A Mobile Application for Building Writers Community

BY

Md. Sakib Khan ID: 181-15-10863 AND

Sayma Afroze Mithila ID: 181-15-11306

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

Dr. Fizar Ahmed Assistant Professor Department of CSE Daffodil International University

Co-Supervised By

Dr. Sheak Rashed Haider Noori Associate professor & Associate Head Department of CSE Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY DHAKA, BANGLADESH

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APPROVAL

Md. Sakib Khan and Sayma Afroze Mithila's project, "A Mobile application for building writers community," was accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents by the Department of Computer Science and Engineering, Daffodil International University. On the 4th of January 2022, a presentation was given.

BOARD OF EXAMINERS

Ani)

Dr. Sheak Rashed Haider Noori Associate Professor and Associate Head Department of Computer Science and Engineering Faculty of Science & Information Technology Daffodil International University

Adapaso

Abdus Sattar Assistant Professor Department of Computer Science and Engineering Faculty of Science & Information Technology Daffodil International University

Saiful Islam Senior Lecturer Department of Computer Science and Engineering Faculty of Science & Information Technology Daffodil International University

Faring

Dr. Dewan Md. Farid Professor Department of Computer Science and Engineering United International University Internal Examiner

Chairman

Internal Examiner

External Examiner

DECLARATION

We thus declare that this project was completed under the supervision of **Dr. Fizar Ahmed**, Assistant Professor, CSE, Daffodil International University, Department of CSE. We also affirm that neither this project nor any part of it has been submitted for the granting of any degree or diploma to anybody else.

Supervised by:

12h3p anz (ang -

Dr. Fizar Ahmed Assistant Professor Department of CSE Daffodil International University

Co-Supervised by:

Dr. Sheak Rashed Haider Noori Associate professor & Associate Head Department of CSE Daffodil International University

Submitted by:

Md. Sakib Khan ID: -181-15-10863 Department of CSE Daffodil International University



Sayma Afroze Mithila ID: -181-15-11306 Department of CSE Daffodil International University

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ABSTRACT

This paper is intended to serve as a resource for professors and engineering students who are required to undertake research as part of their courses. A description of a literature search, the goal of a literature review in terms of locating sources (particularly for engineering), and a general approach for conducting an efficient and productive literature search are all discussed. Students can become more proactive about their research efforts by using tools like this report. Teachers can use this report, among other resources, to start a conversation with their students regarding research assignment expectations. Bangladesh is a country in the process of evolving. A professional community is required for the development of a developing country. The knowledge we gain from books is insufficient to increase our intelligence; therefore, we must obtain more knowledge in order to master new abilities and be more practical. Due to the fact that Bangladesh is a developing country. A sensible community is required to create a developing country. The knowledge we gain from books is insufficient to enhance our intelligence; therefore, we must other knowledge in order to examine our lives and the world. We will need to write and read in order to accomplish this. However, there is currently no "Writings Shearing" app available in Bangladesh. So, after considering the need, we created an app that integrates writing sharing and reading platforms. It would be Bangladesh's first "Writings Shearing" app. There will be no restriction on age. Anyone can exchange or gather information relevant to their own self-interest.

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CHAPTER 1 Introduction

1.1 Introduction

Bangladesh is a sovereign nation. In 1971, she gained independence after a terrible conflict. She is celebrating her 50th anniversary at this moment. Her quest for independence, however, began in 1952. This is referred to as language movement. Salam, Rafique, Jabber, Barkat, and countless other martyrs have given their lives for the sake of their mother tongue. Which is Bangla. As a result, our language is a source of pride for us. It is critical to enriching every language's literature. Despite the fact that so many poets and writers have contributed to Bangla literature. However, times have changed. Paper and pen are becoming obsolete as a result of technological advancements. Technology is gradually replacing it. A writer can quickly compose any poem, short story, essay, or journal utilizing current technologies at any time and from any location. Especially when he's on his phone. However, it is regrettable that there is no major forum for writers and readers in our country. We also lack a visible community for writers and readers. Although a writer can share his work on Facebook, the platform is not built for knowledge or writing exchange. Facebook is built to earn money, so it will provide readers with tools that will allow Facebook to make money. Also, there is a slew of copyright difficulties.

