

# GRADE TRACKER

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## GROUP 5

Grade Tracker for Android devices is a mobile application designed to facilitate the tracking of a student's progress while pursuing a Computer Science Program.

## DEMO LINK AVAILABLE AT:

<https://drive.google.com/file/d/14QOd7rWMMoGoLuAfbG7zJCi94qLJbxiS/view?usp=sharing>

## INDIVIDUAL CONTRIBUTIONS:

Daniela - UI design and creation | Data Visualization | User & Credential Controls  
Parth – Queries | Data Validation | Database Schematics | Helper Class Methods  
Rahul – Database Creation | Helper Class Methods

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# INTRODUCTION

Grade Tracker for Android devices is a mobile application designed to facilitate the tracking of a student's progress while pursuing a Computer Science Program.

## Features:

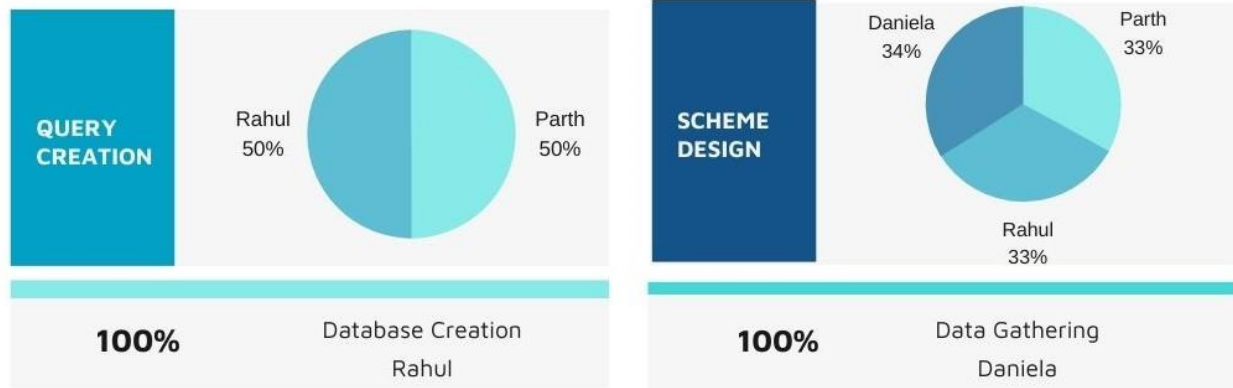
- Ability to create user and log in, saving the user's information on Shared Preferences
- Ability to pick a Program within the selection of Computer Science Programs available at Douglas College.
- Ability to choose semesters and pick the classes they will register for each one. Automatically checking the pre-requisites of each course before making them available in the selected semester.
- Ability to include instructors, grading categories and marks for each course. Being able to edit this as necessary
- The application tracks the user GPA and overall progress of the user

## Implementations:

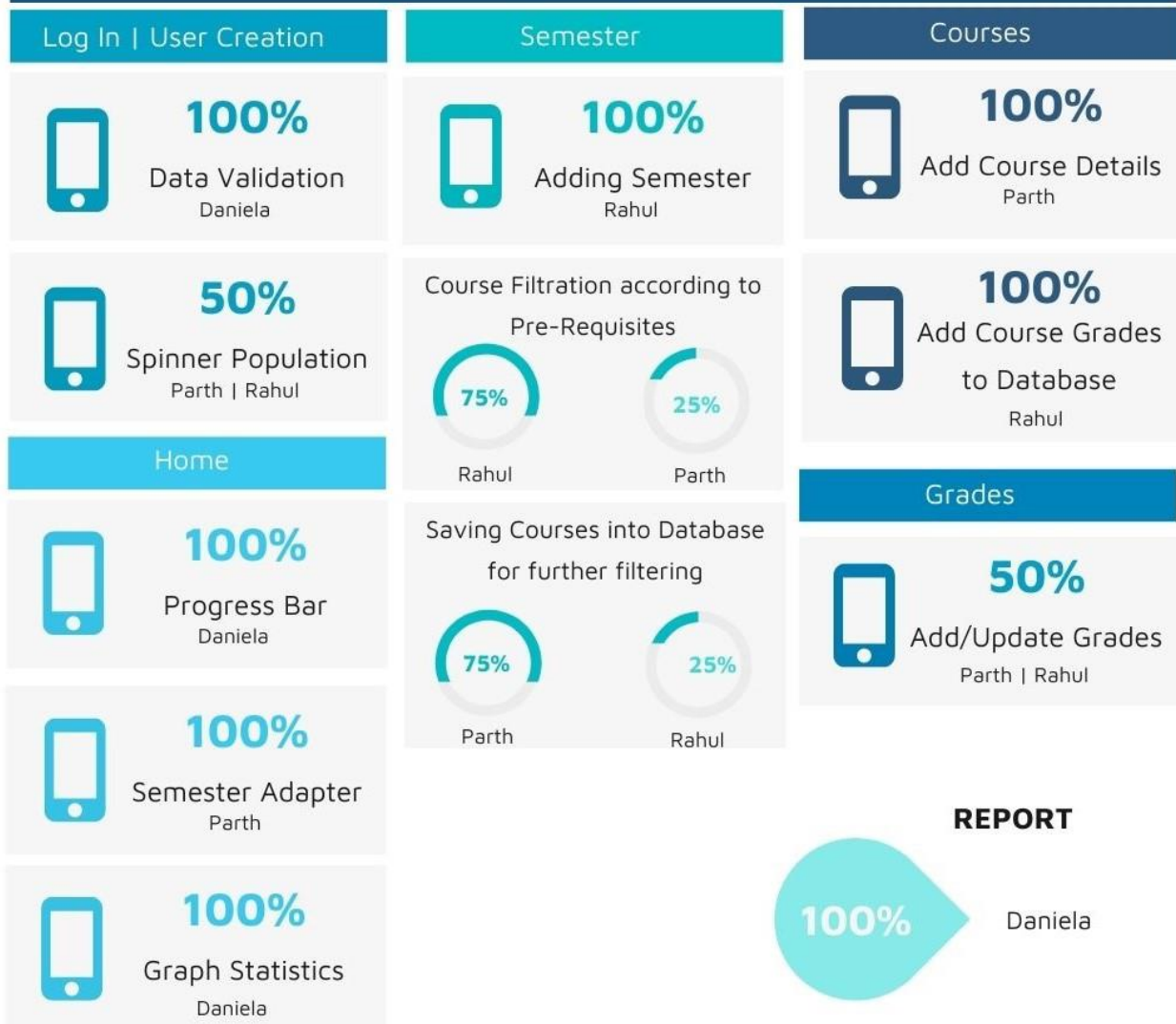
- Helper Class – A class of utility methods that queries the database for the necessary data required in the application
- Progress Bar – Data visualization to check the overall progression of a student program based on how many credits he has taken
- Grades Status – Analyzes the semester overall gpa with a bar graph
- Log In – Validation of Password
- Shared Preferences – Enables auto login functionality

