

# SPEAK OUT

A students' grievance support system



Team Name: The Problem Solvers

Team Members: Bhavesh Sharma, S Pranitha



# Have you ever faced a problem but didn't know how to bring it forward?

No need to shy away  
anymore.

Wouldn't it be easier if  
you could register a  
complaint with just a tap  
in your mobile phone?

# Why?

Why choose this app for grievance redressal?

→ **Right Platform**

For students to be heard out.,  
User-friendly .

→ **Solution**

Brings out solutions to their problems

→ **Safe & Secure**

Only the ISM authorities and students  
will be to access and it, with the  
authority having full permission to  
add/delete the user

# About the app

Developed by the students of ISM, the app highlights the problems faced by ISMites accurately. 'Speak Out' lets the students to express their concerns and grievances in an efficient way, and allows the competent authority to redress them quickly.

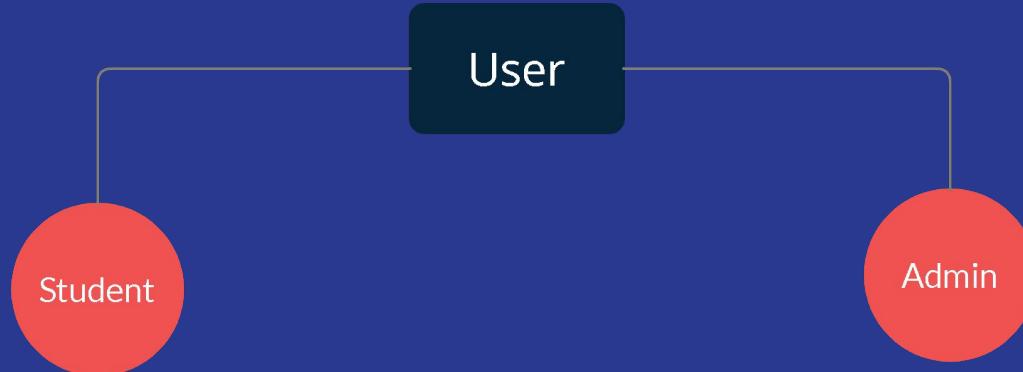


# FEATURES OF 'Speak Out'



# USERS

'SPEAK OUT' lets two types of users in it.  
It lets students to write their grievances &  
The competent authority (ADMIN per say) to reply back to them.



# Students...With Speak Out

- Can register a complaint
- View the public grievances
- Keep track of their complaints
- Reply to authority in case of any issue
- Upvote, Downvote & Comment to any complaint
- View Top Upvoted complaint
- View complete statistic data of complaints

# Authority...With Speak Out

- Can view grievances filed by the students
- Change status of the complaint (students will be notified)
- Reply to concerned student
- View profile of registered users
- Block/Unblock a user
- Delete complaint from the database
- View Top Upvoted complaint
- View complete statistic data of complaints

# Complaints

Complaints can be classified into two ways, based on:

## 1. STATUS

Status of the complaint can be changed by the admin, and the owner of the complaint will be notified.

## 2. CATEGORIES

Complaints can be split into various categories depending upon where the problem lies.

# STATUS OF COMPLAINTS

(can be updated by the admin)

## PENDING

User's complaint  
has not been  
checked yet.



## IN PROGRESS

User's complaint is  
in-progress &  
action is yet to be  
taken.



## RESOLVED

Problem has been  
resolved and  
grievance has been  
redressed.



# CATEGORIES

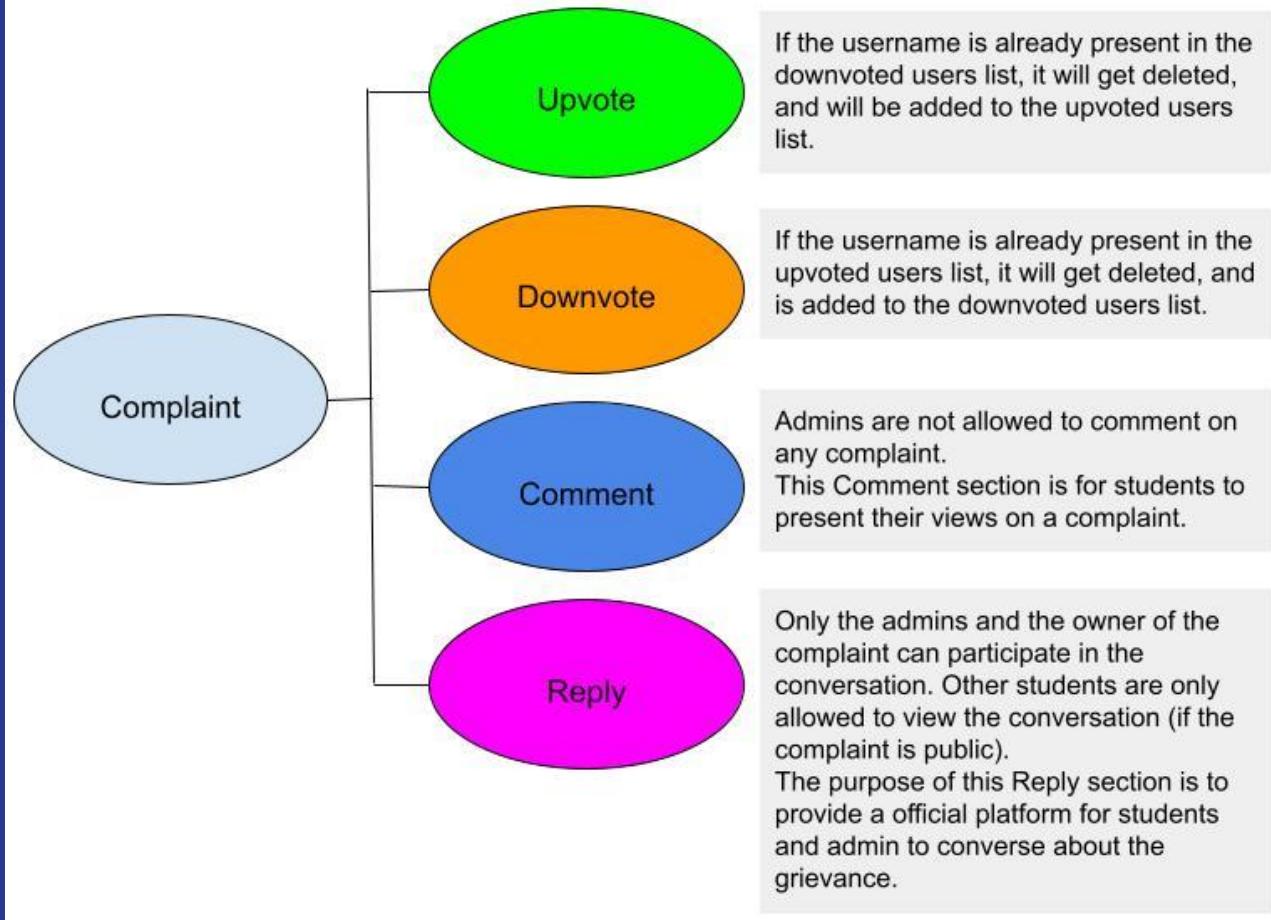
- 1) **Registration** : Pre-Registration, Fee Payment, others
- 2) **Academics** : Lecture Timing, Paper Evaluation, Attendance, others
- 3) **Vendors of ISM** : RD , Barista, GuruJi, etc
- 4) **DSW** : Scholarship, Club, Sports, Guest room complaints for parents
- 5) **MIS/Parents Portal** :
- 6) **Hostels** : Electricity, Hygiene, Warden, Mess
- 7) **Health Center** : Hygiene, Doctor Unavailability, Medicine Unavailability, Ambulance Issue, bed Unavailability, other
- 8) **Library Issues** : timing, issuing/reissue/submitting a book, fine, others
- 9) **Personal**

## Categories & Its Subcategories

Will be easier to sort and filter the complaints.

Sub categories will be dynamically shown after selecting the category.

# FEATURES OF A COMPLAINT



# ADMIN PRIVILEGES

In the reply screen, the admin has the authority to perform the following actions:

## CHANGE STATUS

From present status to either of the remaining two.