Writers can also share their work on blogs, although blogs are divisive. It's also not a mobile app.

We created this mobile-based application to address these difficulties and to assist in the formation of a robust community of writers and readers.

Our project is called "Candella," which means "light." Candella is a social network where users can share writings and creative works, as well as view the writings and creative works of others.

This platform allows users to publish and read about a certain topic of interest.

1.2 Problem Statement

Bangladesh is in the midst of a golden age. She is now living in a period known as the demographic dividend. As a result, the majority of her population is young. Between the ages of 15 and 40. We all know how inventive young people can be. They are the ones who do the majority of the artwork and so forth. These young individuals can produce a large number of writers and poets. However, it is a source of great regret that there is no prominent online forum for our younger generation to publish their writings and build a strong readership. As we all know, Facebook and blogs have a slew of problems. We also know that Facebook is owned by a corporation whose primary goal is to make money. At any point, Facebook might be blocked or hacked. Furthermore, Facebook is extremely popular. Its algorithm is continually up to date with the latest trends. As a result, it's nearly impossible for Facebook to properly appreciate exceptional writing.

Furthermore, blogs are extremely divisive. We've seen some horrible attacks on bloggers in the last few days. And blogs aren't entirely mobile-friendly. It is always dependent on the internet. To address all of the concerns, we created this application so that our new writers can quickly share their work and readers can easily access it. Readers can also offer their own work, such as poems, short stories, journals, and so on. The user can also check out the most recent releases. You can also explore and search.

1.3 Project Scope

The main goal is for anyone to share their creative writings and create a mobile-based community of writers and readers. Bangladeshi writers and readers would be given a significant platform. This app will create a mobile-based community of writers and readers while also ensuring that writings are more authentic. We hope that our program will help to solve the copyright problem. We also expect that this application can assist writers with their writings in terms of technology. By having monetization, we will be able to aid the writers financially in the future. A user can easily share his or her thoughts and read the writings of others by utilizing this program.

We can build a solid community this way. A user can also customize his or her preferences. He or she can include a cover photo for his or her works, as well as a title, description, genus, and category. They can also be searched by the user.

1.4 Motivation

Writers who made significant contributions to Bangla literature and promoted a more intellectual culture. Smartphones are used by the majority of people nowadays. There is no notable community or platform for writers and readers in Bangladesh. Many brilliant authors are unable to exercise or demonstrate their writing abilities due to a lack of resources and platforms. Facebook and blogs aren't well-known. Here, Facebook isn't only for authors; it's for everyone. Facebook, on the other hand, has a number of flaws. One of them is copyright difficulties. Blogs, on the other hand, are web-based platforms. In addition, blogs are maintained by individuals. As a result, there is no smartphone application or repository for famous authors. We discovered 'Writico' on the Google Play store. But it's clunky, and it's not for the Bangladeshi community of authors and readers. Its user interface isn't particularly smooth. This app lacked versatility. Readers and authors do not have access to a "Help Desk." There isn't a category for submitting artistic photos. They only have a few categories in the world of literature.

Our main goal is to create a community of Bangladeshi readers and authors. We'll improve communication between readers and writers, as well as between both of them and the admin panel. We offered a diverse range of categories in this app, including Featured, Stories, Poems, Novels, Comics, Journals, and Photography. We also advocated creating a literary archive for well-known authors.

1.5 Description

Fourteen percent of people in our country use cell phones. They're also connected to the internet in some way. It will be 61 percent in 2025. But it's a pity that our writers and readers don't have access to a mobile-friendly platform. There is no community built around a mobile app. We're intending to offer a mobile-based platform called "Candella" to address this problem. This translates to "lighting." A person can use this app to create an account by providing his email address and then sharing and reading other people's articles. A user can quickly alter his or her profile with this program. He or she can upload a photo to use as his or her profile picture. We used a variety of development tools to create this application. We used Adobe XD to design the front end for the demo. We also used Flutter for the front-end design. We used Node.js and MongoDB for the backend. Backend coding was done with WebStrom, and mongo DB Compass and Firefox were also utilized.

