

Capstone Project Selection Secured by AWS

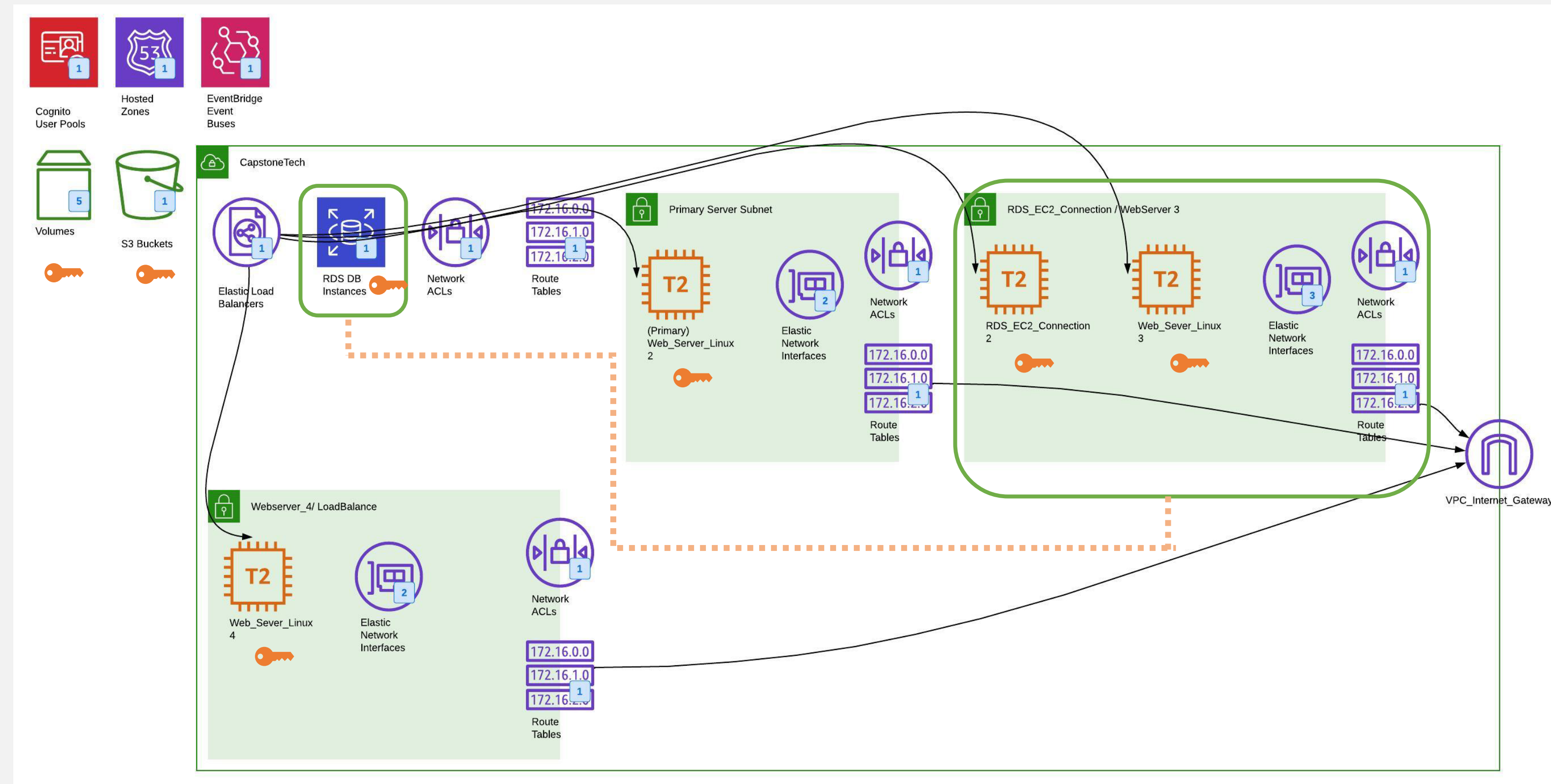
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Instructor/Faculty: *Dr. Masoud Sadjadi*, Florida International University

PROBLEM

Capstone students are **emailed a URL LINK** to an excel spreadsheet so they can input their project selection. Given that the URL link is hosted on Microsoft Azure, **anyone with an FIU email account** outside of the Capstone cohort is **given read/write access to the excel spreadsheet**. This leaves room for unwanted modification from threat actors onto those students who have already selected their project.

