Android Assignment

Objective

The goal of this assignment is to build a simple single screen app which shows the current trending Github repositories fetched from a public API. The design and business specifications have been provided below. We expect you to follow it as closely as possible.

We have deliberately kept the app simple enough for everyone to attempt it, but we are keen to see the approach you take to solve it. You have the freedom to give your best into it and demonstrate your skills for us to evaluate you better.

Requirements

- The app should preferably support minimum Android API level 19.
- The app should fetch the trending repositories from the provided public API and display it to the users.
- While the data is being fetched, the app should show a loading state. Shimmer animation is optional.
- If the app is not able to fetch the data, then it should show an error state to the user with an option to retry again.
- All the items in the list should be in their collapsed state by default and can be expanded on being tapped.
- Tapping any item will expand it to show more details and collapse any other expanded item. Tapping the same item in expanded state should collapse it.
- The app should be able to handle configuration changes (like rotation)
- The app should have 100% offline support. Once the data is fetched successfully from remote, it should be stored locally and served from cache until the cache expires.
- The cached data should only be valid for a duration of 2 hour. After that the app should attempt to refresh the data from remote and purge the cache only after successful data fetch.
- The app should give a pull-to-refresh option to the user to force fetch data from remote.

Acceptance Criteria

Your assignment can be rejected if -

- It doesn’t use Git or the commit history doesn’t convey the progress clearly
- It doesn’t follow standard coding guidelines (Refer AOSP Java Code Style for Contributors and Kotlin Coding Conventions)
- It doesn’t follow the given UI design guidelines closely
- It doesn’t have enough unit test coverage
- It doesn’t follow SRP in the architecture (it should be extensible, maintainable and testable)

Your assignment has more chances of being accepted if -

- It follows granular, meaningful Git commit history (refer here)
- We highly prefer you to use Kotlin
- Has good unit and UI test coverage
- Follows reactive paradigm (Rx, Lifedata)
- Has proper abstraction for Dependency Injection
- Uses Espresso and MockWebserver for UI testing

API Details

The Api is available here

You will get a list of the trending repositories as a response from this API. If interested, you can have a look at the backend source code here.

