

# Report.docx

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## **Introduction**

Development of this project has given me in-depth knowledge about understanding and implementing the basic functionalities of a web service. The various sections or sectors of software development it dives into—like HTTP methods, XML manipulation, error handling—and finally, integrating with external APIs are put onto a practicable platform for learning and application of these core concepts. This project would like to exhibit the brilliance behind web-based applications and how they find relevance in handling the exchange and manipulation of data. It will build a web service that will handle operations such as POST, PUT, and DELETE. This meant that a summary of these would be part of the learning outcomes for this whole project, with these two noteworthy points as being "proficient in HTTP requests, XML handling, and strengthening error management skills.

### **What were your learning outcomes in respect to this project?**

Developing this project brought about realization of several key learning outcomes. The first was how to handle HTTP requests and create a simple web service. The project also covered a number of HTTP methods, such as POST, PUT, and DELETE; and they all significantly added to my practical know-how of such operations. It also made me an expert in manipulating XML, as dealing with the project deals with reading and updating XML files, and parsing has been acquired. The project also developed in me error handling and data validation skills. It called for looking at possibilities for errors coming out of HTTP requests, file operations, and even XML parsing. There was an even wider approach to a broader sense of comprehending robust programming practices and dealing with unexpected conditions. Additionally, integrating with the external APIs for fetching live currency rates has further broadened my horizon regarding integrating services from third parties into web applications.

### **Discuss how the application that you build can be extended and improved. Provide a few examples of areas that this application could be further improved in.**

Following are some points that may be considered for the further extension of this application:

In the first place, mechanisms for authenticating the user and authorizing the user could be introduced, thus adding a security layer. This can be through the creation of user accounts that in principle allow only authorized personnel to operate and log their activities. More functionalities that can be supported and integrated in the mobile money system, especially currency conversion facilities that can support a wider range of currencies and sophisticated tasks required in the conversion. The system may provide the user with exchange rates including historical and graphical trends, to allow the user to perform more financial analysis. This information would be able to be put to use in other places for the sake of generating reports and would also be able to be used in predictions. Offering a frontend interface with the purpose of enabling the user to interact with the system is surely going to add a lot to the level of user experience. This could involve building some form of dashboard where a user might easily browse, add, or modify currencies. Adding data visualizations and forms that are user-friendly could make the application even more user-accessible. How might this application or its components be reskinned or reused in the future?

**The application would be modular in its design and documentation to support reusability.**

A modular application should be designed to support the different components or modules into separate functionalities, thus aiding in reusing them in other projects or extending the same. For instance, while handling the XML and the HTTP request, functions could have been scoped into smaller reusable groups like functions or classes. Moreover, documentation on how to use each of the functions, the parameters it takes, and what it returns was also provided. In that sense, it makes it easier for other developers (or even myself in the future) to understand and integrate those components with their own projects. It increases reusability, taking into account additionally design patterns like the Singleton pattern for something that must exist only once, such as a currency manager. This ensures that only one instance of this component is ever created and reused throughout the whole application, hence lessening resource consumption. Conclusion

In conclusion, the project made it possible to learn not only technical skills, but also placed strong accents on the need for scalable, secure, and well-documented applications, promoting an integrated vision of software creation.

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