SYSTEM DESIGN



RISK ANALYSIS

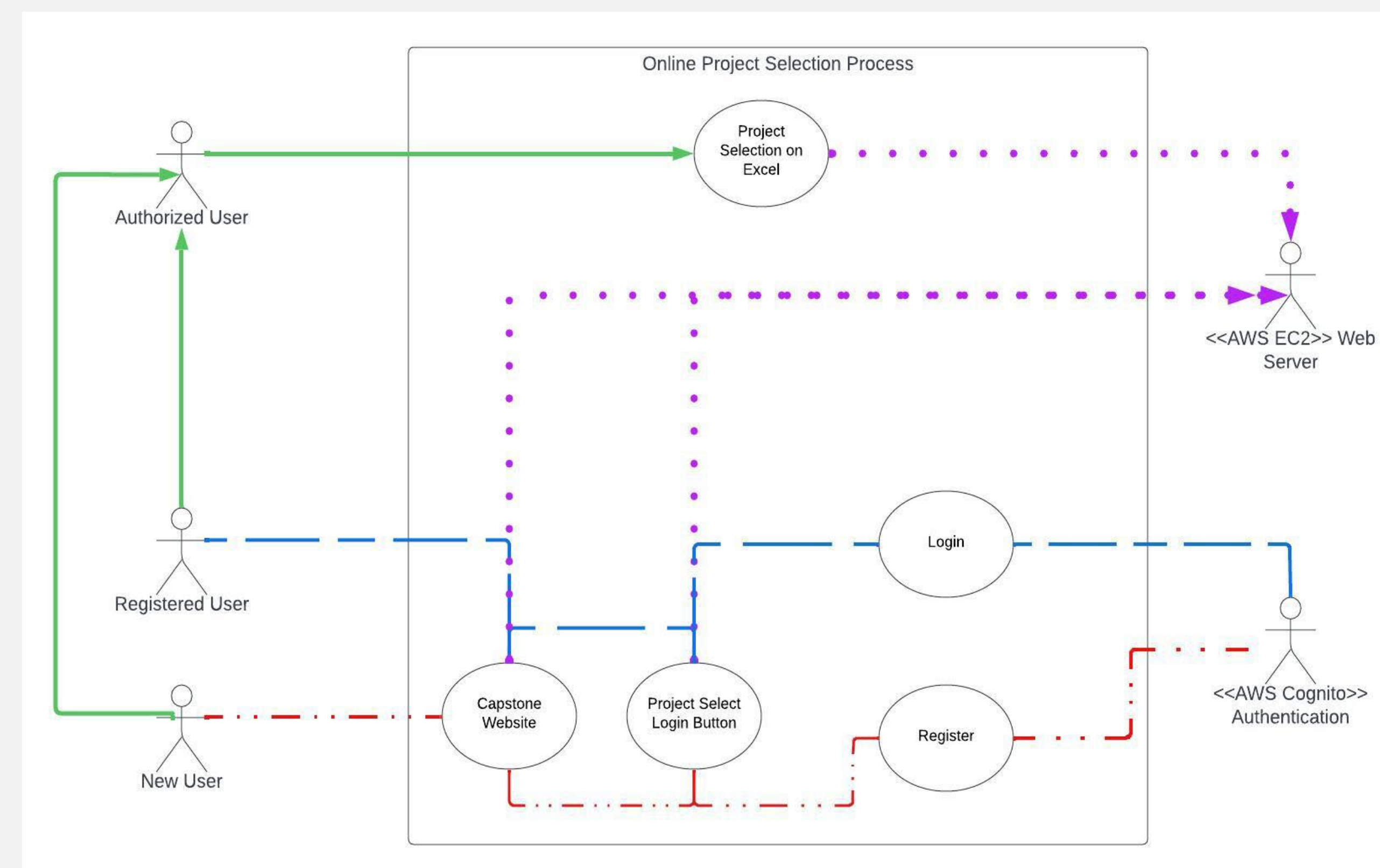
	Negligible	Moderate	Severe
Unlikely	Student signs in using non-FIU account	Students alter other student's information	Student deletes all information on excel
Somewhat Likely	Student signs in using another student's account	Student accesses AWS account that hosts the website and resources	Student emails classmates fake link leading to malicious site
Very Likely	Non-FIU student signs in and alters information	Students to DDOS server	Students access AWS using insecure ports (80, 443, 3306, 22)

