



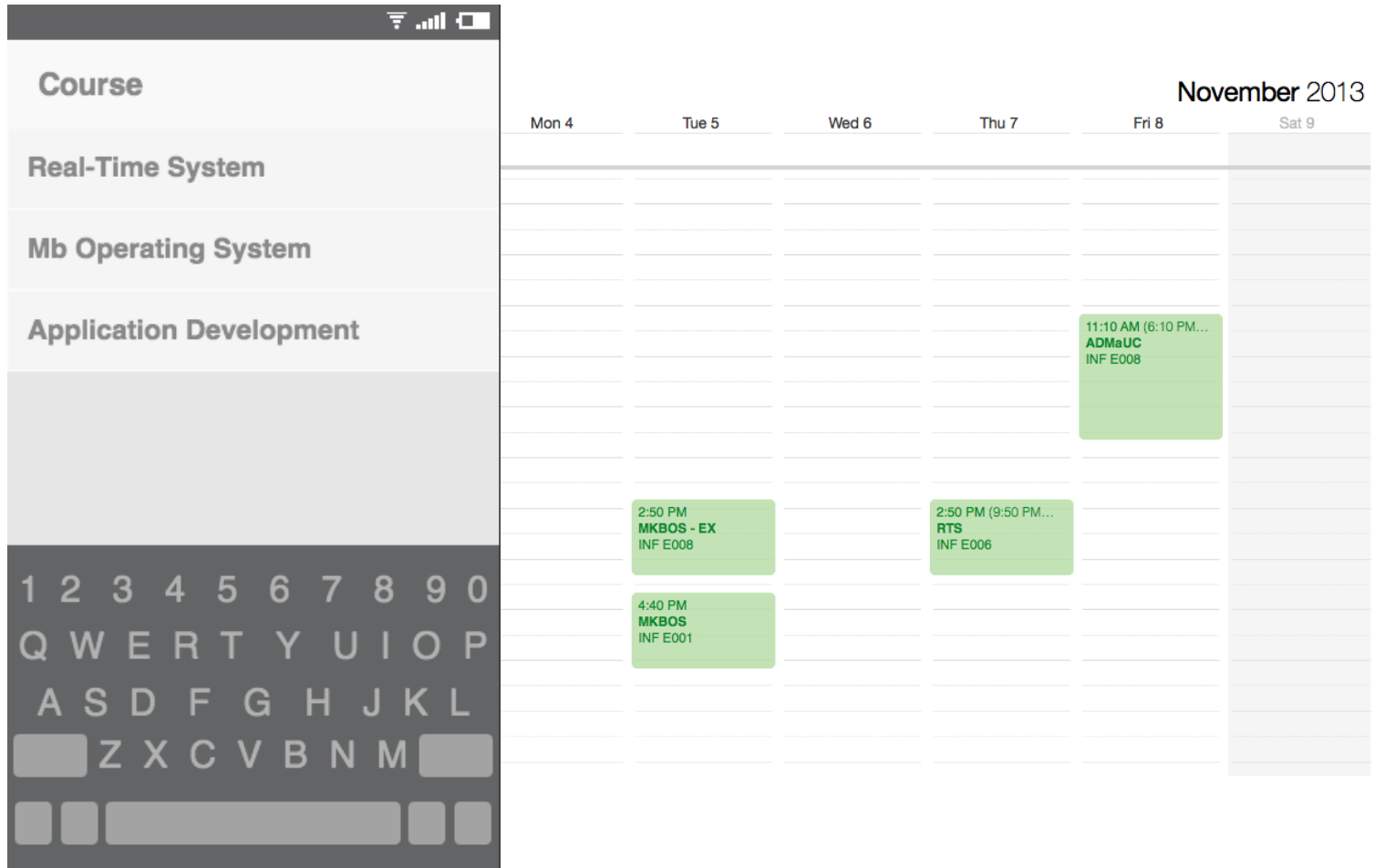
# Application Development for Mobile and Ubiquitous Computing