## DELETE THE COMPLAINT

Can delete the complete complaint, if it is not abiding the institute's rules and principles or is found to be with foul language.

## BLOCK THE USER

If the admin finds the student to be sending several unnecessary complaints with foul language, they can simply block that user, preventing them from sending another abusive complaint.

# FILTERS



Home Screen is broadly classified into three sections: Pending, In Progress, and Resolved.

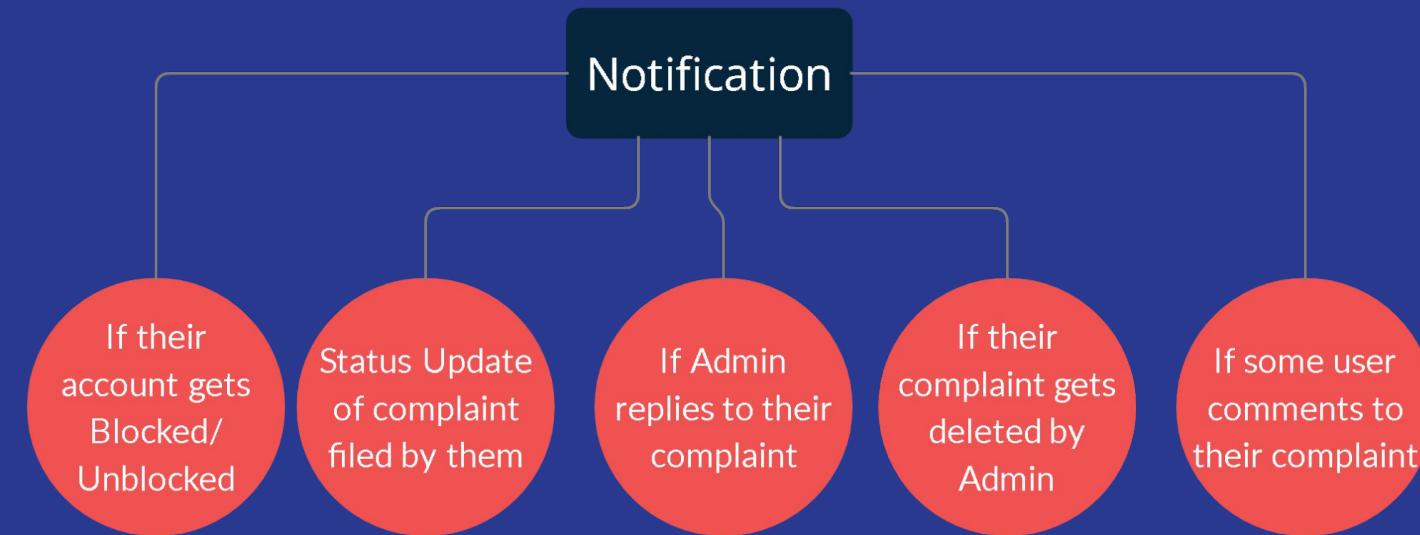
Users can move about these three fragments to get to know the complaints in each of the status.

In addition to this, complaints can be filtered out based on their categories. User can check the complaints belonging to a particular category by selecting that category inside the filter dialog.

# NOTIFICATIONS



The user (student) will be notified about the following situation:



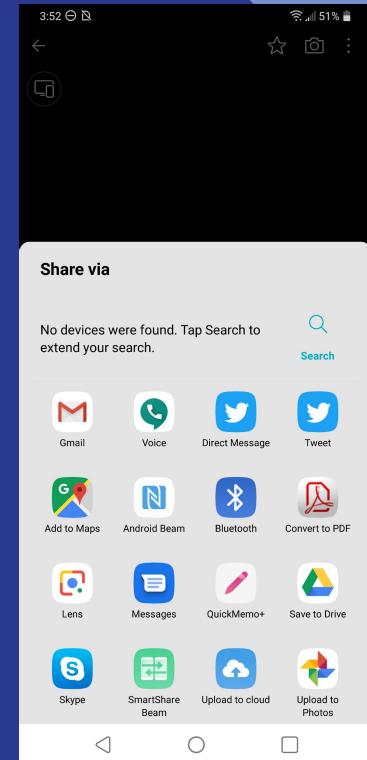
They will get notification, and this will be stored in database, and will be shown in 'In App Notification' Page. User can navigate to the given notified complaint from there.

# LINKS

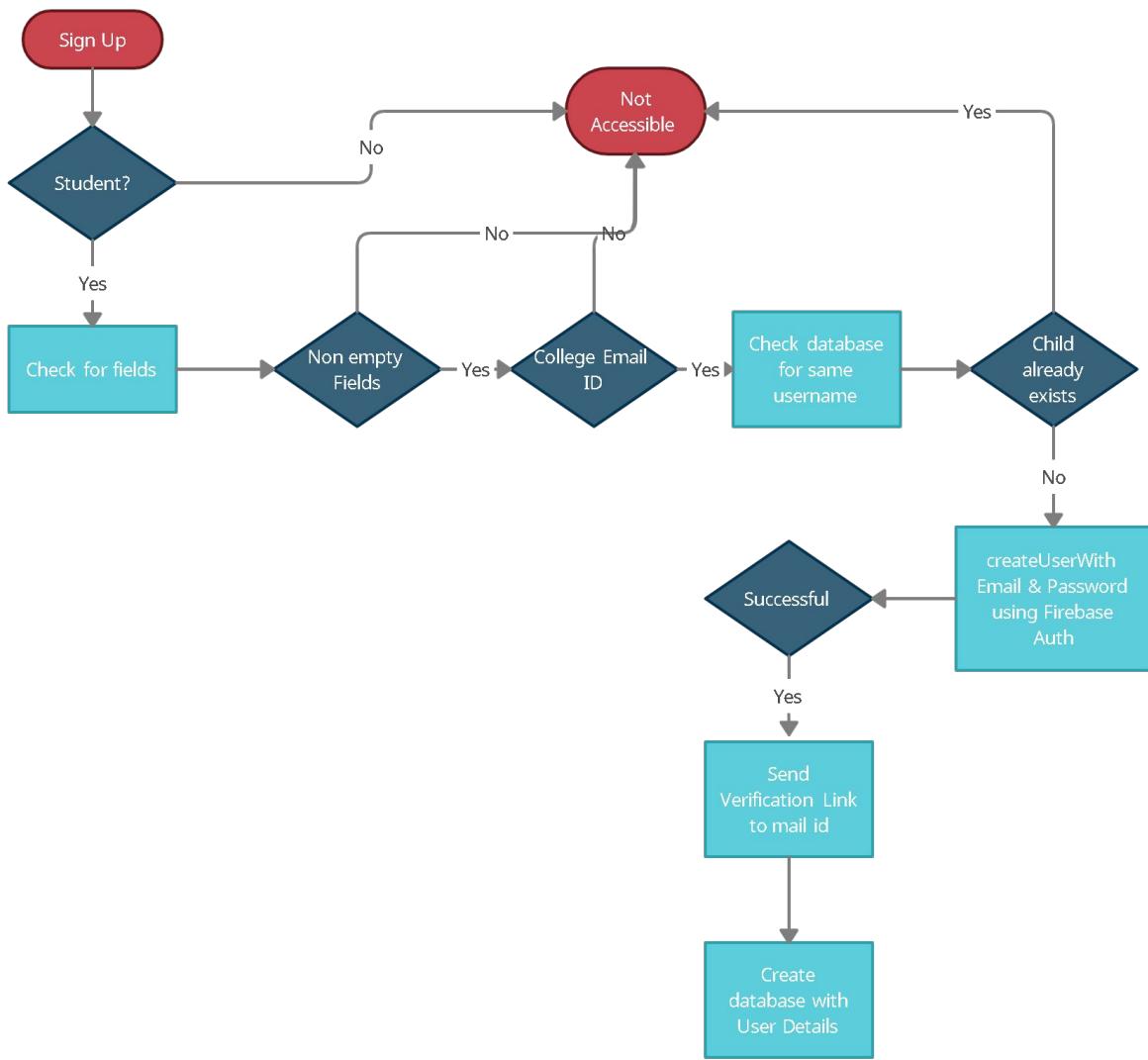


A complaint could be shared to various platforms by means of a link.