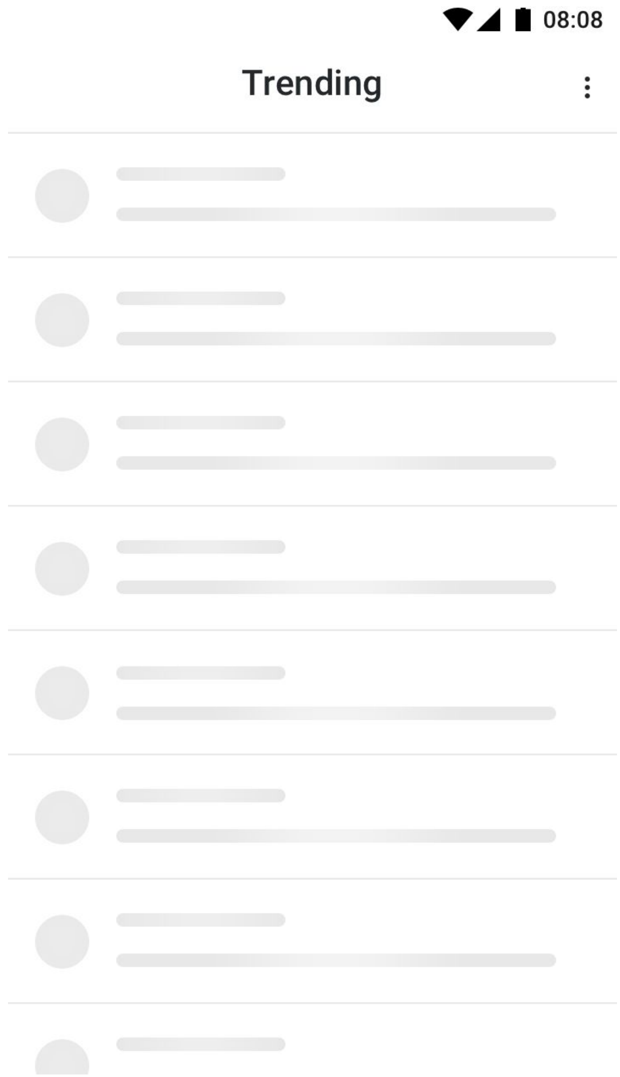
Design Details

Assets

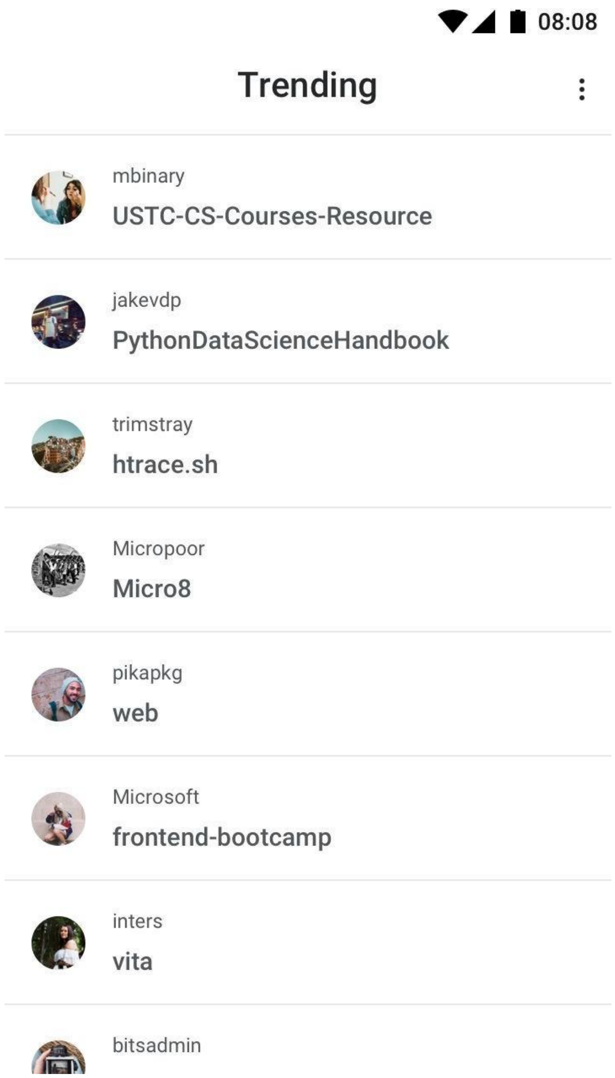
You can download all the required assets from here

Screens

Below are the designs of all the screens and components of the app.



(Fig 1. Loading state while repositories repositories) are being fetched)



