

PORIBAR: MOBILE-BASED COMMUNITY APPLICATION

BY

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

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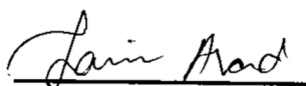
DHAKA, BANGLADESH

JULY 2024

APPROVAL

This Project titled “**PORIBAR - MOBILE BASED COMMUNITY APPLICATION**”, submitted by Md. Imran Biswas to the Department of Computer Science and Engineering, Daffodil International University, has been 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. The presentation has been held on 16-07-2024

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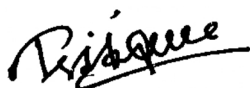
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DECLARATION

We thus affirm that we have collaborated on this research under the supervision of **Mr. Raja Tariqul Hasan Tusher**, an Assistant Professor in the Department of Computer Science and Engineering at Daffodil International University. We confirm that this project, as well as any of its parts, has not been previously submitted for academic credit towards a degree or certificate at any other institution.

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ABSTRACT

PORIBAR is a Mobile Base Community Application. The app is a project to unite a community on one platform. If an organization wants to keep track of all their employees from where they joined their organization, then this app will play a big role for them, because this is the main target of the PORIBAR app. This app includes a message room for group messaging of all members of the mutual organization so that a member can keep in touch with all the members of his organization. There is a nice feature for those who live as community leaders to send urgent notices to all members, through which community leaders can use that feature to announce urgent news. If the community members violate any rules, then the community leaders can block them through the app. If a community member is blocked, he cannot log in to the PORIBAR app. A community leader can make and remove anyone he wants to be an admin. If a member gets an admin membership, then he will get permission to work as an admin.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In the realm of modern connectivity, PORIBAR stands as a beacon of community integration—a Mobile-Based Community Application designed to unify diverse groups seamlessly onto a singular platform. This introduction serves as a gateway into understanding the multifaceted capabilities of PORIBAR, a tool crafted to harmonise organizational dynamics and foster robust community bonds.

1.2 Motivation

The motivation behind PORIBAR stems from a fundamental recognition of the power of unified communities and streamlined organisational management. In the dynamic landscape of today's society, where digital connectivity reigns supreme, there exists a growing need for platforms that facilitate cohesive interaction and effective communication. PORIBAR emerges as a response to this need, driven by a desire to empower organisations in tracking their workforce and facilitating smooth communication channels. Furthermore, PORIBAR's features, including group messaging and urgent notices, are tailored to address the evolving needs of community leaders, ensuring efficient governance and responsive engagement within the community. Through PORIBAR, the motivation persists—to harness technology for the collective benefit of communities, fostering collaboration, and strengthening bonds in an ever-connected world.

1.3 Objective

PORIBAR aims to streamline community engagement and organisational management through its mobile application. It facilitates efficient tracking of organisational employees, fosters collaboration via group messaging, and ensures timely communication with urgent notices. Additionally, PORIBAR empowers community leaders to enforce rules, maintain standards, and designate administrators, fostering a harmonious and inclusive community environment.

1.4 Expected Outcomes

PORIBAR's implementation is anticipated to yield several significant outcomes. Firstly, organisational efficiency is expected to improve through streamlined employee tracking, leading to enhanced workforce management. Secondly, community communication will be greatly facilitated, fostering collaboration and information sharing among members. Additionally, governance will be strengthened as leaders enforce rules and maintain standards, while community engagement and participation are anticipated to increase, creating a vibrant and cohesive community environment.

1.5 Project Management and Finance

This project adopts a cost-effective strategy for development, leveraging a free Firebase backend at present, thus incurring no expenses. However, as usage scales, particularly within larger organisations, transitioning to an online server may become necessary, albeit with manageable costs. Initially, the project operates comfortably within Firebase's 1000 hits/day limit, ensuring efficient resource allocation and minimal financial burden.

1.6 Report Layout

Chapter summaries are described in the report layout. All chapters are briefly summarised below.