By which any user will be able to share their complaints to their fellow peers and they would be able to open the given complaint and could upvote/downvote/comment.



# Flowchart for Signup process



# SIGN UP



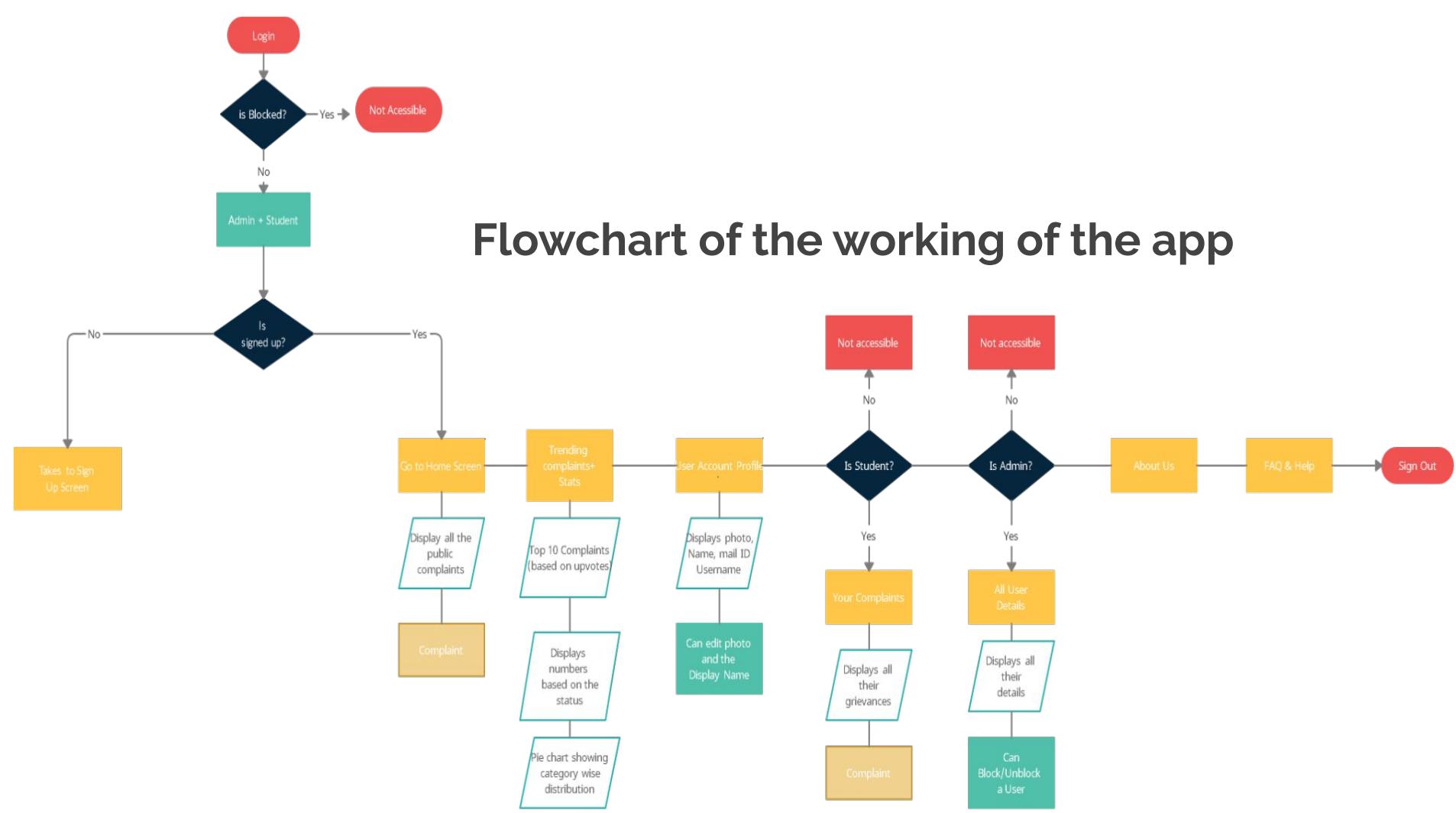
**Only students will be able to sign up**, using their **admission number as their username**, college email id, name of the student and password.

**Admin Sign Up:** Admin sign up should be done manually by the higher officials to prevent fraud activities by students, preventing them from signing up as the admins.

**Verification link** will then be sent to their respective institute email id, after which they can sign in.

## **Username & Email ID checks**

- Institute mail ID
- Username should be unique
- Mail ID should contain the username( to check if its admission number)



# UI of 'Speak Out'



SPEAK OUT

# Sign In

 Username

Admission number

 Password[Sign In](#)[SIGN UP](#)[Forgot Password?](#)

# Sign Up

Only for student.

SPEAK OUT

# Sign Up

 Username

Admission number

 Email

Institute Email Id only

 Display Name

It will be visible to all

 Password[Sign Up](#)

# Sign In

Both **admin and student can use the sign in screen**. The username(admission number in case of students) and password should be filled in for login.

SPEAK OUT

## Reset Password



You will be receiving a link in your mail.  
Kindly click on that link to reset your  
password.



Email

Institute Email Id only

**Reset**

## Reset Password

Incase the user forgets  
his/her password, they can  
reset their password by  
entering their mail id.

A verification link will be sent  
to their mail, through they will  
be able to change their  
passwords.

# Home Page

The home page is a user-friendly activity with custom toolbar, navigation drawer and a floating button to 'File a Complaint'.

Users can sort the complaints by categories or by status.

**ONLY PUBLIC** complaints will be visible in this screen for students. Admin will be able to view both Public & Private.

The screenshot displays the 'Speak Out' mobile application interface. At the top, there's a blue header bar with the time (1:19), battery level (87%), signal strength, and a bell icon. Below the header is a toolbar with a megaphone icon and the text 'Speak Out'. To the right of the megaphone are three buttons: 'Sort By Categories', 'PENDING' (highlighted in green), 'IN-PROGRESS', and 'RESOLVED'. The main content area shows three complaints listed vertically:

- @19JE0389** (Pending) - Posted on May 23, 2021, at 12:25:27 PM. Category: Fees. Description: "Fees could be reduced a little more since lockdown has rendered many people jobless." Upvotes: 1, Downvotes: 0, Comments: 0.
- @18je0009** (Pending) - Posted on May 23, 2021, at 12:07:08 PM. Category: Hostel. Description: "Regarding hostel facilities. The corridors are not clean and the condition is awful. There is a broken tap in first floor, due to which water keeps leaking everywhere throughout the day. I request you to solve these issues as soon as possible." Upvotes: 1, Downvotes: 0, Comments: 0.
- @19je0725** (Pending) - Posted on May 19, 2021, at 4:27:49 PM. Category: Doctor. Description: "Doctor not available on 18th May. Had to wait f or so long." Upvotes: 0, Downvotes: 0, Comments: 0.

