Milestone Four

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In this paper, the author will describe the artifact being submitted. Then, the artifact’s inclusion in the portfolio will be justified. Next, the artifact will be compared against the development plan submitted in milestone one. Finally, the development process for this artifact will be reviewed.

## Describing the Artifact

The artifact being submitted was refined over the last week to demonstrate applied skills in database operations and development. It is an API backend containing an endpoint, pydantic schemas for data formatting enforcement coming into and out of the models, and sqlalchemy model layers to create tables and data models in the postgres DB connected to the project.

## Assessments and Measures

The inclusion of this artifact demonstrates the development of applied skills in working with databases. More than simply making a create, read, update, delete call, this API’s models have relationships between tables (between user.owned\_events and events.created\_by and as denoted by foreignkey rows), and makes advanced CRUD calls such as a query that also sorts data while reading.

**Meeting objectives.** One of the objectives established in the module one document was to establish a postgres backend, which has been accomplished. Another item suggested using database triggers. As this project has come into focus, it has become clear that there was no appropriate use-case for using triggers (which could have been established on the models using sqlalchemy); instead, the author demonstrated advanced db concepts through the use of association tables (app.models.user: UserSubscriptions) to link event rows and user rows where associated by the user id.

***Reflecting on the development process.*** The development process this week was less of an uphill climb than the last few weeks have been, and has been much more about refining the existing project to better reflect the author’s skills and academic goals. The author’s plans with respect to demonstrating database concepts and skills did have to change somewhat as the design of the program became better defined. One place that has presented a consistent challenge is writing better documentation; one possible solution under consideration is the use of a readme for each layer of the app to help incoming programmers get a better high-level understanding of the design.

***Computer Science Program Outcomes.*** This artifact demonstrates the ability to use skills and tools in computing practices that will deliver value and accomplish industry-specific goals. Additionally, this artifact demonstrates a security-forward mindset that anticipates attempts to maliciously access it.