Chapter 1: Introduces the PORIBAR App, its motivation, goals and objectives, feasibility study, anticipated result, and report structure.

Chapter 2: Introduces the PORIBAR App, its origins, related efforts, comparative studies, and challenges.

Chapter 3: Describes the Block Diagram, Use Case Modelling, and E-R Diagram Of The PORIBAR App.

Chapter 4: Describes the Front-End Development, Back-End Development, Interaction Design and User Experience, and Implementation Requirements Of The PORIBAR App.

Chapter 5: Describes how to implement database table structure, data type architecture, front-end design, and back-end design.

Chapter 6: Provides an overview of the conclusion, encompassing the purpose, limitation, and potential for future development.

CHAPTER 2

BACKGROUND

2.1 Preliminaries

There are many types of organisations in our country, social, political, but to know how many members they have or from which area they have joined our organisation, we have to check their accounts. The PORIBAR app has worked on this point, if you use the PORIBAR app, you can know how many members there are in an organisation very easily, and all their information can be known in one app.

2.2 Related Works

In the market, various apps cater to different needs, but a specific app for organisational management is lacking. Unlike existing solutions like ADDA Community Manager Android App, PORIBAR offers unique features. It provides insights into the core community members, distinct from the overall community count. This targeted functionality sets PORIBAR apart, addressing the specific needs of organisations and enhancing their management capabilities.

2.3 Comparative Studies

In contrast to generic platforms like Facebook, where users may receive notifications from various sources alongside organisational updates, PORIBAR offers a focused solution. While Facebook pages or groups for organisations can lead to cluttered experiences with unrelated notifications, PORIBAR provides a dedicated platform solely for organisational communication. Users can access all organisation-related notices, messages, and notifications in one centralised location, ensuring a streamlined and efficient experience. By prioritising organisational updates and eliminating distractions, PORIBAR enhances user satisfaction and optimises communication within the organisation, offering a superior alternative to generic social media platforms.

2.4 Scope of the Problem

The problem stems from the dispersal of organizational information over many platforms, leading to fragmentation. PORIBAR aims to address this by centralising member data and organisation-related information, ensuring streamlined access and communication for all members.

2.5 Challenges

I have made an Android based app which I have faced many things while making it. I plan to make the UI more beautiful in the future to make it more effective. And since this is an organisation management app, security should be prioritised a lot. I plan to do more work in the future to increase security.

CHAPTER 3

REQUIREMENT SPECIFICATION

A software requirements specification is a detailed description of the intended purpose, features, functionality and other aspects of a software application. It serves as a guide and foundational reference for the development team to follow during the building of the software. A good software requirements specification will aid in reducing errors and rework later on in the development life cycle.[1]

3.1 Block Diagram

A block diagram is a specialised, high-level flowchart used in engineering. It is used to design new systems or to describe and improve existing ones. Its structure provides a high-level overview of major system components, key process participants, and important working relationships.[8]

