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# Capstone - Stage 1

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# Attendance Tracker

## Description

Worried about your attendance like every regular semester?

No need to anymore, Attendance Tracker helps you keep track of attendance in different classes, so that you always know which classes you must attend if detention is not something on your wishlist.

## Intended User

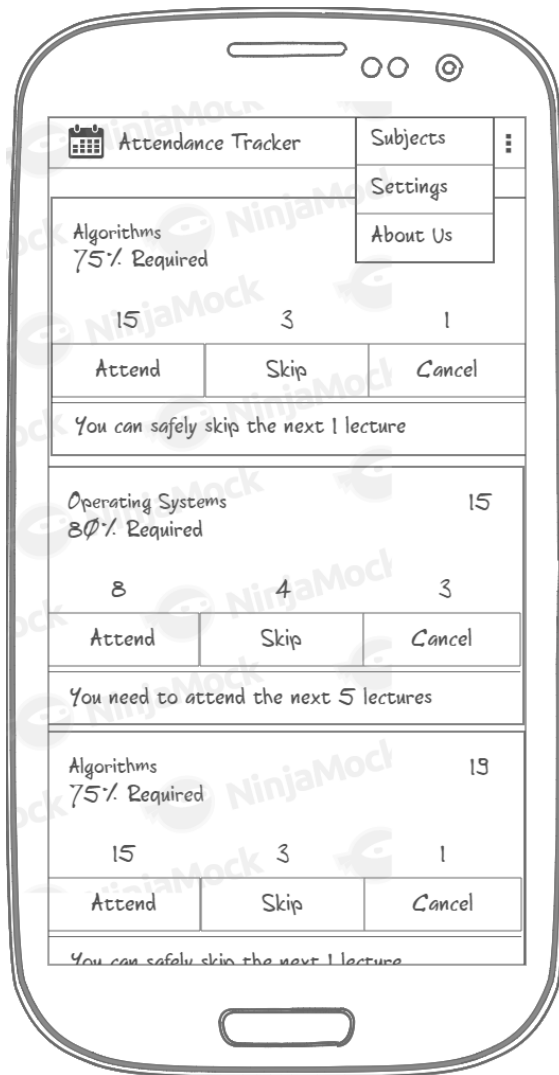
College students who are worried about whether they have maintained their attendance above the minimum required level to avoid detention.

## Features

- Easily mark off whether you attended any class on a particular day.
- Forgot to mark someday? No problem, just go to the history and edit it.
- Add a widget to further simplify it.
- Archive past subjects so they don't create clutter.
- Get a bird's-eye view (monthly view) of any subjects attendance.
- Set a custom threshold of required attendance per class.

