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

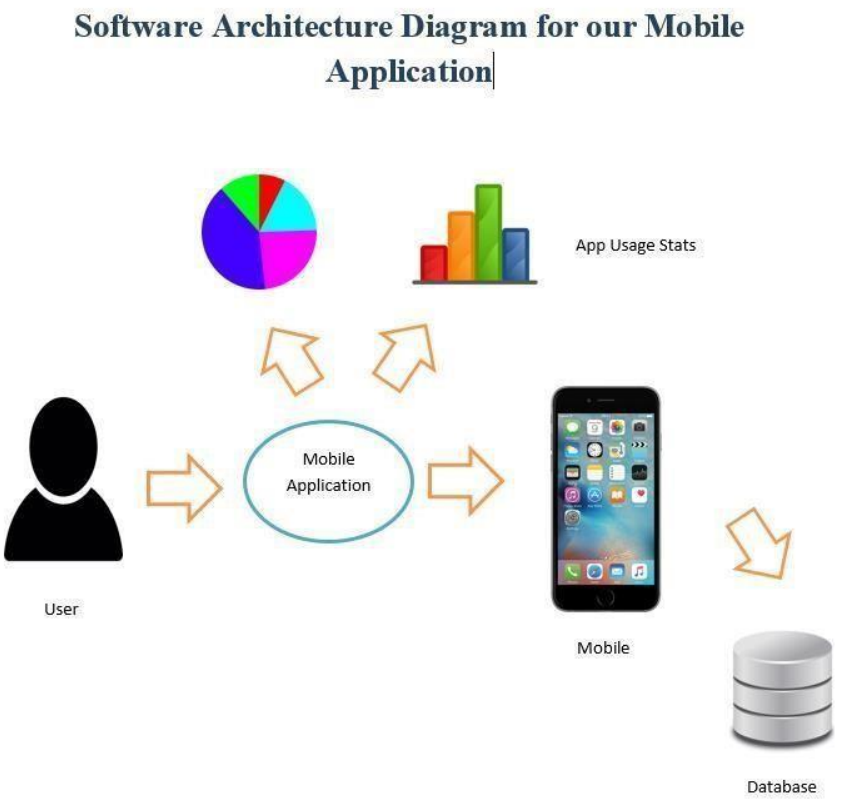
5 Total Story Points

5 Completed Story Points / 0 Remaining Story Points

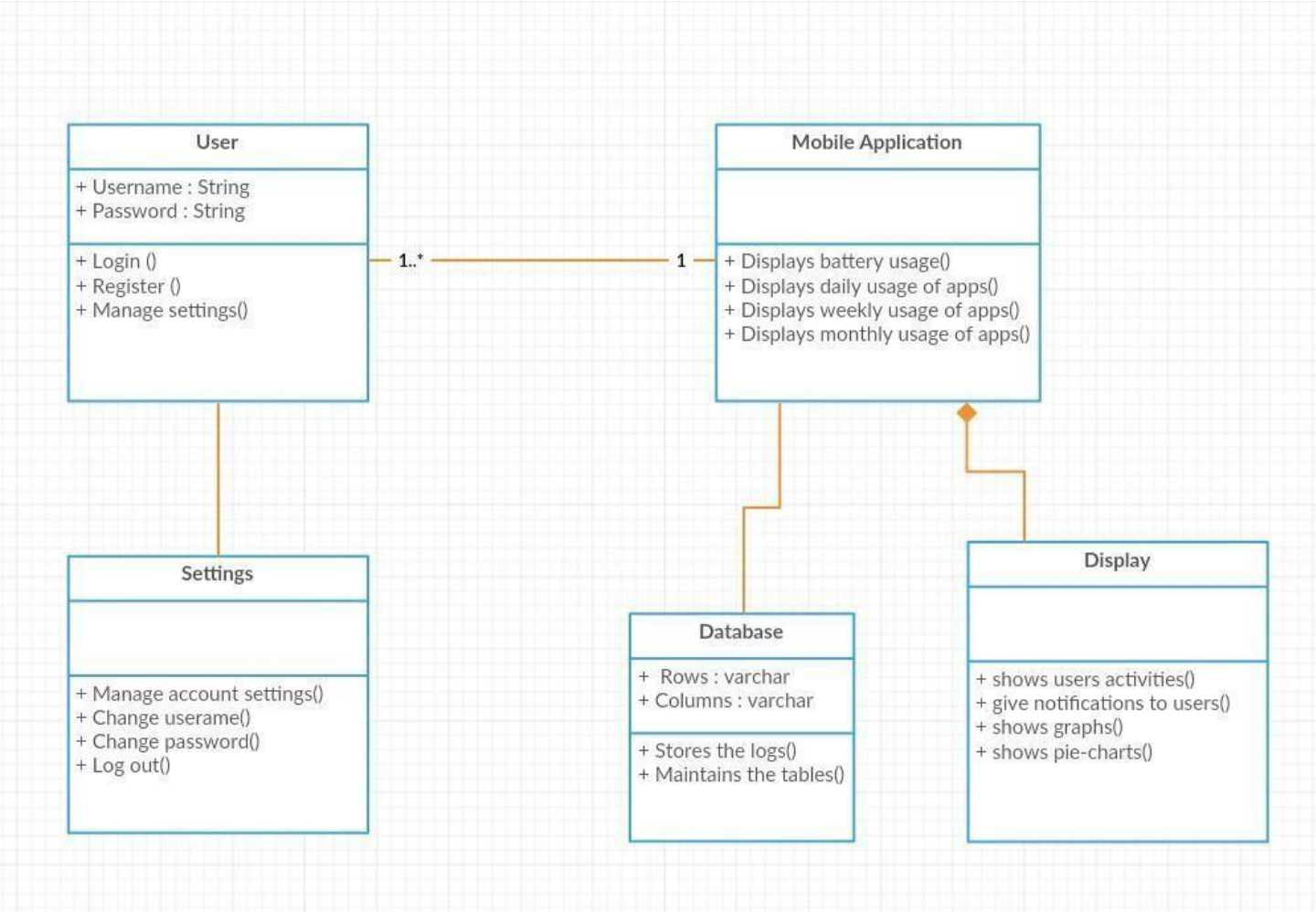
4 Total Issues and Pull Requests