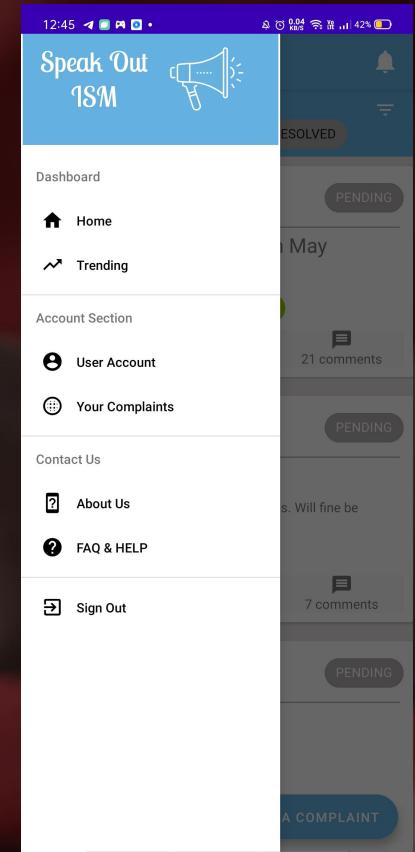
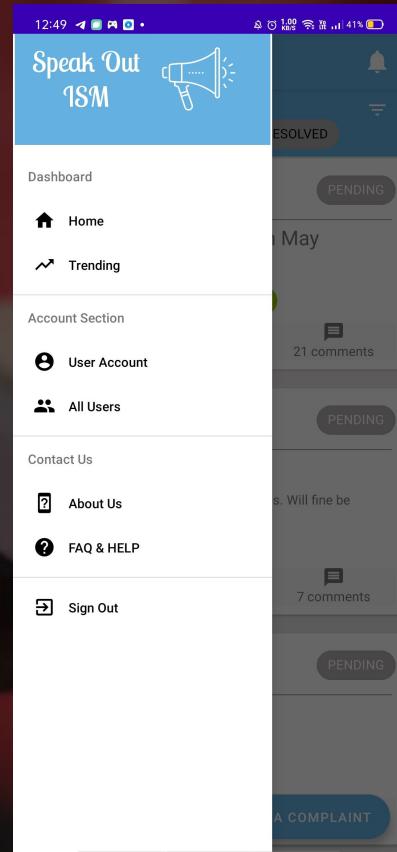
At the bottom of the screen, there are two buttons: 'Health Centre' and 'Doctor Up'. A large blue button on the right side says '+ FILE A COMPLAINT'.

# Navigation Drawer

Will be able to move to other screens.

ADMIN

STUDENT



# File a Complaint

- Choose category
- Choose the respective sub-category
- Complete the title and the message that you want to convey in your grievance
- Change the setting to Private, if you do not want it to be visible to other users.
- If public, you have the option the post the complaint as an Anonymous User.

The screenshot shows a mobile application interface for filing a complaint. At the top, there is a header bar with the text 'Create a complaint' and a back arrow icon. The main content area is divided into sections for choosing categories and sub-categories, followed by input fields for the title, subject, and message, and finally settings for visibility and anonymity.

Choose a category:

- Registration (selected)
- Academics
- DSW
- Vendors of ISM
- MIS/Parent Portal
- Hostel
- Health Centre
- Library
- Personal

Choose a sub-category:

- Pre-Registration
- Fees Issue
- Others

Title

Subject of the grievance

Message

Mention your grievance elaborately

Visible to Public

Post Anonymously

Submit

# SORT BY STATUS

1:19 0.02 87% ●

## Speak Out

Sort By Categories

PENDING IN-PROGRESS RESOLVED

@19je0389 May 23, 2021 12:25:27 PM PENDING

Fees

Fees could be reduced a little more since lockdown has rendered many people jobless.

Registration Fees Issue

1 upvotes 0 downvotes 0 comments

@18je0009 May 23, 2021 12:07:08 PM PENDING

Regarding hostel facilities

The corridors are not clean and the condition is awful. There is a broken tap in first floor, due to which water keeps leaking everywhere throughout the day. I request you to solve these issues as soon as possible.

Hostel Hygiene

1 upvotes 0 downvotes 0 comments

@19je0725 May 19, 2021 4:27:49 PM PENDING

Doctor not available on 18th May

Had to wait for so long

Health Centre Doctor Up + FILE A COMPLAINT

1:19 0.04 87% ●

## Speak Out

Sort By Categories

PENDING IN-PROGRESS RESOLVED

@18je0009 May 23, 2021 12:31:54 PM IN-PROGRESS

Scholarship- Pending from last 4 months.

Sir I had applied for my state (Madhya Pradesh) scholarship four months ago from our state scholarship portal and it got successfully submitted and showing me its status as 'Pending with Institute' from that time even till now. Sir I had informed you regarding this scholarship submission four months ago al...

DSW Scholarships

1 upvotes 0 downvotes 0 comments

@18je0009 May 23, 2021 12:16:24 PM IN-PROGRESS

Not able to pre register

I have been trying to open and go to the pre registration site for the next semester from a month. It fails every time. I have not gotten any response to the mails I have sent regarding this. Tomorrow is the last day. Please let me know what to do about this.

Registration Pre-Registration

1 upvotes 1 downvotes 0 comments

@19je0235 May 19, 2021 4:34:14 PM IN-PROGRESS

Parents Portal is not working

+ FILE A COMPLAINT

1:19 0.05 87% ●

## Speak Out

Sort By Categories

PENDING IN-PROGRESS RESOLVED

@19je0389 May 23, 2021 12:19:07 PM RESOLVED

Food

Food can be improved and the quantity of certain food items can also be increased.

Hostel Mess

0 upvotes 1 downvotes 1 comments

@Anonymous May 19, 2021 4:37:37 PM RESOLVED

Quality of Food is compromising

Sir the quality of the food provided by Guruji stall in our campus is not good at all. Students are getting hospitalised due to food poisoning because of bad food quality.

Vendors of ISM Guruji

2 upvotes 1 downvotes 0 comments

@19je0725 May 19, 2021 4:28:16 PM RESOLVED

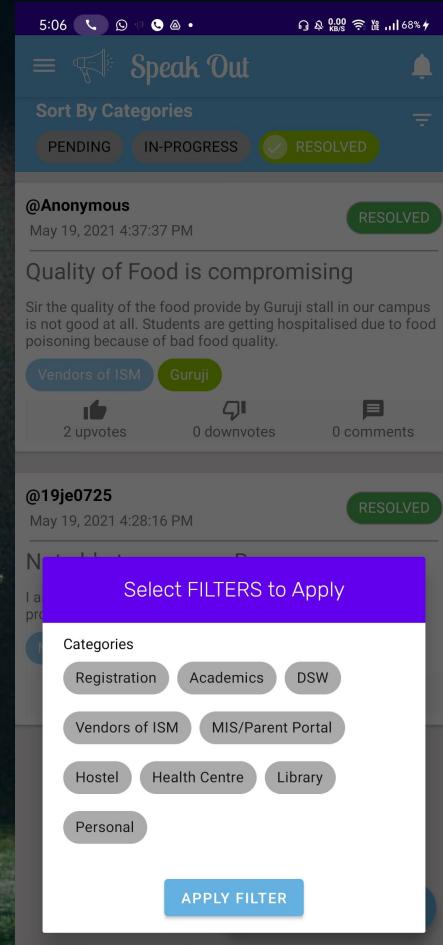
Not able to open my Resources

I am not able to open any of the documents which my professors had uploaded. of all

MIS/Parent Portal Tech Up + FILE A COMPLAINT

# SORT BY CATEGORIES

Filters can be used to differentiate between various categories.



# Comments

- Students are allowed to engage in this part of the activity.
- They can share their views, suggestions inside the comments box.
- Admin is not allowed to comment here.

The screenshot shows a mobile application interface with the following details:

- Header:** 12:46, 0.04 KB/s, 42% battery.
- Title:** Speak Out
- Section:** Sort By Categories
- Buttons:** PENDING (green), IN-PROGRESS (blue), RESOLVED (grey).
- User Post:** @19je0725, May 19, 2021 4:27:49 PM, status PENDING.

Doctor not available on 18th May  
Had to wait f or so long

Health Centre Doctor Unavailability

2 upvotes 0 downvotes 21 comments
- Comments Section:** Doctor not available on 18th May
- Comment 1:** 19je0235, May 19, 2021 4:59:58 PM.

Doctor are mostly not available in health center please check it as sometimes there need is must for us.
- Comment 2:** 19je0725, May 20, 2021 2:12:16 PM.

Hello
- Text Input:** Enter your Message here.

# Profile

Can view the user's profile details by tapping on their username in the complaint card.

If the complaints is written as an anonymous user, students will not be able to view the profile details.

