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Course: Android Application Development II

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Class Summary

Volley is an Android HTTP library used in Android applications to simplify the process of making HTTP requests, similar to Alamofire offered by Swift. It also offers very useful features such as automatic scheduling of requests, multiple and concurrent network connections among others. Volley is very easy to implement by depending on it within the build.gradle file. Unfortunately Volley is not well suited for large downloads or streaming because Volley holds response data in memory during parsing. Some Rest APIs return a JSON string as a response, which is then parsed by the client’s device. Since JSON is unstructured it is not recommended that it be used as is in projects as this may result in debugging issues as the application scales. Instead it is recommended that it be converted into a Class’ Object.

In the world of Java this is achieved using the class constructor. This can be done manually or using the GSON Android library. GSON simplified the process of converting a Class to its JSON representative and vice-versa via toJSON( ) and fromJSON( ) methods.

Using a combination of Volley and GSON a minimalistic login application can be created. For more complex functionalities a SQLite database may be incorporated into the application, allowing it to save up to 144TB of data to the device if hardware and software permits.

For the class exercise we were required to:

1. Try to build, understand and run the login app

The app was build and analyzed

1. Understand how to use both HTTPUrlConnection and Volley for sending HTTP requests

This was completed through an implementation in the provided AndroidLoginRegister app.

1. Try PUT/POST… methods for Volley
2. Explore the disk/memory cache function of Volley
3. Understand how to use JSON/Gson
4. Add “Task” Class, and related logic to the login app, check and make sure the app can communicate with the web service
5. Implement more functions, e.g. register a new user.