

Software Engineering Lab

Implementation Report I - Build I

# **Course Assistant for Educators**

Streamlining the teaching process

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## 1. Basic Information

The software is majorly built using Java and Android-XML. The IDE for Android development is provided by Google and JetBrains - Android Studio. TravisCI has been used for integration, Android API provided by Android Studio IDE through SDK tools has been used. SQLite has been used as Database and Firebase has been used for authentication, receiving feedback from users and tracking the application usage. Gradle build tool has been as the build automation software. Lastly, Git has been used as VCS. [Material Design Guidelines](#) have been referred for UI creation.

## 2. Functional Requirements (Implemented)

FR.ID	Name	Description
FR-1.1	Download Application	APK ( <a href="#">VCS link</a> ) has been provided for downloading the application.
FR-1.2	User Registration	Users can register using any Email account. Firebase authenticates and tracks users.
FR-1.3	Add Course	Course can be added along with course name, course code, student count, CR and TA contact details.
FR-1.4	Record Attendance	Attendance can be recorded. This data is stored in SQLite DB.
FR-1.11	Contact CR/TA	An email with a pre-defined template can be sent via Gmail.
FR-1.12	Document Similarity	Two documents can be tested for plagiarism (using Cosine similarity algorithm).
FR-1.13	Feedback	Feedback can be sent by users. This data is recorded using Firestore provided by

		Firestore.
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### 3. Functional Requirements (Not Implemented)

FR.ID	Name	Description	Reason for Inclusion in next Build
FR-1.5	Add Marks	Add in-semester and end-semester marks	Considering various approaches like reading CSV files or taking data directly. The most beneficial mechanism yet to be finalized.
FR-1.6	Add Project Deadlines	Users can set project deadlines	Planned to be completed in the next sprint (Agile model has been chosen).
FR-1.7	Display Marks and Attendance Percentage	User can view marks and attendance percentage	Implementation relies on FR-1.5
FR-1.8	Search by Student	Attendance and marks will be displayed student-wise.	Customer feedback on the display in FR-1.10 needed.
FR-1.9	Sort in Student List	Sorted list of students will be visible	Implementation relies on FR-1.5
FR-1.10	View Attendance for a Day	Attendance for a day will be visible	Database creation is complete. Layout creation yet to be finalized depending on user's need.

