

# PROGRAMMING LANGUAGE

Programming languages decided to be used:

→ HTML5 and CSS

- ◆ We are developing a web application.
- ◆ All of us are familiar with it.
- ◆ UI design is made simple with the Bootstrap framework for CSS.

→ JavaScript

- ◆ All of us are familiar with it (some of us are currently learning it as well).
- ◆ It is the most dominant client-side language.
- ◆ Can be extended to server-side environments using Node.js.

→ GraphQL

- ◆ Recommended API by GitHub.
- ◆ Simple, declarative way to retrieve data.
- ◆ Only fetches the required data that is needed from the data set.
- ◆ Replaces multiple REST requests with just a single call to fetch a specific data set.
- ◆ Scalable and more flexible.

Alternatives:

→ Java

- ◆ Alternative language to use to develop native Android applications.
- ◆ All of us are familiar with it.
- ◆ Implementing Cursors, DBHelpers and Adapters for querying data are complex and convoluted which could reduce the team's efficiency.

→ RESTful API

- ◆ Supported by GitHub and suggested in the assignment.
- ◆ Requires multiple round trips to retrieve data from different resources.
- ◆ Over-fetches data by returning the full data set from a certain resource. There is no way to limit the request to only retrieve a subset of it.

# PLATFORM / ARCHITECTURE

Platform decided to be used:

→ Web application

- ◆ No installation required.
- ◆ Can be accessed anywhere on any device as long as you have a web browser.
- ◆ Supported on all operating systems without the need to use any framework (e.g. Windows, macOS, Linux, iOS, Android).
- ◆ Developed using languages that is familiar within our team (HTML5, CSS, JavaScript).

Alternatives:

→ Mobile application

- ◆ All of us are familiar in developing native applications on Android.
- ◆ Requires manual installation and update.
- ◆ Developing a native application for Android would mean the application is only available on Android devices.
- ◆ Requires frameworks such as PhoneGap to develop hybrid applications.

→ Desktop application

- ◆ Requires manual installation and update.
- ◆ Issues regarding cross-platform availability for PC operating systems can be mitigated by using frameworks such as Electron.
- ◆ Not available on iOS and Android.