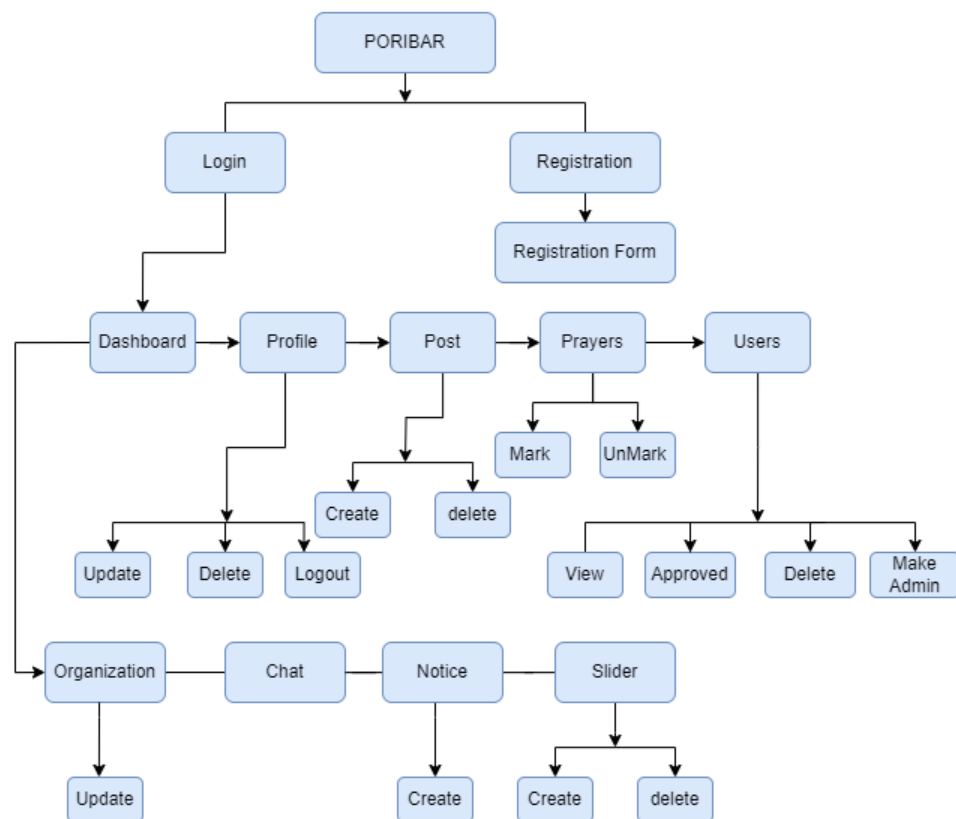


Figure 3.1 Block Diagram

3.2 Use Case Modeling and Description

A Use Case Model describes the proposed functionality of a new system. A Use Case represents a discrete unit of interaction between a user (human or machine) and the system. This interaction is a single unit of meaningful work, such as Create Account or View Account Details. Each Use Case describes the functionality to be built in the proposed system, which can include another Use Case's functionality or extend another Use Case with its own behaviour.[9]

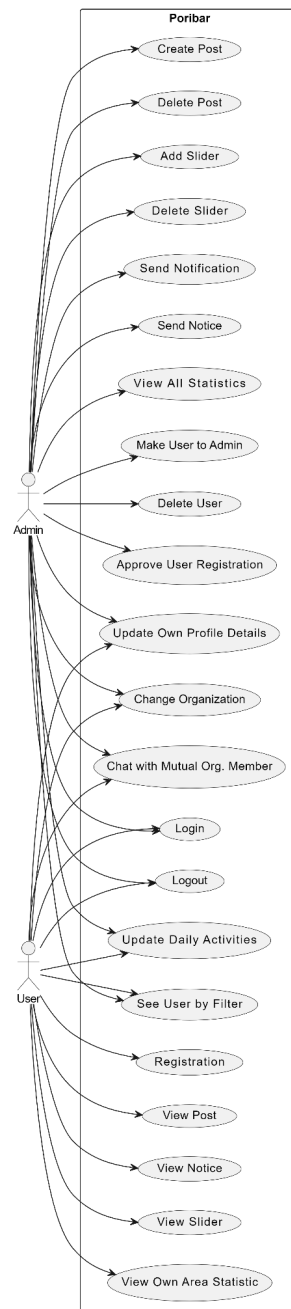


Figure 3.2 Use Case Diagram

3.3 Use Case Analysis

Table 3.3 Use Case Design Analysis

Use Case: Login Actors: Administrator, User Type: Primary Description: Allows Administrator and User to log into the system.
Use Case: Logout Actors: Administrator, User Type: Primary Description: Allows Administrator and User to log out of the system.
Use Case: Registration Actors: User Type: Primary Description: Allows new users to register in the system.
Use Case: Create Post Actors: Administrator Type: Primary Description: Allows the Administrator to create a new post.
Use Case: Delete Post Actors: Administrator Type: Primary Description: Allows Administrator to delete an existing post.
Use Case: Add Slider Actors: Administrator Type: Primary Description: Allows the Administrator to add a new slider.
Use Case: Delete Slider Actors: Administrator