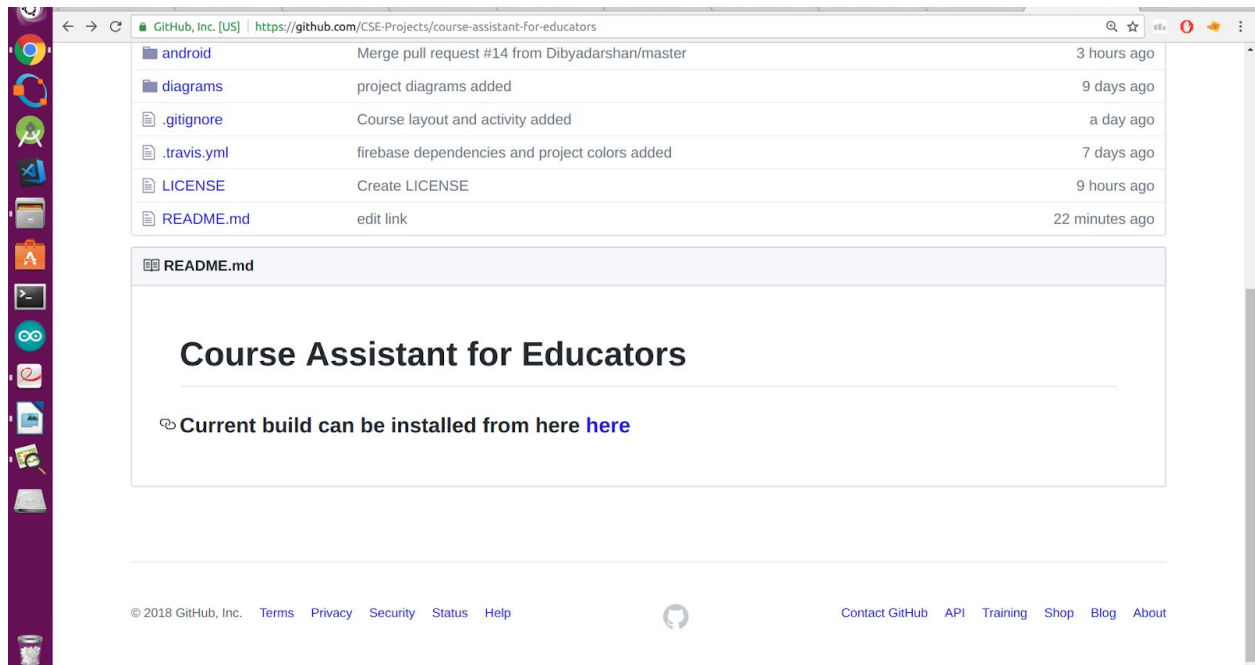
## 4. Screenshots

### FR-1.1 Download Application

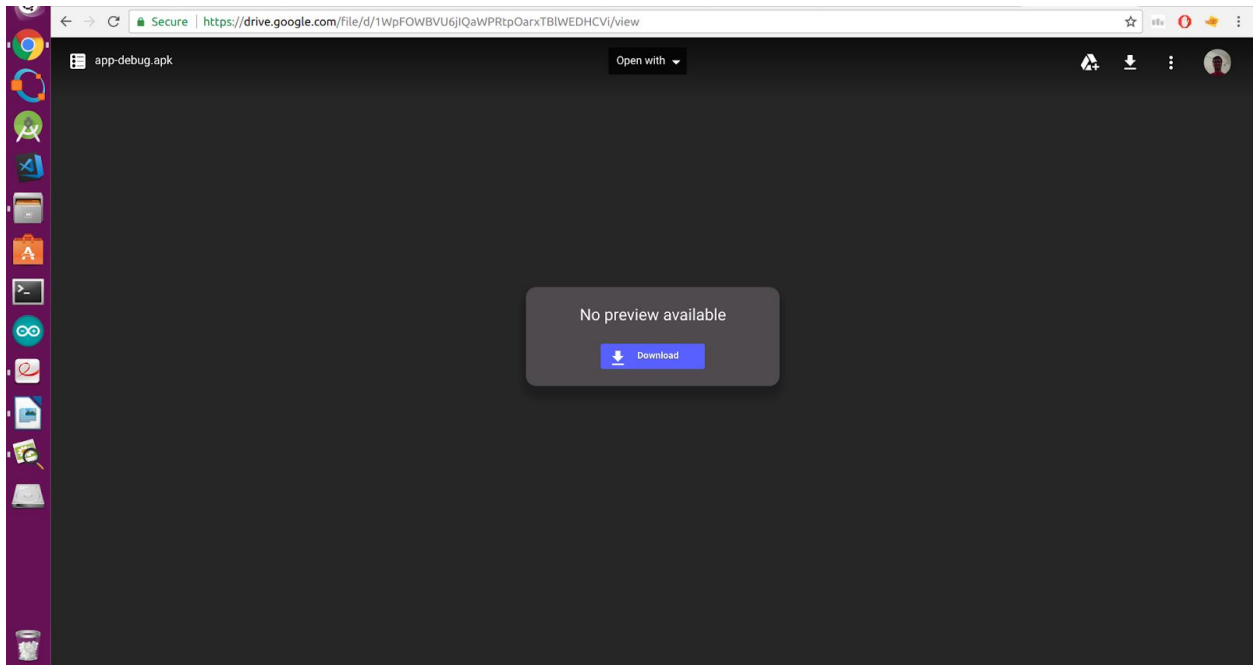
The application can be downloaded here:

<https://github.com/CSE-Projects/course-assistant-for-educators>

**README.md provides APK download link**

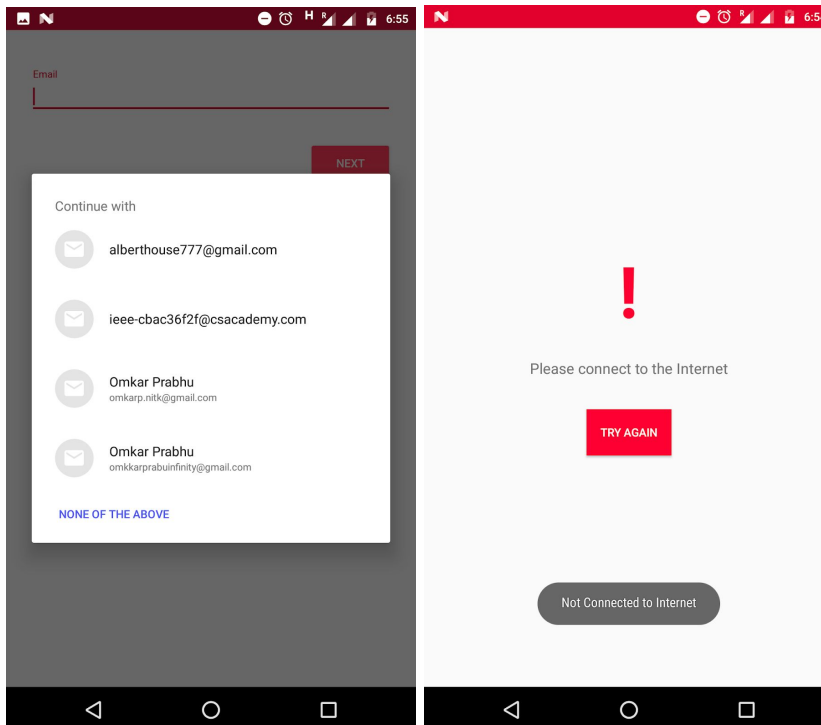


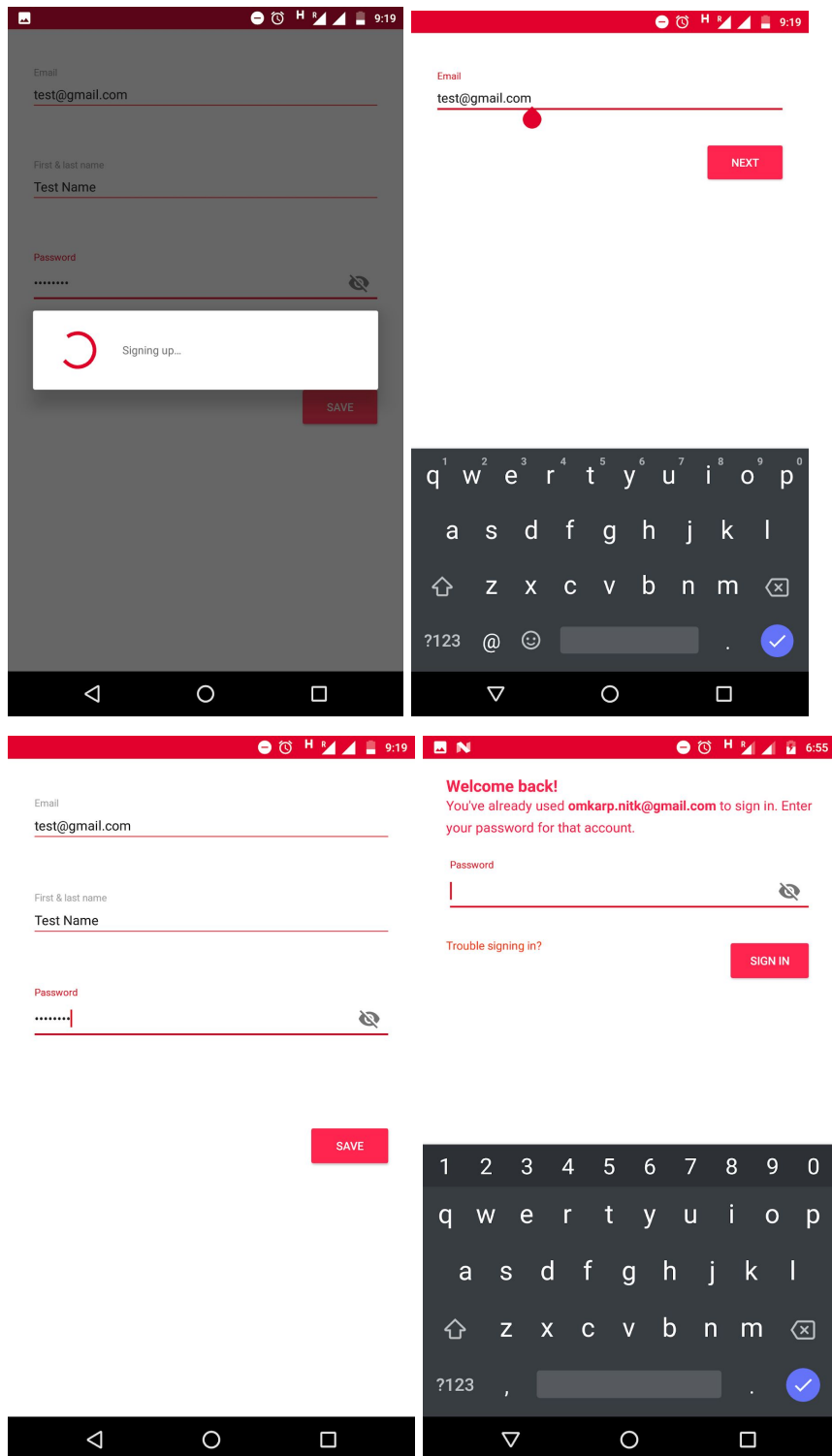
## APK file download (Google Drive link)



