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Hostel Mate

Description

Hostel Mate is basically a software based hostel management system. Currently, when an issue found in the hostel (such as damaged bulbs, fans, windows etc.), we should reach reception and report the issue in a register book. So, to report each issue student should travel from their room to reception. Sometimes the receptionist will not be there so the student have to wait for a long. I want to replace this conventional hostel issue reporting system with the help of technology which helps to reduce the strain of the hostel staff and the inmates.

Each inmate in the hostel should register and login via google to use the facility. There should be only one login for receptionist. For which, user name and password are default stored in firebase Real Time Database. Once the receptionist has logged with this user name and password he can change that as he wanted.

After login when an issue found in hostel, student can take a photo of the issue (damaged bulb, fans, windows etc.) add a description and location (room number and block in hostel) where the issue found. Then submit the issue.

When an inmate submit an issue receptionist will get a notification so he can take the required actions to fix the issue. Once the issue is fixed it will show as fixed in the app.

The entire app will be developed using **Java**. App keeps all strings in a strings.xml file and enables **RTL layout** switching on all layouts. App supports **accessibility** with the help of **Content description**.

Intended User

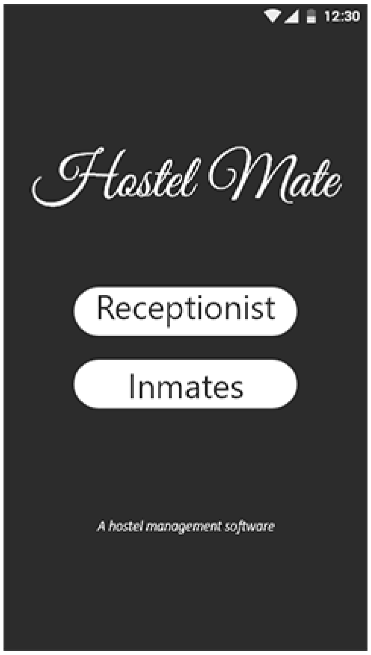
Intended user are **hostel inmates** in the hostel and **receptionist**.

Features

- Takes pictures of the issue.
- Saves information about the issue.
- Sent notification to receptionist when an inmate reports an issue.

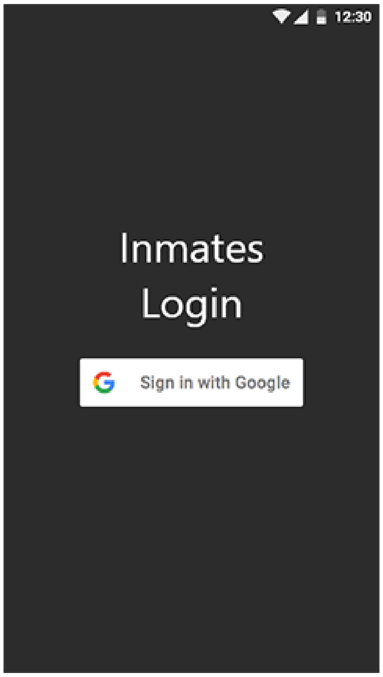
User Interface Mocks

Login Select Activity



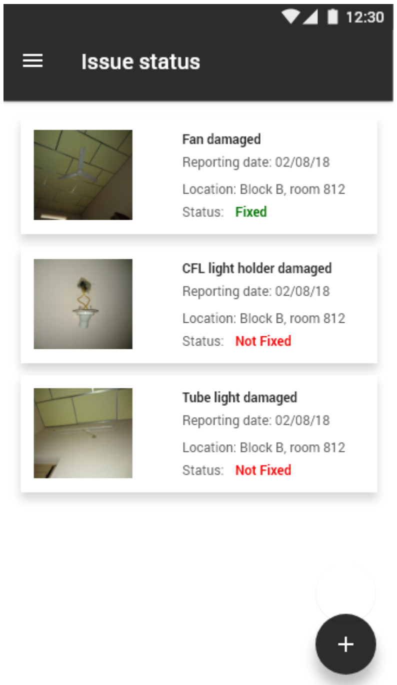
This screen will never appear after login. So the login selection will be final.

Inmates Login Activity



This screen is implemented with the help of **Google Sign In**.

Issue Status Activity



12:30

Issue status

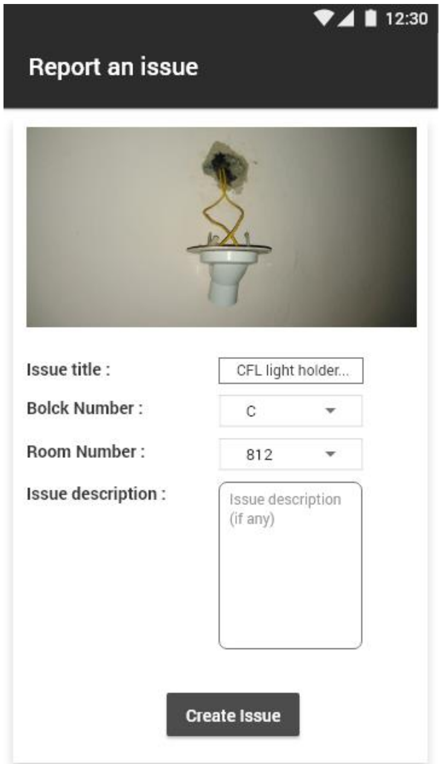
Fan damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Fixed

CFL light holder damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Not Fixed

Tube light damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Not Fixed

All issues and their status reported by a respective student listed here with the help of a recycler view. It also provides a FAB to create new issue.

