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CS 470 Final Reflection

YouTube link to presentation: https://youtu.be/m9-BGU1gh3g?si=GiQmZDi95BdiMOHq

Experiences and Strengths

Skills:

- Frontend Development – This skill has expanded my ability to understand frontend frameworks, handle authentication tokens, and how to utilize HTML, CSS, and JavaScript files correctly.
- Backend Development – I learned what the server side of programming consists of and how to handle Lambda functions or logic.
- Cloud Security – learning the principle of least privilege will be needed in many different applications developments and it is a great skill to have learned.

Strengths:

- Problem-solver: Whenever I met myself with an issue while developing the web application, I utilized my skills to solve the issue effectively.
- Attention to detail: Each detail in a web application development is critical, which means having attention to detail could save small mistakes from becoming big.

Roles:

- Full Stack Developer: Having experience with the client and server side of an application I can assume this role will be necessary to assume.
- Cloud Engineer: I can assume this role will be a plus as many companies have migrated their applications to the cloud.
- Security Developer: This role is critical to keeping the application secure from attacks in the future. Using the principles I learned in this course can help me assume this role.

Planning for Growth

Microservice or Serverless:

Serverless architecture can be used for improving management efficiencies in web applications by improving scalability, fault isolation, and cost control. In a serverless service they can scale automatically, which scales up when there is high traffic and scales down during idle times. This helps prevent overload use when not needed and infrastructure efficiency. Faults can be isolated by which lambda function is coming from. If one service crashes it doesn't crash the whole application. Serverless pricing is based on pay-for-use, which means that is event-driven workloads control the cost of the service. This helps prevent overpaying for idle resources.

Pros and Cons for Expansion:

- Some pros would be serverless automatically scales with demand, no need for large hardware investments upfront, better response in traffic spikes, pay-for-use, no major upfront cost, and cloud provides built-in IAM, and encryption certs.
- Some cons would be serverless can be expensive if high traffic use, cold starts or latency may appear, predicting long-term expenses would be harder, and more services mean more security configurations to manage.

Elasticity and Pay-For-Service:

- Automatically Scales up and down
- Handles traffic spikes
- Prevents wasting money on idle servers/Only charge for resource used
- Keep expenses aligned with workload
- Effective startup cloud platforms