Type: Primary Description: Allows the Administrator to delete an existing slider.
Use Case: Send Notification Actors: Administrator Type: Primary Description: Allows the Administrator to send notifications to users.
Use Case: Send Notice Actors: Administrator Type: Primary Description: Allows the Administrator to send notices to users.
Use Case: View All Statistics Actors: Administrator Type: Primary Description: Allows the Administrator to view all statistical data of the application.
Use Case: Delete User Actors: Administrator Type: Primary Description: Allows the Administrator to delete an existing user.
Use Case: Approve User Registration Actors: Administrator Type: Primary Description: Allows Administrator to approve new user registrations.
Use Case: Update Daily Activities Actors: Administrator, User Type: Primary Description: Allows Administrator and User to update their daily activities.
Use Case: See User by Filter Actors: Administrator, User

Type: Primary Description: Allows the Administrator and User to filter and view other users.
Use Case: Update Own Profile Details Actors: Administrator, User Type: Primary Description: Allows the Administrator and User to update their own profile details.
Use Case: Change Organisation Actors: Administrator, User Type: Primary Description: Allows the Administrator and User to change their Organisation details.
Use Case: Chat with Mutual Organization Member Actors: Administrator, User Type: Primary Description: Allows the Administrator and User to chat with members of the same organisation.
Use Case: View Post Actors: User Type: Primary Description: Allows Users to view posts.
Use Case: View Notice Actors: User Type: Primary Description: Allows Users to view notices.
Use Case: View Slider Actors: User Type: Primary Description: Allows Users to view sliders.
Use Case: View Own Area Statistic

Actors: User

Type: Primary

Description: Allows users to view statistics related to their own area.

3.4 Entity-Relationship Diagram with Description

The Entity Relational Model is a model for identifying entities to be represented in the database and representation of how those entities are related. The ER data model specifies enterprise schema that represents the overall logical structure of a database graphically.[10]



Figure 3.3 ER Diagram

CHAPTER 4

DESIGN SPECIFICATION

4.1 User-End Development

I've utilised JavaScript for frontend design, with React Native being the foremost framework for JavaScript Native App Development. I employed it for crafting the UI of an Android App. Instead of manually coding CSS for aesthetic enhancements, I opted for the widely acclaimed CSS framework, Tailwind CSS.

4.2 Server-end Development

I have used it in the case of backend development. Google's most popular realtime database "Firebase" Firestore.Firebase is one of the best backend systems for backend development.

4.3 Interaction Design and User Experience

While developing the PORIBAR - Mobile Base Community Application, I have always kept in mind that it should be a joy for a community. They should be impressed by its design. All aspects have been taken care of so that they don't find it difficult to use this app. It has been noticed that app users can find everything easily if they put the option in that place.

4.4 Implementation Requirements

I tried to have a community that could easily see all their user details. Thinking about managing a community, I put all the necessary requirements in my app. My app needs to be updated to meet the needs of users, so I try to update it from time to time.

CHAPTER 5

EXECUTION AND VALIDATION

5.1 Database implementation

The database utilized is Google's highly acclaimed Real-Time Time Database known as "FireBase" Firestore. The database is non-relational.