## INDIVIDUAL CONTRIBUTIONS

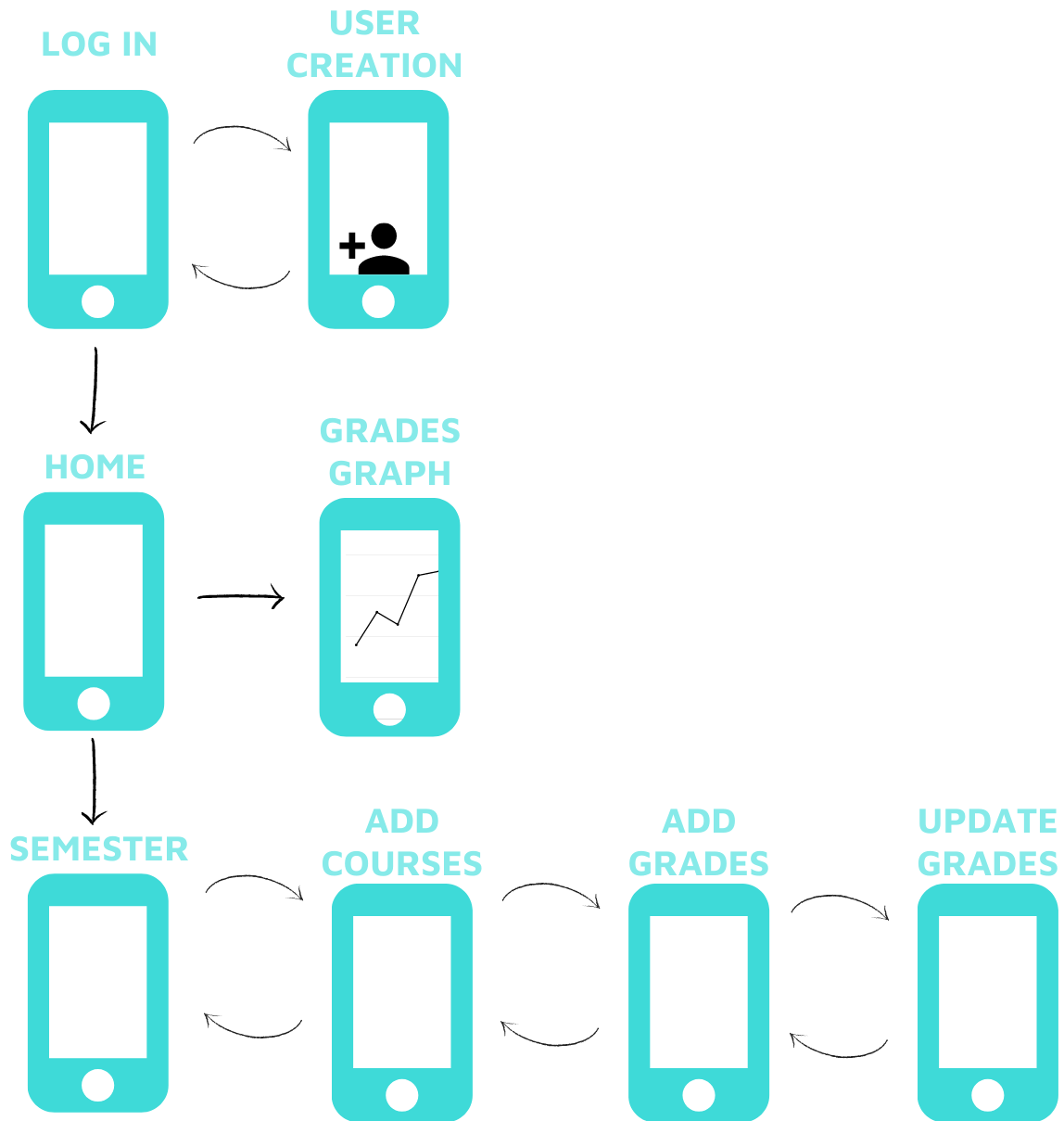
### DATABASE



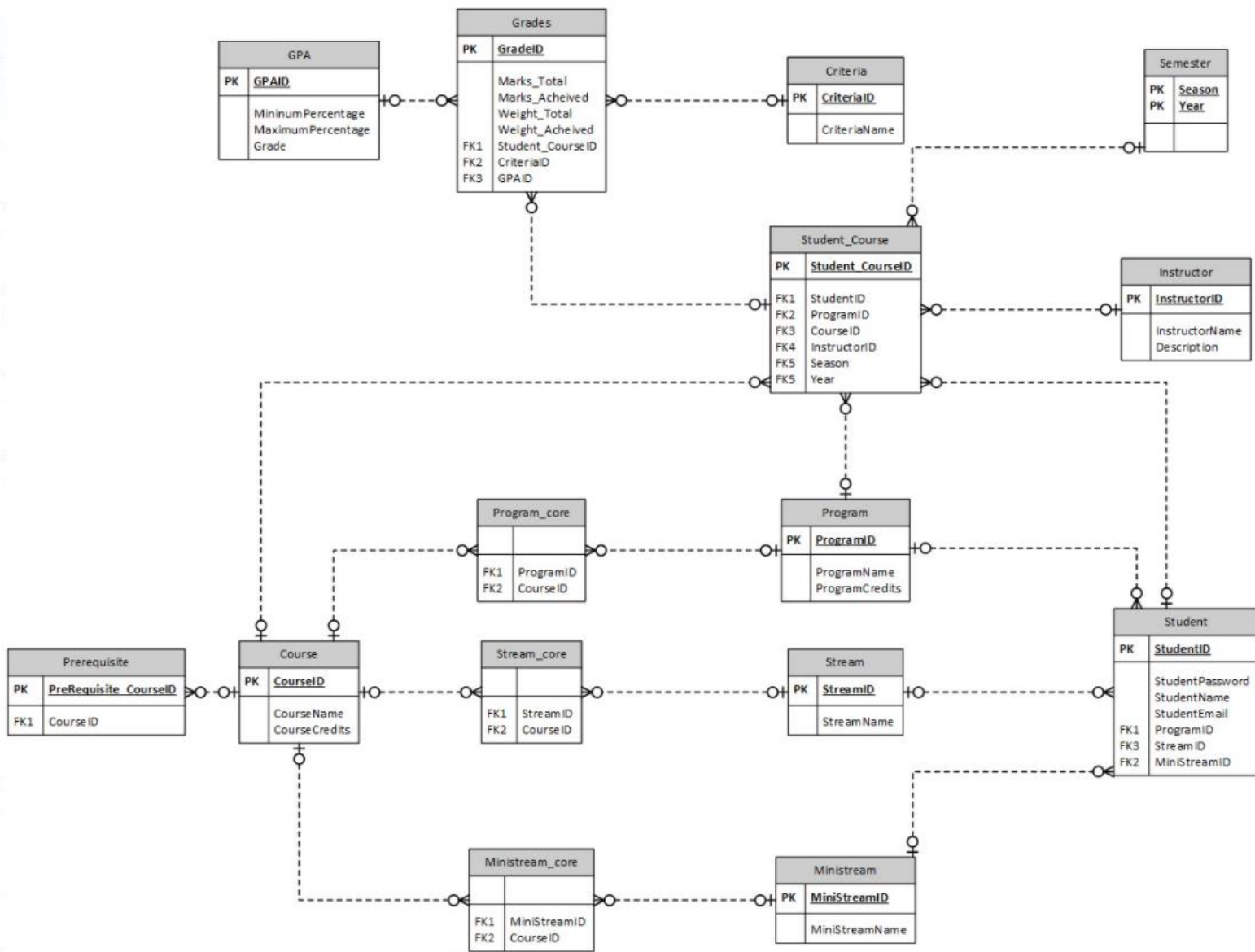
### ACTIVITIES & CLASSES BREAKDOWN



## USER JOURNEY



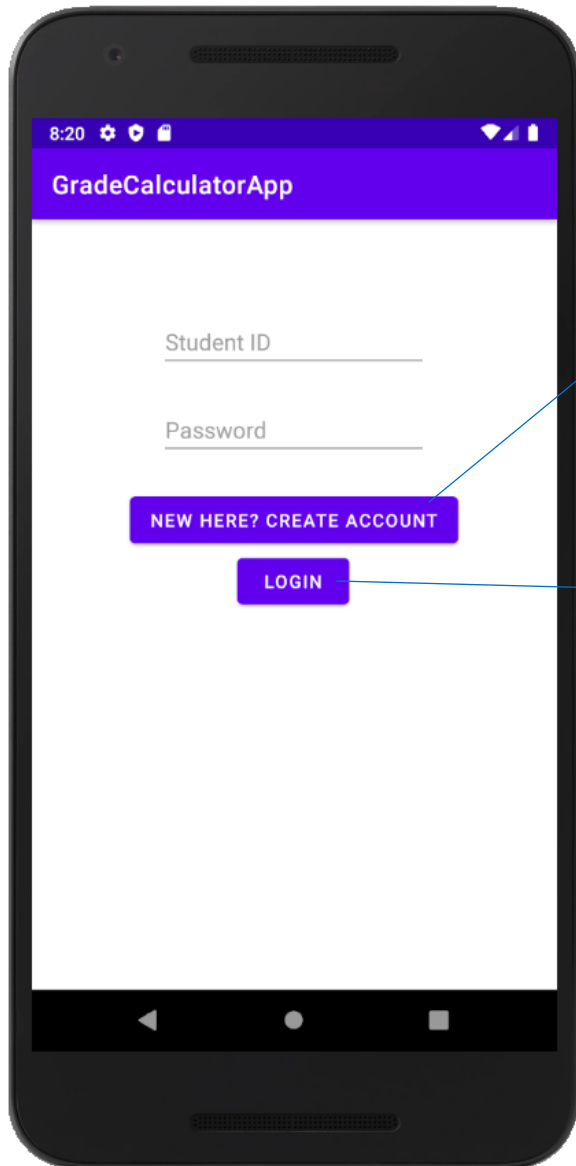
## DATABASE



\*Please check attached file for better resolution

## LOG IN

Once opened the Grade Tracker allows the user to log in or create a new user.



Selecting “Create New Account” button directs the user to the create account page.

Login button will validate the Student ID and Password against the database.

If it's a match the user will be directed to the home page.

Else a Toast will indicate the Login Failed.

Details:

Used Shared Preference for auto login functionality. When users log in to your application, store the login status into sharedPreferences and clear sharedPreferences when users log out.

## USER CREATION

If “logininCreateAccountSubmitButton” is clicked, the user is directed to createAccount

8:46

GradeCalculatorApp

Student ID

Student Email

Student Name

Password

Confirm Password

Select Program

CREATE ACCOUNT

ALREADY HAVE AN ACCOUNT? LOGIN

“Select Program” spinner is populated with all available Programs in the database using the ProgramArrayAdapter.

Once selected, if the Program has a Stream option a new spinner will show up beneath it; allowing the user to select an option from the new spinner.

If the Stream has a mini stream option another spinner will show up as the examples below

CSISPB (COMPUTER AND INF..

ETSTREAM (EMERGING TECHN..

CSISPB (COMPUTER AND INF..

