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# **School of Computing**

# **CA326 Year 3 Project Proposal Form**

# **Project Title:** Currency Converter

**Student 1 Name:** Vincent Achukwu **ID Number:** 17393546

**Student 2 Name:** Trung Tinh Lien **ID Number:** 18392083

**Staff Member Consulted:** Dr Donal Fitzpatrick

**Proposal**

1. **Description:**

The subject of our project proposal is a Currency Converter App. This will give us ample opportunity to experiment with making phone applications. We have decided to build this program as an application because we thought it was more practical for people to use an app to check the currency conversions rather than logging into a webpage to check it out.

We plan on implementing this program using Python 3 for the backend and Java for the frontend. We believe that this is the best way to go about the project since the overall implementation of the project is a lot easier with the tools and libraries that Python 3 provides and then we need Java to convert the program into a phone application (which could also be converted into a webpage depending on the time management).

The primary tools, which we expect to use for this project are fixer.io, which is an API that gives us updated information regarding the currency values since it is known that the value of currencies fluctuates daily. The foreign exchange rates API provides 170 currencies and can provide real-time forex data through the API, at an accuracy of six decimal points, frequency as high as every hour, and response times below 50ms. We plan to use Python 3 for the data retrieval from the API. For Java, we expect to be using a JDK 1.8 Compliant JVM, Android Command Line Tools (SDK v.27), XCode 9.2, Gradle 4.2, Git Large File Storage (v.2.5.0) and Preferably at least 4G RAM. This will allow us to make the application cross-platform, which means that the app will be available for both Android users and iPhone users.

We plan to include features such as the following:

* **Monthly Rates:**

This will allow users to see the changes in rates that have occurred over the past month, which will give the user information whether it is a good idea to convert their money at that specific time.

* **Graph:**

This will be used as a visual representation of the monthly rates.

* **Favourites:**

This will show users favourite currencies (most used/searched for), which will allow the user to be able to quickly navigate what they want to search for.

* **Flag, Symbol, Abbreviation Translation:**

This is some visual representations of the currency to help users who are not well informed on the abbreviations of currencies.

As well as the functionalities and tools described for this project, one of the main goals of this project is to also make the application easy to use for everyone, including people with accessibility needs. This will allow users to have a satisfiable experience with the final product.

1. **Division of Work:**
   * Vincent Achukwu:
     + Back End testing
     + Data retrieval (API management)
     + User Requirements gathering
     + Creating Server
     + HTML/CSS
   * Trung Tinh Lien:
     + Front End testing
     + Accessibility needs
     + User Interface Interactions
     + HTML/CSS
2. **Programming language(s):** Python 3, Java
3. **Programming tool(s):** JDK 1.8 Compliant JVM, Android Command Line Tools (SDK v.27), XCode 9.2, Gradle 4.2, Git Large File Storage (v.2.5.0), Fixer.io API
4. **Learning Challenges:** Android Development, API data retrieval
5. **Hardware / software platform:** PC, Linux, Android device’s, iPhone device’s, Android Studio
6. **Hardware Requirements:** Android studio in at least 4GB RAM

**Software Requirements:**  java SDK and android studio IDE (with SDK bundle)