5.2 Database Management Table

Table 5.2 Users

Name	Data Type
name	string
email	string
phone	string
nid	string
division	string
district	string
upazila	string
union	string
village	string
religion	string
gender	string
organisation	string
religion	string
role	number
photo	string

approved	boolean
password	string
created_at	number
dob	string

Table 5.3 Notices

Name	Data Type
admin_id	string
title	string
organisations	string
message	string
created_at	number

Table 5.4 Notification

Name	Data Type
admin_id	string
title	string
organisations	string
message	string
created_at	number

Table 5.5 Organisations

Name	Data Type
name	string

Table 5.6 chats

Name	Data Type
sender_id	string
sender	string
message	string
to	string
send_at	number

Table 5.7 Posts

Name	Data Type
admin_id	string
admin_name	string
admin_photo	string
body	string
photo	string
created_at	number

Table 5.8 Sliders

Name	Data Type
photo	string

5.3 Execution of User Interface Design

The main project view is depicted in the accompanying images. Kindly furnish an image depicting the contents displayed on your mobile device, along with detailed instructions elucidating the process of operating it.

5.4 Splash Screen

The first time a user enters the app, they will see the splash screen. It is just used to enhance the beauty of the app and to welcome the app.



Figure: 5.1 Splash Screen

5.5 Welcome Screen

After the splash screen, a user will be taken to the login registration page. Users can login or register from here.

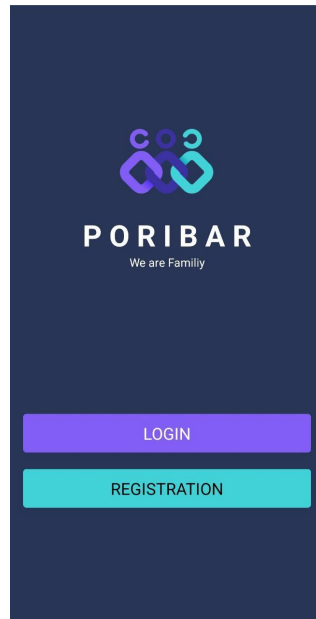


Figure: 5.2 Welcome Screen

5.6 Login Screen

Existing users can login with their email and password.

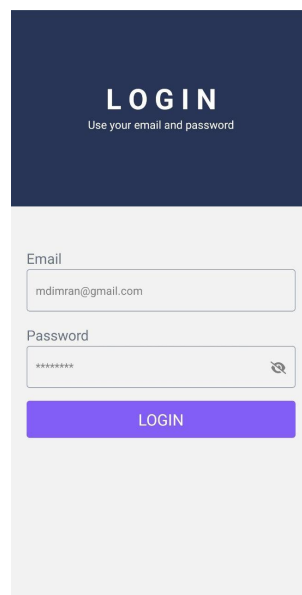
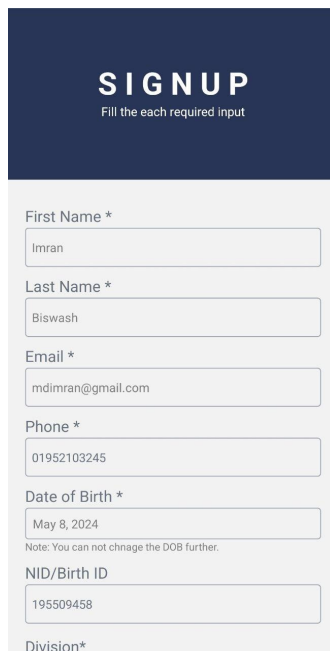


Figure: 5.3 Login Screen

5.7 Registration Screen

If the person who has entered the app is not an existing user, then he can register through this form.



The registration screen features a dark blue header with the word "SIGNUP" in white, followed by the instruction "Fill the each required input". Below this, there are several input fields with labels and asterisks indicating they are required: "First Name *" (containing "Imran"), "Last Name *" (containing "Biswash"), "Email *" (containing "mdimran@gmail.com"), "Phone *" (containing "01952103245"), "Date of Birth *" (containing "May 8, 2024"), "NID/Birth ID" (containing "195509458"), and "Division*" (empty). A small note below the date field states: "Note: You can not chnage the DOB further."

Figure: 5.4 Sign Up Screen

5.8 Feed Screen

This is the feed page, the posts made by the admin can be seen here. It can be seen which admin has posted and when he posted.



