



CS 5551 Advanced Software Engineering

Project Increment Report

Team 5

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PROJECT GOAL:

Users who are using smartphones do not know how they are spending time with their smart phones. Our aim is to collect all the user's information and present that data in an organized way to users by the end of the day. So, he can get good idea on how he is using his Smartphone. Our goal is to increase the productivity of users by this application.

Specific Objectives

- First, we need to find a way to collect the activity's in the background. ● Then we need to store all the data collected in a data base.
- Then we need to organize the data to show it to user in different formats. For example, apps with highest time used or most clicks or percentage.
- Then use Pie charts and histograms to represent the data.

Specific features

- User can see all his smart phone activities whenever he wants
- User can sort the time used by specific applications by day, week, month, year.
- User can see the data in pie charts and histograms
- User can request alerts based on specific activity time.

Significance

- This application can help people to better understand their digital life.
- It Helps them to focus on the thinks which are more important to them and avoid huge amount of time spending on whatever which is not useful.

BURNDOWN CHART

Project Increment 1

[Edit Milestone](#)[Milestones](#)[Labels](#)[Hide Pull Requests](#)[Burn Pipelines](#)

Start: **Feb 16, 2017** [Edit](#) Due: **Feb 17th, 2017** [Edit](#)



5 Total Story Points

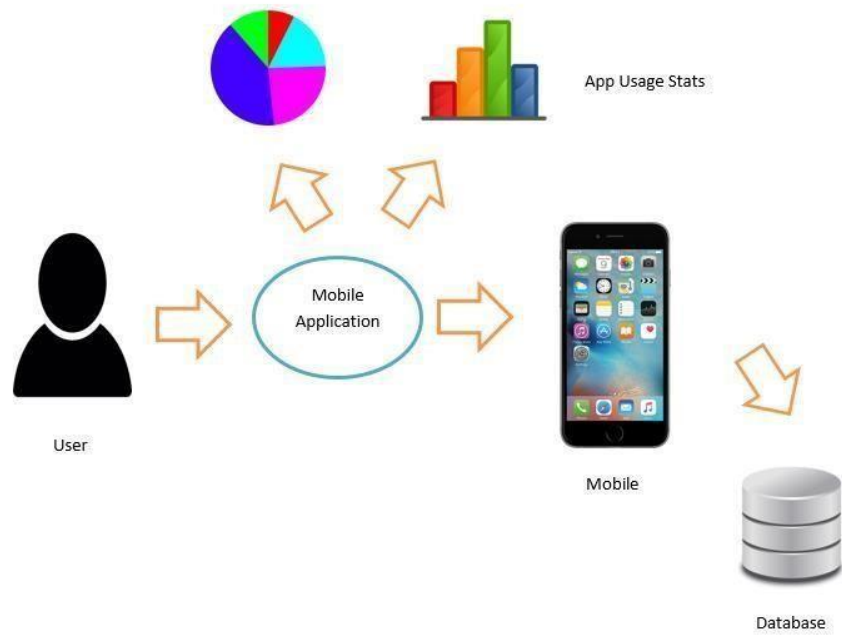
5 Completed Story Points / 0 Remaining Story Points

4 Total Issues and Pull Requests

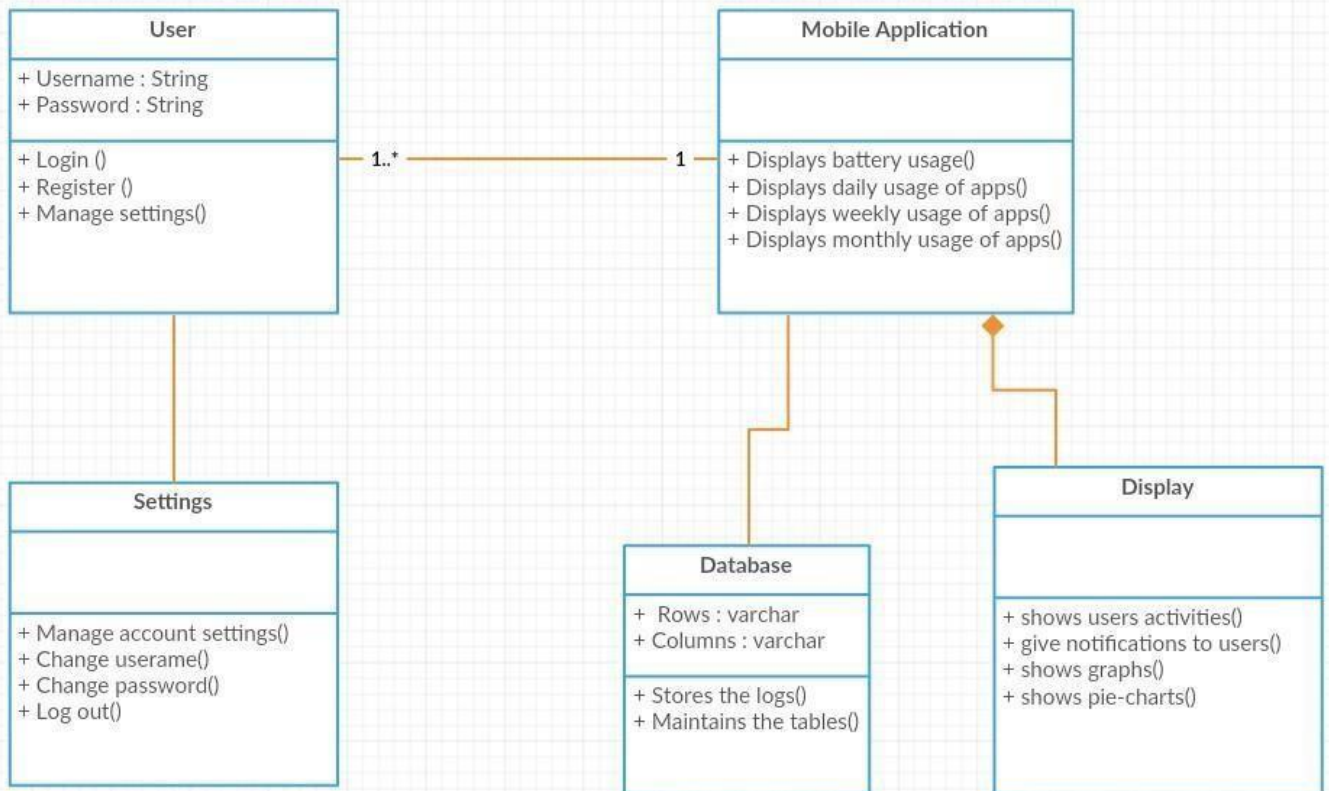
4 Completed Issues and PRs / 0 Remaining Issues and PRs

