Notes Sharing Android Application

REPORT

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Summary:

An Android app to upload notes for public viewing. Students from all over the world can upload their notes on the website. Each note will be associated with tags which can be used to filter notes and search through them.

Data for Testing:

The data was primarily collected from IITB courses taken by the team members and from MIT OpenCourseWare.
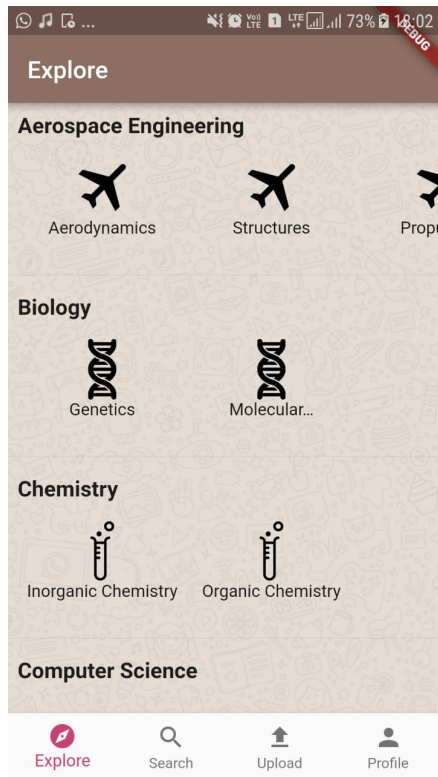
Screens:

Login Screen:
In this screen, the user can log in or create a new account. On logging in, the user is taken.to the 'Explore Screen'.

Explore Screen:
In this screen, the user can see a list of Disciplines (like 'Mathematics', 'Computer Science' .etc) with a scrollable list of Subjects for each Discipline. Users can select any of the subjects and they are redirected to a 'File Screen' which contains a list of all the files of that subject uploaded by all the users.

 The Explore Screen which contains all the disciplines and subjects.

File Screen:
This screen contains a list of all the files of a particular Subject.

For each file, it displays the number of likes, the number of views and the year of the file.

On clicking a file a screen containing further details of the file is opened. It contains the owner of the file, the Discipline and its Subject, year and Institute. The user can also 'like' a file over here.
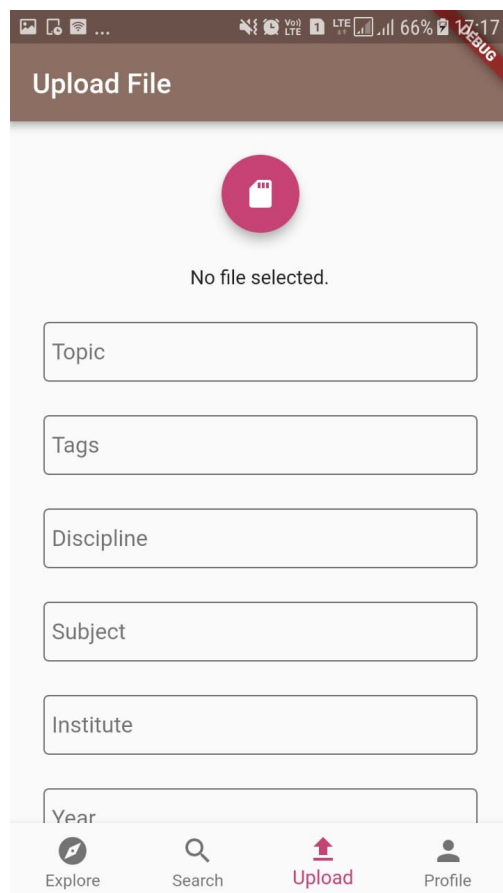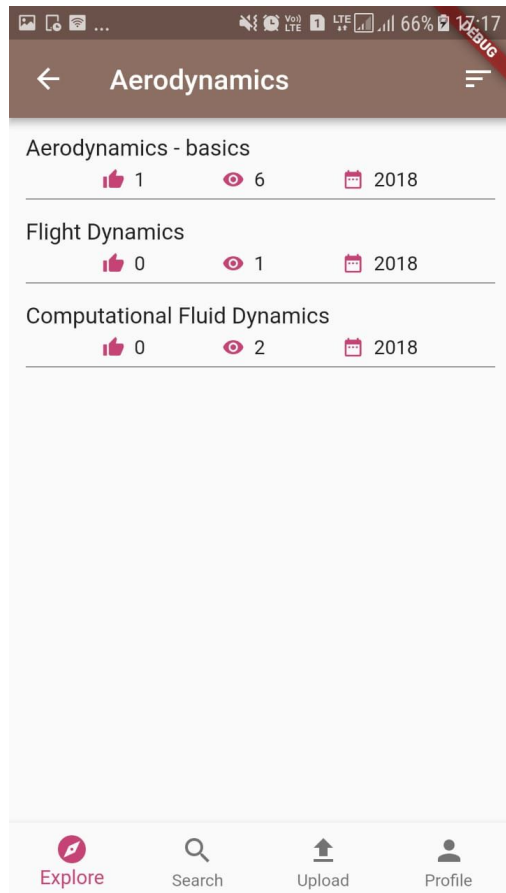
Upload File Screen:
In this screen, the user can upload a file to the App database. The user has to specify the file name, its tags (tags are used to associate a file to several topics. Eg: the file 'Wave Particle Duality' will have the tags Physics, Quantum Physics, Atomic Structure, and Waves).