1.6 Features

- Registration, login, and verification are all done through a user-friendly interface.
- An intelligent feed that displays posts based on the preferences of individual users.
- The program will propose the best offer to users based on their interests.
- This program serves both writers and readers, and it helps to build a strong community.

CHAPTER 2 Background Studies

2.1 Literature Review

2.1.1 Introduction

Flutter is a platform that is still in its infancy. Android, on the other hand, is a little older than Flutter. On September 23, 2008, Google Inc. (Google LLC) introduced and presented Android. Android is a mobile operating system and programming platform created by Google for smartphones and other mobile devices such as tablets. It can run on a wide range of devices from a variety of vendors. Android comes with a software development kit (SDK) that allows you to create apps for Android users by writing original code and assembling software modules Android also has an app store where you can buy and sell apps. Android, as a whole, represents a mobile app ecosystem. However, it has several drawbacks, such as the fact that coding is a hugely hard process for developers, and user experiences and interfaces are frequently challenging tasks that necessitate the use of Java. And, according to consumers, the apps on the Android Market are of the lowest quality compared to other app shops. Additionally, iOS users are unable to access the Android app. To put it another way, android apps have the lowest security ratings. Users are also more vulnerable to data breaches as a result of this. Meanwhile, Android phones have been without a voice-activated assistant. It also has a high reliance on advertising. This may turn off certain users. Flutter is used to address certain Android flaws. Google's product is called Flutter. In 2017, it was released. It's a free and open-source user interface framework. Flutter allows anyone to create a mobile app for both iOS and Android using a single codebase and programming language, Dart. All of these benefits make developing iOS and Android apps easier, simpler, and faster. The Flutter framework includes a software development kit (SDK) as well as a widget-based user interface library. This library contains a number of reusable UI elements, buttons, and other items. Flutter includes a lot of useful capabilities that allow us to make modifications to the app quickly. This is quite helpful when it comes to bug fixes. Flutter-based apps are incredibly fluid in their performance when it comes to user experience. Flutter's UI is made up of material colors, which makes the app more appealing to the eye. Because Flutter is based on a single code base, quality assurance and testing are usually faster. Flutter is extremely quick and efficient when it comes to development. Our app's main goal is to allow users to share their creative creations. Many readers and writers from all categories can offer their writings in our community based on their interests. There will be bundles of notable writers' writings in our application. People can find the works of their favorite authors in our app. Our program will also recommend a variety of writings based on the user's preferences.

As a result, we believe our software is unique, and it will be the first writing-sharing application for the mobile community. There is only one Android-based site called "Writco" that contains some concepts that are comparable to our app. However, this program has no standards and is exclusively available on Android.

As a result, we expect to be the first to create an application for the readers and writers community based on the writing-sharing concept. The major purpose of our software is to inspire individuals to be more creative. And you'll be able to build a solid community. "Candella," our app, will be the ideal platform for creative and inquisitive people. We hope that millions of people will use our "Candella" app to gain inspiration and take the next step in their creative journey.

2.1.2 Methodology

We utilized Flutter to create this app, and we used Dart to correctly establish the UI (User Interface). This app was created with Android Studio and uses MongoDB as the back-end service. To obtain the best potential effects, we also used current architectural components and dart-based libraries. Finally, the Dart code concentrates solely on the activity stream of the application.

2.2 Experimental Works:

2.2.1 Working Procedure

We made a straightforward and user-friendly mobile app that anyone can operate. It has some steps. Those steps have given below:

- Sign UP
- Log IN
- Feeds
- Profile
- Create Post
- Notification
- Search
- Settings
- Sign out

2.2.2 Sign UP

If you're new to the app, you'll need to Sign Up or Register an account, which will be saved in our database. The user must then complete various forms and provide the following attributes:

- Name
- Email
- Password

Fill in those fields to submit the user's "Sign Up" information and establish an account for them. Click "Sign In" if the user "Already Have an Account."

