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CS 499

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**Narrative for Artifact 3 – Databases**

**Briefly describe the artifact. What is it? When was it created?**

This artifact is the travlr.js file, which defines the MongoDB schema and model for trips in my full-stack travel application developed during CS 465: Full-Stack Development. It was originally created in Week 3 of the course and serves as the core structure for how trip data is stored, validated, and retrieved in the database.

**Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?**

I selected this artifact because it directly demonstrates my understanding and hands-on experience with NoSQL database design, schema creation using Mongoose, and integration with backend services using Node.js. This artifact showcases my ability to build structured data models that support CRUD operations within a larger application. For the enhancement, I improved the artifact by expanding the schema validation, such as adding stricter types for fields like perPerson, using .required for mandatory fields, and adding default values for certain fields to ensure data consistency. I also added indexing to optimize performance for common query fields such as code and resort.

**Did you meet the course outcomes you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**

Yes, I met the course outcomes I initially set in Module One. This enhancement demonstrates my ability to use innovative techniques and tools for implementing computing solutions that deliver value, specifically in the domain of database modeling and integration. It also reinforces my ability to manage data structure design decisions that support the performance and scalability needs of full-stack applications.

**Reflect on the process of enhancing and modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**

During the enhancement process, I learned how small improvements in schema design can significantly impact the performance and reliability of an application. I also became more comfortable with Mongoose’s extended capabilities, such as built-in validators, custom error messages, and schema indexing. One challenge was ensuring backward compatibility with other parts of the application that relied on the old schema, especially when adding new required fields. I had to carefully test the changes across both the backend logic and front-end display to prevent any data integrity issues or crashes in the UI.