ARCHITECTURE DIAGRAM

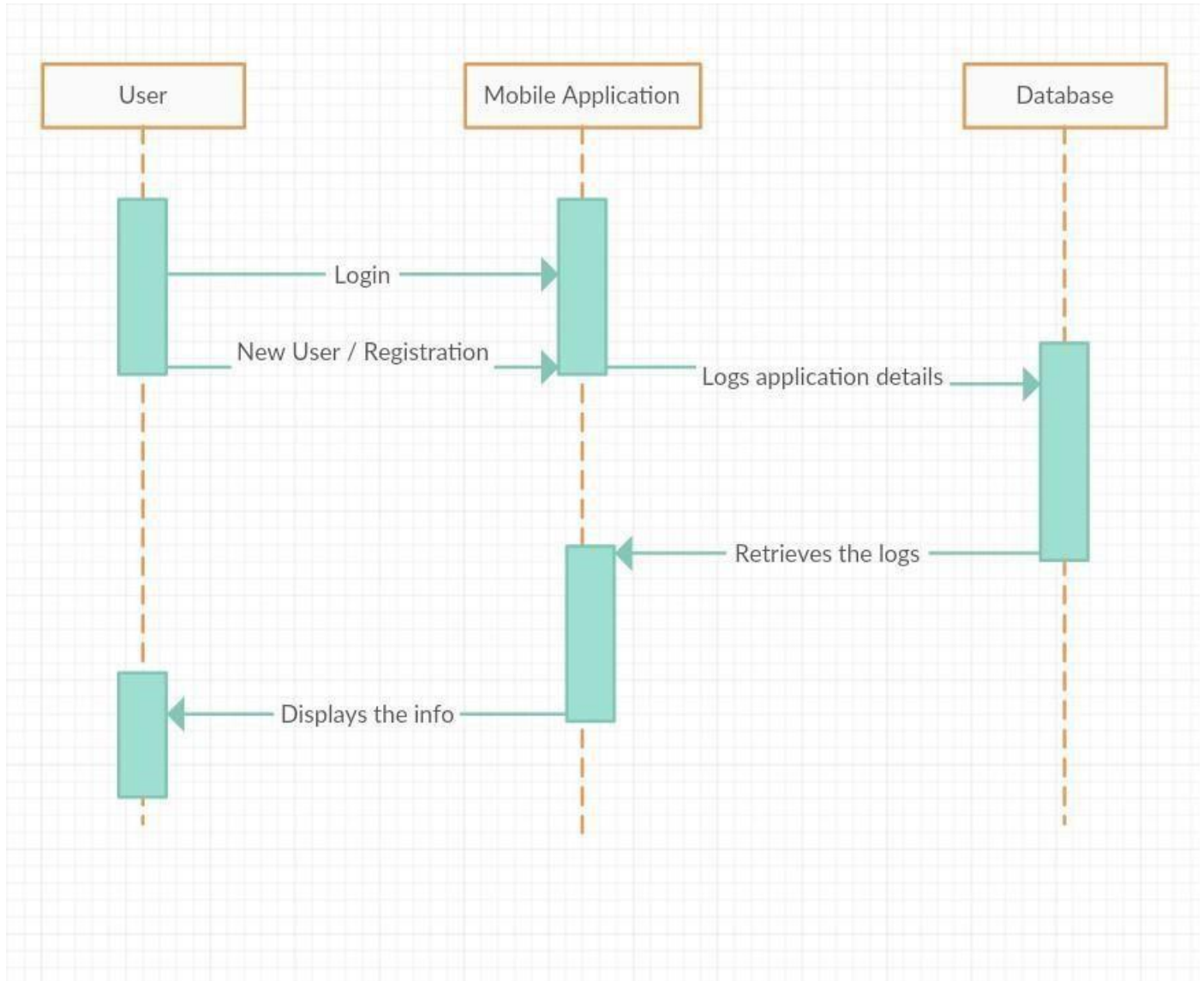
Software Architecture Diagram for our Mobile Application