DASTREAM (DATA ANALYTICS)

BUSNMS (BUSINESS)

Clicking here will take the user back to the login page

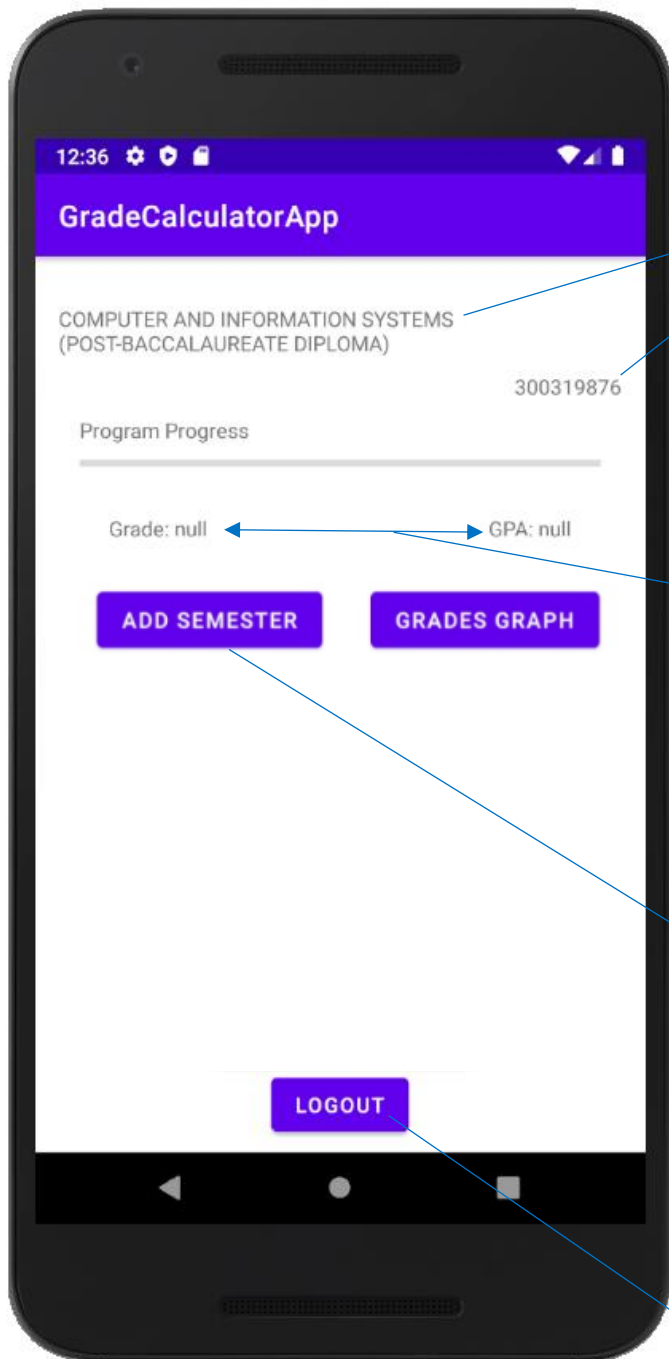
CreateAccountSubmitButton creates an row in the database using the helper class and takes the user back to the login page.

If succeeded a Toast is initiated with the user information



## HOME PAGE

Once the user logs in he is directed to the main page



First information presented are the Program and student ID at the top of the screen, used the helper class to populate the text views

Grade and GPA are calculated based on the average of grades inputted by the user for each course.

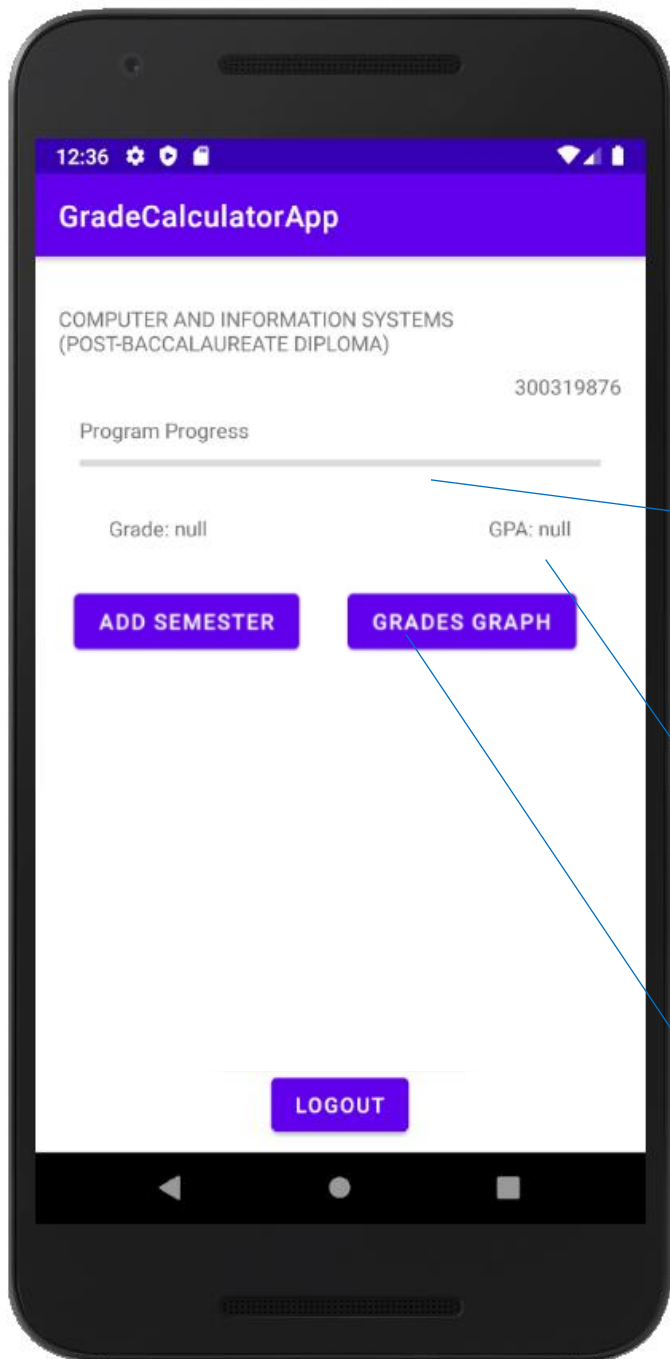
GPA displays the corresponding average value according to the GPA

Add Semester button takes the user to semesterCourses, where the user can add courses to the semester of their choosing

Log out clears the Shared Preferences and returns the user to the login page

## HOME PAGE (CONTINUED)

The user gets lots of visuals on his overall performance from this page



The Progress bar is a widget.