## Seminar Task - StudyBloxx Second Presentation

GroupNo.7

Team: Arjun Naik, Junyu Pu

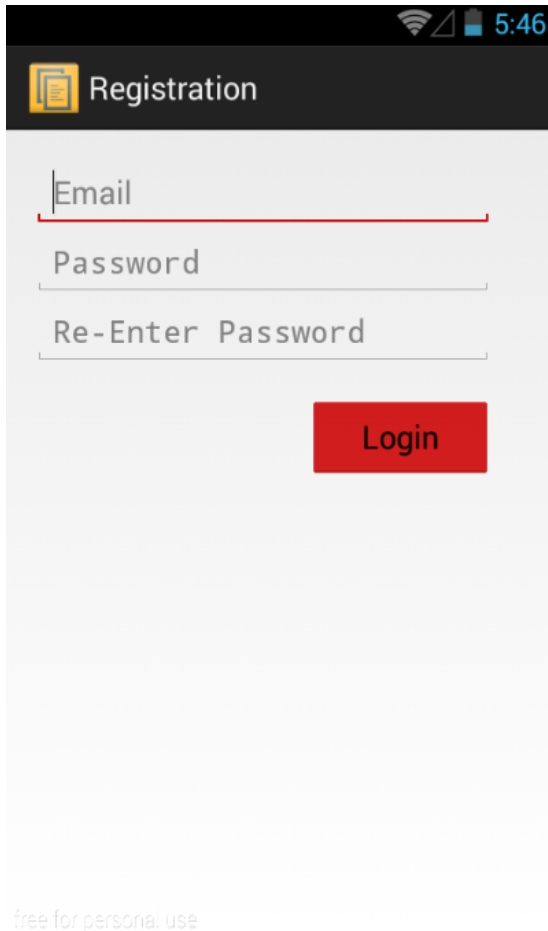
- Take notes in class
- Course information can be imported from the Calendar App
- Related notes are sorted together automatically.
- Sync your notes by using servers.



The screenshot displays a mobile application interface for a course schedule. On the left, a vertical list shows the course details: **Course**, **Real-Time System**, **Mb Operating System**, and **Application Development**. Below this list is a virtual keyboard with letters and numbers. The main area on the right is a calendar for **November 2013**, with days of the week as columns. The calendar grid shows several scheduled events as green blocks:

- Mon 4**: No events.
- Tue 5**:
  - 2:50 PM **MKBOS - EX** INF E008
  - 4:40 PM **MKBOS** INF E001
- Wed 6**: No events.
- Thu 7**:
  - 2:50 PM (9:50 PM...) **RTS** INF E006
- Fri 8**:
  - 11:10 AM (6:10 PM...) **ADMaUC** INF E008
- Sat 9**: No events.