CLASS DIAGRAM



SEQUENCE DIAGRAM



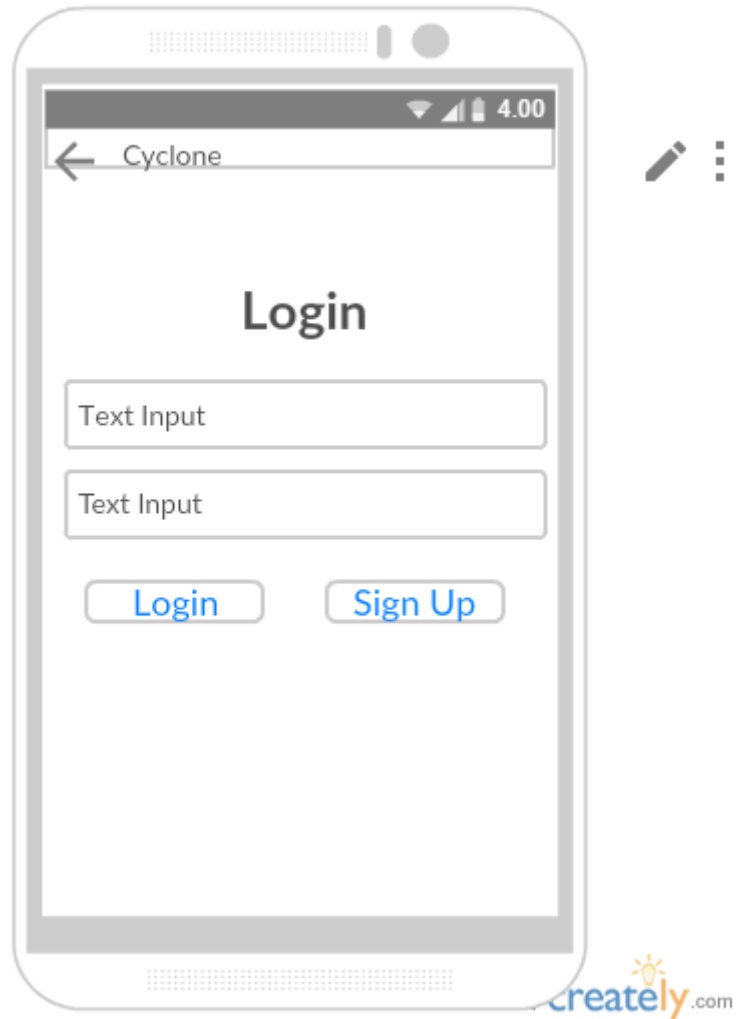
ISSUES

The screenshot displays a GitHub repository page for 'Nithin543 / Team_5_Project'. The interface includes a top navigation bar with options like 'Code', 'Issues' (4), 'Pull requests' (0), 'Boards', 'Reports', 'Projects' (0), and 'Wiki'. Below this, a secondary navigation bar shows 'View', 'Repos (1/1)', 'Show one', 'Labels', 'Milestones', 'Assignees', and 'Epics'. The main content area features a Kanban board with six columns: 'New Issues' (4), 'Icebox' (0), 'Backlog' (0), 'In Progress' (0), 'Review/QA' (0), and 'Done' (0). The 'New Issues' column lists four tasks: 'Team_5_Project #5: Registration validation' (help wanted), 'Team_5_Project #4: Creating a registration page' (enhancement), 'Team_5_Project #3: Creating Login Page' (1), and 'Team_5_Project #2: Collecting the logs' (help wanted). Each task includes a 'Project Increment 1' label.

Tasks are divided among us, and we contributed our participation regularly and updated the tasks assigned to us. Milestone has been created and we achieved the results within the milestone.