## FR-1.2 User Registration

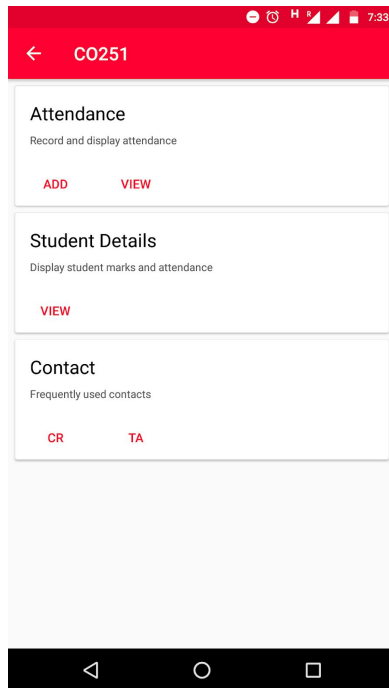
Internet connectivity is a must for registration. An error screen appears otherwise. Screenshots below show what appears in case of new registration and old users.



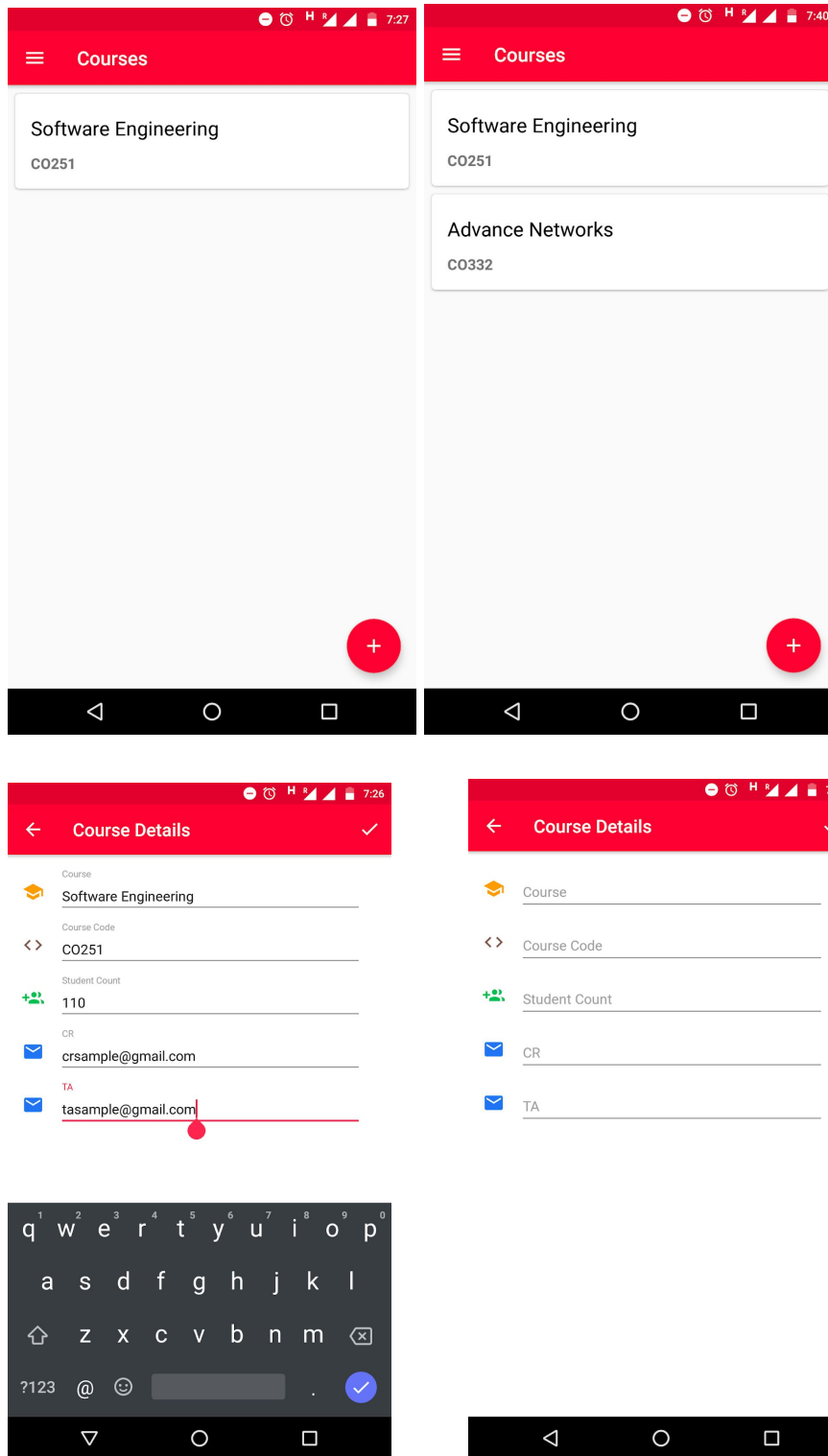