## Login & Registration Screenshot



Registration

Email

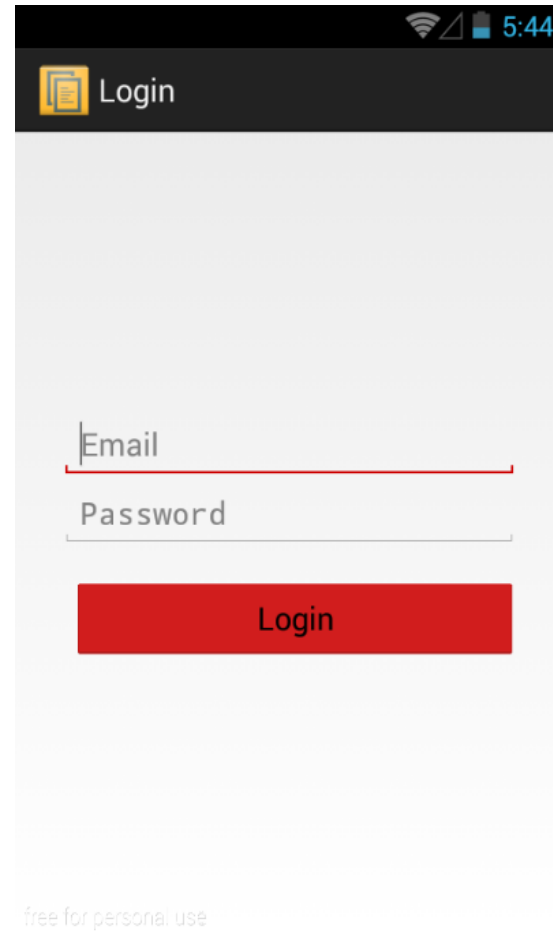
Password

Re-Enter Password

Login

free for personal use

The screenshot shows a mobile application interface for registration. At the top, there is a black header bar with a yellow icon of a document and the word "Registration" in white. Below the header, there are three input fields: "Email", "Password", and "Re-Enter Password". Each field has a red underline. At the bottom, there is a red button with the word "Login" in white. The status bar at the top right shows a Wi-Fi icon, a battery icon, and the time 5:46. At the bottom, there is a small text "free for personal use".



Login

Email

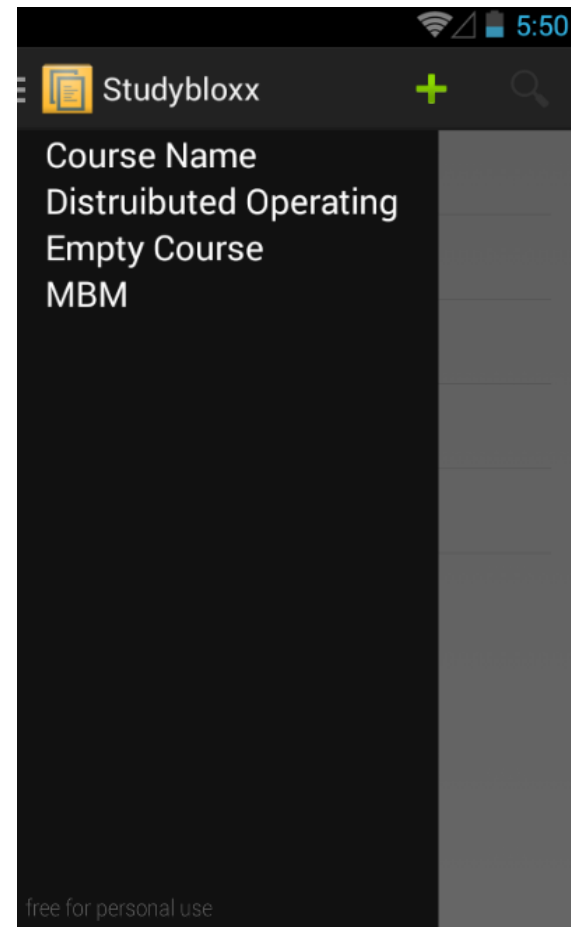
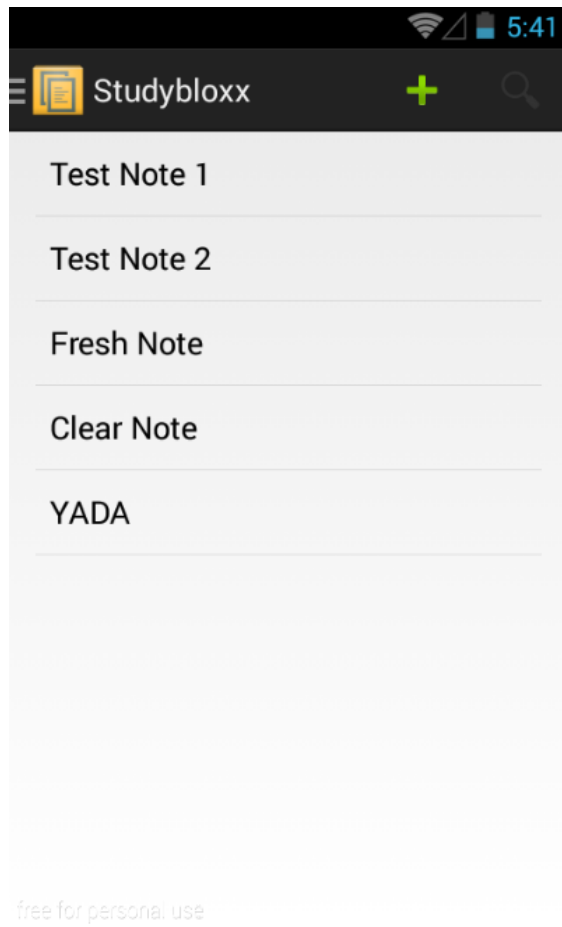
Password