It's max value is the total number of credits the program requires for graduation.

The helper class then collects how many courses the student is registered in using a query and return the about times 3 (as every course is worth 3 credits)

The bar will grow progressively as the student fulfills the requirements necessary to graduate.

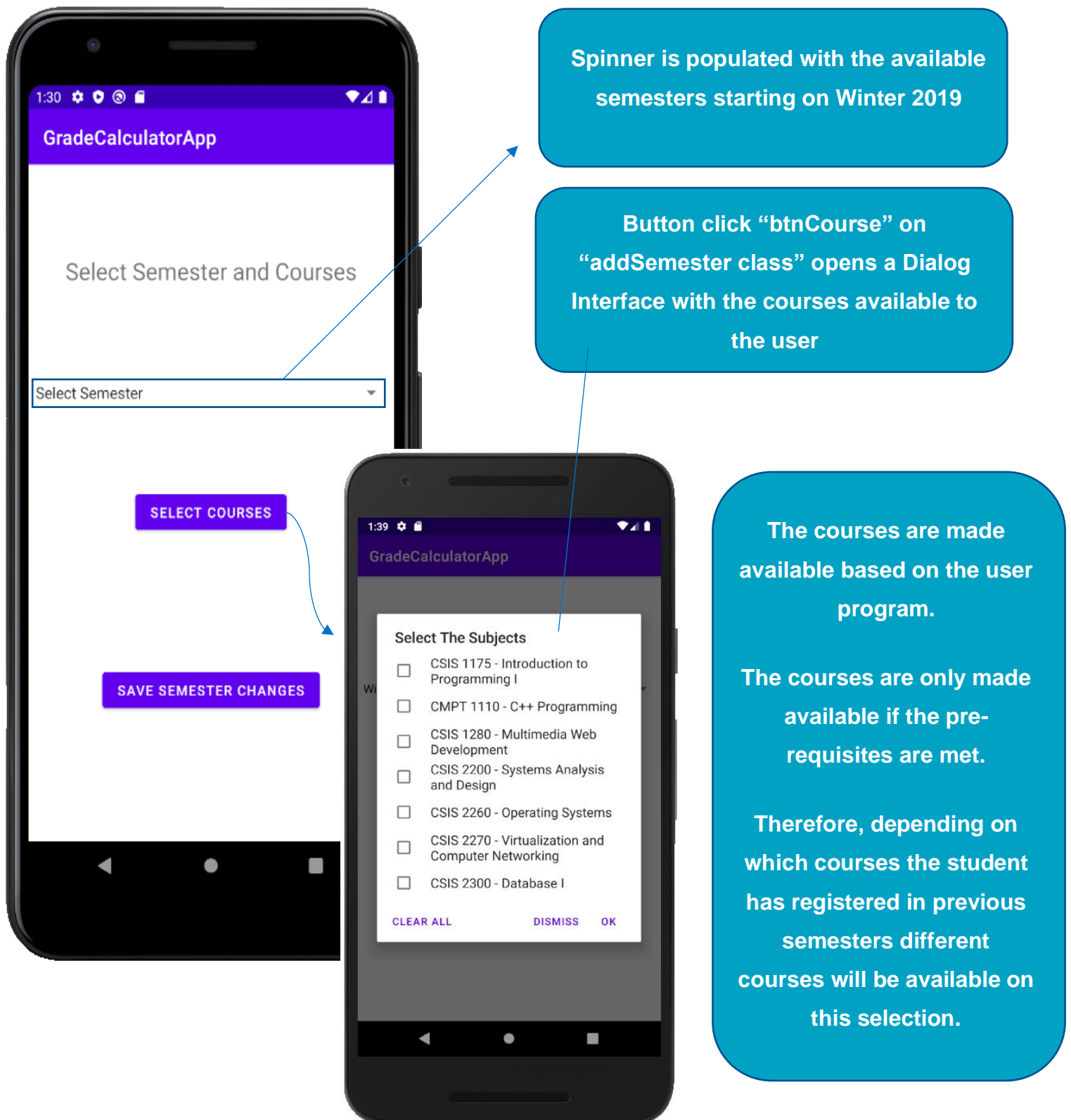
Grade and GPA are calculated based on the average of grades inputted by the user for each course.

Grades Graph button takes the user to a graphic displaying all of their

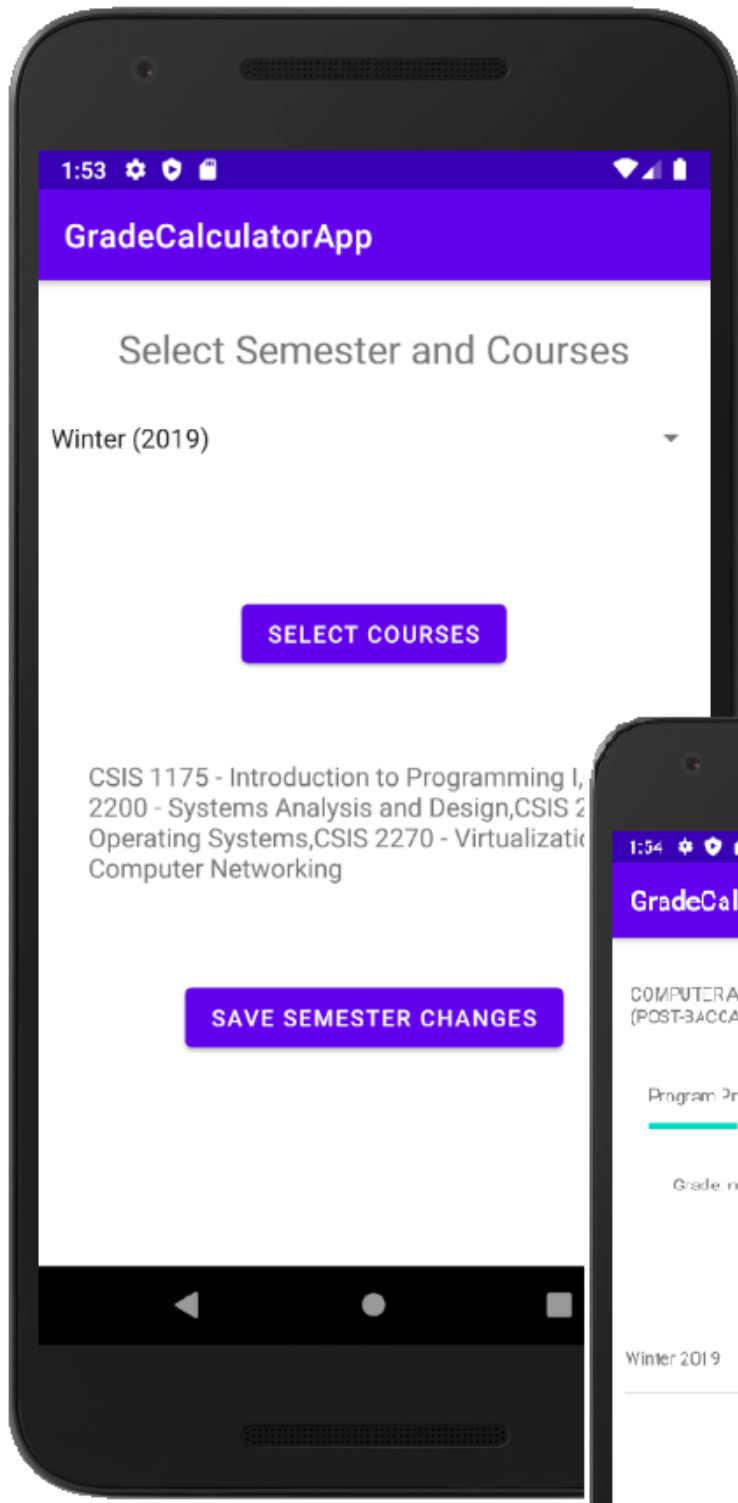
\*homepage calls all the information from the helper class and displays it to the user.