## FR-1.3 Add Course

Once, the course is added and on choosing a course, the following screen appears.



The following screen shows list of courses.

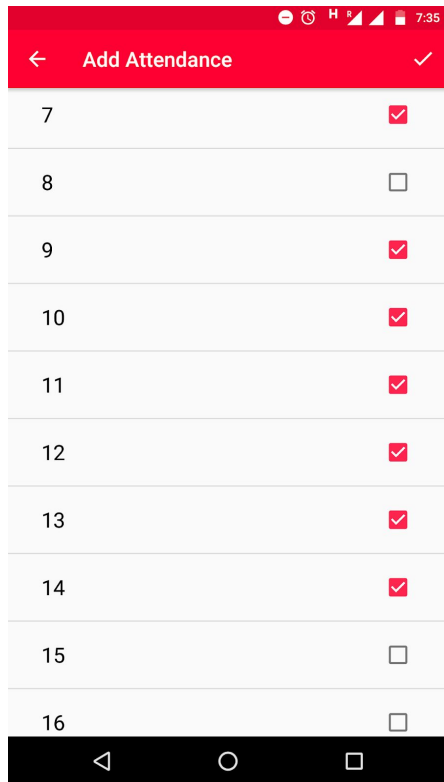


The images above show how a course can be created.



## FR-1.4 Record Attendance

Attendance can be recorded for a course as follows.

