5-2 Milestone Four: Enhancement Three: Databases

CS 499

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February 6th, 2021

This artifact is a new C++ file that uses embedded SQL to manipulate a database created with SQLite. It creates a database called “zoo” which contains a table called “animals”. The table is broken down into five columns (name, species, age, sex, and health status) that are accessed through SQL commands to allow users to perform basic CRUD functions on it. I included a switch/case menu that gives a user the option to create a new animal entry, update an existing entry, view a single entry, view all or entries, and delete an entry. This program is meant to show my abilities not only in manipulating a database, but in being able to do it from within a C++ program instead of through console commands. This was originally meant to be an add-on to the zoo login program from the other two milestones, but I made it into a separate program to save on length.

This was the most challenging program I’ve ever attempted. Learning how to embed SQL statements is particularly hard because there are so many different ways to access a SQL server. I spent a lot of time researching and scrapping approaches to try to come up with a way that would allow the program to be wholly encompassed and functional within the zip file I turned in. SQLite isn’t a true SQL server, but it creates a database that is saved with the program and always accessible from at runtime. I avoid the connection issues of having to connect to a remote server by having everything be stored locally. I learned several ways to incorporate SQL into a program, but this was the only one that I could get to work with natural SQL statements that I could piece together with the variables. The next challenge is to try to connect to a real server, if possible.