CS 310
Scalable Software Architectures
Spring 2023

Final Project (v1.0)

Assignment: Cloud-native app using AWS services
Submission: via Gradescope
Policy: Individual or Teams (up to 4 members)
Complete By:
Milestone #01: Tuesday May 30 @ 11:59pm CST
Milestone #02: Friday June 09 @ 11:59pm CST (no late submissions)

Overview

The final project is a chance to work on a problem of interest to you, and explore features of AWS you want to learn more about. The project is intentionally open-ended, with some restrictions:

1. *You must use AWS*
2. *You must have a client-side component*
3. *You must have a server-side component*
4. *The client-side component interacts with the server-side component(s) through a web service / web server. Example: a final project like project 01 is not allowed since it communicates directly with AWS services.*
5. *The web service / web server can be built using EC2, Elastic Beanstalk, or API Gateway + Lambda (serverless).*
6. *The application must perform some sort of computation that we haven't performed already. Example: something more than project 02 and project 03.*

Coming up with an idea for a final project can be hard. If you are unsure of what to do, here's a project idea we think is reasonable and interesting:

> *"Take project 02 and add two features: (1) image meta-data extraction, and (2) search by meta-data. The idea is that during upload, you extract meta-data (date, location, etc.) and store this in the database (create a separate **metadata** table using the asset id as the primary key). Now add a search function to the API to search a user's folder for photos on/near a given date, and near a given location (latitude, longitude). If you want, connect to Google's Geocoding API to convert street addresses to latitude/longitude for more human-friendly search ("near Chicago, IL"). Add*

other meta-data and search criteria as you see fit. If time permits, add a 3rd feature where you compress the image on upload and decompress on download, saving space (and $) with S3."

Milestone #01: project idea and team members (if any)

You need to decide two things before Tuesday May 30: (1) what you plan to work on for your final project, and (2) are you working individually or in a team. If you plan to work as part of a team, get together with your team members and select a *team name* to uniquely identify your team --- keep in mind this name may be publicized, so don't embarrass yourselves (or NU) with an inappropriate name. EVERY STUDENT IN THE CLASS needs to supply (1) and (2) via the following google form:

https://forms.gle/3YFKbDAHF5XyxJ73A

The deadline is Tuesday May 30th (11:59pm). If you change your mind, you can resubmit as long as it's before this deadline. Once the deadline passes you are committed to your submission; no last-minute changes in topic or team members.

If you do not submit something before the deadline, we will record you as working on the suggested final project (extending project 02 with the mentioned two features).

Milestone #2: submission of final project

Submissions will be collected via Gradescope (and perhaps github as well). Further submission details will be announced during the first week of June.

Optional final project presentations

This is completely optional, but feel free to present, or just come and listen… We have reserved our classroom (LR2) for final project presentations on Friday, June 09, from 9-11am. If you or your team are interested in presenting in-person, please fill out the following google form (if you are part of a team, only one team member needs to submit this form):

https://forms.gle/VxFjyshandot7JCv7

Plan on 5-10 minutes for your presentation, PPT not required. We'll confirm presentation order a few days beforehand.