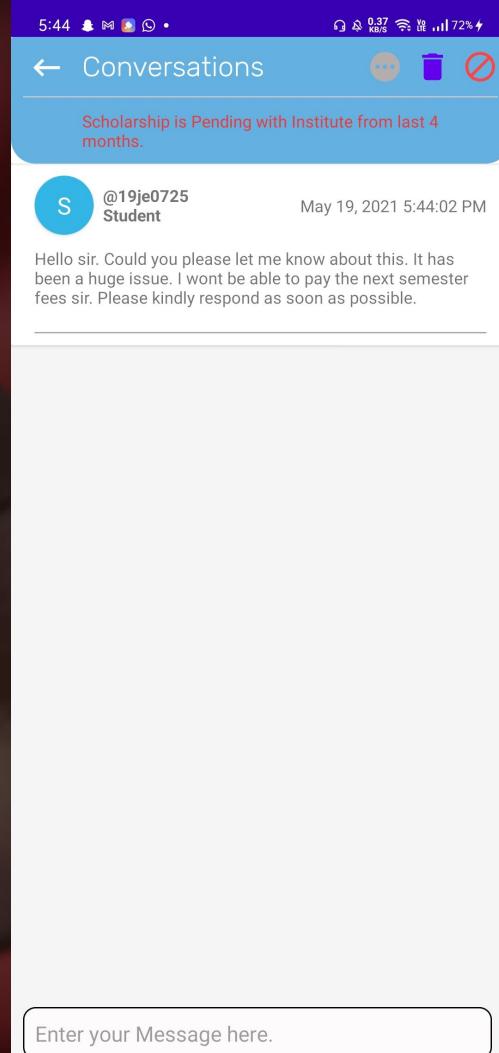
The screenshot shows a mobile application interface titled "Speak Out". At the top, there are icons for battery level (41%), signal strength, and network connectivity. The main header includes a menu icon, a megaphone icon, the app name "Speak Out", and a bell icon. Below the header, there are three buttons: "PENDING", "IN-PROGRESS" (which is highlighted in green), and "RESOLVED". A search bar is located above a list of complaints. The first complaint in the list is from a user with the handle "@19je0235", posted on "May 19, 2021 4:34:14 PM". The complaint text reads: "Parents Portal is not Working". Below the text, a message states: "Sir parents Portal is not working. We are having our exam in next few days but we are not able to get our class material upload by professor. Please resolve it asap." There are two buttons at the bottom of the card: "MIS/Parent Portal" and "Technical Issue". Below the card, there are icons for thumbs up, thumbs down, and a comment bubble. A profile picture of a man is shown next to the handle "@19je0235". The profile information includes the name "Bhavesh Sharma" and the email "bhavesh.19je0235@ee.iitism.ac.in". At the bottom of the screen, there is a blue button labeled "+ FILE A COMPLAINT".

# Conversation

- Admin and the owner of the complaint can alone converse through this.
- Will be visible to all.

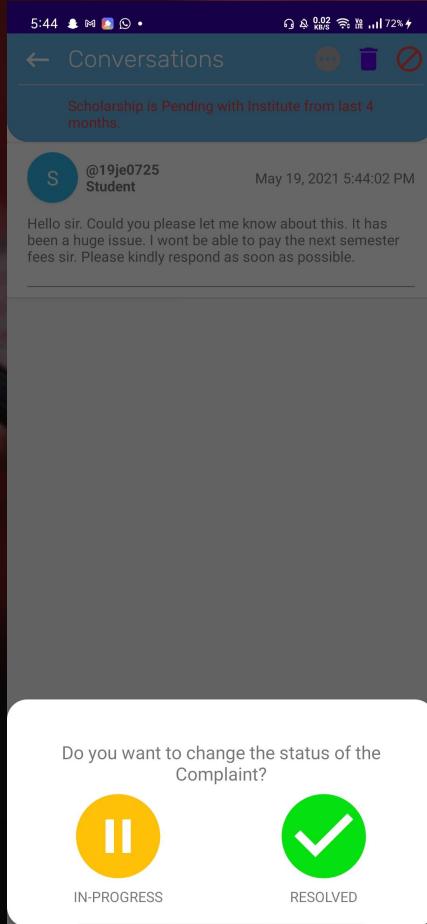
## Admin Features

- Can change the status
- Can delete the complaint
- Can block the user

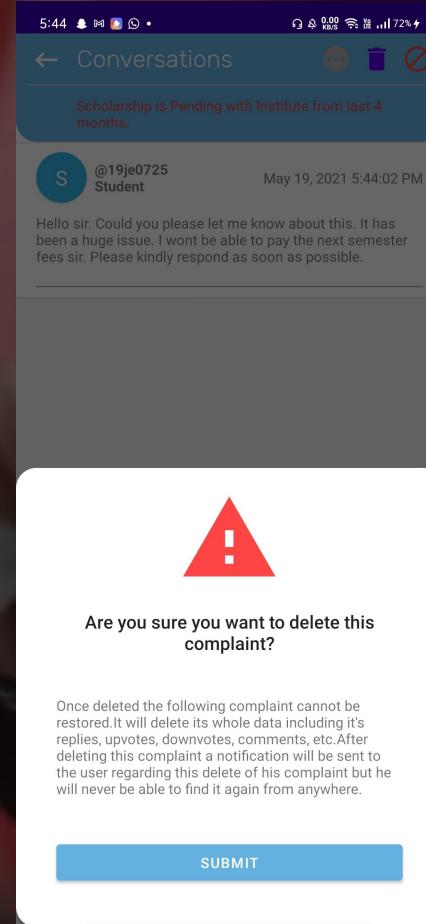


# ADMIN PRIVILEGES

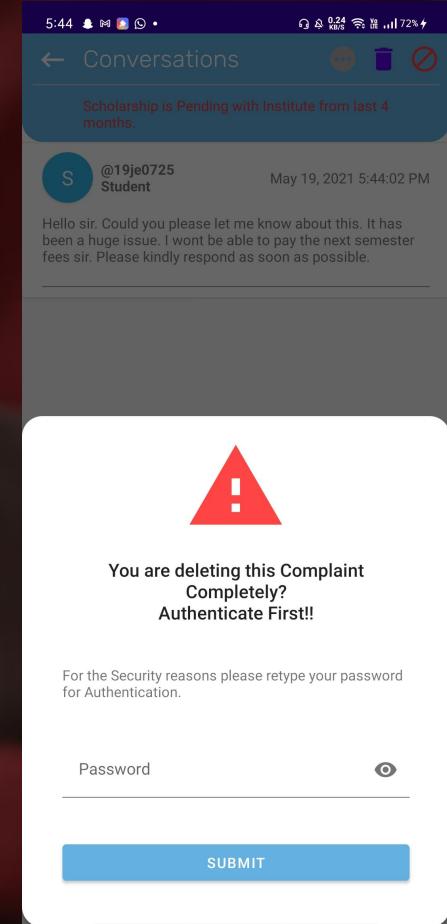
Can update status



Deleting a complaint

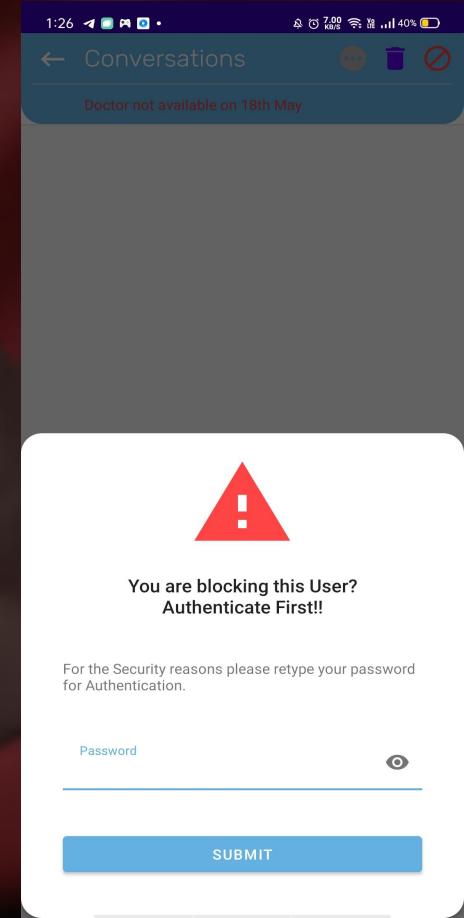
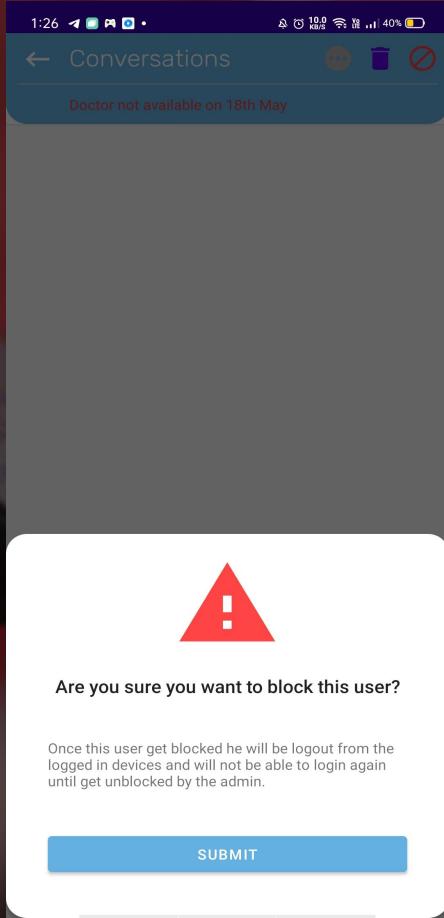