Figure: 5.5 Feed Screen

5.9 Daily Activities Screen

This app will keep the history of 5 daily prayers. The user who remains in the login state can keep the prayer account according to the new date every day.

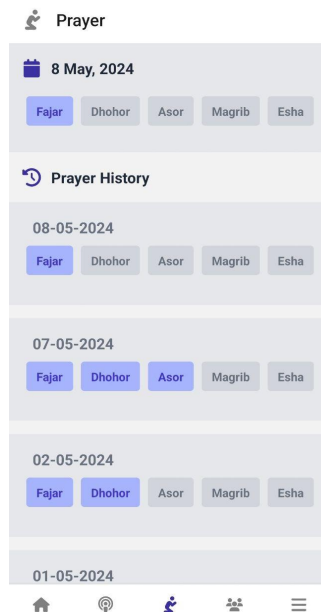


Figure: 5.6 Prayers Screen

5.10 Admin Dashboard Screen

This is the Admin Dashboard, where the administrator may view the number of individuals who have joined from each department of the organization. Comprehensive statistics are available for viewing.

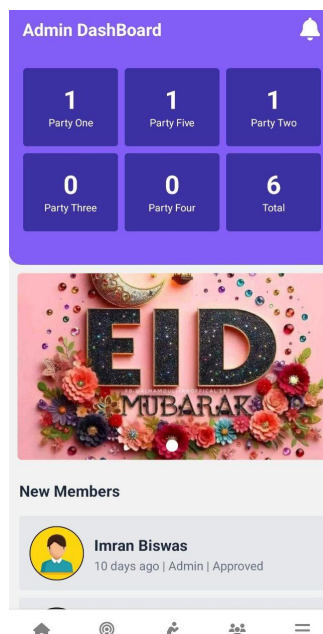


Figure: 5.7 Administrator Dashboard

5.11 User Dashboard Screen

This is the User Dashboard, the user who is in the login state, can see the statistics of how many users have joined their area.

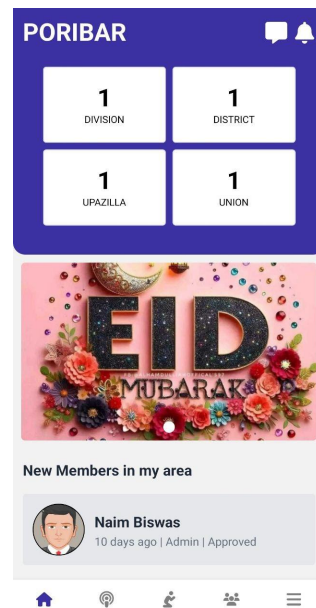


Figure: 5.8 User Dashboard

5.12 User Profile Screen

This is the admin's profile page. From here admin can update his profile, change organisation, create post, send notice and add Image Slider.

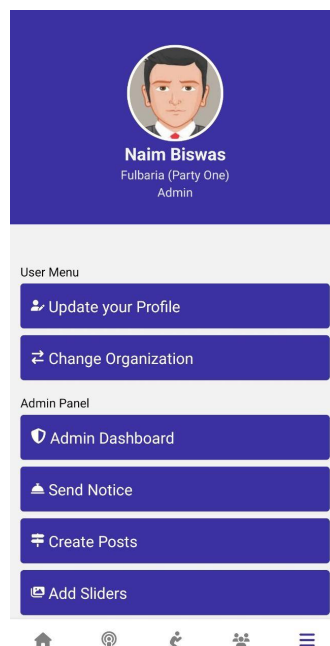
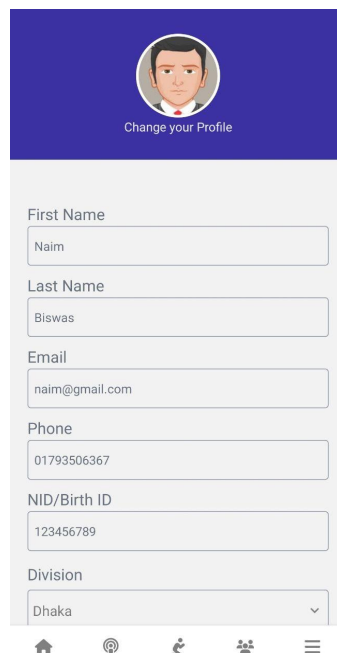


Figure: 5.9 User Profile

5.13 Profile Update Screen

Both admin and user can update profile details.