WIREFRAMES:

- **Login Wireframe:**



- Registration Wireframe

4.00

← Cyclone

Sign Up

First Name

Last Name

Email

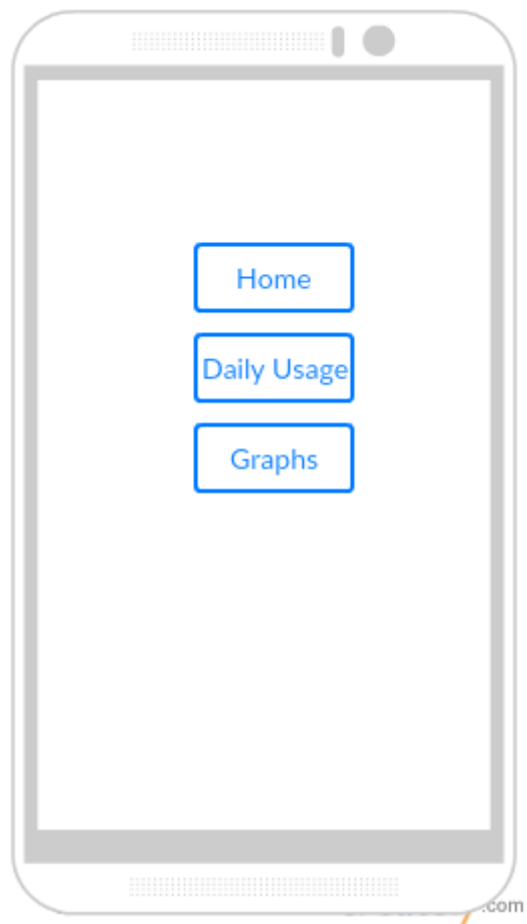
Password

Confirm Password

Submit Login

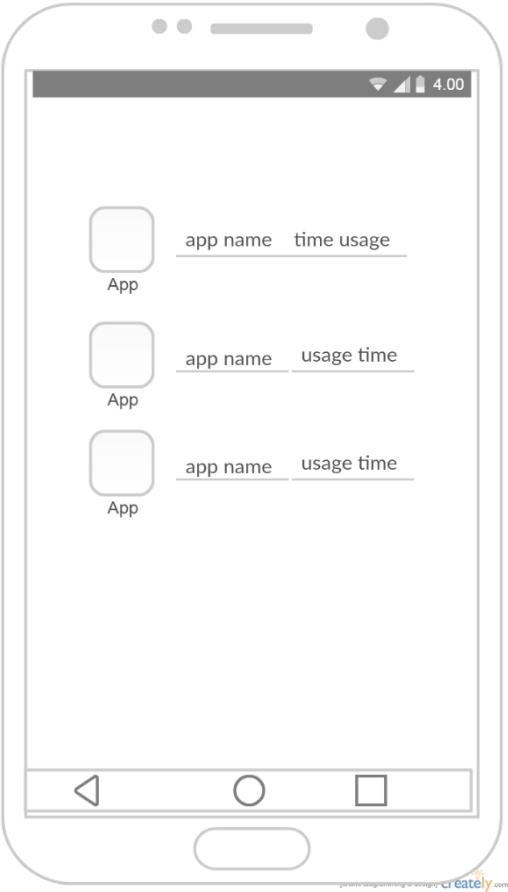
creately.com

- **Wireframe Displaying 'Interface' Activity.**



●

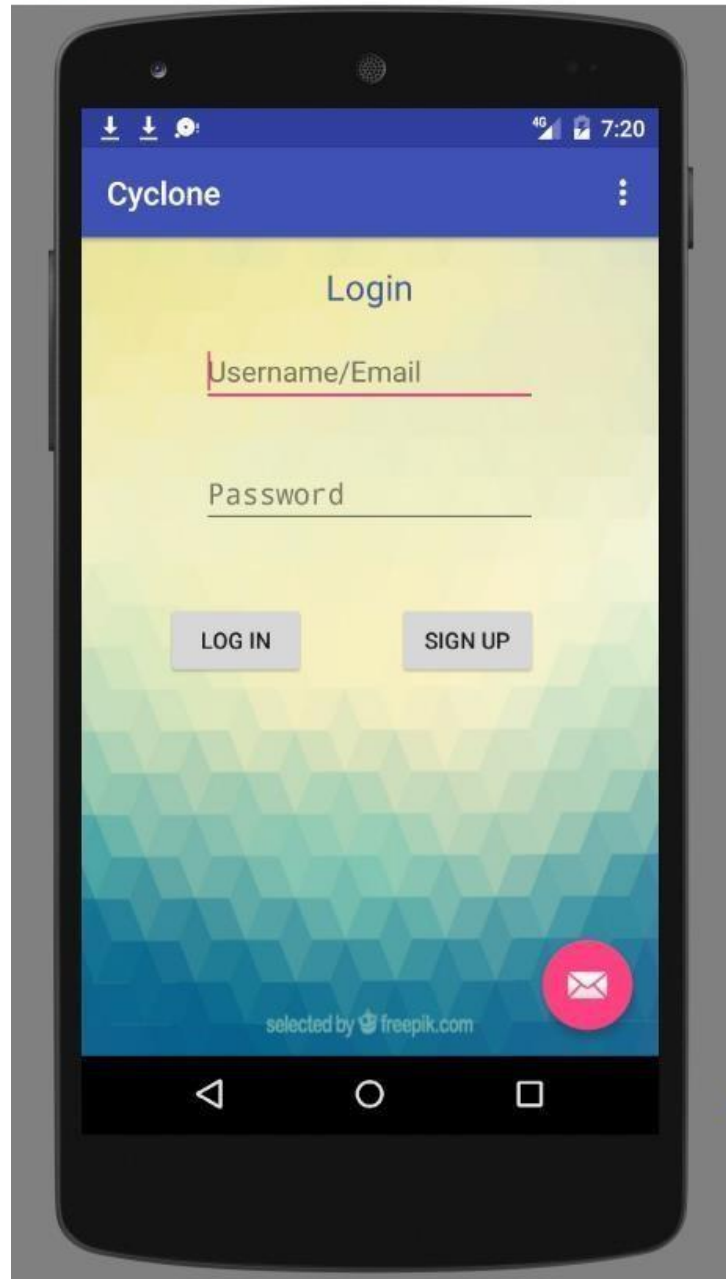
Wireframe Displaying the ‘Daily Usage’ Activity.



