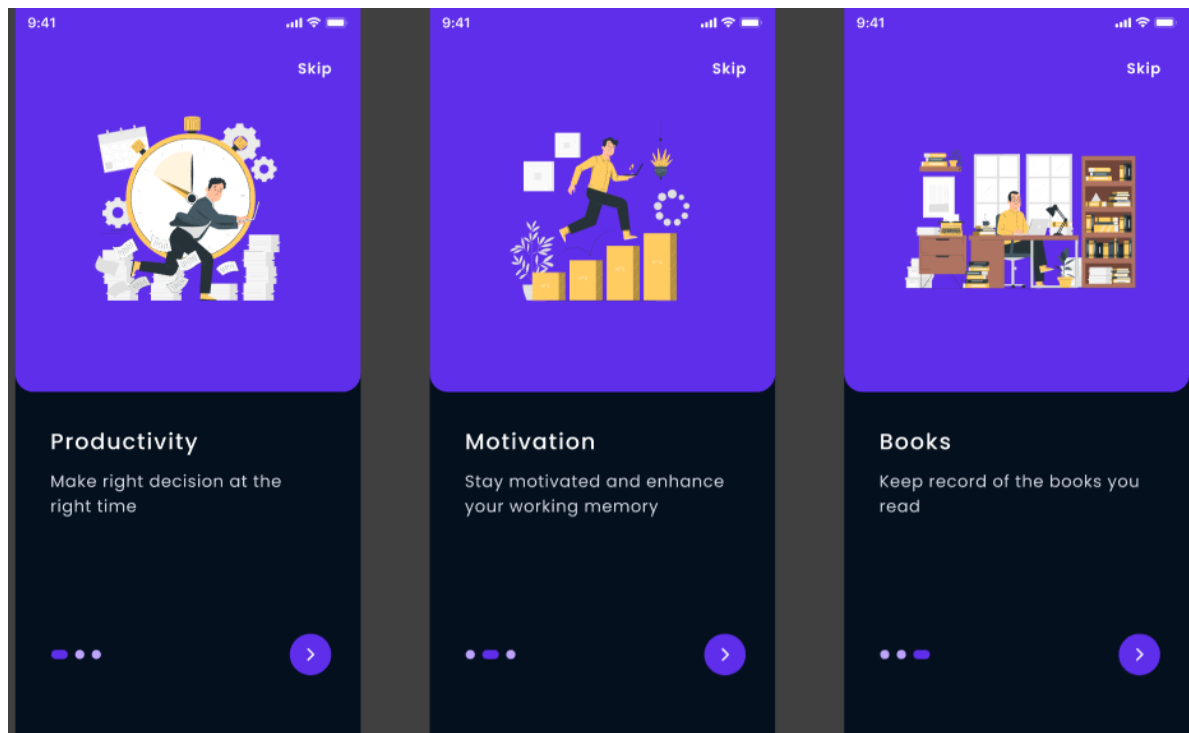
Learning outcomes encompass the knowledge, skills, attitudes, and habits of mind acquired from a learning experience. Working at KTM Bees provided me with invaluable insights, helping me not only in career decision-making but also in recognizing my strengths and weaknesses. I am aware that the knowledge and experience gained during my time at KTM Bees will be immensely valuable as I embark on my career path in the near future. Some outcomes are:-

- Working with multiple features under pressure to meet deadlines.
- Familiarize oneself to the professional working environment.
- Understand the organization's culture.
- Learned and tested APIs using Postman and their usage in the application.
- Gained experience of how to work collaboratively within the group with proper team.
- Time management and communication skills.

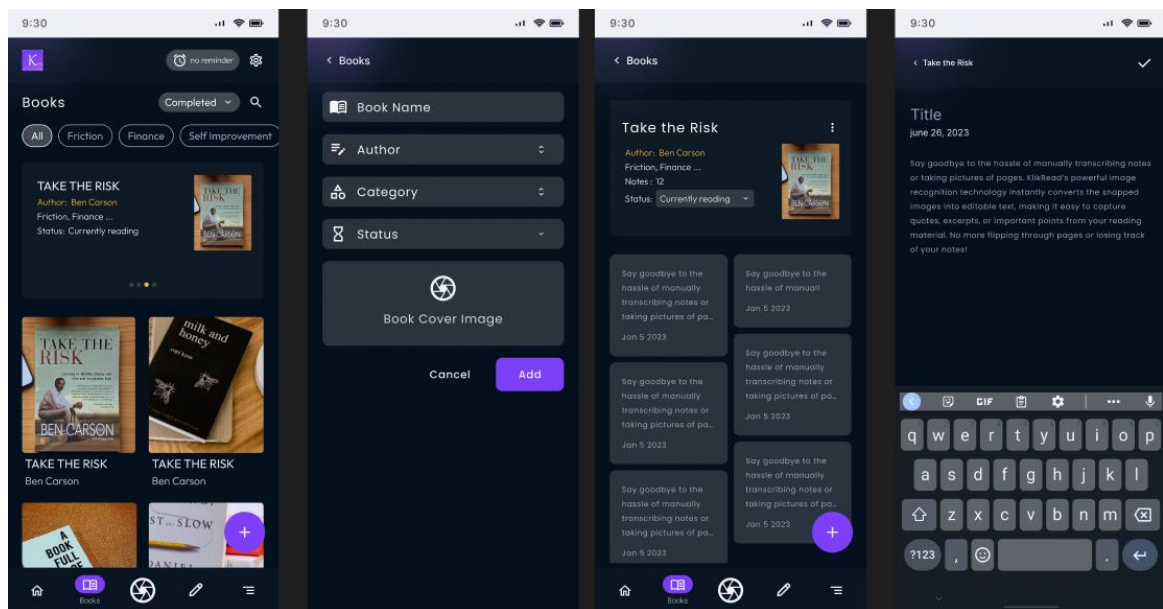
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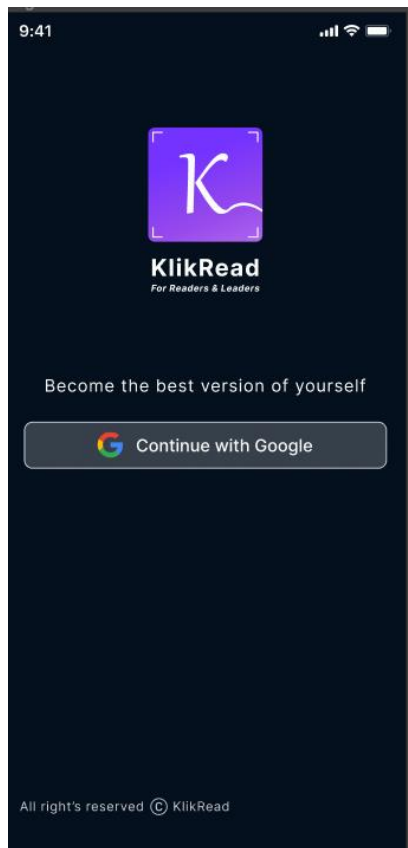
Appendix



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 Google Login