## SEMESTER PAGE

Here the user selects the semester and the courses he will be registering on it



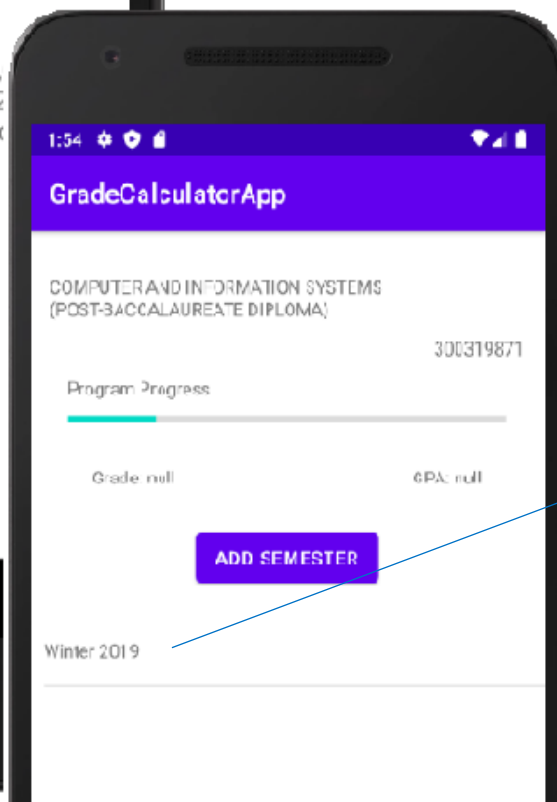
## SEMESTER PAGE (CONTINUED)



Once selected the courses chosen will show up in the textview.

And the user must click on save changes for them to be included in the database.

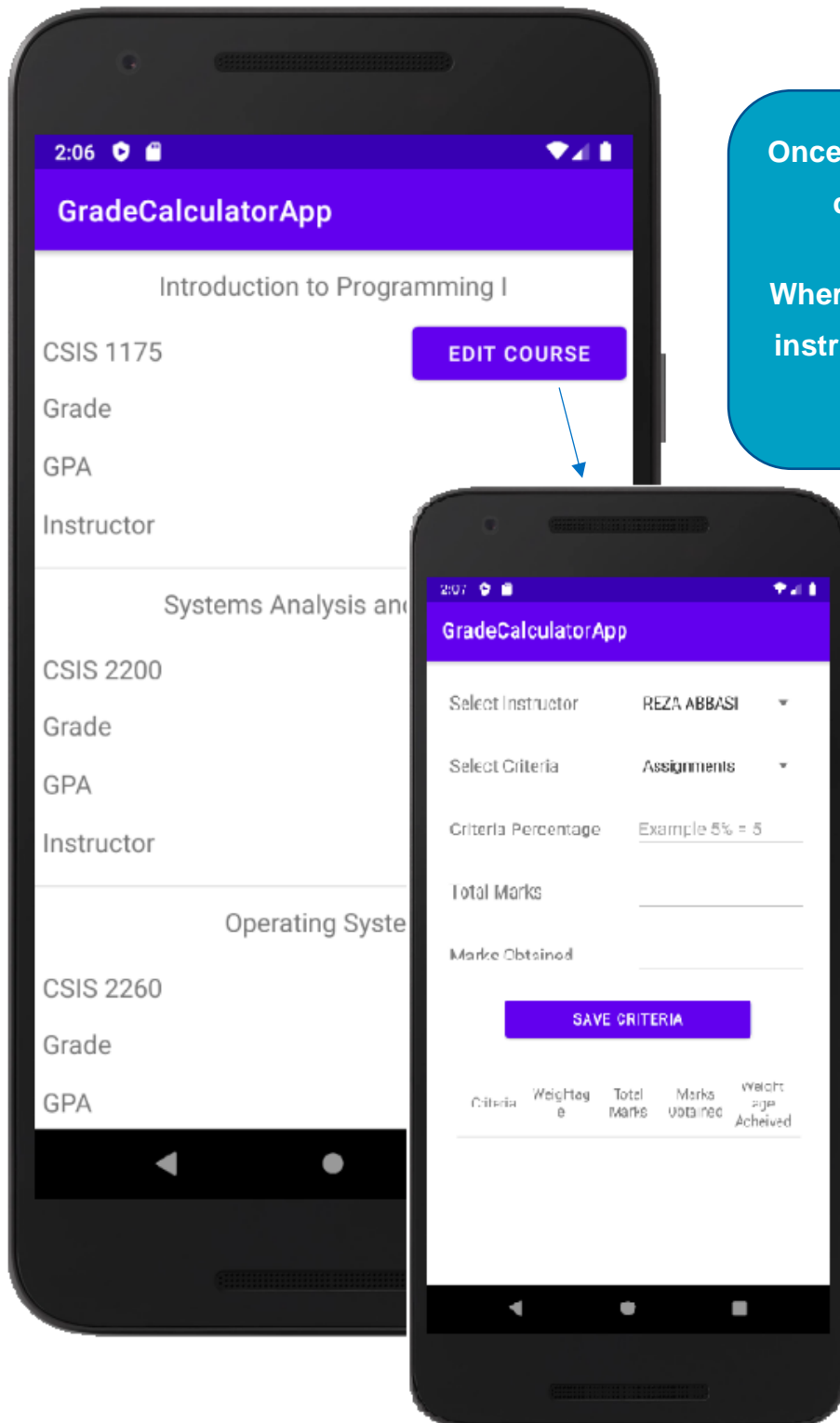
Once clicked the user will be redirected to the home page where the progress bar and the semester added will have been updated