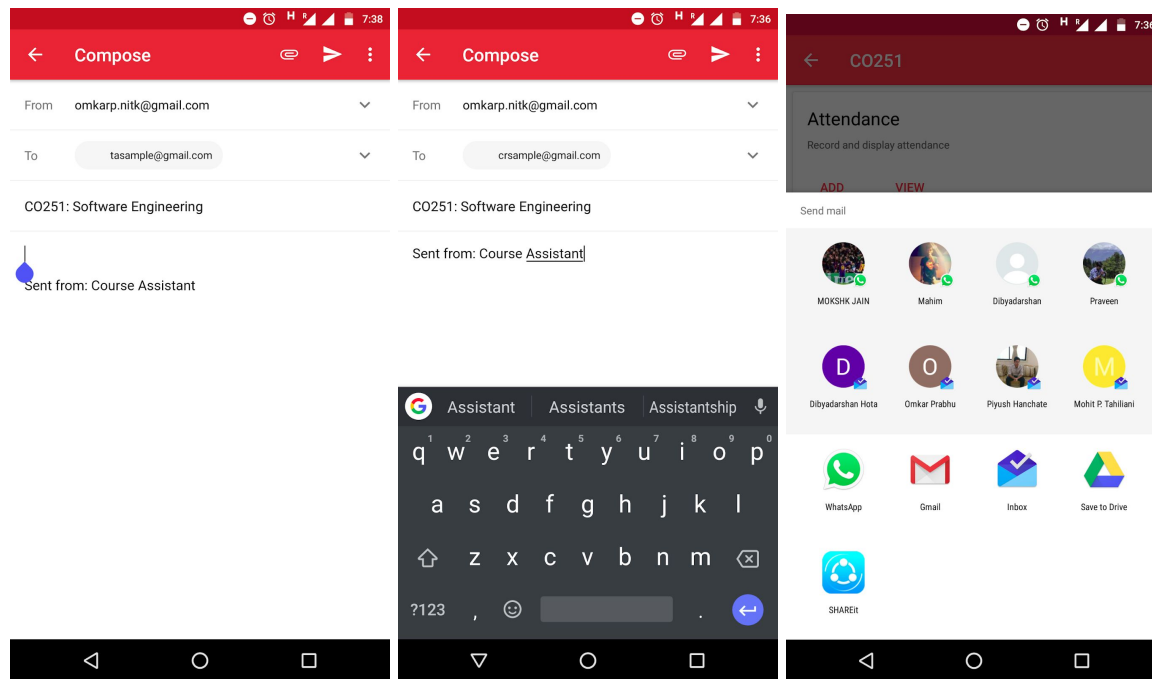


The screenshot shows a mobile application interface titled "Add Attendance". It features a list of days from 7 to 16. Each day has a corresponding checkbox to its right. The checkboxes for days 7, 9, 10, 11, 12, 13, and 14 are checked (marked with a red checkmark). The checkboxes for days 8, 15, and 16 are unchecked (empty squares). The app has a red header bar with a back arrow, the title "Add Attendance", and a checkmark icon. The status bar at the top shows the time as 7:35 and various system icons. The bottom of the screen shows the Android navigation bar.

Day	Attendance Status
7	✓
8	<input type="checkbox"/>
9	✓
10	✓
11	✓
12	✓
13	✓
14	✓
15	<input type="checkbox"/>
16	<input type="checkbox"/>

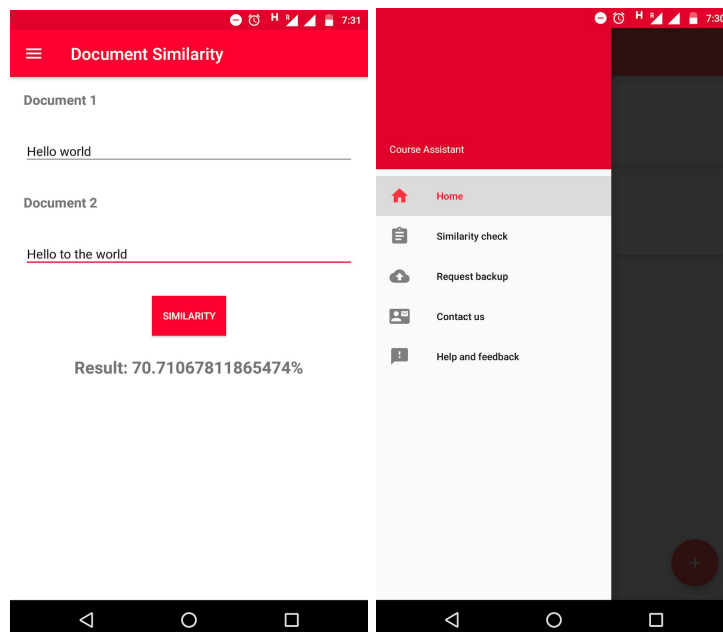
## FR-1.11 Contact CR/TA

CR/TA can be contacted using email. The template shown below is completely rendered by the software to save time and effort. Any application can be used to send email.



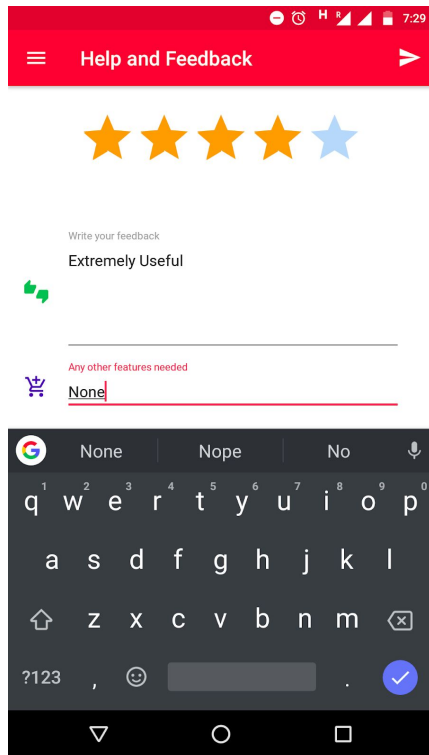
## FR-1.12 Document Similarity

The following screenshots show how the application is calculating similarity between two strings.