4 Completed Issues and PRs / 0 Remaining Issues and PRs

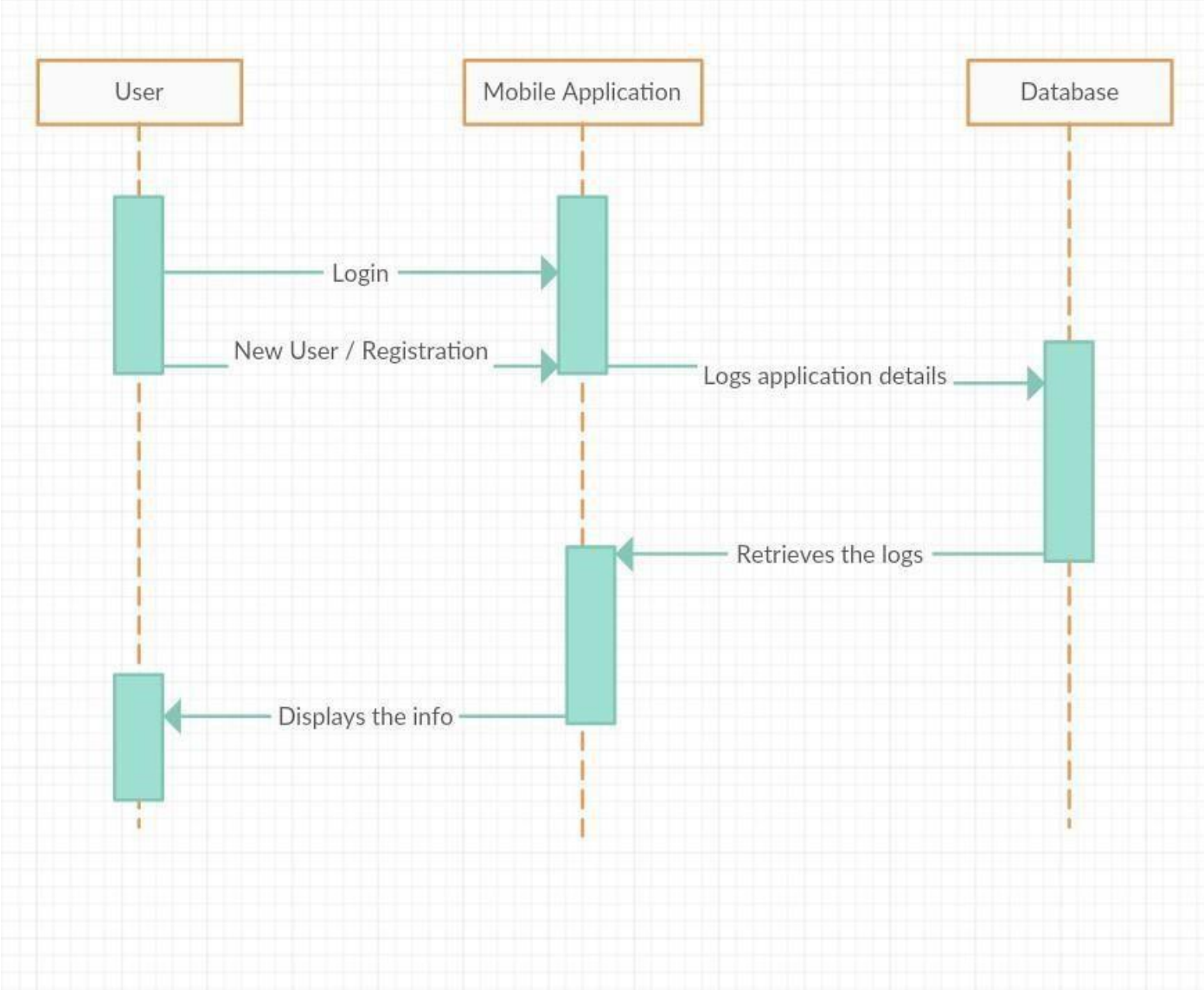
ARCHITECTURE DIAGRAM



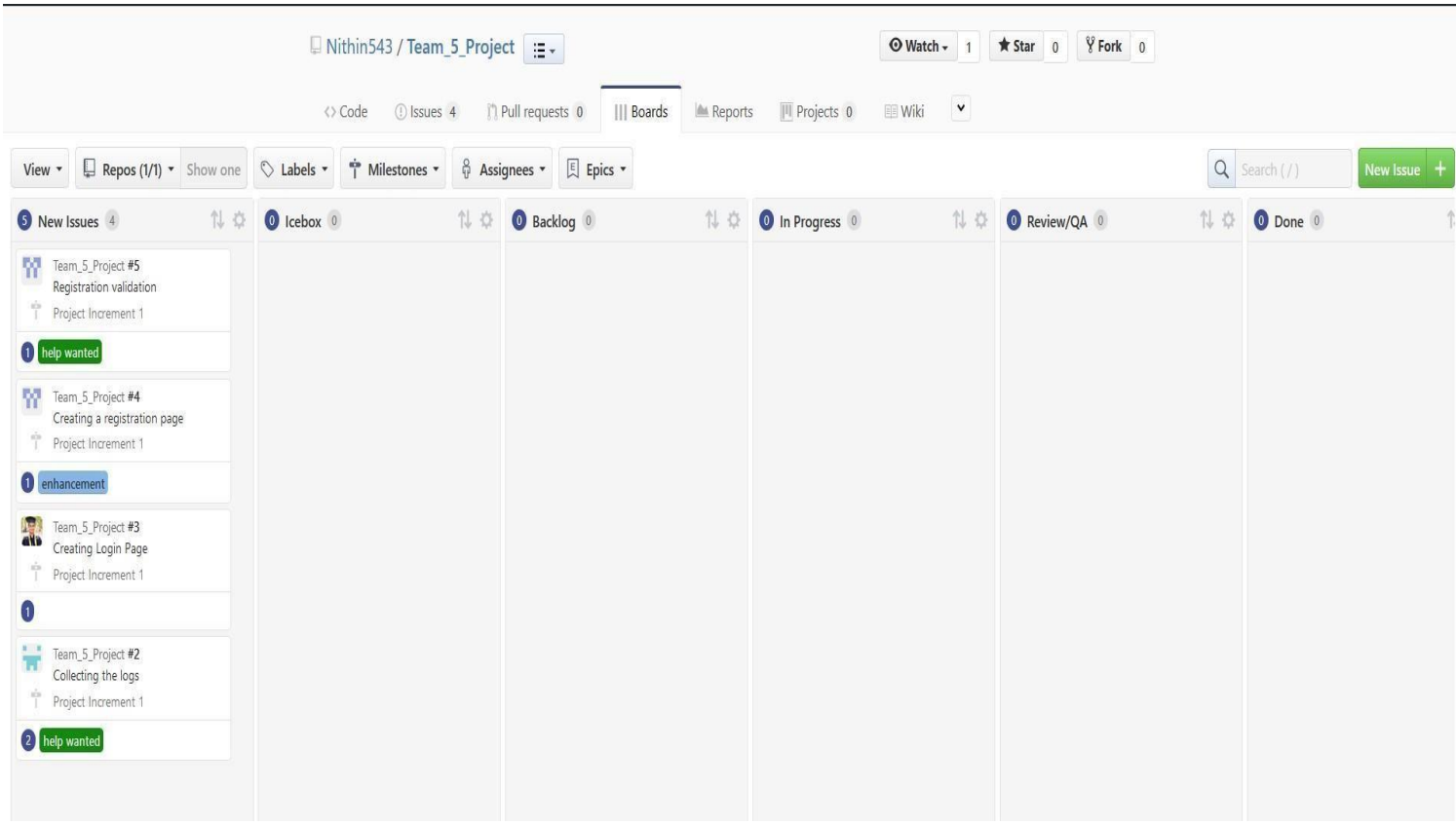
CLASS DIAGRAM



SEQUENCE DIAGRAM



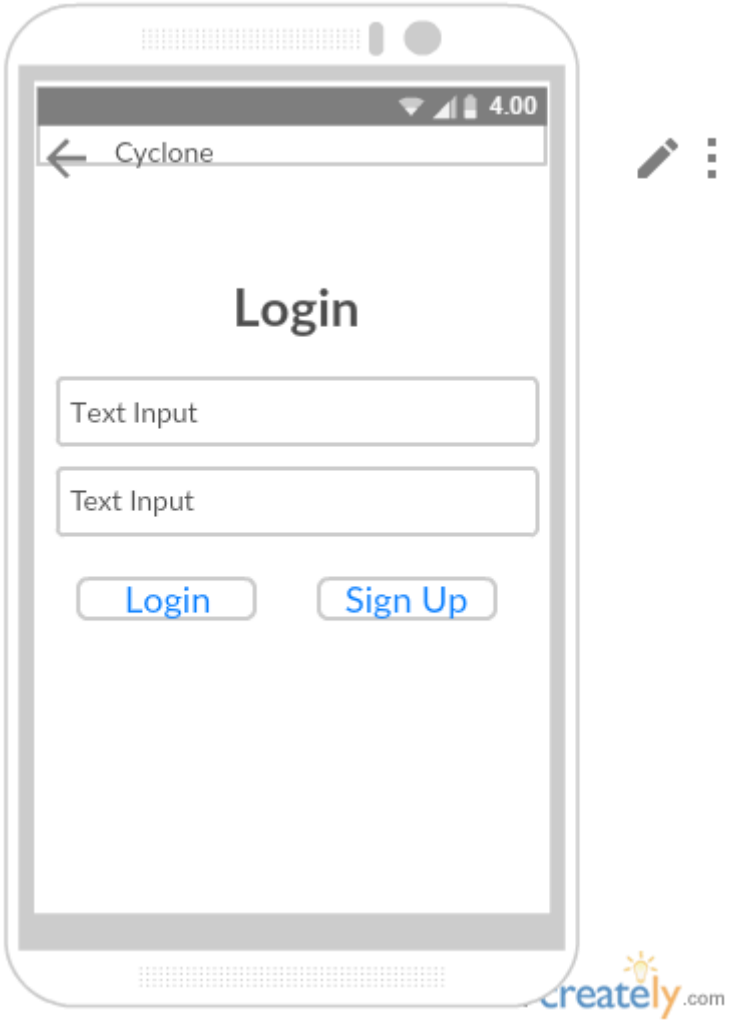
ISSUES



