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CS 499

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**Narrative – Milestone Two**

**Artifact Description**

The artifact I selected is my mobile event tracker application from CS 360 (Mobile Architecture and Programming). It was originally created in Android Studio using Java and XML. The app lets a user sign up or log in, choose SMS notification permission, and then view an event page where events can be added, updated, or deleted. The application uses two SQLite databases: one for users and one for events.

**Why I Selected This Artifact**

I chose this artifact because it was a solid starting point but not fully complete, which made it a good candidate for enhancements. It already showed my ability to design and build working applications, but by improving it, I can also show that I can refactor and restructure code, apply best practices, and prepare an application for modern deployment.

The enhancements demonstrate several skills:

* **Software design and engineering**: I added a User.java model for consistency with Event.java, refactored registerUser to return a User object instead of just a boolean, and updated MainActivity to use this cleaner structure.
* **Modern development**: I recreated the app in Visual Studio Code as a Node.js/Express project using MVC architecture with Handlebars templates. This shows proper separation of concerns and aligns with industry best practices.
* **Preparation for future work**: I scaffolded the project for MongoDB integration, which will be addressed more fully in the Databases milestone.

**Meeting Course Outcomes**

I have met the outcomes I planned to address in Module One. Specifically, I demonstrated outcome CO3 (designing computing solutions with separation of concerns), CO4 (using well-founded techniques and tools like Express, MVC, and Handlebars), CO5 (adding a User model and preparing for secure authentication), and CO1(building collaborative environments as from the code review). I do not have updates to my outcome coverage plan at this time.

**Reflection on the Enhancement Process**

Through this enhancement, I gained more experience with JavaScript, Express, and Handlebars, which expanded my skill set beyond Android development. I learned how to set up MVC folder structures, manage routes and controllers, and prepare a project for database migration.

One challenge I faced was when creating the main folders for the Node.js app. At first, I was unsure of the correct commands to scaffold the structure, but by practicing with the terminal and using Express Generator, I learned how to build the setup properly. This gave me more confidence in working across both Java and JavaScript ecosystems.