mbinary
USTC-CS-Courses-Resource

jakevdp
PythonDataScienceHandbook

trimstray
htrace.sh

Micropoor
Micro8

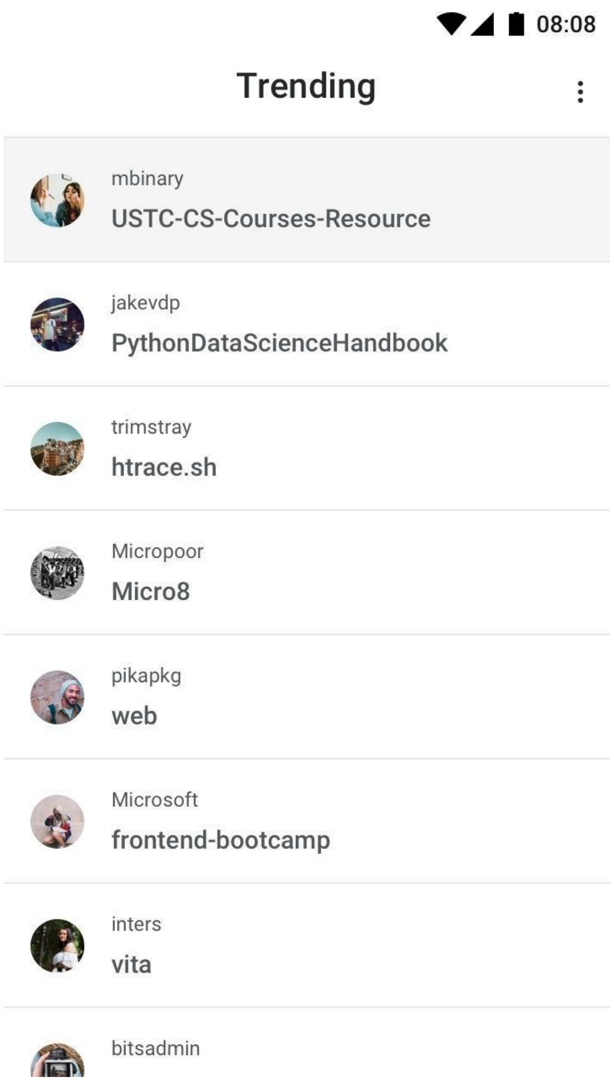
pikapkg
web

Microsoft
frontend-bootcamp

inters
vita

bitsadmin

(Fig 2. List of trending



08:08

Trending

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vita

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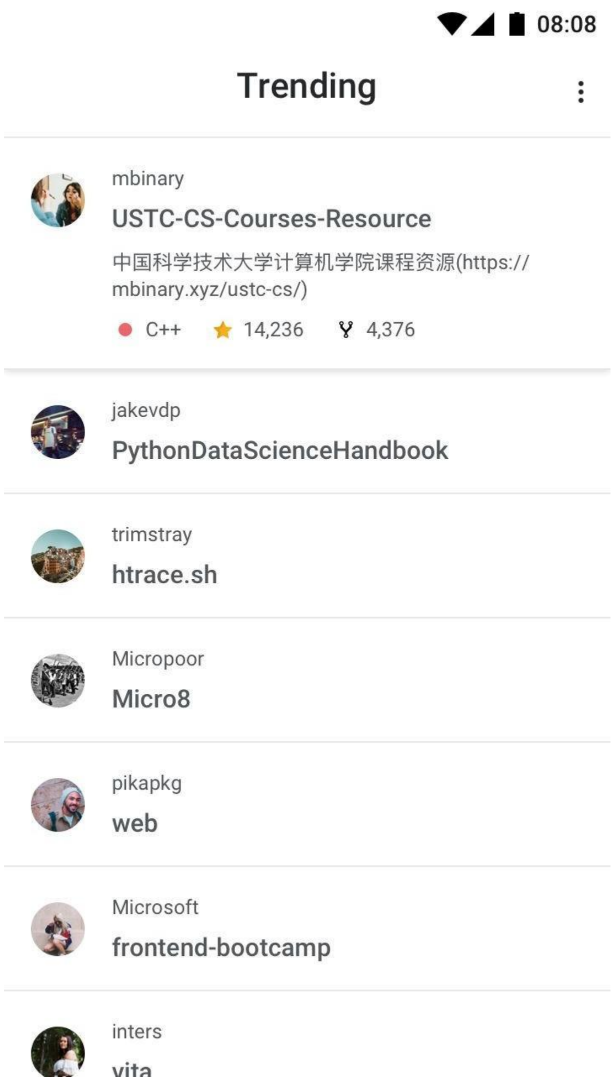
(Fig 3. Touch feedback on items)



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Trending

mbinary
USTC-CS-Courses-Resource
中国科学技术大学计算机学院课程资源(https://mbinary.xyz/ustc-cs/)
● C++ ★ 14,236 4,376