MOCKUPS:

1. Login Page

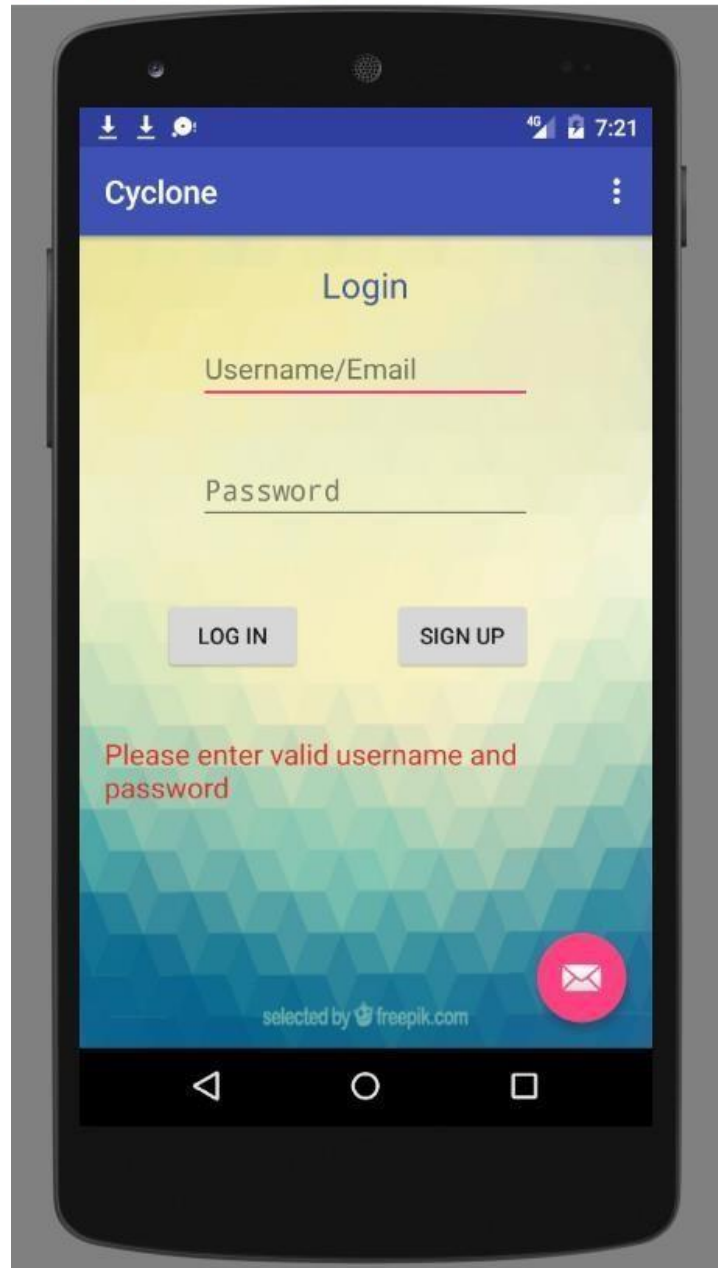
Android Emulator - Nexus_5_API_22:5554



2.

Login page validation:

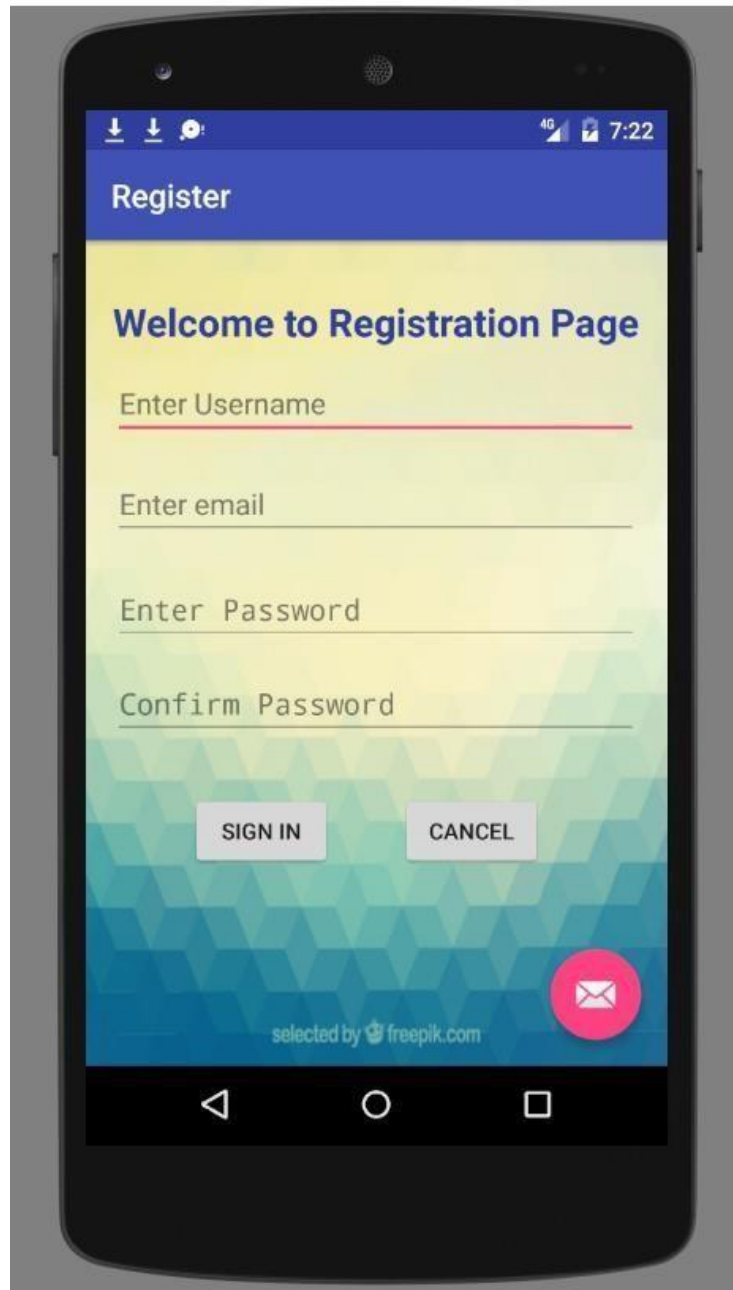
Android Emulator - Nexus_5_API_22:5554



3.

Registration form page:

Android Emulator - Nexus_5_API_22:5554



The image shows a registration form page on an Android emulator. The page has a blue header with the word "Register" in white. Below the header, the text "Welcome to Registration Page" is displayed in a bold, dark blue font. The form consists of four input fields: "Enter Username", "Enter email", "Enter Password", and "Confirm Password". Each field has a red underline. Below the input fields, there are two buttons: "SIGN IN" and "CANCEL". At the bottom of the page, there is a footer that says "selected by freepik.com" and a red circular icon with a white envelope symbol. The background of the page features a colorful geometric pattern.