2.2.3 Sign IN

If the user has previously registered, all they have to do now is log in and they'll have access to the "Candella" service. On the Sign In page, however, there are some attributes that have been highlighted:

- Email
- Password
- Sign In
- Forget Password

Don't Have an Account Then Sign UP & Continue.

2.2.4 Feed

The feed interface will appear once you log in to the app. We've grouped the creative works at the top of the page. Users can then view the most recent innovative Post that includes their name. Users can also read and search via their own entries. By skimming through the feed and searching for their own interest, users can locate their ideal subject. The meal can also be filtered by the user's preferences.

2.2.5 Profile

In our app profile interface shows the user information. The attribute of the profile interface has given below:

- Profile picture
- Profile name
- About
- Shared Post

2.2.6 Create Post

The create post interface was created exclusively for users. Users can make a creative post that they want to share here.

- The following are the characteristics of establishing a post interface:
- Pictures
- Title
- Description
- Category
- Add Genre
- More Options

2.2.7 Search

Users can find their searching posts, pictures in the search interface.

2.2.8 Browse

Users can browse the posts which will be uploaded.

2.2.9 Log Out

Users can Logout from the Candella app by using the Log out function.

2.2.10 UML Diagrams

Арр

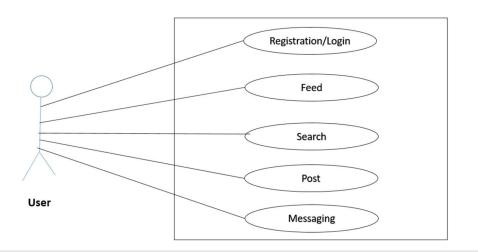
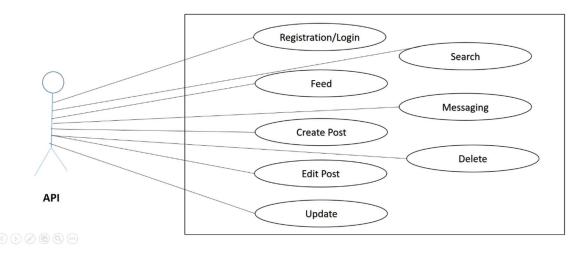
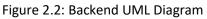


Figure 2.1: Application UML Diagram

Backend





2.2.11 Dependency Diagram

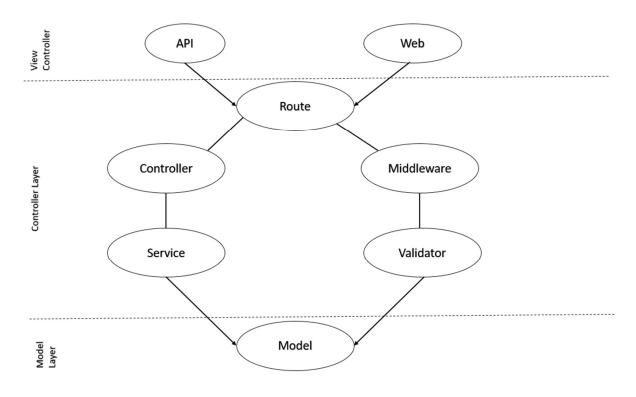


Figure 2.3: Dependency Diagram

Chapter 3: Prototype Implementation 3.1: Environment Setup

3.1.1 Tools

- Flutter
- Android Studio
- WebStrom
- MongoDB

3.1.2 Flutter

Google's product is called Flutter. In 2017, it was released. It's a free and open-source user interface framework. Flutter allows anyone to create a mobile app for both iOS and Android using a single codebase and programming language, Dart. All of these benefits make developing iOS and Android apps easier, simpler, and faster.

3.1.3 Android Studio

Android Studio is Google's official integrated development environment (IDE), based on Jet Brains IntelliJ IDEA software and developed exclusively for Android development. However, anybody can use Android Studio to create mobile apps.

3.1.4 WebStrom

It's also a complete development environment for JavaScript and its associated languages.

3.1.5 MongoDB

It's a NoSQL database management program that's open source. NoSQL is an alternative to traditional relational databases. It comes in handy when working with big amounts of scattered data. MongoDB is a database that can handle and manage document-oriented data, as well as store and retrieve data.