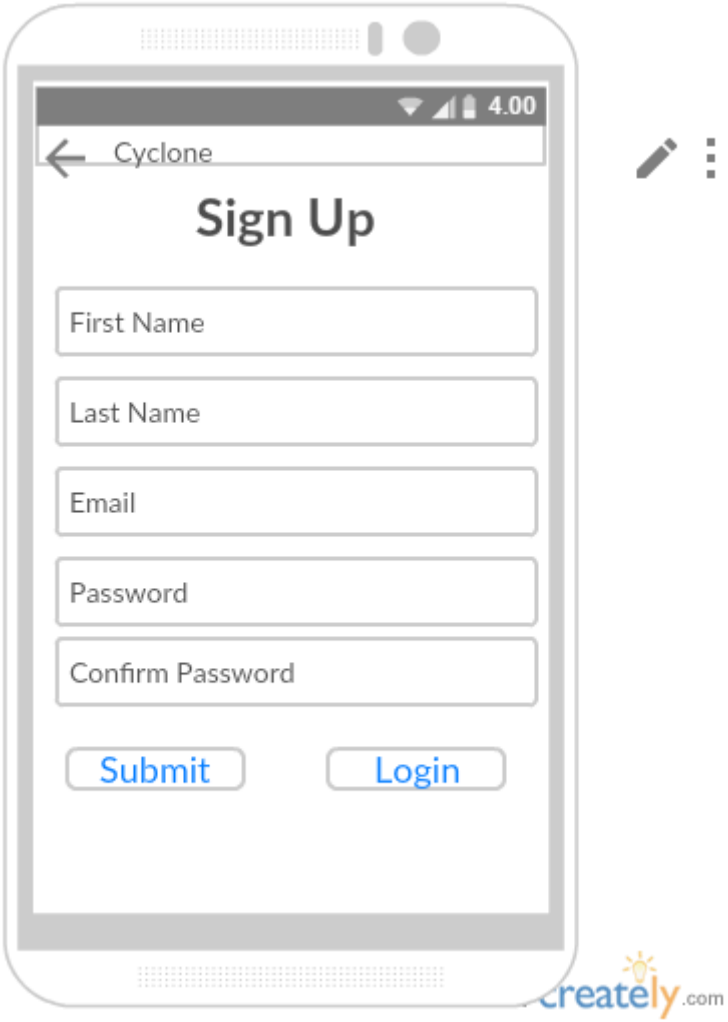
Tasks are divided among us, and we contributed our participation regularly and updated the tasks assigned to us. Milestone has been created and we achieved the results within the milestone.

WIREFRAMES:

