The Nervous System – Android App

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Overview of tools used:

* Node.js - <https://nodejs.org/en/>
* Apache Cordova (+Adobe Phonegap) – <https://cordova.apache.org/> (<https://phonegap.com/>)
* Visual Studio Code (VSCode) - <https://code.visualstudio.com/>
* Android SDK (+Java JDK) - <https://developer.android.com/studio/>
* Image editor – Adobe Photoshop/Gimp/Paint

Getting started

**Node.js** is a JavaScript runtime built on [Chrome's V8 JavaScript engine](https://developers.google.com/v8/). Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient. Node.js is the most versatile JavaScript runtime; you can build mobile apps, desktop apps and web servers – all with just JavaScript.

To install **Apache Cordova** just follow their simple instructions on their [site](https://cordova.apache.org/). You can also check out their example apps.

To set up **Adobe Phonegap** follow their steps [here](https://phonegap.com/getstarted/) and check out their [documentation and tutorials here.](http://docs.phonegap.com/tutorials/)

Adobe Phonegap along with Apache Cordova allow you to write native Android/iOS/Windows Phone apps with pure HTML, CSS, and JavaScript and test them in real time on your device.

**Visual Studio Code** is one of the most widely used code editors; it is actually built using Node.js and other frameworks that run on top of it, such as Electron. Although you can use any code editor such as Notepad++, Atom, and Sublime Text.

The **Android SDK** and **Java JDK** are needed to package the app for Android. You can [see a guide here](https://cordova.apache.org/docs/en/latest/guide/platforms/android) on how to package and sign your app for Android. (If you are planning on building for iOS, check out [this guide](https://cordova.apache.org/docs/en/latest/guide/platforms/ios/)). Instead of using the complicated, although more feature-rich, local compiling and packaging, you can use [PhoneGap Build](https://build.phonegap.com/) to build your PhoneGap applications in the cloud by just uploading a zip file of the project (in this case Android SDK and Java JDK are not necessary).

We chose to use these technologies because of how versatile and cross-platform they are, Node.js especially being one of the fastest growing platforms of the future (Amazon, Google, Facebook and others are already using it for their server-side, many apps, both mobile and desktop, are using it for both their interface/client-side and their server-side – these include Spotify, Discord, WordPress Desktop, WhatsApp Desktop and Slack).

This app’s purpose is to create a platform where people can learn on their own, at their own pace. At the moment the app features one biology lesson - an overview of the nervous system (although more can be added in the future) along with photos, videos and quizzes. The app is easy to use and understand and it allows its users to learn new things, no matter where they are thanks to its portable nature. 'The Nervous System’ also features a final test used to determine the user’s knowledge and create a leaderboard with the users with the highest scores, thus allowing everyone to see where they stack up against everyone else.