Need to authenticate before deleting



## Deleting a complaint

Need to authenticate  
before deleting



**ADMIN  
PRIVILEGES**

# Trending + Stats

- Top 10 Complaints {maximum number of upvotes}
- Status wise distribution
- Category wise distribution {Pie chart-rotatable}

1:18 0.85 KB/S 87%

## Trending

### TOP 10 Complaints

1. Vendors of ISM .Trending  
Quality of Food is compromising  
2 Upvotes
2. MIS/Parent Portal .Trending  
Not able to open my Resources  
2 Upvotes
3. Library .Trending  
Couldn't submit the book  
2 Upvotes
4. DSW .Trending  
Scholarship- Pending from last 4 months.  
1 Upvotes
5. Registration .Trending  
Fees  
1 Upvotes
6. Registration .Trending  
Not able to pre register  
1 Upvotes
7. Hostel .Trending  
Regarding hostel facilities  
1 Upvotes

+ FILE A COMPLAINT

1:18 0.05 KB/S 87%

## Trending

10. Hostel .Trending  
Food  
0 Upvotes

### Status of Complaints

|                         |    |
|-------------------------|----|
| Total Complaints:       | 11 |
| Resolved Complaints:    | 3  |
| In-Progress Complaints: | 3  |
| Pending Complaints:     | 5  |

### Complaints Distribution

The pie chart is divided into four segments representing different categories of complaints. The segments are: Hostel (27.3%), MIS/Parent Portal (18.2%), Registration (18.2%), and Library (9.1%). Each segment is color-coded and labeled with its category name and percentage.

+ FILE A COMPLAINT

# In App Notifications

All the notifications will be stored in database and will be displayed on this screen.

User will be able to navigate to the notified complaint by tapping on the 'GO TO COMPLAINT'.

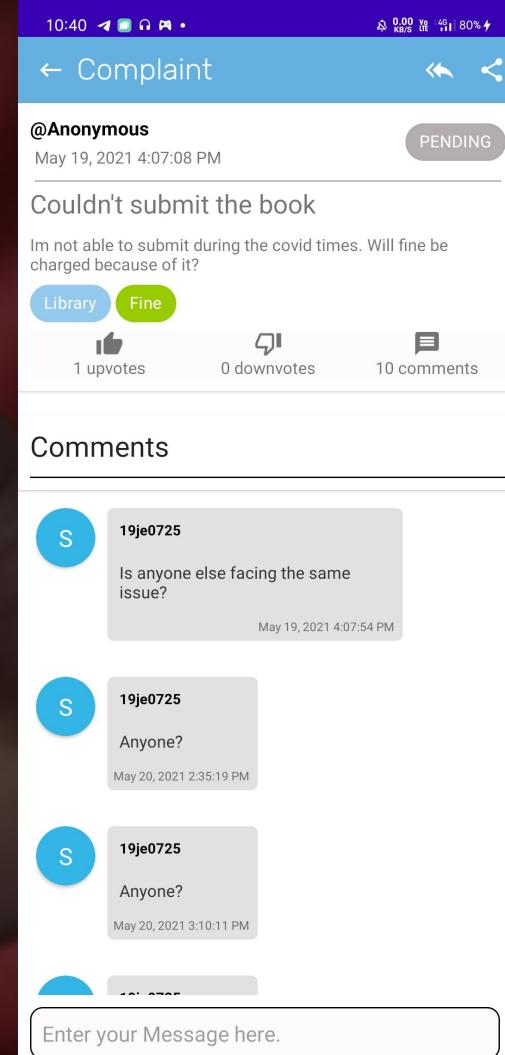
The image shows a smartphone screen displaying a "Notifications" page. The top status bar shows the time as 10:39, signal strength, battery level at 80%, and other icons. The main screen has a blue header with the title "Notifications". Below the header is a section titled "Your notifications" with a blue underline. There are five notification cards listed:

- Account Security - New Sign In Detected** (May 22, 2021 10:36:18 PM)  
Since single sign on is allowed you are logging out from this device.
- Account Security - New Sign In Detected** (May 22, 2021 8:04:21 PM)  
Since single sign on is allowed you are logging out from this device.
- Account Security - New Sign In Detected** (May 22, 2021 7:45:39 PM)  
Since single sign on is allowed you are logging out from this device.
- Account Security - New Sign In Detected** (May 22, 2021 7:44:24 PM)  
Since single sign on is allowed you are logging out from this device.
- Complaint : Couldn't submit the book** (May 22, 2021 3:42:44 PM)  
@19je0235 commented : Chill chl rha h ye toll  
[Go to Complaint](#)
- Complaint : Couldn't submit the book** (May 22, 2021 3:42:33 PM)  
@19je0235 commented : Kya issue h??  
[Go to Complaint](#)

# COMPLAINT

This screen will be visible to view a particular complaint, either from NOTIFICATIONS or from selecting the LINK from various platforms.

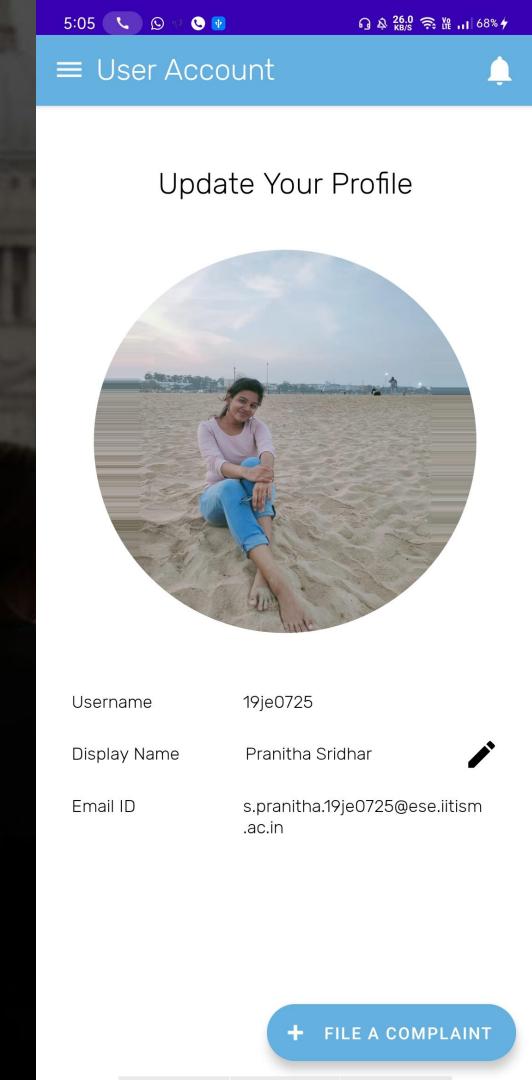
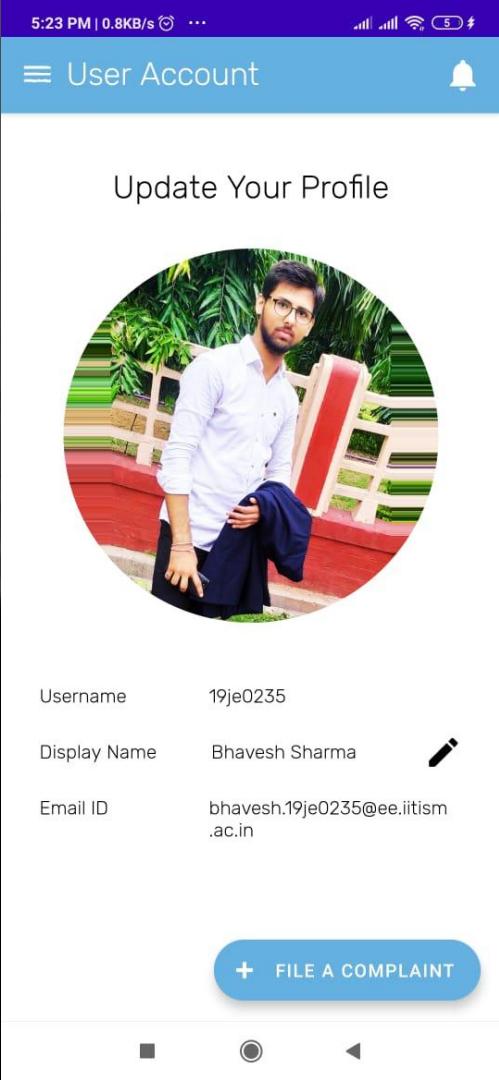
All the details including title, message, category, sub-category, status, username, upvotes, downvotes, comments and conversation will be displayed.