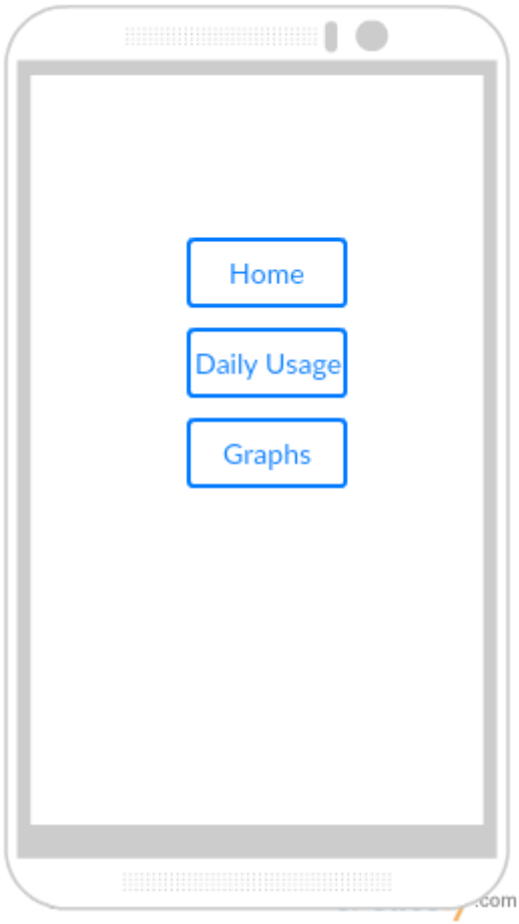
- **Login Wireframe:**



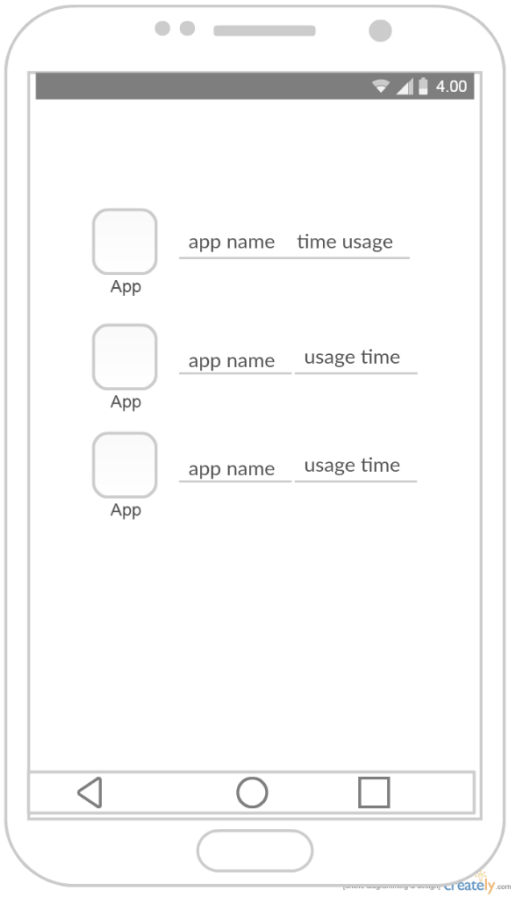
- **Registration Wireframe**



- **Wireframe Displaying ‘Interface’ Activity.**