# User Interface Mocks

## Screen 1 - Current Classes' Attendance

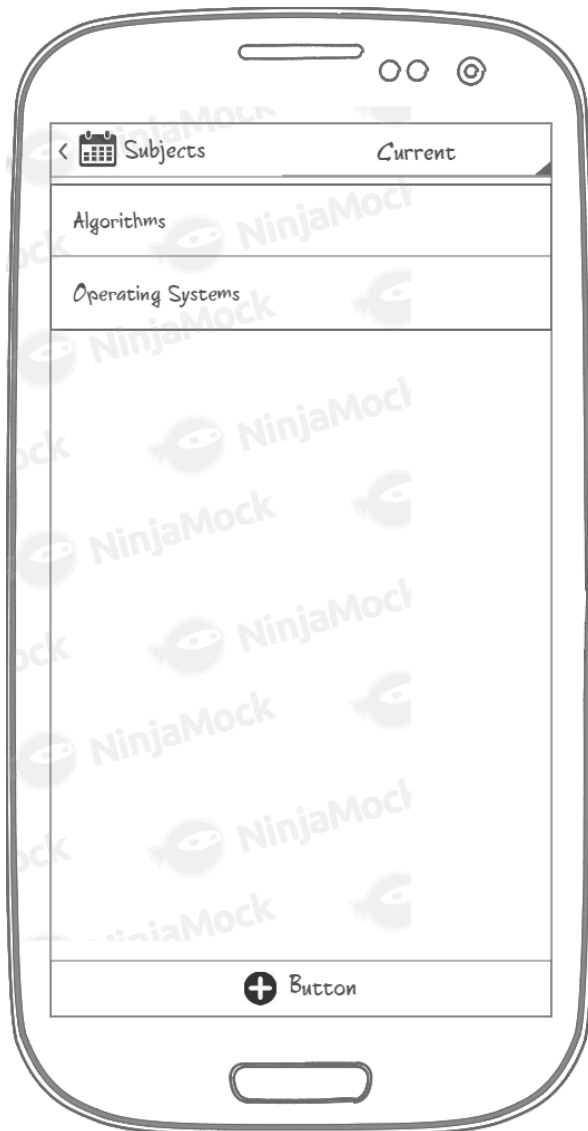


The landing screen of the app that lists all the current classes and provides a quick way to mark whether you attended/skipped any class today.

In the navigation menu, users can choose to go to one of the following screens:

1. Subjects
2. Settings
3. About Developer

## Screen 2 - List of Subjects



This displays a list of all the subjects the user has added to the app. Tapping on any subject opens the details view of that particular subject.

Using a spinner on top, the user can select whether they want to see their current subjects or the archived ones.

### Screen 3 - Subject Details

The screen displays a monthly attendance view for the subject 'Algorithms'. It features a calendar grid with dates from 1 to 31. Below the calendar, a summary section lists attendance statistics: Required Attendance Threshold (75%), Classes Attended (15), Classes Skipped (3), Classes Cancelled (1), and Total Classes (19). At the bottom, there is an 'Archive Subject' button.

		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Required Attendance Threshold: 75%

Classes Attended: 15

Classes Skipped: 3

Classes Cancelled: 1

Total Classes: 19

Archive Subject

This shows a monthly view of user's attendance in a particular subject and a summary of their attendance. The user can tap on any date to edit their attendance for that date.

An action-button at the top allows the user to edit details for that subject.

The button at the bottom allows the user to archive the subject.

## Screen 4 - Add a subject



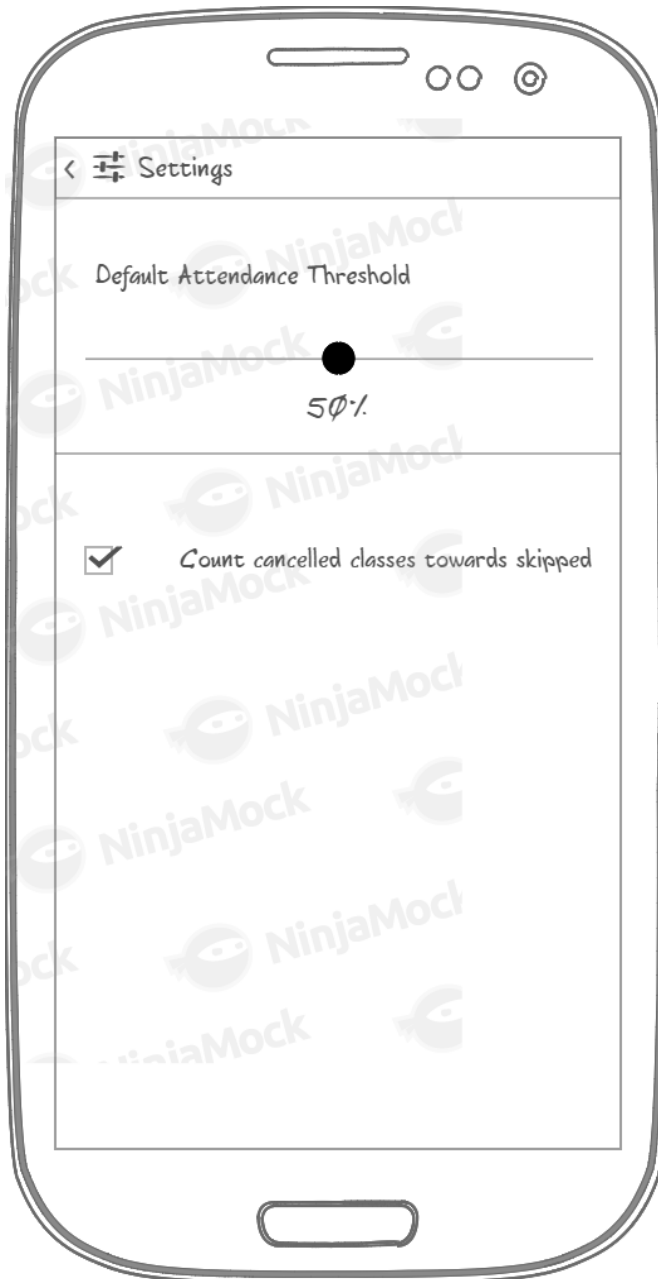
This is the screen the user is presented with when they want to add a new subject. The user can provide a name and the threshold of minimum required attendance for the new subject.