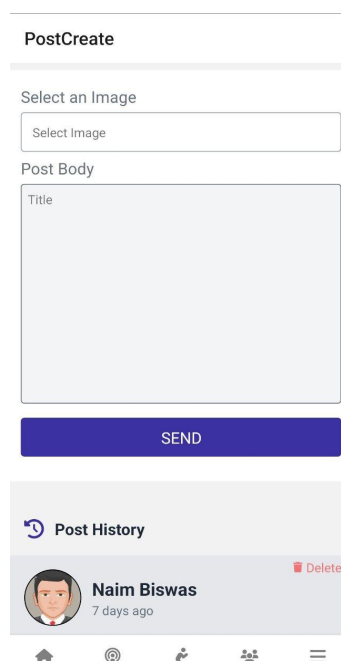


The Profile Update screen features a purple header with a circular profile picture placeholder and the text "Change your Profile". Below the header, there are several input fields for user information: First Name (containing "Naim"), Last Name (containing "Biswas"), Email (containing "naim@gmail.com"), Phone (containing "01793506367"), NID/Birth ID (containing "123456789"), and a Division dropdown menu (currently showing "Dhaka"). At the bottom, there is a navigation bar with five icons: a home icon, a profile icon, a post icon, a group icon, and a menu icon.

Figure: 5.10 Profile Update

5.14 Post Create Screen

Admin can create posts from this page.



The Post Create screen is divided into two main sections. The top section, titled "PostCreate", contains a "Select an Image" input field and a "Post Body" text area with a "Title" label. Below these fields is a prominent blue "SEND" button. The bottom section, titled "Post History", displays a list of posts. The first post shown is by "Naim Biswas" and was posted "7 days ago". It includes a profile picture placeholder and a "Delete" button. At the bottom, there is a navigation bar with five icons: a home icon, a profile icon, a post icon, a group icon, and a menu icon.

Figure: 5.11 Post Create

5.15 Notices Screen

The notice sent by the admin can be seen on this page.

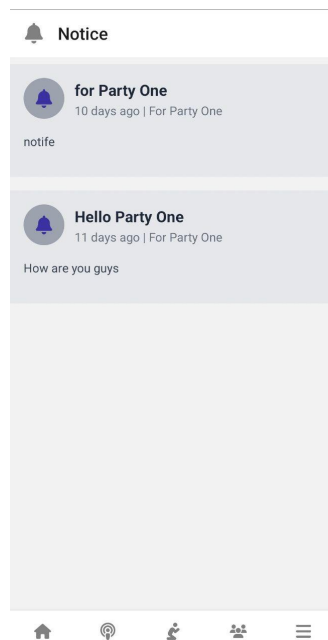


Figure: 5.12 Notice Screen

5.16 All User List Screen

From this page admin and user can see the list of users by filtering

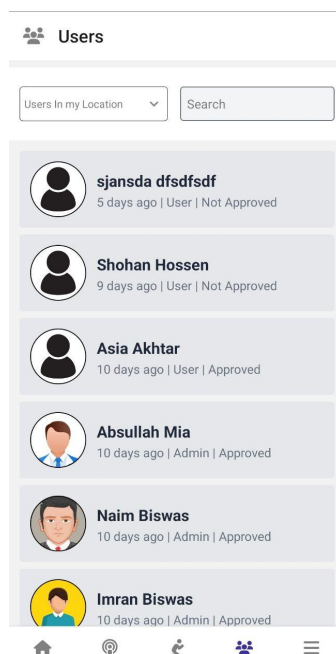


Figure: 5.13 User List Screen

5.17 Change Organization Screen

Admin and users can change their company name from this page.

