QDI PROJECT OVERVIEW

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CISC 480

Contents

1 Project Overview

Our project as a whole took place over the spring semester 2019 and was broken up into sprints. Our sprints were about two weeks each. In the beginning of each sprint, teams set goals for that sprint, and at the end of the sprint, the goal was to always have a deliverable for the customer (Minnesota Geological Survey). Our class had 19 people total and we originally ended up with 4 groups:

- Guarantee Team
- Database and Development Operations Team
- Modernization Team (re-coding QDI with C#)
- Mobile Application Team

More detailed descriptions of each team can be found in the individual team sections.

2 Database/Development Operations Team

Database & Development Operations Team Overview

The goal for the database team was to upgrade the database software being used and provide tools for its administration, and to enable the storage of images.

- We upgraded the database to PostgreSQL Server 10.7 and PostGIS 2.5.
- We also wrote a Python script to validate data being stored and output potential errors in the database.
- We added a table to the database to store images.

The goal for the development operations team was to emulate the MGS system architecture to run their software in a manner consistent with how they would be running it and to create new infrastructure to support upgrades to the system as well as support the classes development of the code.

- We built the infrastructure to support the software and the software development
- We wrote a Python script to build the geodatabase.

References

More information about our activity can be found in the Database & Development Operations Team Documentation.

3 Visual Basic Team

Team Overview

The mission of the Visual Basic team was to essentially optimize the existing QDI code base. We had a few pretty straightforward tasks:

- Comb over the code the makes up QDI and comment to make the product easier to read through for future programmers.
- Fix relatively small bugs and find ways to make code more efficient.
- Look for portions of code that are not being used and clean out the code base.

References

There were quite a few larger bugs and steps towards further optimization that we tackled. More information about our activity can be found in the QDI VB Documentation.

4 Modernization Team (C#)

Team Overview

The goal of the Modernization team was to rewrite the QDI toolbar and underlying program in C#. This involved the following:

- Re-implement the program's code in a new language, using a freshly designed program architecture.
- Re-write the forms, toolbar code, and underlying logic in a more readable and maintainable style.

References

More information about our activity can be found in the QDI C# Documentation.

5 Mobile Application Team

Team Overview

The goal of the Mobile Application team was to develop an iOS app that extends QDI, allowing geologist in the field to collect data and store it in QDI. This involved the following tasks:

- Design a UI that is easily understood and easy to use.
- Get collected sample data from the app to the QDI database.

References

More information about our activity can be found in the QDI Mobile Application Documentation.

References

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