3.1.6 Steps

- Download Android Studio: <u>Android Studio</u>
- Download SDK: flutter/sdk

3.1.7 Android Studio Interface

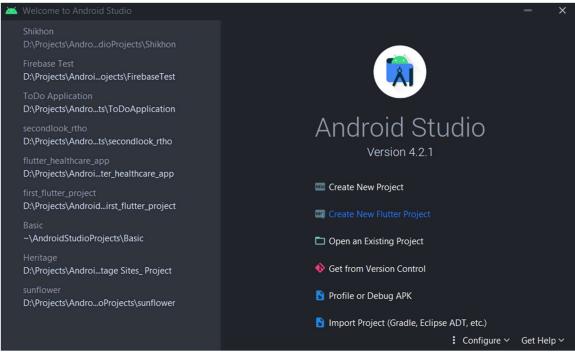


Figure – 3.1: Android Studio Interface

3.1.8 Install SDK Tools

*	Appearance & Behavior $ ightarrow$ System Settings $ ightarrow$ Android SDK		
Appearance & Behavior	Manager for the Android SDK and Tools used by Android Studio		
Appearance	Android SDK Location: C:\Users\sushm\AppData\Local\Android\Sdk		
Menus and Toolbars System Settings 	SDK PlatformsSDK ToolsSDK Update Sites		
Passwords HTTP Proxy	Below are the available SDK developer tools. Once installed, Android Studio will a updates. Check "show package details" to display available versions of an SDK Too		
Data Sharing	Name	Version	Status
Date Formats	Android SDK Build-Tools 31-rc4		Update Available: 31.0.0 rc4
Updates	NDK (Side by side)		Not Installed
Android SDK	Android SDK Command-line Tools (latest)		Installed
Memory Settings	CMake		Not Installed
Notifications	Android Auto API Simulators		Not installed
 Atom Material Icons Settings 	Android Auto Desktop Head Unit Emulator	1.1	Not installed
Material Custom Theme	Android Emulator	30.6.5	Installed
Material Theme Quick Lists	Android Emulator Hypervisor Driver for AMD Processors (installer)	1.7.0	Installed
Path Variables	Android SDK Platform-Tools	31.0.2	Installed
Keymap	Google Play APK Expansion library	1	Not installed
Editor			Not installed
Plugins	Google Play Instant Development SDK	1.9.0	
Build, Execution, Deployment	Google Play Licensing Library		Not installed
Kotlin	Google Play services		Not installed
> Tools	🗌 Goode HCD Driver	12 de Obsolete Pa	Not installed ickages Show Package Detail
		o	K CANCEL APPLY

Figure - 3.2: Android Studio SDK Interface

3.2: Implementation

3.2.1: Language

- Dart
- JavaScript

3.2.1.1 Dart

Dart is a programming language in and of itself. It's made for client development, including mobile and web apps. Google is responsible for the whole development and management of the site. Dart may also be used to create desktop and server apps.

3.2.1.2 JavaScript

JavaScript (short for JavaScript) is a programming language developed by Sun Microsystems. The World Wide Web's basic technology is JS, which is a computer language. According to a poll, JS is used on the client-side of 97 percent of websites. Almost every brewer has a JS engine.

3.3: Programming 3.3.1: Activities

- Bindings
- Controllers
- Models
- Constants
- Routes
- Themes
- Services
- Screens

3.3.2 Controllers

- AuthController
- ContentController
- NotificationController
- TypesController
- UserController

3.3.3 Routes

- AuthRoutes
- ContentRoutes
- NotificationRoutes
- TypesRoutes
- UserRoutes

3.3.4 Services

- AuthServices
- ContentServices
- NotificationServices

- TypesServices
- UserServices

3.3.5 Models

- Category
- Chapter
- Chapters
- Content
- DocumentSnapshot
- Error
- Genre
- Notification
- Rating
- Ratings
- Reason
- Review
- Success
- Thoughts
- User

The project files are available at GitHub

3.4: User Interface

Sign Up and Start <mark>Reading</mark>	
Full Name	
Email Address fscott@candella.com	
Password	O
Sign Up	 →
Sign In	Forget Password

