CS387 LAB 8 : Android Assignment

150100012 Aniket Shirke
150100017 Samarjeet Sahoo

A. Changes to Schema:

- For maintaining images, an extra attribute '**pics**' is added to the relation '**post**' and type is set to '**text**'.

- For maintaining the offset on login, an extra attribute '**poffset**' is added to the relation '**"user"**' and type is set to '**int**'.

B. Major changes to Backend:

- **Images functionality:** Image is sent to the backend in the form of string which is URL encoded and Base64 encoded. The query for storing the posts has been hence modified and images are stored as 'text' ('pics' attribute as mentioned above). The query for sending the posts sends the string from the database and it is decoded in the front end.

- **Offset on Login functionality:** Whenever a user is added to the database, 'poffset' is set to null (if not explicitly set to some integer). The query for logging in has been modified to send the value of 'poffset' for that user, and hence the posts only load from that offset (Note that older posts are not loaded on scrolling up as mentioned by Sir, although using 'View Posts' from the menu, one can see its own feed from the start). When posts are fetched in batches of 20, we are updating the 'poffset' field value in the backend on every fetch.

- **Follow functionality:** In the search user servlet, along with the name,uid and email, the information whether the user is followed or not is sent by the backend, so that the prompt to follow or unfollow the user is correctly shown.

C. Setup Project:

Postgres: Run drop.sql to remove the existing tables and execute 'create.sql' to create the schema and fill the database using 'data.sql'.

Changing Database connection parameters in Backend and Android:

- Enter the IP address of the machine and port number on which the server is running into the variables IP_Address and PortNo in Constants.java (Connect/app/src/main/java/com/example/samarjeet/connect/constants/Constants.java)

- Change database connection settings in DBHandler.java appropriately.

- Make sure the Android device and the machine on which server is hosted are in the same network.

JDBC: Include the necessary jars for running the backend appropriately (We have not added external jars apart from those mentioned in the problem statement). Run the tomcat server to fire up the backend

Android: Connect Android device to the machine and install the app (Make sure Wifi is on) and enjoy using our app!

D. Features:

- Since the Comments on posts are implemented as ListView and the posts themselves are implemented as ListView, to view large comments press and hold the comments area by one finger and scroll using the other finger.
- The gallery feature works perfectly as required on the phone we tested, but according to some android articles we referred it may not work on some other phones.
- To change the image, click on 'upload image' again and it overwrites the previous image. In the unusual case of canceling an already fetched image (as seen in the ImageView), just click on the 'Add Posts' from menu again.
- On logging in, older posts are not loaded on scrolling up, although using 'View Posts' from the menu, one can see its own feed from the start.
- Since all the navigations can be done by the menu, the back button has been handled to exit the app.