# User Account Profile

Only photo and display name are editable.

Mail id & Username cannot be changed.



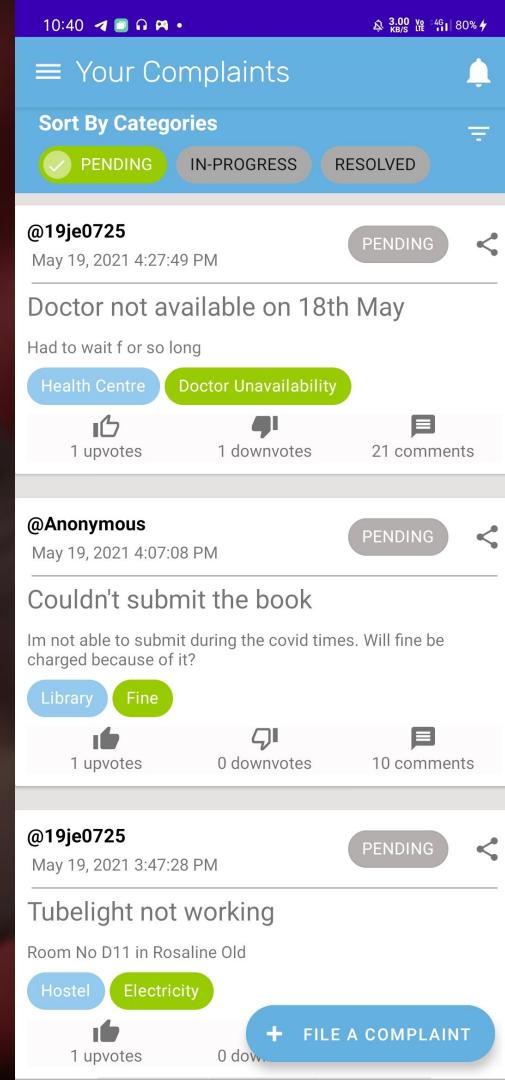
# Your Complaints (Only for students)

Can view all the grievances written by them.

Other users complaints will not be visible.

Filter & Sort by option (same as in Home Page)

The owner of the complaint can participate in the conversation with the admin.

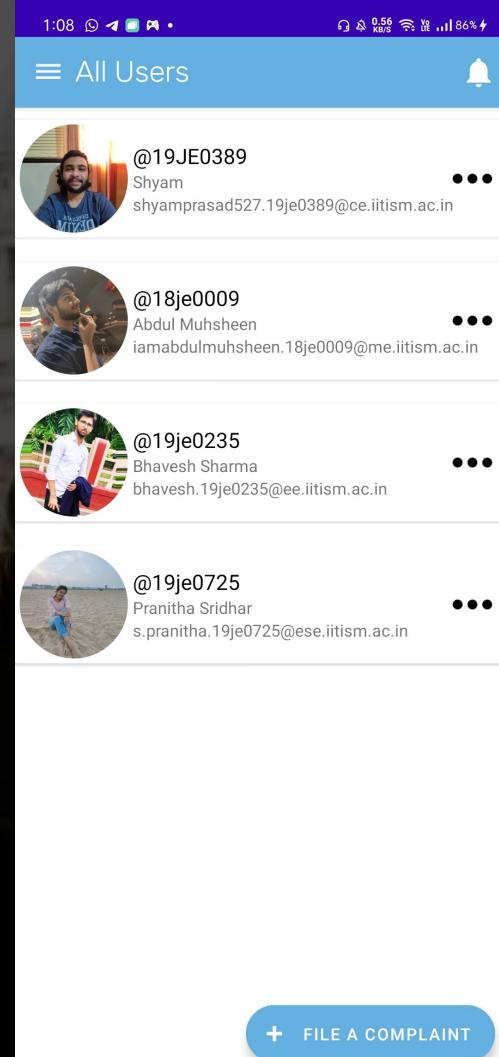


# All Users Profile (Only for Admin)

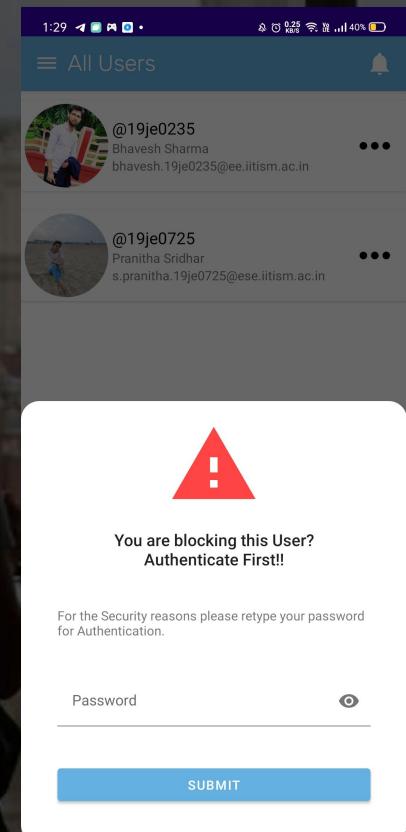
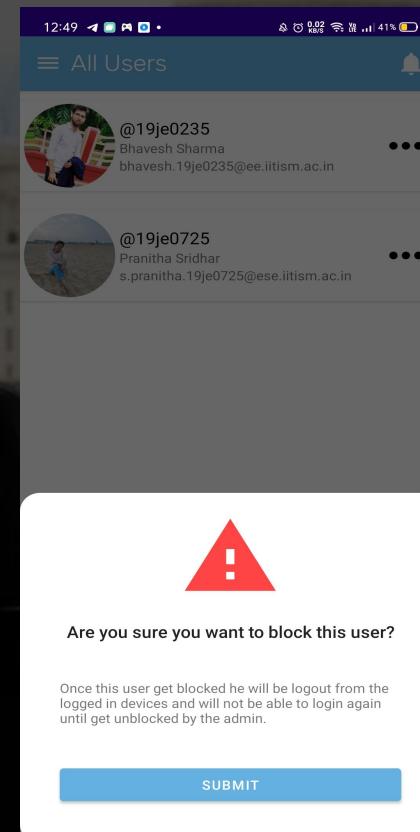
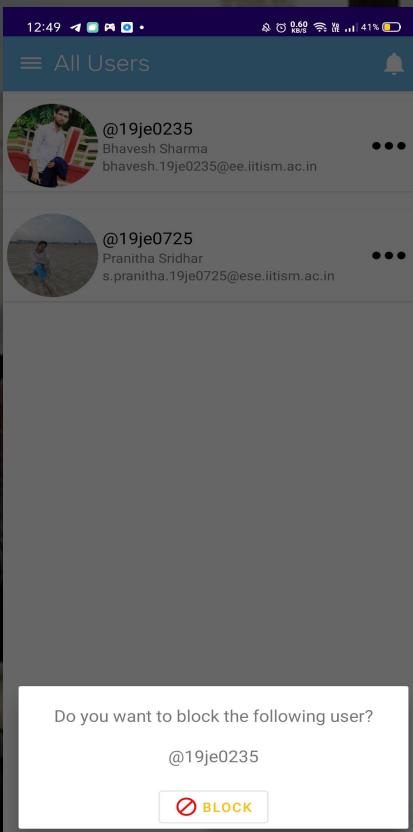
Admin will be able to view all the users' profile details such as:

- Picture
- Display Name
- Username(Admission Number)
- Institute Mail ID

Admin can also block/Unblock the selected user through this page.