When clicked the semester will direct the user the courses screen

## COURSES PAGE

Courses page displays all courses the student is registered in that particular semester



Once edit course is selected the user is directed to editCourse screen.

Where they have the ability to select an instructor, grading criteria and include grades.

## EDIT COURSES PAGE

Page where student can add grades and instructor

2:18

GradeCalculatorApp

Select Instructor PADMAPRIYA..

Select Criteria Project

Criteria Percentage 20

Total Marks 20

Marks Obtained 20

SAVE CRITERIA

Criteria	Weightage	Total Marks	Marks Obtained	Weightage Achieved
Assignments	5	5	5	5.0
Midterm	35	35	35	35.0
Final	40	40	35	35.0

Once the criteria is selected and saved the Student grades is updated.

It also feed the information displayed in the main application where the overall grades will be showcased.

Once clicked the criterias can be updated in the edit grades.

Update grade button updates the grades in the database

2:21

GradeCalculatorApp

Select Criteria Assignments

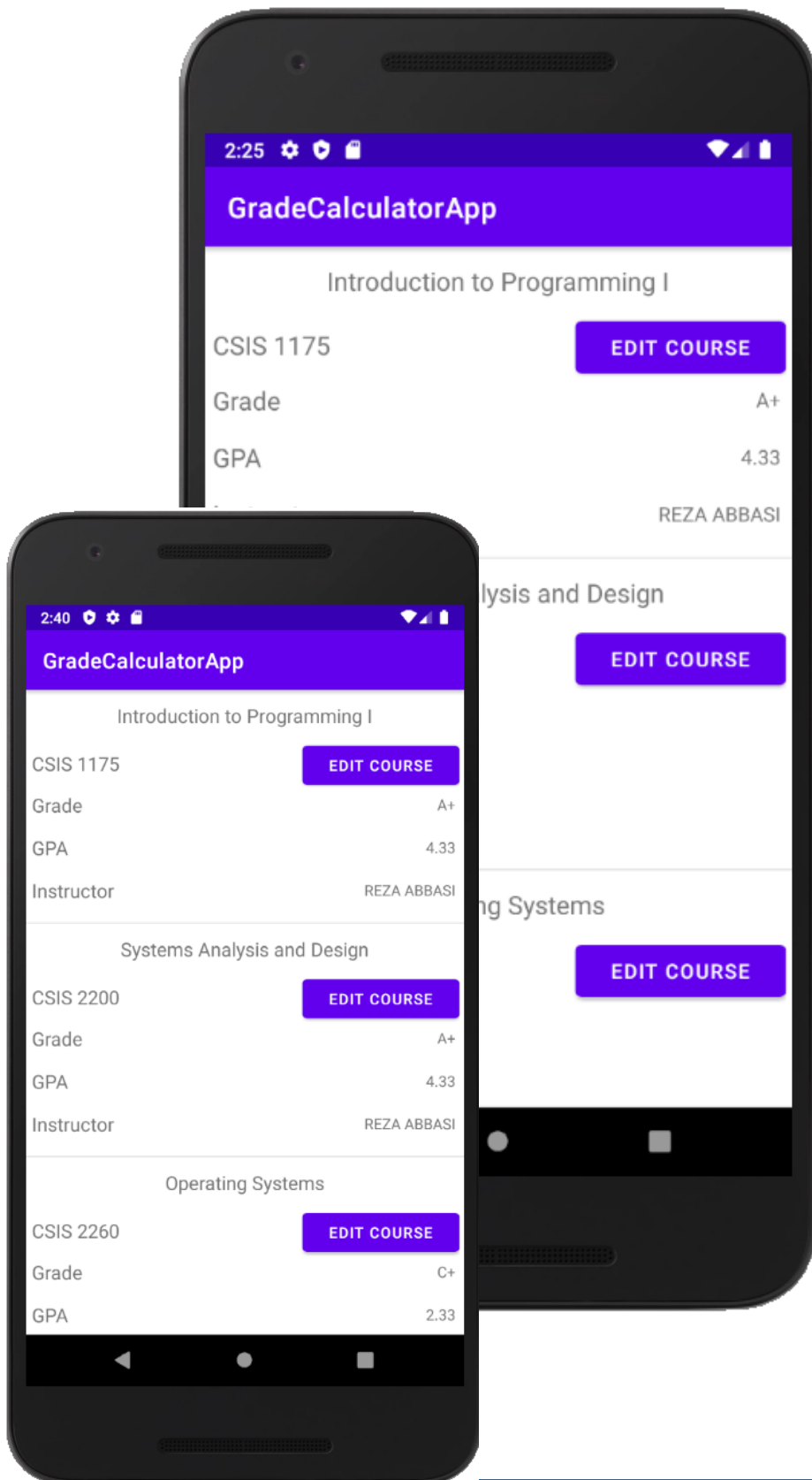
Criteria Percentage 5

Total Marks 5

Marks Obtained 5

UPGRADE GRADE

## SEMESTER PAGE (UPDATED)

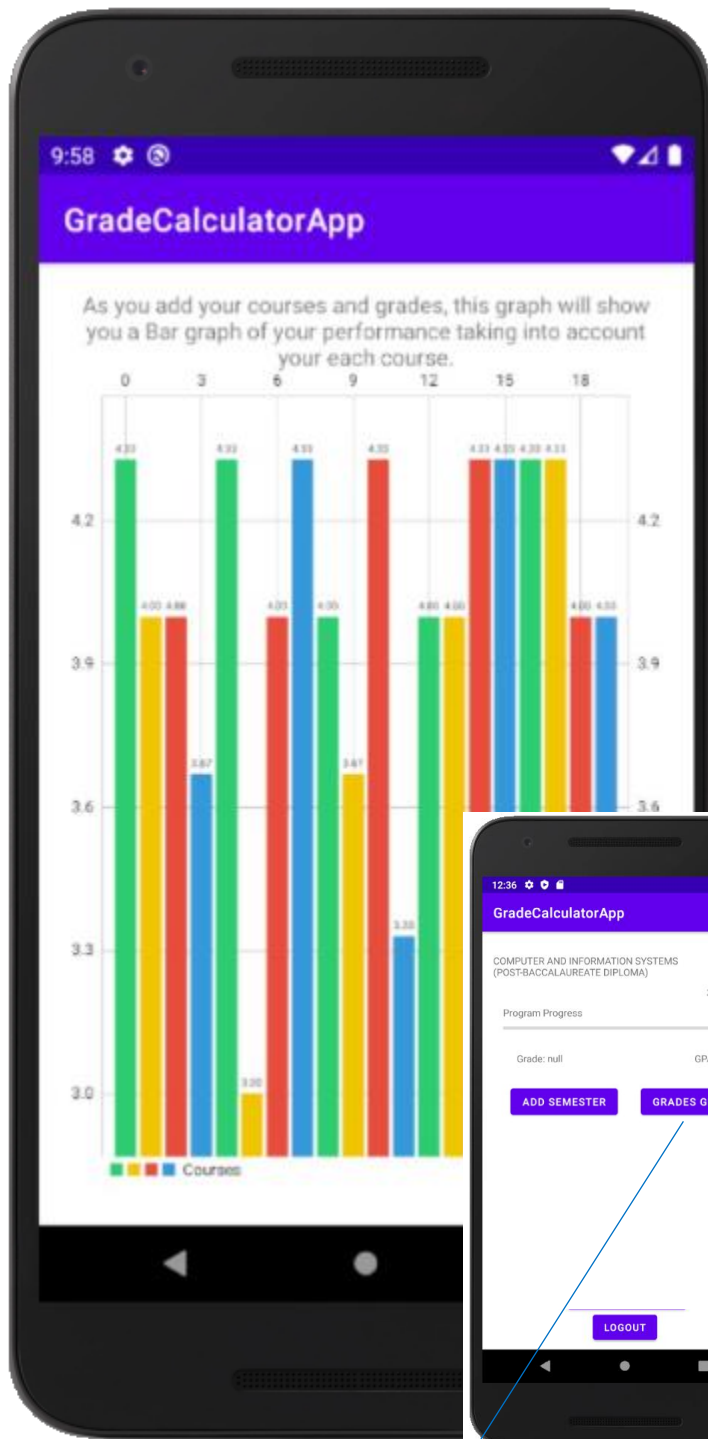


Once everything is set, the user can go back and see all the information accurately displayed in the Semester screen.

The course name, code, grades, GPA and instructor are now displayed for each course the user inputs the information.