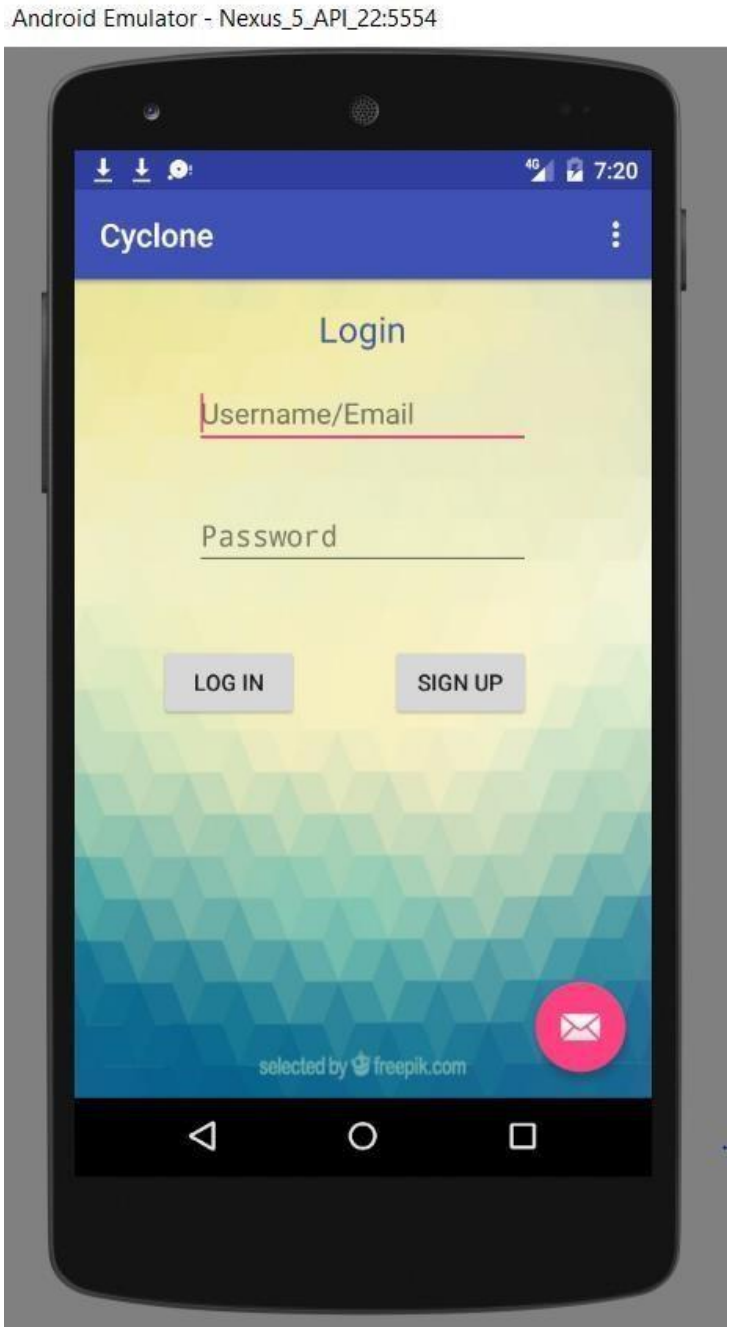


- **Wireframe Displaying the ‘Daily Usage’ Activity.**



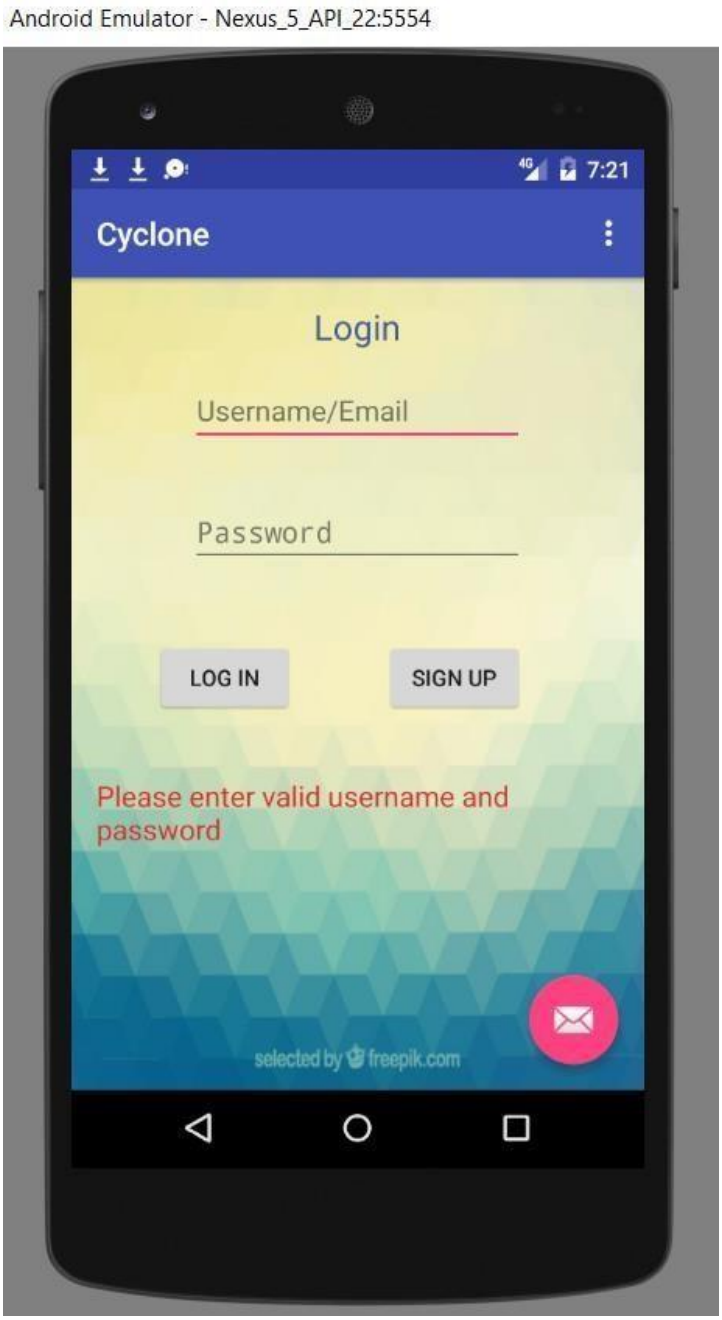
MOCKUPS:

1. Login Page



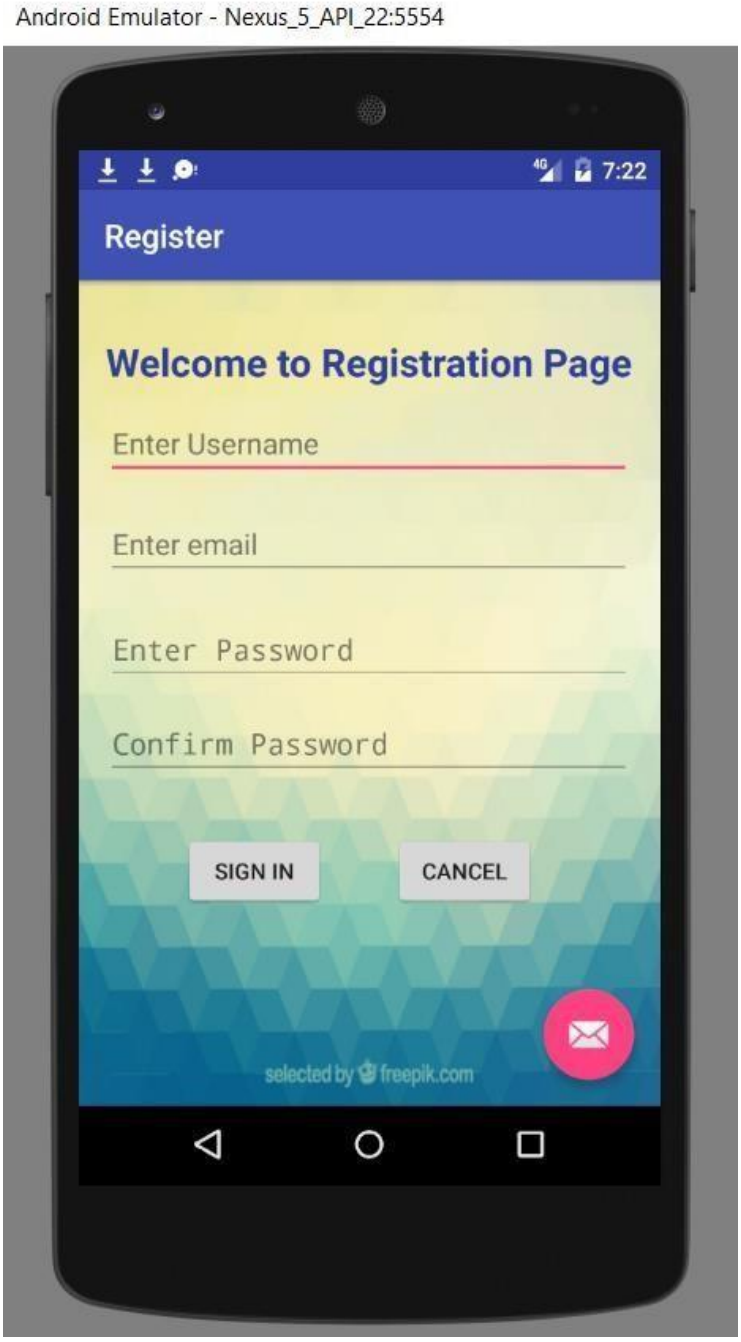
2.

Login page validation:



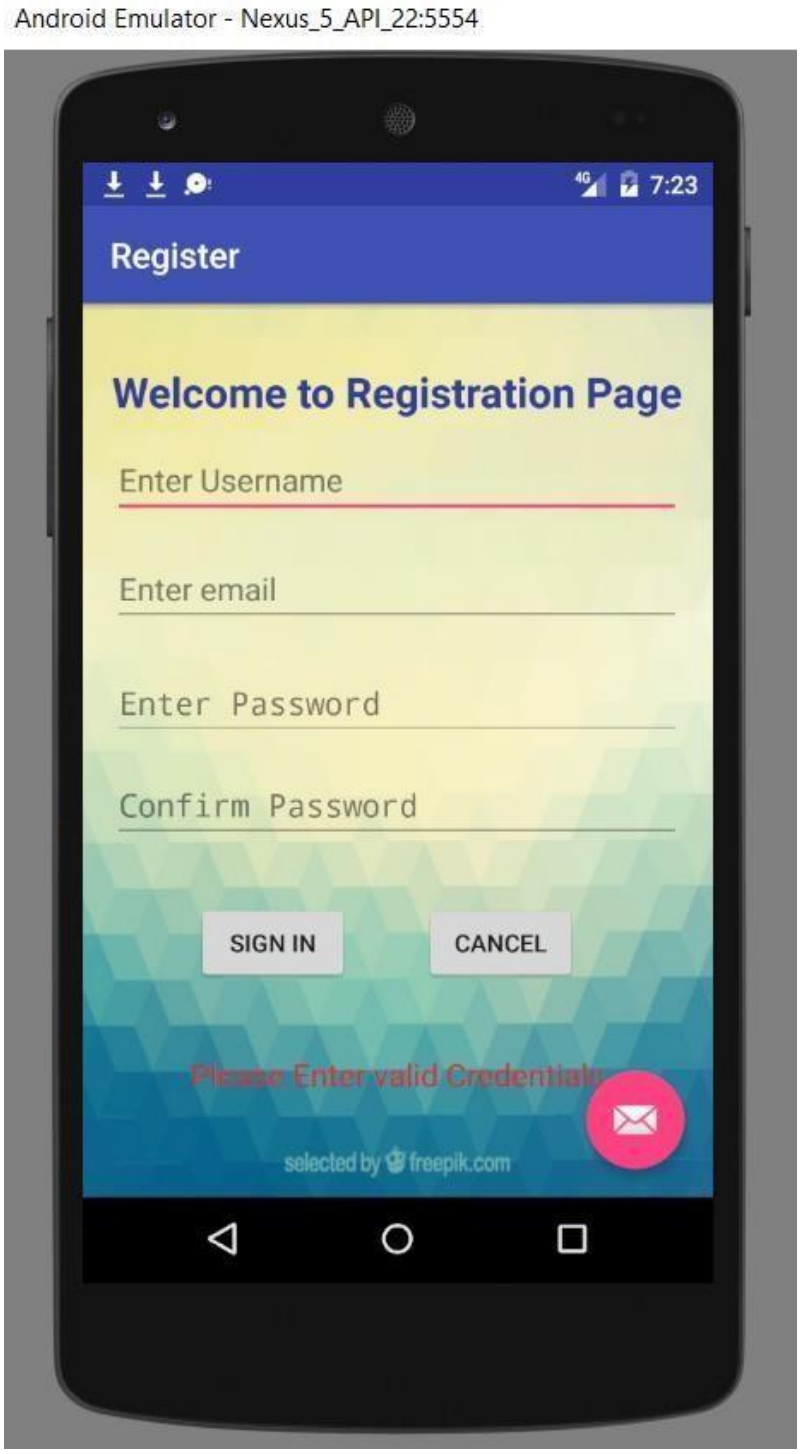
3.

