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Milestone Four

Enhancement Three: Databases

For the databases artifact, I have chosen the final project from Client-Server Development that was originally engineered in February of 2024. This software package was designed as a lightweight interface between a client program and a MongoDB database hosted on a server that allowed users to perform statistical analysis on large numbers of animals located across the globe. When originally implementing this program a CRUD (Create, Read, Update, and Delete) database interface was programmed but never fully integrated into the client program’s interface software and so this presented an excellent opportunity to finish the development of the UX for inclusion of database object creation, existing animal information updates, and removal of existing animal records from the database. Further, the updates to this program required the implementation of button GUIs, on click routines for popup window activation, and button activation routines for data submission to the record creation, record update, and record removal database functions. In February 2024 I originally engineered the final project of Client-Server Development that will serve as my databases artifact.

This round of updates has been a strong reminder of front-end development principles and as anticipated has satisfied course outcomes #3, and #4. During my integration of database object creation, record update, and record deletion interfaces I was not presented with strong opportunities to apply course outcome #5 as originally anticipated, i.e. develop and apply a data security mindset though course outcomes #3, and #4 were met through the design and implementation of these new features. I was reminded heavily of the relationship between programming for front-end structures, i.e. buttons and popup windows, and front-end events, i.e. button activation and spawning new windows, in this series of updates. The greatest challenge presented during the implementation of these new features was differentiating the record variables to allow users to enter for new animal records and allow users to change for updating existing animal records; though the most technically cumbersome task was determining how to generate popup windows that could acquire user input to transfer to the relevant database functions. Course outcomes #3 and #4 were satisfied by the patches to this artifact that reminded me of the intricacies of front-end development.