The application also updates the main screen with all the required information, updating the average Grade and GPA

## STATISTICS

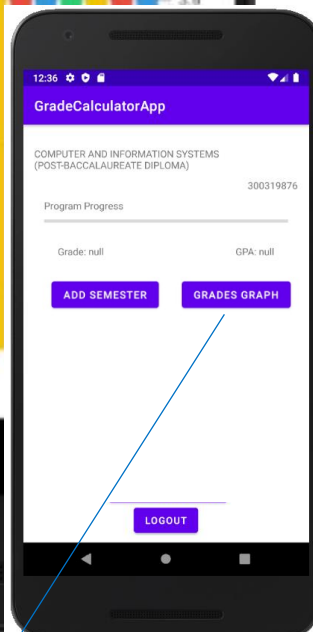


Button click on the main page takes the user to the graph

The Grades Statistics shows the grades in a bar graph format.

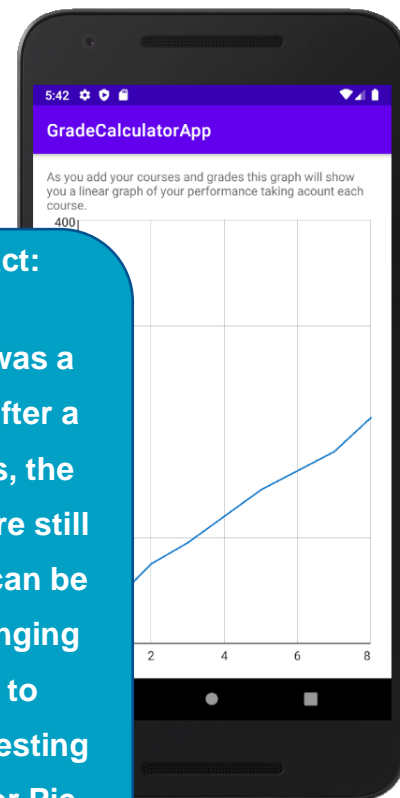
It takes the grades inputted by the user for each course in order, using the helper class.

Then using the added Library, a bar graph is created, Displaying the grades the user has achieved for each course.



**Interesting Fact:**

The Bar Graph was a decision made after a few experiments, the libraries tested are still in the code and can be changed by changing the BarGraph to GraphView and testing the Linear, Bar or Pie formats





## CONCLUSION

Grade Tracker for Android devices is a mobile application designed to facilitate the tracking of a student's progress while pursuing a Computer Science Program.

The application relies on the Helper Class to conduct all major queries, it's also where the developers created all methods that relied on the database to proceed with filtering, gathering or inserting information. It's the backbone of the application.

The Data visualization created is meant to help the user gather relevant information quickly.

All constructed on a simple user journey that tracks progress from log in to the users average GPA.

### **How to Run this App:**

Please read README file for more information on running this application.