Registration form page:



4.

Registration form validation:



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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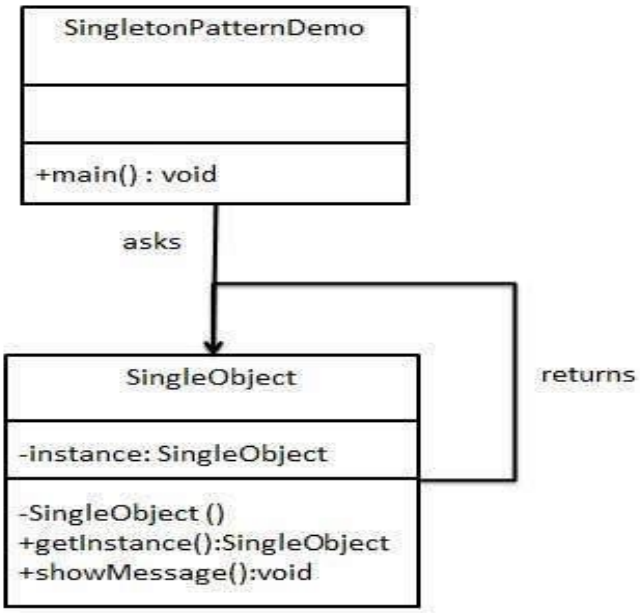
Design Pattern for the Project:

- 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.

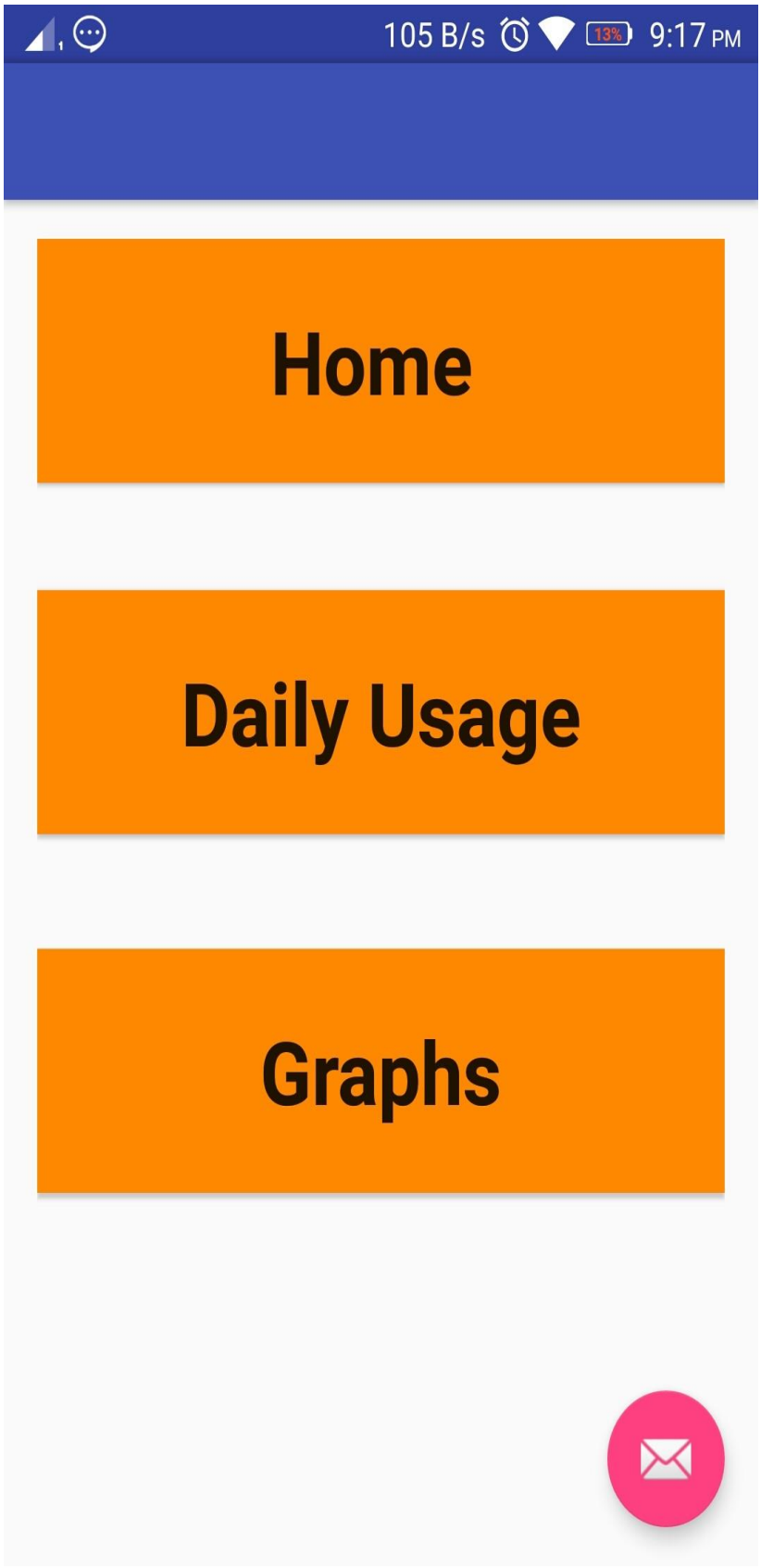
UML Diagram of the Design Pattern:



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;
    }
}
```

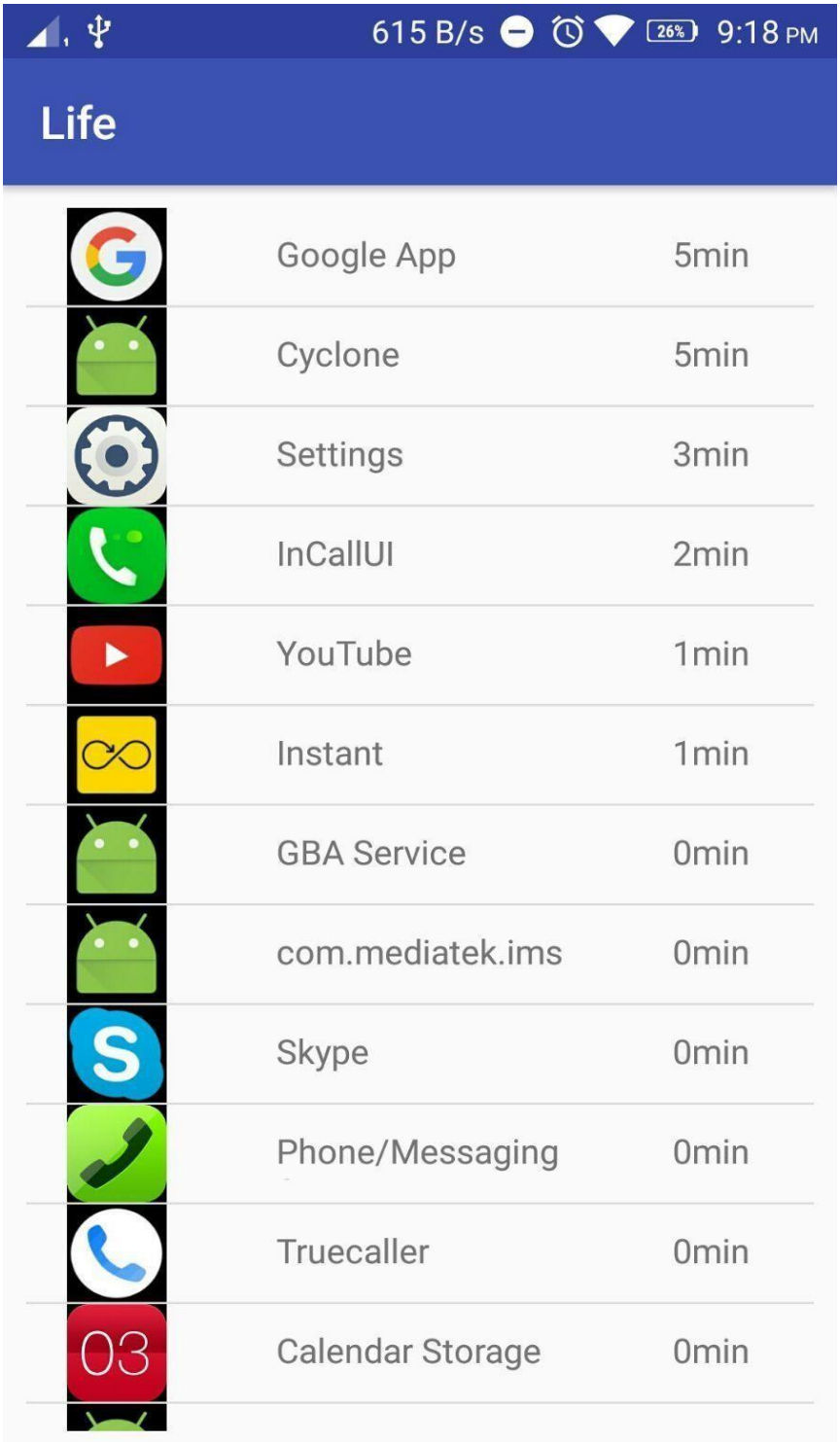
Deployment:



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	0m


615 B/s
26%
9:18 PM
Life
Google App
5min
Cyclone
5min
Settings
3min
InCallUI
2min
YouTube
1min
Instant
1min
GBA Service
0min
com.mediatek.ims
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0min
Truecaller
0min
Calendar Storage
0min

Bibliography:

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- Developer.android.com