Final Project Description

Tips for ideas: Log into the UI library's subscription of SafariOnline. There are hundreds of books there on almost every kind of database system that exists. You can peruse those for ideas, and most certainly for helpful information once you have decided your topic/technology to explore. Also, you can log into the UI subscription of Linked-In Learning (formerly Lynda.com) and there are many intro tutorials there that could give your ideas.

- The project may be solo or a group of up to two students.
- A student or team must post their project proposal for approval in the forum.
- The projects must utilize at least ONE of these things:
    - a database engine type you have not used yet this semester.
    - a cloud service you have not used yet this semester (e.g., Azure, Google, Heroku, DigitalOcean, etc.)
    - a distributed *sharded* cluster (either cloud or on your own hardware). Sharding is very different than read replicas.
    - a simple custom web application interface to demonstrate it can query your database securely.
- The proposal should describe the technology(ies) you plan to use, the data set(s) to be used, and a general description of the desired outcome.
- During either of the last two class sessions, each student or team will give a semi-formal presentation on their project.
- Besides demonstrating basic proficiency with the database such as configuring the database in the cloud, loading data, and querying data, teams must address the following topics in their work:
    - How the project goals and data set affected the choice of database technology chosen for the project
    - How the database is secured from unauthorized access at different levels of granularity and for different operations, like read, write, or delete
    - You must document successful recurring, fully automated backups of some type, and that you successfully restored a new instance of the data set from a backup created through that process.
    - Estimate annual costs for running the system in a production-grade configuration.
- Optional topics teams could address include:
    - Troubleshooting or optimizing performance problems
    - Monitoring in real time or auditing database usage