# All Users Profile (Only for Admin)



# About Us

This section gives us the brief introduction about our college, about the app, and about us.

**About College ->** On clicking takes to ISM Website

**About the developers ->** On clicking takes to respective LinkedIn profile

It is made user-friendly and the user can contact the dean in case of any query. The mail-id and phone number of the dean is provided.

The screenshot shows a mobile application interface with a blue header bar. The top right corner displays the time (10:40), battery level (80%), signal strength, and network status. The header bar contains the text "About Us" and a bell icon. Below the header is a large circular image of the IIT (ISM) Dhanbad campus, featuring a red building and green lawns under a blue sky with white clouds. The text "IIT (ISM) DHANBAD" is overlaid on the bottom right of the image. The main content area is divided into three sections, each with a title, icon, and descriptive text:

- ABOUT COLLEGE**: An icon of a house is shown. The text describes the college's history, mentioning it has been standing tall since the early decades of the 20th century and has emerged into one of the most prominent institutions with full bloom functioning of 18 branches of Engineering, Applied Sciences, Management Studies and Humanities.
- ABOUT APP**: An icon of a smartphone is shown. The text explains that the app focuses on letting students of IIT (ISM) Dhanbad speak out their problems and grievances that they face, allowing them to do so publicly, privately, or anonymously, and receive a response from the associated admin.
- ABOUT THE DEVELOPERS**: An icon of two people is shown. Two circular profile pictures are displayed: one of a man named Bhavesh Sharma (19JE0235) and one of a woman named S Pranitha (19JE0725). Below each profile picture is their name and their student ID.

At the bottom of the screen, there is a blue footer bar with a mail icon and the text "dean\_acad@iitism.ac.in". To the right of the mail icon is a blue button with a plus sign and the text "FILE A COMPLAINT". The bottom right corner of the footer bar has a small number "3".

# FAQ & Help

This section provides the users with the questions that an user may wonder about while using the app for the first time.

2:09

0.08 KB/S

## FAQ & HELP



Hey @Prani, how can we help you?

How to raise a complaint?



How much time does it take for my complaint to be resolved



Is my data secure?



When should I post as 'Anonymous'?



How can I post a complaint which isn't visible to any other student?



If a complaint is not set to be public, it will be stored as PRIVATE. None of the other users except the admin will be able to view or access your complaint. It won't be available in the Home Page, will instead be in 'Your Complaints' section.

How will I know if status of any of my complaint has been changed?



What to do if my complaint has been deleted?



How to sort the complaints based on categories?



How to re-raise a com + FILE A COMPLAINT  
resolved?

+ FILE A COMPLAINT

# Technologies USED

## IDE:

Android Studio  
(JAVA & XML)

## Version Control:

Github for collaboration

## Server:

MongoDB

## Libraries Used:

Glide  
MPAndroidChart  
Shimmer  
Butterknife  
Circular ImageView  
Dots Loader Animation

## Google Firebase:

Authentication  
Realtime Database  
Firebase Cloud Messaging  
Cloud Storage

# Schemas

## Student Users

- username : String
- college email id : String
- uid : String
- photoUri : String
- Display Name : String
- is\_blocked : bool
- isLoggedIn : bool
- fcm\_token : String

## Admin Users

- username : String
- college email id : String
- uid : String
- photoUri : String
- Display Name : String
- isLoggedIn : bool
- fcm\_token : String

## Complaints :

- complaintId
- username
- uid
- date
- time
- subject
- body
- conversation\_id
- category
- subcategory
- visibility : PRIVATE | PUBLIC
- Anonymous: true|false
- status : PENDING | IN PROGRESS | RESOLVED
- upvotes : Array { uid (persons upvoted) }
- downvotes : Array { uid ( person downvoted ) }
- comments : Array { { username : ..... , comment : String, date\_time} }
- noOfUpVotes : Long
- noOfDownVotes : Long
- Date\_time: Map<String,long>

# Schemas

## Conversation

- Complaint\_id
  - Reply\_id
    - Message
    - Username (sent\_from)
    - Reply\_id
    - Is\_deleted
    - Date\_time

## Notification:

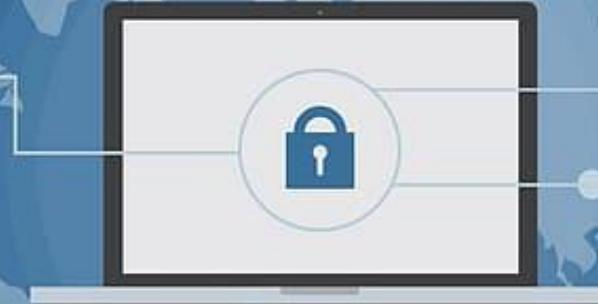
- ❑ uid
  - title
  - message
  - complaint\_id
  - comment\_id
  - timeStamp
  - profile\_uri
  - isBlocked : bool
  - setLoggedOut : bool

# Data Security Of 'Speak Out'



# Data Security Of 'Speak Out'

1. Is our database secure?
2. Is our Notifications system secure?
3. Can we prevent users from logging in from multiple devices?



# 1. DATABASE

Saving all the data of student user, admin user, complaints, replies and notifications in Firebase Realtime Database.

By default all the data in database are public to read and write by anyone. Data theft can happen due to it. So, we changed the rules of the sensitive data, such that only an authorised person will be able to access them.

Made it secure by changing the rules:

```
"rules": {  
  ".read": true,  
  ".write": "auth!=null",  
  "Complaints":{  
    ".write":"auth!=null",  
    ".read":"auth!=null"  
  },  
  "AdminUsers":{  
    "$uid":{  
      ".write":"auth.uid==$uid",  
    }  
  }  
}
```



Firebase

## 2 . NOTIFICATIONS

By default, FCM is used to send notifications to the users. But this maybe a problem as there are chances of our server key getting exposed. Anyone who has this key can send messages to all users of your app.



mongoDB®

So, we have made our own server in MongoDB and API call is done through that. So this will go and get the credentials and will call the FCM to send notifications.

# 3 . Single Device Log In

There may be many fraudulent activities that may happen, when users are allowed to log-in from multiple devices. So it will be better to restrict to just one device.

**LOG IN ->** Will check if is not already logged in. If not, will allow to go to the next page.  
If already logged in from device, they will be notified about it. They will be given an option to sign out from the device(s). If they yes, auto-sign out mechanism will occur in the other device.  
Now the user can access the app from the current device.

**LOG OUT ->**

Will change the isLoggedIn field to false & fcm\_token will become null.

**Auto LOG OUT ->** is done by FCM data message which runs in background services.

# App Source code

Github Repository link:

[bhavesh3005sharma/speakOutlsm \(github.com\)](https://github.com/bhavesh3005sharma/speakOutlsm)

Apk Link:

[speakOutlsm/app-debug.apk at master · bhavesh3005sharma/speakOutlsm \(github.com\)](https://github.com/bhavesh3005sharma/speakOutlsm)

Log Docx Link:

[https://docs.google.com/document/d/1oxpuY20ao8WtD0ky1aJTqUj61CeZ2OR\\_1swqpwpj03w/edit?usp=sharing](https://docs.google.com/document/d/1oxpuY20ao8WtD0ky1aJTqUj61CeZ2OR_1swqpwpj03w/edit?usp=sharing)

thank  
you

**Trial Credentials**

**ADMIN:** Admin

Password:student

**STUDENT:** 19je0725

Password:student