## FR-1.13 Feedback

The following screenshots show how the user feedback is taken.



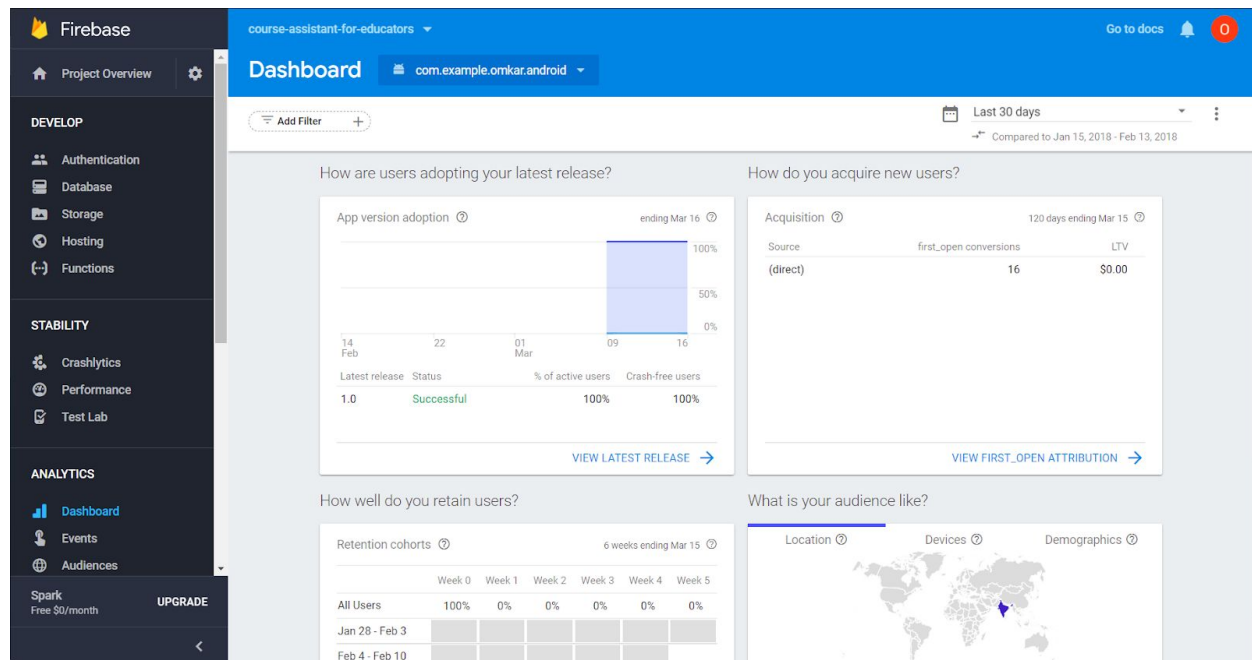
## Additional Screenshots

### TravisCI interface

The screenshot shows the Travis CI web interface. At the top, there's a navigation bar with 'Travis CI', 'About Us', 'Blog', 'Status', and 'Help'. The user 'Omkar Srinivas Prabhu' is logged in. The main header shows the repository 'CSE-Projects / course-assistant-for-educators' with a 'build passing' status. Below this, there's a 'Build #19' section showing a successful build for the 'master' branch. The build log is visible, showing the commit '3b504b8', the commit message 'help and feedback support added', and the build duration of 3 min 58 sec. The log also shows the Subversion version 1.8.8 and the repository access (RA) modules available.

### Firebase usage statistics

The screenshot shows the Firebase dashboard for the project 'course-assistant-for-educators'. The dashboard includes a sidebar with navigation options like 'Project Overview', 'DEVELOP', 'STABILITY', and 'ANALYTICS'. The main content area displays various analytics charts and metrics. A line chart shows 'Active users' over the last 30 days, with a peak around February 14th. A table shows 'Users active in last 30 minutes' with 0 active users per minute. A bar chart shows 'Top conversion events' with a count of 17. A line chart shows 'Daily user engagement' with a peak around February 14th. The dashboard also includes a 'Track key events' section with a list of events and a 'Where are your users engaged?' section with a line chart showing 'Avg. time' per screen class.