Login

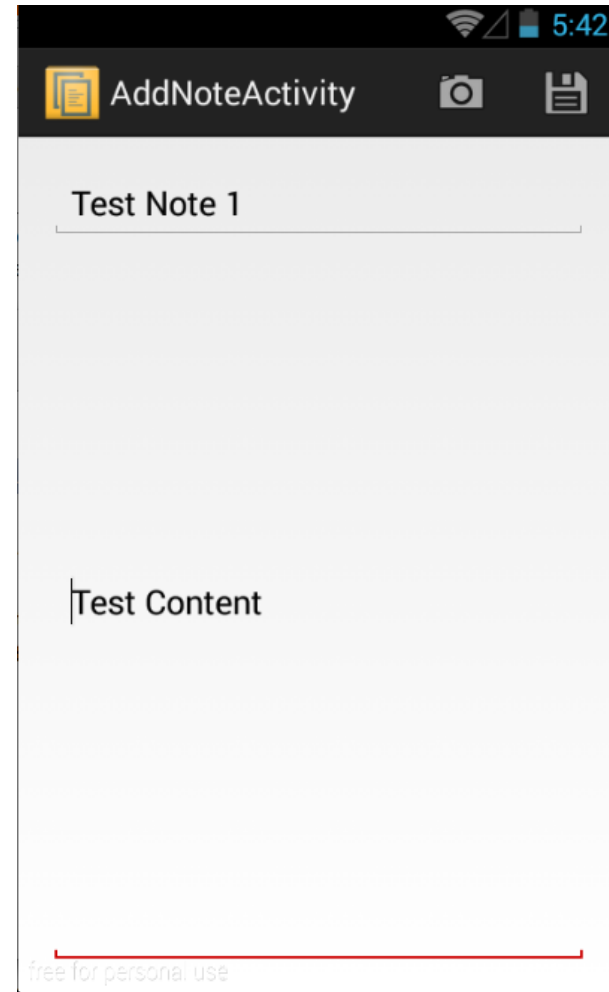
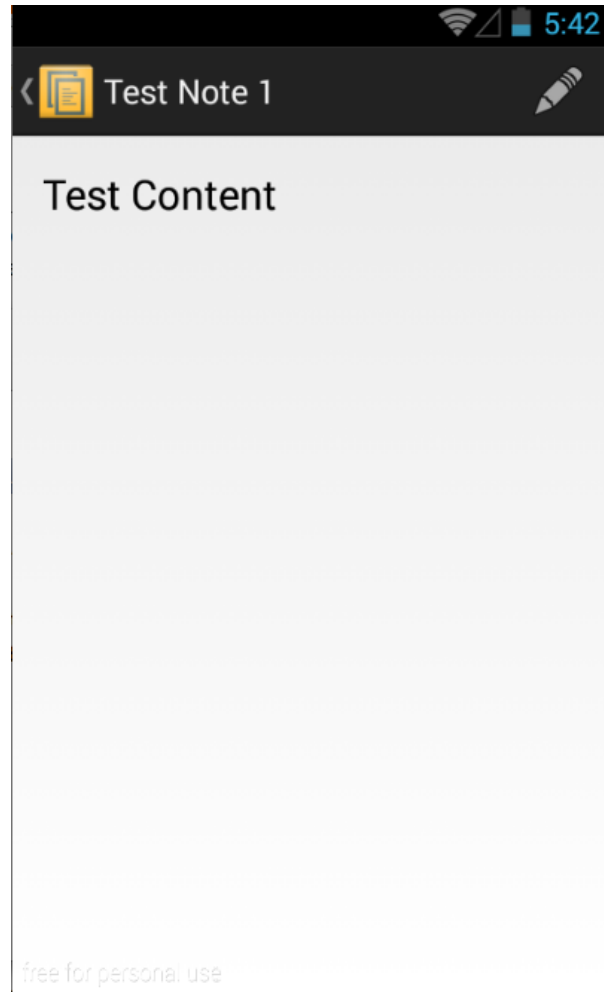
free for personal use

