Internship at Centene
Summer 2023 - St. Louis, MO

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Computer SCIENCE

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Company Description

CENTENE® Corporation

Centene is a government-sponsored managed care company, providing Medicare, Medicaid and private healthcare to 1 in 15 Americans. Centene was founded in 1984 and has 67,800 employees. Centene ranked 25th on the 2023 Fortune 500 and has members in all 50 states. The company emphasizes innovation and technology as a way to prioritize its members.

Internship Objective

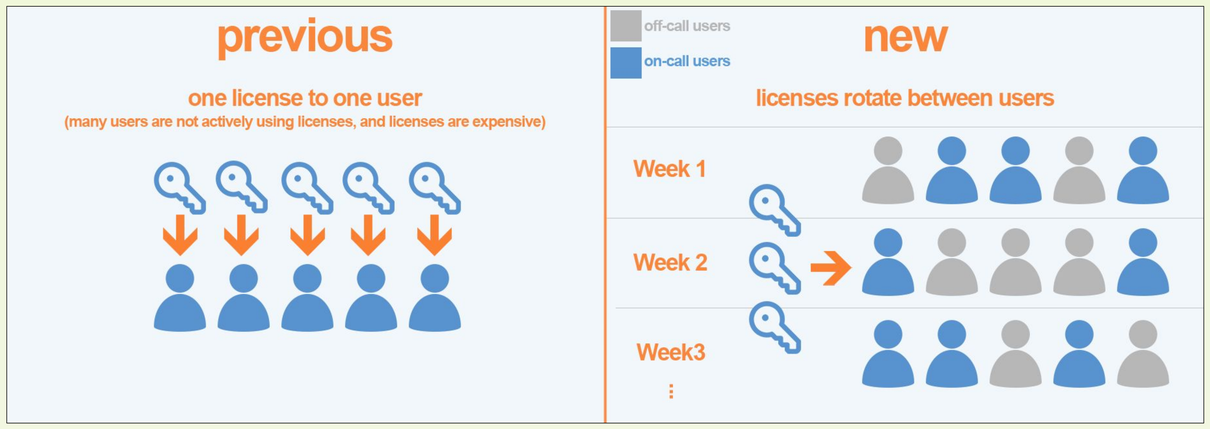
I was hired as an intern to design and write PagerDuty license reclamation software.

My Role in the Team

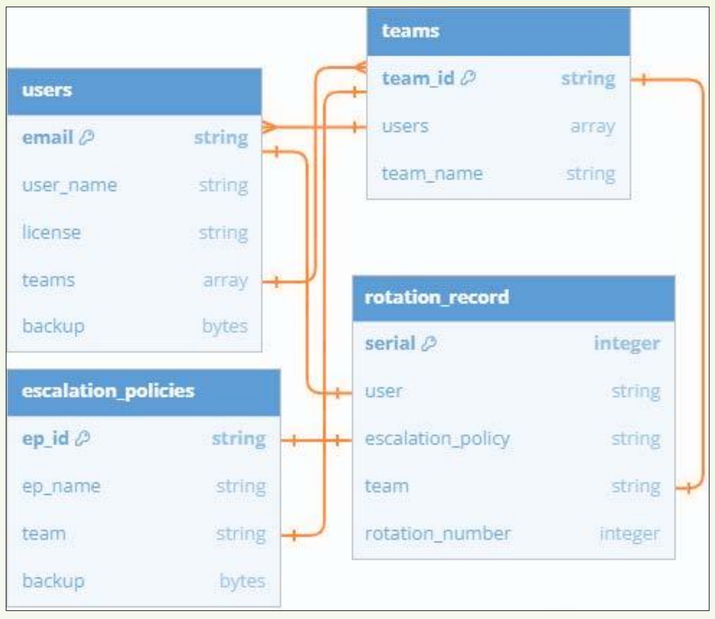
I worked as a systems engineer intern in the Incident Response Operations Center. My team was in charge of delegating IT responsibilities of services as well as maintaining a few services. Pagerduty is an IT platform that processes events received from monitoring sources and notifies IT support groups of service outages. My primary project and responsibility was to create a software tool to allow Centene to more efficiently use its paid PagerDuty licenses.

Projects

PagerDuty recently raised the prices of their licenses. Centene purchases a set amount of licenses and each license can only give one user access to PagerDuty at a time. There were employees that consumed PagerDuty licenses that weren't actively using them. In order to save on costs, I wrote PagerDuty license reclamation software that redistributes licenses in a more efficient way.



Project Description



Database schema

Previously, users would consume a PagerDuty license even if they were not on-call or using the platform. This was an inefficient use of licenses, as teams would have more users consuming licenses on the platform than users that were on-call at any given time.

To address this issue, I created a Python script that interacts with PagerDuty's API to collect user data, store it in a database, and rotate licenses bases on on-call scheduling requirements. It runs on a weekly basis, giving on-call users a license that week as well as a backup team member. Other users are moved to a free read-only license (removing their data), with their PagerDuty data stored in the database so they can be backed-up when they are on-call again. Licenses that are freed up will either save costs or will be used to expand user access to the platform.

Technologies

I wrote my software in Python and used a SQLite database.

What did I Learn?

1. Python
2. SQL
3. AGILE development process
4. Jira software development workflow
5. Enterprise IT operations
6. Database backup/recovery

Preparation

1. Previous GAS fellowship
2. Database Management (DATA 3300)
3. Methods in Computer Science (CS 1440)
4. Algorithms & Data Structures (CS 2420)