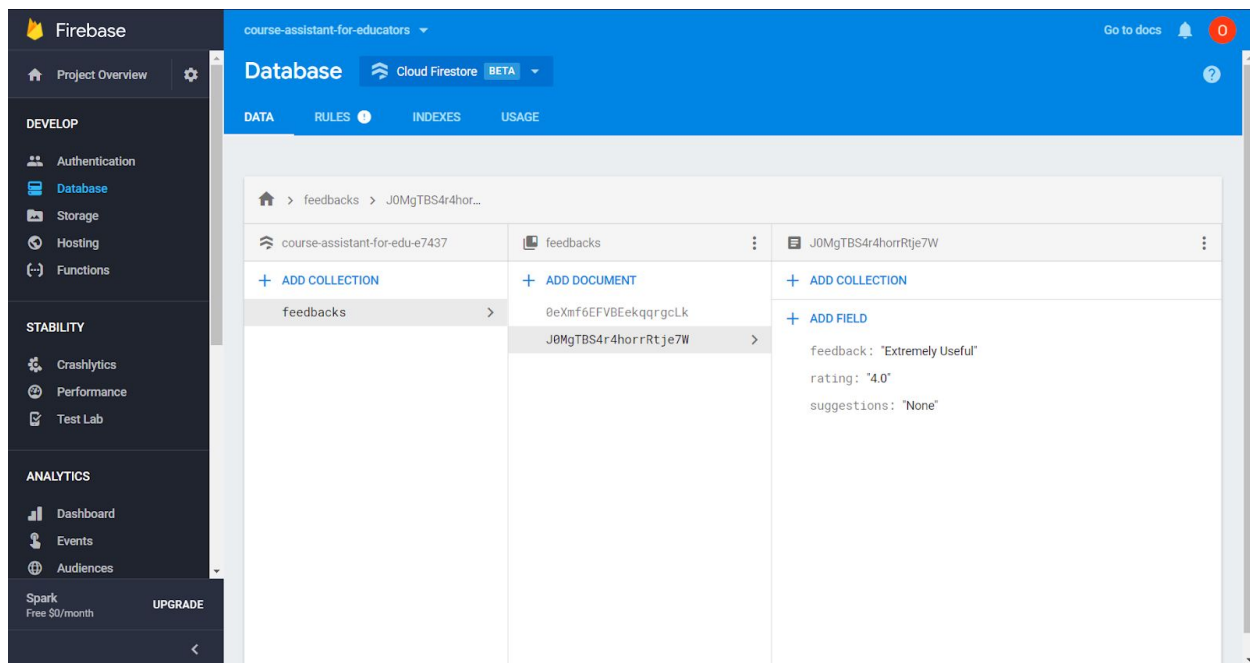


## Registered users

The 'Users' page displays a list of registered users. The table includes columns for Identifier, Providers, Created, Signed In, and User UID. The 'ADD USER' button is visible in the top right corner.

Identifier	Providers	Created	Signed In	User UID
dibyadarshan.hota@gmail.c...		Mar 11, 2018	Mar 16, 2018	8lh0iMcG0kgmS40toFICI47d4P22
edwinthomas444@outlook.e...		Mar 12, 2018	Mar 12, 2018	AZCIDI2F6jgaTn7aM6OExkndYvQ2
omkarp.nitk@gmail.com		Mar 9, 2018	Mar 16, 2018	XOnStzTivLOENLlaLXm6iMw7PJ3
pavanpawar1420@gmail.com		Mar 13, 2018	Mar 13, 2018	IKPEuqjKxKvI6hyxKpfn41keqeW2

## User feedback



## 5. Plan for Next Build

- For the upcoming builds we shall increase the accuracy of plagiarism check.
- Functional requirements halted for user feedback shall be completed.
- The database access functions would be made for ease of access.
- Proper input format for marks will be decided upon and implemented.
- The future sprints will focus on optimizing the existing features as well as improving UI/UX based on feedback.

## 6. Summary

Most of the project features have been implemented. The product shall be completely operational in the coming weeks. The [source code](#) has been made public along with usage [license](#). Pull requests and issues are constantly being resolved and arranged with Project Board. The accuracy of the plagiarism check will be improved with various optimizations.