**Milestone 4 Narrative**

Amanda Violet Bern

Southern New Hampshire University

CS 499 Computer Science Capstone

Doctor Fitzroy Nembhard

October 22, 2024

This artifact is the text-based game, Succulent City. The objective of the game is to navigate a castle for items to help defeat the Argentinean Ants that are destroying Succulent City. I created this project early in my studies in the course, IT 140. I selected this artifact to update because I could use it to showcase my skills with databases. I wanted to create a way for users to be able to end their game and return to it at a later time so I decided to create relational database tables that would store their session information efficiently and allow them to create a username and password to use to retrieve their session. Using relational databases allows data to not be overwhelming or repeated unnecessarily in a table. I broke apart the data into multiple tables so that it increased project efficiency and achieved that goal.

The course outcome that I planned for this artifact was to develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources. I met this course outcome through using a relational database setup so that a user’s private game session information is stored in a separate table from login information. While in the case of this text-based game, the information isn’t crucial or private, this still displays that I can create database tables that secure private information from things like injection attacks.

I worked on this artifact update simultaneously with the previous update so many of the difficulties I faced were the same. I had to learn how to set up and connect a database table to Python code which I had not done before. I have had experience with connecting code to databases in Visual Basic from my current role as a Jr. Software Developer so I wasn’t completely new to implementing a database with existing code. I had a lot of debugging time spent testing and reworking the database tables so that they functioned as intended and in the most efficient way possible as well. The issues that I ran into with implementing the new database functions in this project gave me more experience and confidence that I can find issues in projects and resolve them.