Milestone Three

Curtis R Thomas

Southern New Hampshire University CS-499

# 

# Milestone Three Narrative

In this narrative, the author will describe the artifact being submitted. Next, I will justify the inclusion of this artifact in the eportfolio. Then, this narrative will address how this artifact satisfies the planned improvements. Finally, this narrative will reflect on the enhancement process and any lessons learned during the enhancement.

## Describing the Artifact

The artifact being submitted is an API for sharing and tracking community events. Much of the boilerplate has been created over the last two weeks, though some was added over this last week. Also in this last week, the endpoint, model, schema, and crud layer for events were implemented, as well as the model, schema, and crud layer for permissions to check user credentials on accessing API endpoints.

## Justification

The inclusion of this artifact shows my skills in data structures in several respects. The first exhibition of an advanced understanding of data structures is the use of string enumerations to be passed to the same enumeration type in the permissions schema class; the use of enumerations means that only a few select values can possibly be passed to the schema successfully. Next, the use of the JSON type to store the permissions affiliated with a user demonstrates thoughtful use of data structures instead of simply adding more and more string columns to track permissions. Finally, the use of the schemas to perform type-hinting, validation, and enforce enumerated values being passed from the endpoint to the database shows greatly advanced and improved handling of data structures over the previous artifact. Additionally, a method was added for sorting read output from events by a sort\_order attribute.

**Meeting the course objectives.** The author planned to address data structures and algorithms through the use of filtering and sorting db query results, enforcing schemas on CRUD, and appropriate implementation of data structures in the model layer. All of these goals were achieved in this artifact.

***Lessons learned.*** Much of what the author has learned has to do with the tools used in this tech stack. For example, Alembic will fail to detect certain changes to columns during a migration, causing a pernicious type error. Additionally, the author learned more about implementing endpoint security and user authentication. The author also learned the value of using enumeration types to enforce input checking on strings passed to the API.