The screenshot shows a mobile application interface for login. At the top, there is a black header bar with a yellow icon of a document and the word "Login" in white. Below the header, there are two input fields: "Email" and "Password". Each field has a red underline. At the bottom, there is a red button with the word "Login" in white. The status bar at the top right shows a Wi-Fi icon, a battery icon, and the time 5:44. At the bottom, there is a small text "free for personal use".

## Note List and Sidebar Navigation



## View and Edit Note



## Architecture



- Course information accessed from Calendar App
- Notes created locally
- Sync notes and course information to server

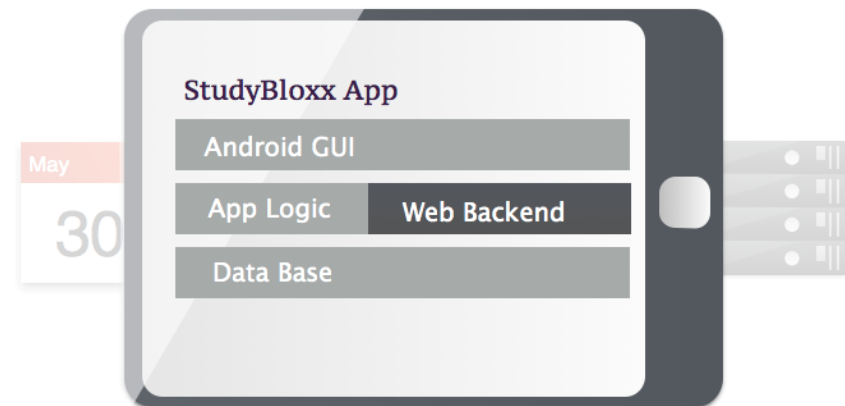
- Challenge
  - Limited coverage connection
  - Availability changes over time
  - Inconsistent synchronization
  
- Solution
  - Permit offline usage.
  - Sync upon connection availability.
  - ACK after each step in sync.
  - Pull data from server at periodic intervals.
  - Newly created data is stored with pulled data.
  - Flag is set on unsynced data.
  - New data is pushed to server at periodic intervals.



- **Client and server proxy:** Some stub code is present on server and the client sides to serialize the data. REST is used to transmit complex stateful information which require transaction like behavior.
- **Data serialization with JSON:** Javascript Object Notation is used to represent the n-Dimensional data which has to be exchanged between the server and the client.

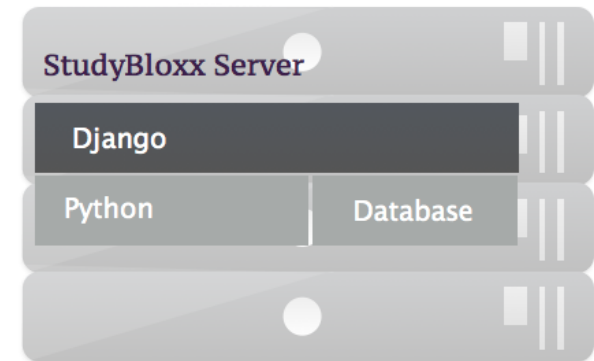
## Technologies in App

- Android GUI
- App Logic
- Web Backend
- Database and Content Provider



## Technologies in Server

- Django
- Python
- SQLite Database



- Complete implementing the sync service.
- Authentication mechanism.
- Note sharing functionality.
- Improve the user interface.