## Screen 5 - Edit subject details



This is similar to the screen for adding a subject, but is displayed when the user wants to edit the details of any existing subject.

## Screen 6 - Settings



The settings inside our app are of default minimum attendance threshold and a checkbox as to whether or not we are to count cancelled classes as skipped classes.



## Screen 7 - About Developer



This is a simple screen giving some information about me. The description and profile picture for this screen will be fetched from the internet.

## Screen 8 - Widget



The widget simply contains 3 buttons, pressing any of them will open an activity which shows a list of current subjects, tapping on one of them will register the action from widget to that corresponding subject in that date.

# Key Considerations

## How will your app handle data persistence?

I will be using the ContentProvider backed by a SQLite DB and some helper methods for data persistence. The ContentProvider will be used for:

- Inserting a subject into list of subjects
- Getting a list of subjects
  - Current subjects
  - Archived subjects
- Mark a subject as archived/current
- Insert a day's attendance in a subject's record
- Read/Update the attendance for a subject

## Describe any edge or corner cases in the UX.

Some of the UX edge cases are as under:

1. No current subjects added
2. User trying to edit their attendance for a date in the future

## Describe any libraries you'll be using and share your reasoning for including them.

1. [Custom Calendar View](#) - to show monthly overview of attendance
2. [Retrofit2](#) & [Gson](#) - for fetching data from Internet
3. [Picasso](#) - for loading images from Internet
4. [Material Dialogs](#) - to show material design themed dialogs even on older devices

## Describe how you will implement Google Play Services or other external services.

- AdMob to show advertisements in the app.
- Analytics to observe how many people prefer using the widget over opening the app.

## Next Steps: Required Tasks

### Task 1: Project Setup

- Create project in Android Studio
- Add required dependencies to buildscript
- Setup project for Firebase AdMob
- Setup project for Firebase Analytics

### Task 2: Creating the data model

Deciding how to store all the data regarding the subjects and how to keep track of the daily attendance.

### Task 3: Creating UI for the whole app

Create the UI for all the screens in the application. Just making the things appear as they should and handle their wiring in a later stage.

### Task 4: Wire the UI with logic

Write logic for connecting the UI with actions that are to be performed with them.

- Link different lists with their adapters
- Launch correct screens on user interaction

### Task 5: Integrate AdMob

- Insert ad-banner in UI at appropriate position(s)
- Link the ad-banner with Firebase AdMob to show actual ads

### Task 6: Implement Analytics

- Implement Analytics on the tap of attendance buttons in app's home-screen
- Implement a different Analytics event for the opening of subject-chooser activity through tap on widget buttons