Figure 3.4.1: Sign Up Page



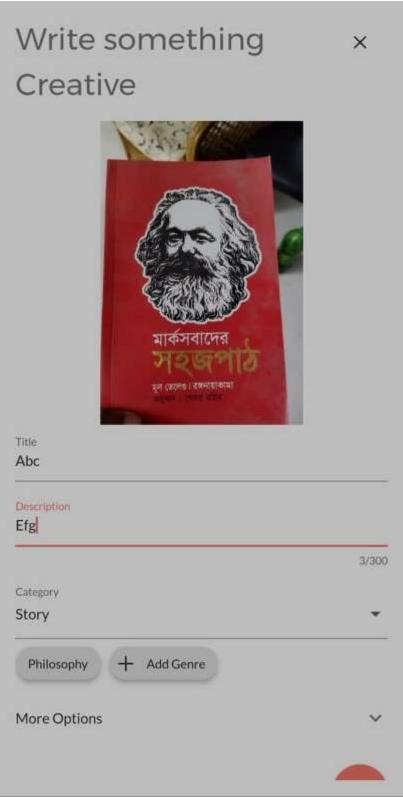
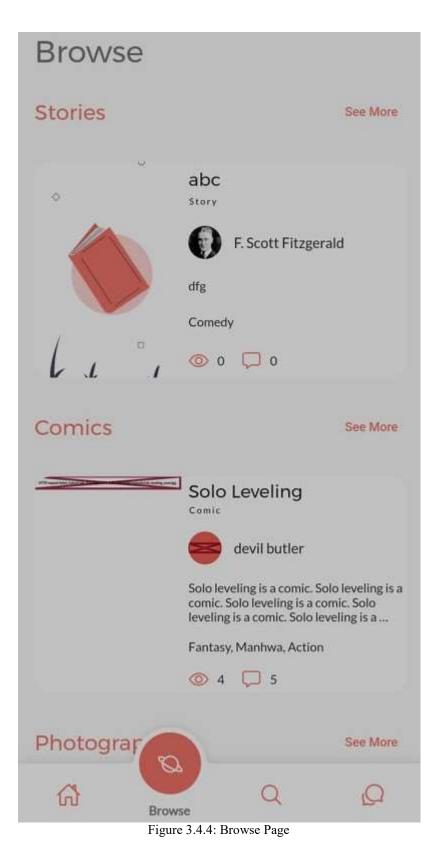


Figure 3.4.3: Create Content Page



Chapter 4: Conclusion

4.1 Conclusion

We finish the documentation by acknowledging the constraints and challenges we encountered during the project's execution. We also give a clue at our longer-term goals for this app, as well as a general estimate of how we'll get there. We believe that because our app will be the first writing sharing app for the community of writers and readers, it will be effectively ready to deliver a fantastic service to satisfy the customer's satisfaction. As a result, our goal with the "Candella" application is to build large learning and sharing community and to lead the writing sharing platform.

4.2 Implementation Issues

- 1. During the creation of the software, we ran across optimization challenges.
- 2. We've had caching issues in the past, with the app storing a large quantity of cache.
- 3. We've had some networking optimization issues, which resulted in data loading being substantially longer at times.
- 4. We have some troubles with asynchronous storage tasks.

4.3 Limitations

We weren't able to integrate all of these functionalities. Due to a lack of time and research, we were unable to add AI-related functionality. We also won't be able to use the talking functions. Our app does not yet have additional functionality for account holders. We also intended to release this on the Google Play Store, but owing to time constraints and development limits, we were unable to do so.

4.4 Future work

- Update media storage quality.
- We need to improve on AI capabilities..
- In the future, we will build and update more account settings features for users.
- In the future, we will create more innovative designs and icons.
- We will include messenger functions for better communication.

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ORIGINA	LITY REPORT				
	4%	13% INTERNET SOURCES	3% PUBLICATIONS	20% STUDENT PA	PERS
PRIMARY	SOURCES				
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11	Submitted to The University of the South	<1
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12	searchdatamanagement.techtarget.com	<1 <1
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