CURRENT SYSTEM

- Secured/Monitored/User Authenticated Website



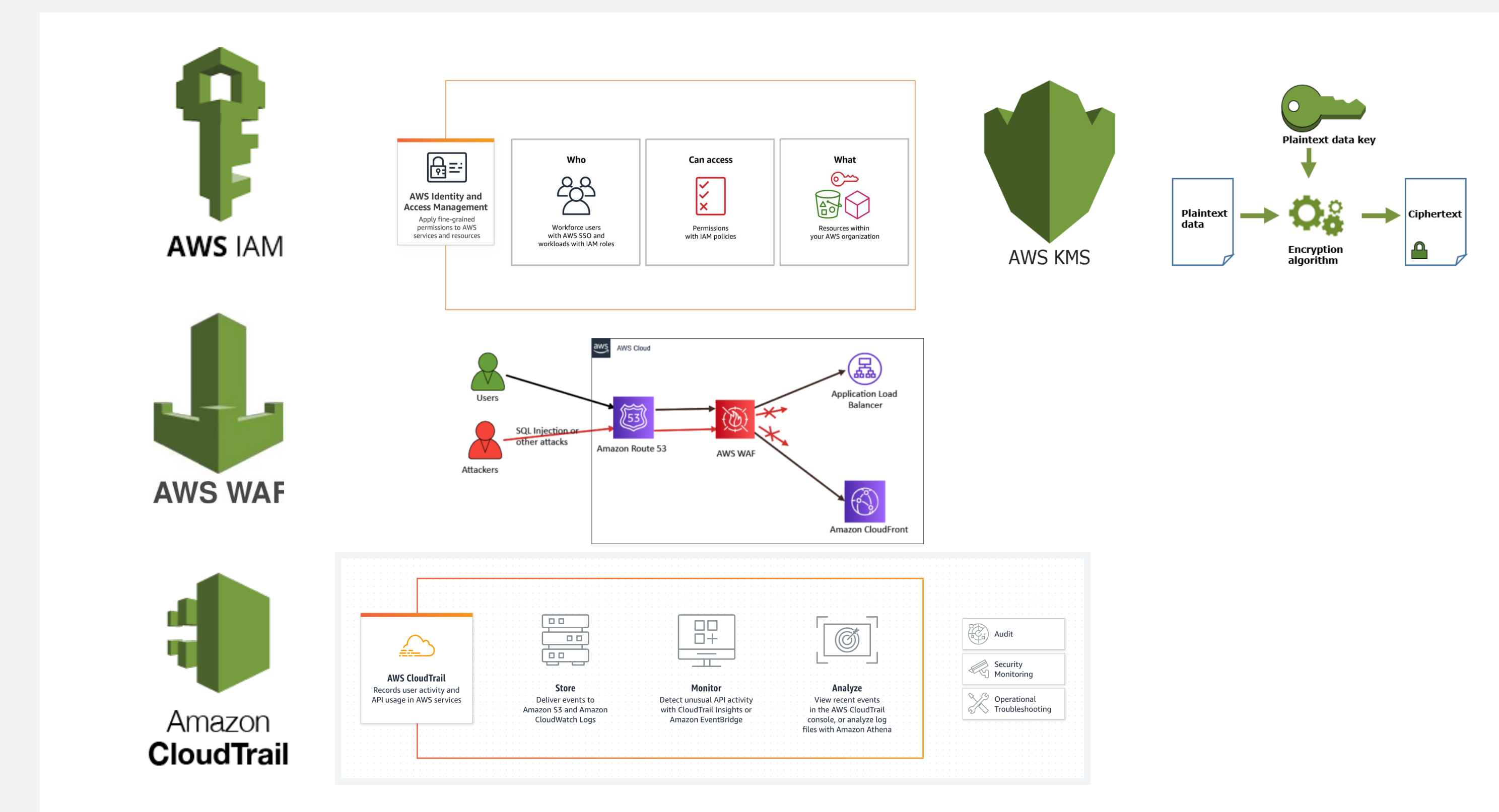
OBJECT DESIGN



REQUIREMENTS



SECURITY CONTROLS



SECURITY RECOMMENDATIONS

- Move selection process off excel hosted by Microsoft SharePoint and use Amazon Services to incorporate **Security Features**
- Use Cognito User pool and incorporate **Lambda triggers** to ensure only FIU Capstone Cohort is given access
- Ensure project selection link is only linked via **Canvas** to ensure students do not send malicious links

SUMMARY

- The current capstone project selection process is confusing and insecure. We worked to make it a more efficient and secure process for students by fully migrating to AWS. We created a front end where students can view the project lists and securely sign-in and sign-up. The information on the excel sheet was migrated to a secure SQL server hosted by AWS RDS. This can be used to hold the students' selection more securely, while ensuring other students do not modify other students' selection's or vandalize the process.