Register

Welcome to Registration Page

Enter Username

Enter email

Enter Password

Confirm Password

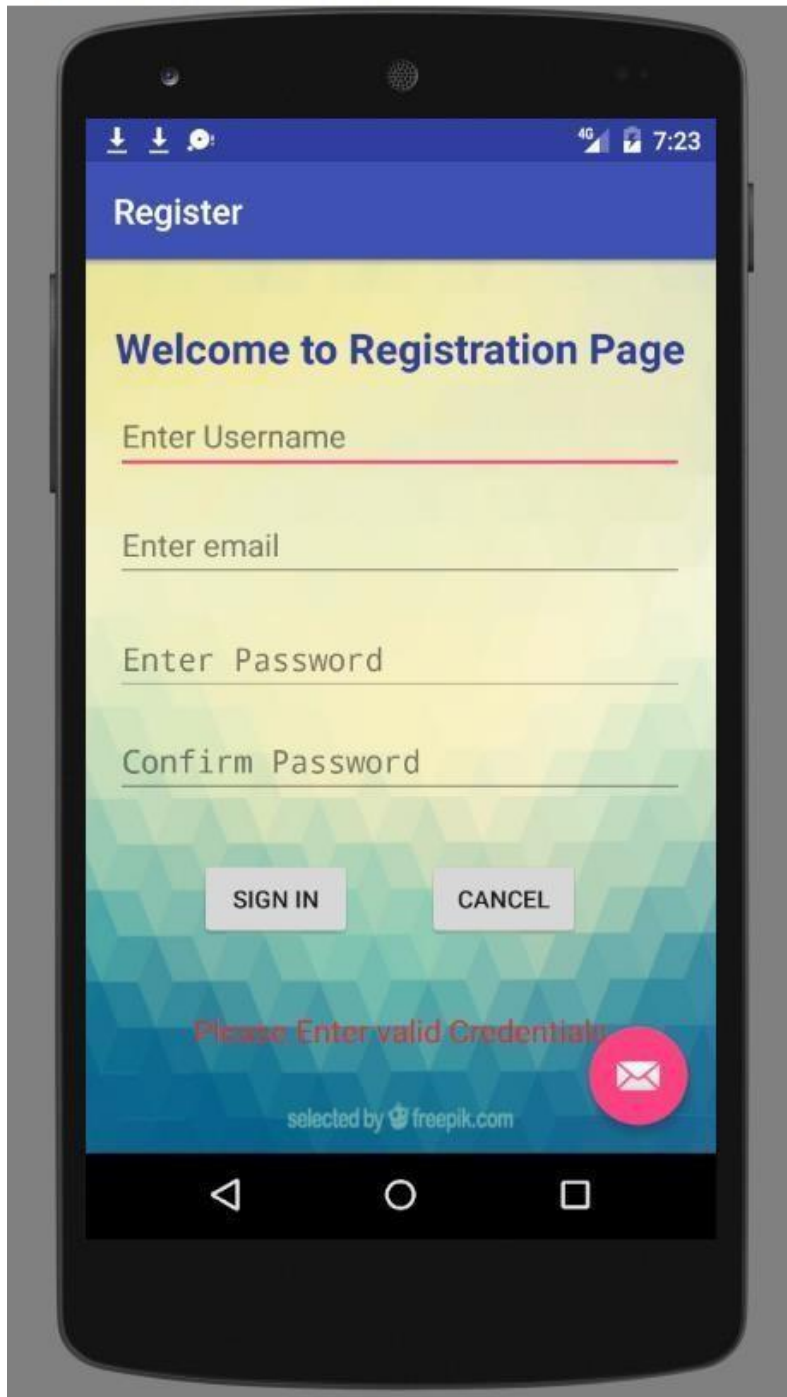
SIGN IN CANCEL

selected by freepik.com

4.

Registration form validation:

Android Emulator - Nexus_5_API_22:5554



TEST CASES:

Test Case Name	Test Description	Expected Results	Pass/Fail
Login	Entered Invalid username and Invalid Password	Invalid Login Error Message should be displayed	Pass
	Entered Valid username and Invalid Password	Invalid Login Error Message should be displayed	Pass
	Entered Valid username and Valid Password	Application Should Be Redirected to Home page	Pass
Sign Up	Enter Email Id without @	Invalid Email id should be displayed	Pass
	Enter different confirm password	Invalid Error Message should be displayed	Pass
	Blank Spaces	Invalid Message should be displayed	Pass

Project Control Flow:

1. Collected the logs data of the every application that is installed on the android mobile
2. Stored the collected logs into the SQLite database
3. Retrieved the application icon of the every application from the database
4. Displayed the icon aside of the application usage time per day .
5. We have created an interface such that you can navigate between the screens which display the usage statistics.
 - Home page
 - ✦ Home Page displays the Top applications used by the user.
 - ✦ The user can view the top used apps on a daily basis, weekly basis and monthly basis
 - Daily

Usage page

- ✦ The Daily Usage Page displays the applications used by the user on that particular day. ○ Graphs
 - ✦ The Graphs Page displays the usage statistics using the histograms and graphs.

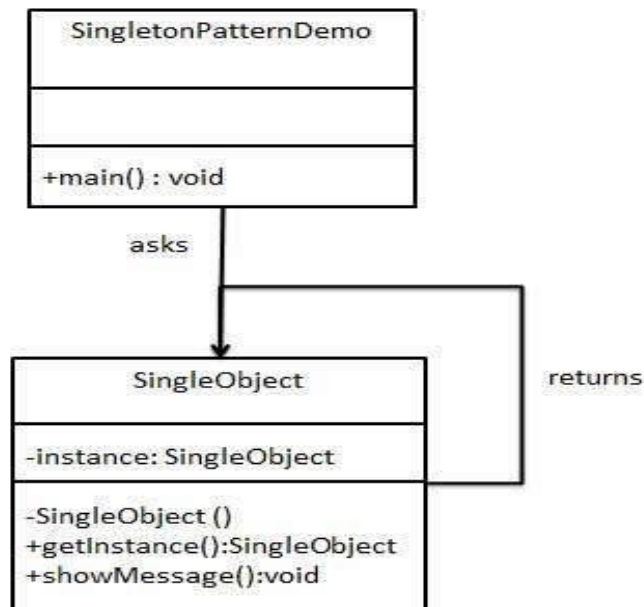
Implementation:

- Implemented the activities required for the application.
- Implemented the SQLiteOpenHelper class which helps to connect to the database.
- Implemented the CursorAdapter class which is used to set the view template to be loaded to the list item.
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Design Pattern for the Project:

- Our Project follows the singleton design pattern.
- **Java Singleton Pattern** is one of the **Gangs of Four Design patterns** and comes in the **Creational Design Pattern** category.
- Ensure a class only has one instance, and provide a global point of access to it.
 - Creating many objects that represent the same conceptual instance adds complexity and overhead
 - **Solution:** only create one object and reuse it.
 - Encapsulate the code that manages the reuse.