Report an Issue Activity



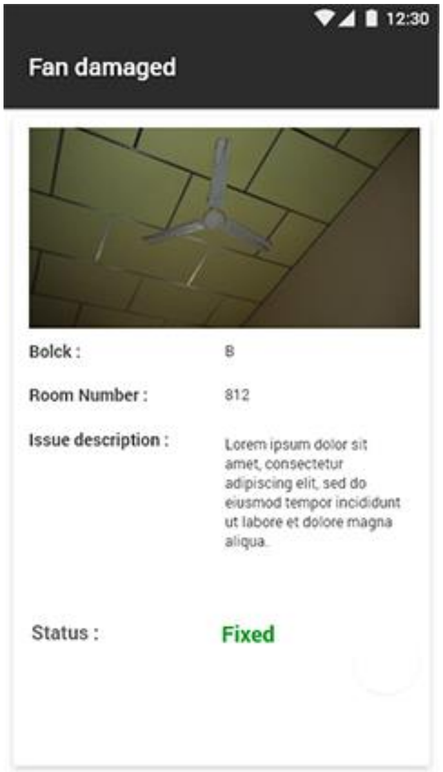
12:30

Report an issue

Issue title : CFL light holder...
Bolck Number : C
Room Number : 812
Issue description : Issue description (if any)

FAB in the Issue Status Activity leads to this activity. Here we can give issue details. By taping **Create Issue** button a notification with details of issue will be sent to hostel reception.

Reported Issues Details for Inmates Activity



Fan damaged

Bolck : B

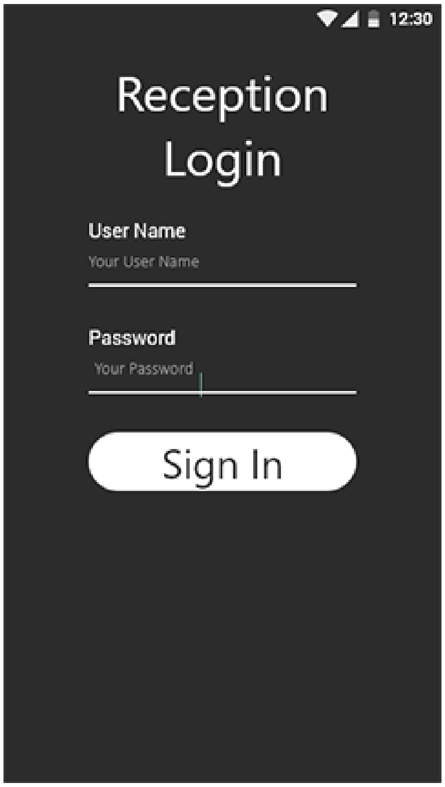
Room Number : 812

Issue description : Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

Status : Fixed

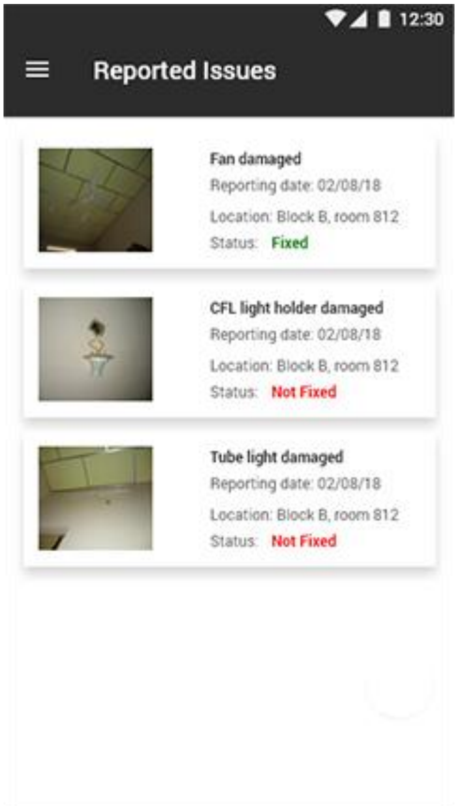
It will display the issue in detail.

Reception Login Activity



There should be only one login for **receptionist.** For which, user name and password are default stored in firebase Real Time Database. Once the receptionist has logged with this user name and password he can change that as he wanted.