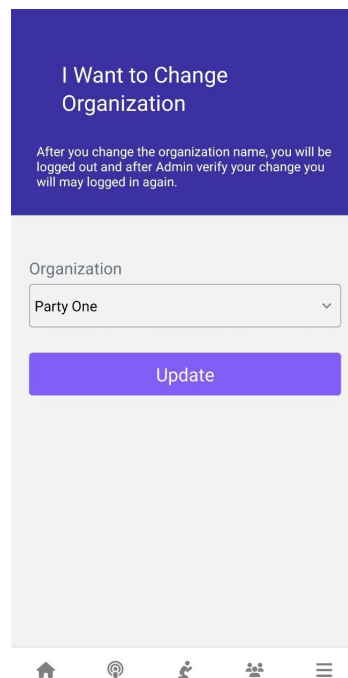


Figure: 5.14 Organisation Change

5.18 Send Notice And Notification Screen

Admin can create notices from this page

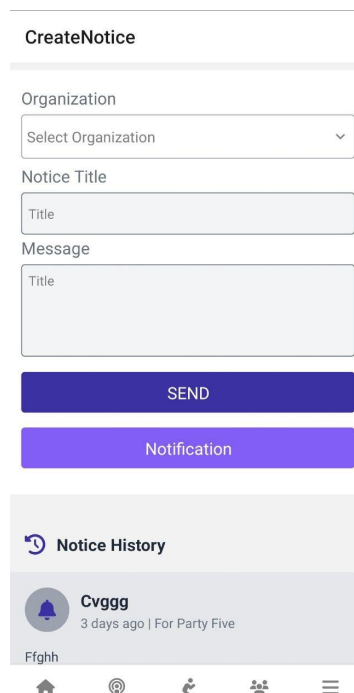


Figure: 5.15 Create Notice Screen

5.19 Add Slider Screen

Admin can add homepage slider image from this page

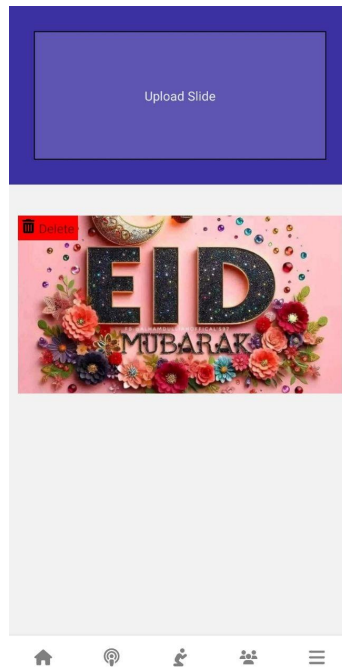


Figure: 5.16 Add Slider Screen

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Conclusion

PORIBAR is a social app that will bring this society in a beautiful order by using it. This app will bring together all the members of an organisation on one platform. If there is a need to call all the members, then there is no need to call the mobile, the admin can bring everyone together through a notice. If someone spreads rumours in the name of the organisation, it can be controlled through the admin's post.

6.2 Goal

The main goal is to create an android application To streamline an organisation, to bring all the functions of an organisation into one platform. So that I can see all the statistics, how many members my organisation has, which area has more members, which area has less members.

6.3 Limitation

- Backend Fully Base On Firebase
- Database Fully Base On Firebase
- 1000 Api Hit Per Day
- Firestore 10 GB Hosting Storage

6.4 Potential for Future Advancements

- Backend Fully Develop On Java Spring Boot
- The interface design will be updated
- File share by using our API
- One to One Messaging Integration
- More features and functionalities will be added

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