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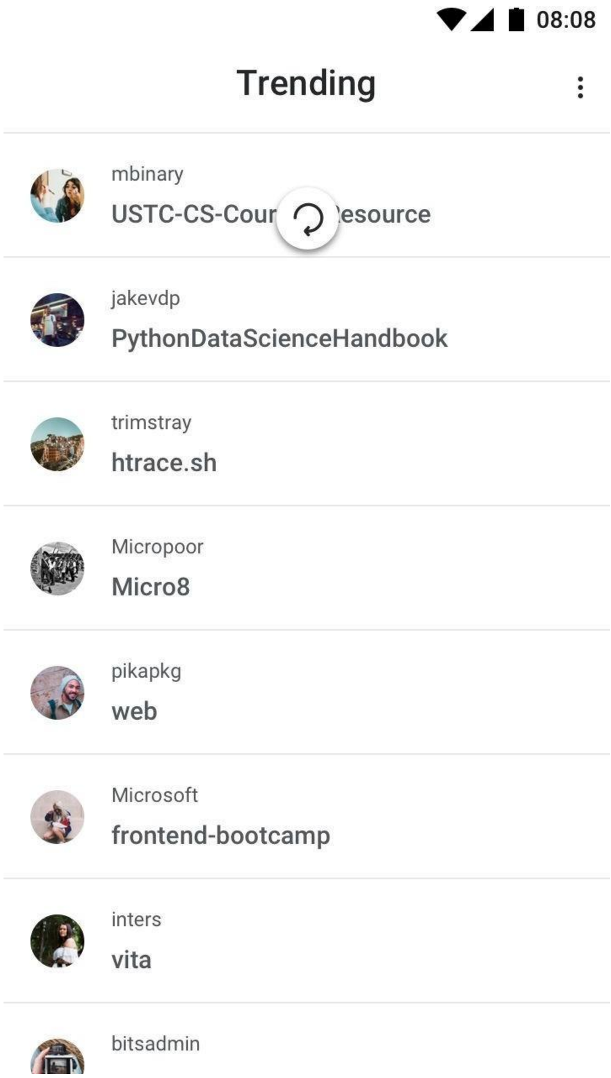
(Fig 4. Items can expand on being tapped)



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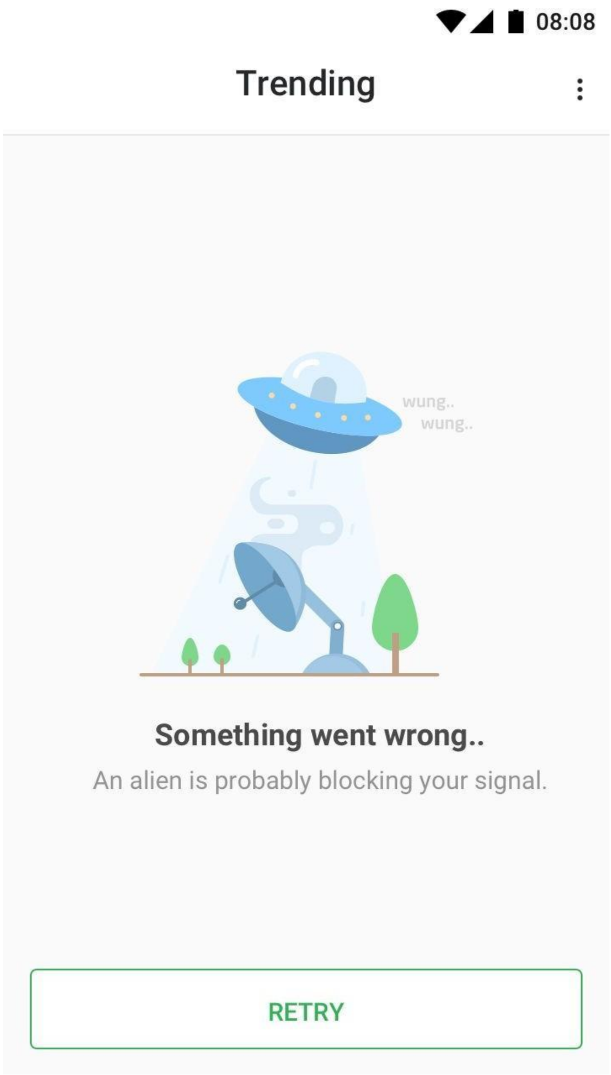
(Fig 5. Pull-to-refresh to fetch fresh data)



Something went wrong..

An alien is probably blocking your signal.

(Fig 6. Error state with retry option)

Duration

We expect you to submit the assignment within 5 days of receiving it. Given the size of this project, this time should be enough for you to comfortably complete it.

Submission Guidelines

Once you have completed the assignment, please make a ZIP archive of it along with the *.git* folder and send it the recruiter you are in touch with. **Please do not upload the solution to Github, Bitbucket, etc.**

If you have any doubts anywhere on the assignment, feel free to get in touch with our recruiter. All the best!