Reported Issues Activity



12:30

Reported Issues

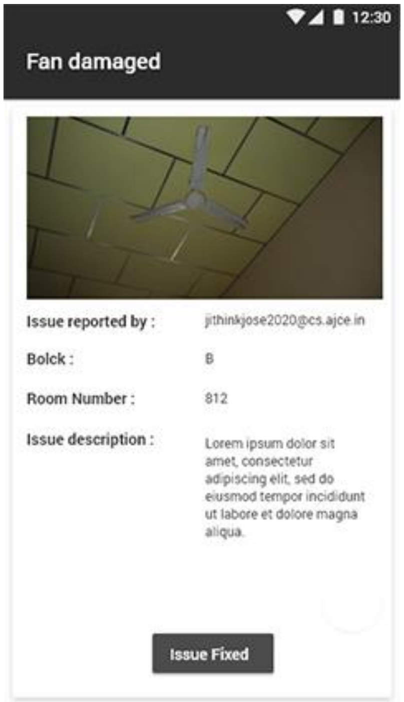
Fan damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Fixed

CFL light holder damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Not Fixed

Tube light damaged
Reporting date: 02/08/18
Location: Block B, room 812
Status: Not Fixed

All issues and their status reported by hostel inmates are listed here with the help of a recycler view.

Reported Issues Details for Reception Activity

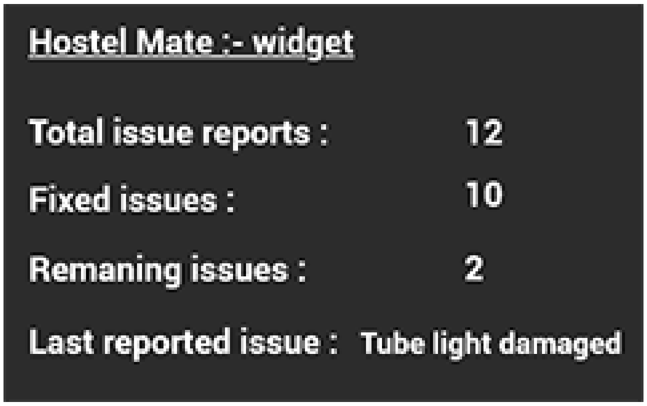


Fan damaged

Issue reported by :	jithinkjose2020@cs.ajce.in
Bolck :	B
Room Number :	812
Issue description :	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

If the receptionist chooses an issue, its detailed view will be displayed as shown above**.** After fixing the issue receptionist can change the status from **Not fixed** to **Fixed** by taping **Issue Fixed** button.

Home Screen Widget



Hostel Mate :- widget

Total issue reports :	12
Fixed issues :	10
Remaning issues :	2
Last reported issue :	Tube light damaged

Home Screen Widget will display details like total issue reports/fixed issues/remaining issues etc.

Key Considerations

How will your app handle data persistence?

For this App I need to store Issue title/Block/Room Number/Issue description and Image of the issue. All these will be store and retrieve from firebase real time database.

Describe any edge or corner cases in the UX.

Login Select Activity will be display only once. If the user logged as inmate and then relaunched the app, app will go directly into **Issue Status Activity** instead of **Login Select Activity.** If the user logged as Receptionist (this is possible only if the user has the user name and password which already set) he/she will be directed to **Reported Issues Activity** on relaunch of the app**.**

Describe any libraries you'll be using and share your reasoning for including them.

Glide – for display image related to the issue.
Butter knife - for data binding. (goodbye to findViewByID)

Library	Stable Version
Glide	4.8.0
Butter knife	8.8.1
Gradle	4.4
Plugin	3.1.0
constraint-layout	1.1.3
gson	2.8.4
play-services-auth	16.0.0
google-api-client-android	1.22.0
Android studio	3.1.4
cardview	v7:27.1.1

Describe how you will implement Google Play Services or other external services.

Google Sign-In is used for hostel inmates login.
Data persistence is implemented with the help of Firebase Real-time database.

Next Steps: Required Tasks

Task 1: Project Setup

- Integrating Google Sign-In
- Setup firebase for using Real-time database for storing details of an Issue.

Task 2: Implement UI for Each Activity and Fragment

- Build UI for Login Select Activity
- Build UI for Inmates Login Activity
- Build UI for Reception Login Activity
- Build UI for Issue Status Activity
- Build UI for Report an Issue Activity
- Build UI for Reported Issues Details for Inmates Activity
- Build UI for Reception Login Activity
- Build UI for Reported Issues Activity
- Build UI for Reported Issues Details for Reception Activity

Task 3: Connecting with back-end

- Implement Google Play Services for Google Sign In
- Configure Firebase Database.

Task 4: Setup Notification facility for the receptionist

- App should display a notification in the receptionist phone when a new issue is arrived. This will be implement with the help of Intent Service.
- By tap on this notification app should open.

Task 5: Setup a home screen widget for the inmate

- Home screen widget should show total number of issues/number of fixed issues/number of remaining issues etc.