UML Diagram of the Design Pattern:



Code for the Design Pattern:

```
package com.journaldev.singleton;

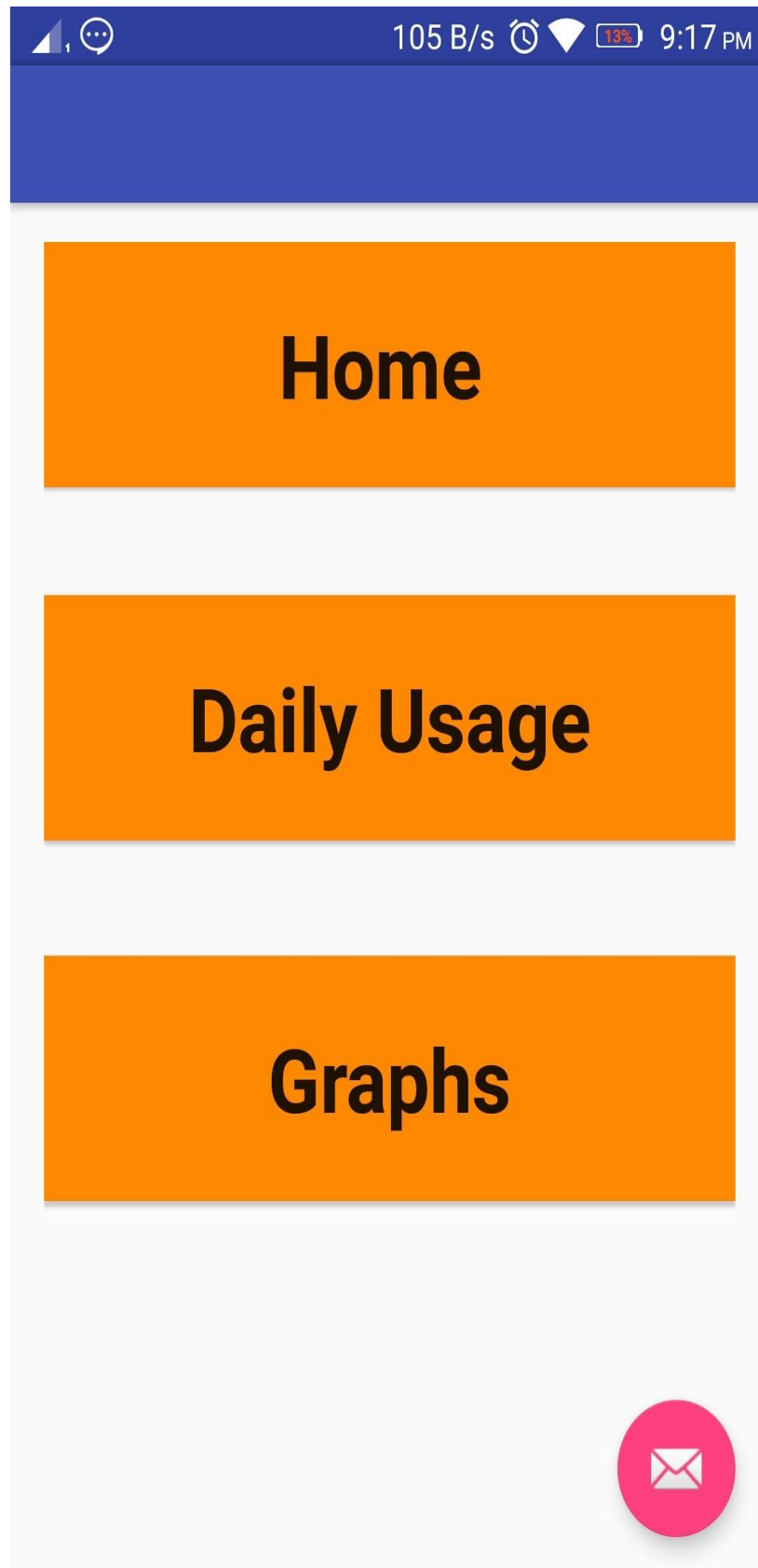
public class EagerInitializedSingleton {

    private static final EagerInitializedSingleton instance = new
    EagerInitializedSingleton();

    //private constructor to avoid client applications to use constructor
    private EagerInitializedSingleton() {}

    public static EagerInitializedSingleton getInstance() {
        return instance;
    }
}
```

Deployment:





42 B/s 13% 9:17 PM

Total Time Used

3Min

Top 10 Time used Apps



Google App

3min



Skype

0min



McDonald's

0min



Truecaller

0min



Calendar Storage

0min



Media Storage

0min



Lenovo Weather

0min



Contact Manager

0min



WhatsApp

0min



Download Manager

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Life



Google App

5min



Cyclone

5min



Settings

3min



InCallUI

2min



YouTube

1min



Instant

1min



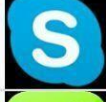
GBA Service

0min



com.mediatek.ims

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Skype

0min



Phone/Messaging

0min



Truecaller

0min



Calendar Storage

0min

Bibliography:

- [Stackoverflow.com](https://stackoverflow.com)
- [Developer.android.com](https://developer.android.com)