The user will also have to specify the Discipline, Subject, Institute and year to which the note belong. The Discipline and Subject should be selected from a predefined list of disciplines and Subjects. This is done using an autocomplete mechanism.

Search Screen:
In this screen, users can search for a file that they would like to view or download. They can search by filename, related tags, discipline, subject, or institute. Again, the fields discipline, subject, institute, and tags are from predefined lists. This is done using an autocomplete mechanism.

The search algorithm used is Trigram Matching.

Screen 1: Search notes

Search..

Tags

Discipline

Subject

Institute

Submit

| Explore | Search | Upload | Profile |

Screen 2: Search Results

Free Vibrations
👍 0   👁 2   📅 2007

Chromosomes
👍 0   👁 0   📅 2012

Psychoanalytic theory Freud
👍 0   👁 0   📅 2009

Kramer Bell Model
👍 0   👁 0   📅 2015

Freuds Theory
👍 0   👁 0   📅 2009

Macroeconomics
👍 1   👁 1   📅 2009

Mutations and Suppressants
👍 0   👁 0   📅 2004

Rank of a matrix
👍 0   👁 0   📅 2017

MOSFET

| Explore | Search | Upload | Profile |

Screen 3: Flight Dynamics

Flight Dynamics

Uploaded By	mayanks
Total Views	1
Likes	0
Published Year	2018
Discipline	Aerospace Engineering
Subject	Aerodynamics
Institute	IIT Bombay

Open File

Download File

| Explore | Search | Upload | Profile |

Screen 4: My Profile

mayank
mayank@gmail.com   ⭐8

🕘 History

❤ Favorites

⬆ Uploads

⤷ Logout

| Explore | Search | Upload | Profile |

This screen displays basic user information like the user's username and email id. It also allows users to check their History, Favourites, and Uploads.

The History contains a list of all the filenames of the files that a user has downloaded. The Favourites contains a list of the filenames of the files that a user has marked favourite. The Uploads contains all the filenames of the files that the user has uploaded to the database. The user can finally log out of the app from this screen.

Servlets:

- Autocomplete Servlets: There are 4 servlets to perform autocomplete for subject, discipline, tags and institute. They are done by substring matching.
- Servlets to return data: There are 3 different servlets which are used for returning the History, Uploads and Favourites of a user.
- CreateUser Servlet: This servvlet generates a salt and hash for a user and first checks if the userid requested is already present. If not, it creates a new entry in the users_info table with the input details and a reputation of zero.
- Explore_Subj_Disc Servlet: This servlet is used to return a list of all the subjects that are there for each discipline. It is used for display on the Explore Screen.
- Login Servlet: This servlet, on receiving the userid and password, generates the hash and checks if it is consistent with the stored hash and salt. If yes, it passes the userid as a session variable else it sends an error saying invalid login credentials.
- Logout Servlet: If the session is currently in progress, it invalidates it.
- Profile Servlet: This servlet is used to fetch the name, email id and repuattaion of a user for display on the Profile Screen of the app.
- RemoveFromFavourites Servlet: This is used to remove a file from the favourites list of a particular user if it is present.
- UnlikeNote Servlet: This servlet has 2 steps if the user has liked the file - First, it has to decrement the number of likes of the file by 1. Second, it has to delete the file from the list of liked files (in the likes table) of the user.
- Search Servlet: This is used to return the details (like fis, filename, liked user, id of favourite users, views, user who uploaded the file .etc) of the files that satisfy the search criteria of filename, subject, institute, discipline and any one of the tags.
- DownloadServlet: This servlet is used to download the requested file. It checks if the file is present in the fies table an then generates the path of the file on the server and checks if exists.It then downloads the file and then stores an entry corresponding to this file in the histrory table for the user.
- FileLocationContextListener Servlet: This servlet is used to create the folders for storing the uploaded files. This creates 10 folders.
- FileUploadServlet: This servlet is used to upload the file into the database. It selects a folder to upload it in and stoes the file in that folder. It then inserts an entry in the files table, file_tags table and tags table.
- SwitchLikeServlet: If a file is liked, it is unliked by the user else it is liked by the user.