

CMPG 323 Project 2 Documentation

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# Introduction

The CMPG 323 class of 2021 had to build a platform for a South African marketing company, where users can upload, share, edit metadata, delete and download images. The highlight of the project for me was to challenge myself and see what I’m capable of. It was also very enjoyable to choose my own technology stack. I thoroughly enjoyed the problem solving, especially finding solutions. I had less challenges than in project 1, but I struggled a little bit with my database. I had to go back and change the structure of my database a few times to adapt to what the application had to do. Navigating between the C#, html and auto-configure settings in Visual Studio also posed as a challenge. Before the development of this system users sent the photos to each other via email, which was not affective. Users can now easily share content, collaborate and have all the relevant content at the same place. The system is based online and can be accessed from any computer with an internet connection. The functionalities of the web application are all based on CRUD functionalities and images.

# Overview of technologies

For this project I used C# as my programming language, together with Visual Studio 2019 as my IDE. Due to the nature of the project, I used the ASP.Net framework for my web application. My database technology was SQL server. I chose these technologies because I have worked with then before and I have a decent understanding and competency of these particular technologies. The simple integration between Visual Studio and SQL server was also a big plus point. I also used HTML a little bit, especially for the CSS aspect. To host the application online I used Google Cloud Platform (GCP). I heard a few students complained about Microsoft Azure and I decided to use GCP instead. GCP supports Visual Studio as well, so it seemed like the obvious choice. For my architectural pattern I decided to use a pattern close to the N-tier application and MVC as my design pattern. I did some research and it seemed like these patterns would work well with the rest of my technology stack.

# ERD diagram

I designed a very simple database in order not to complicate the software development phase. The more tables you have the more different places there are to update etc. It was a very important part of the design process, since it directly affects how well your application will work. It was one of the first things I did, so that I could create a suitable database in SQL server.

Diagram

Description automatically generated

Figure - ERD diagram

One can see in Figure 2 below, that the table names used in my project matches the ERD diagram.

![Text

Description automatically generated]()

Figure - Sql Server Database

# Use case diagram

# Data flow diagram of the system

# User how to guide

## create

![Graphical user interface, application

Description automatically generated]()

Figure - Create

To create a new record on the system or to upload a new image scroll to the bottom of your home page after logging in. Then choose an image by clicking on the “Choose File” button, fill in the metadata field and click on “Save” as seen in Figure 3.

## Update or Edit

Figure - Update

To update or edit metadata of a photo click on “Edit” left of the image while on the Home Page. Then edit as desired and click on “Update” when satisfied. You will see that the database is updated.

## Delete

Graphical user interface, text, application, email

Description automatically generated

Figure - Delete

To delete a record, click on “Delete” on the left of the metadata on the Home Page.

## Login

![Table

Description automatically generated]()

Figure - Login

When starting up the application, enter the username and password and click on the “Login” button. You will be redirected to the Home Page if the credentials are correct, otherwise the user will receive an error message.

**Credentials used in demonstration:**

Username 1: timon Username 2: frederik

Password 1: 123 Password 2: 321

## Share

![Graphical user interface, application

Description automatically generated]()

Figure - Share

To share a photo with a different image, scroll to the bottom of the Home Page, enter the relevant Photo Id and select the user you would like to share the photo with. Then click on the “Share” button to finish the process.