Midterm Progress Report

Network Outage Coordination and Automated Notification System
Malcom Daggett | Mercer University Capstone

Project purpose

My project is a web application that helps network administrators create outage requests, identify affected sites, get approval, and provide approved information to site contacts. The goal is to make the process clearer and reduce missed or early customer notifications.

Design work completed

I developed personas, scenarios and storyboards for the people who use the system. I also created a user task list, a system structure diagram, and a database design. The design now includes separate access for network administrators, approvers, and site contacts, along with a branch map that shows downstream outage effects.

Working prototype

The prototype is hosted online and can be opened in a browser. It includes role-based login screens, account requests that require activation, outage forms, approval and rejection decisions, request history, and site-specific notices. The expanded WAN map contains 31 fictional sites connected through a central core and five regional hubs. A complete outage at node 20 identifies nodes 21 through 25 as affected as well.

Rules included in the system

The form explains the difference between a product outage and a complete node/branch outage. Scheduling uses UTC. Requests less than 10 days after submission require an urgent flag and a reason, but still need approval. Internal submission and decision notices come before customer notices. Pending or rejected requests do not release customer notices.

Current status and limits

I have opened and used the hosted prototype and recorded the midterm demo. The application uses fictional accounts and network data, and notifications are simulated within the system. It does not monitor a live network, send real customer emails, or calculate backup routes and failover. Formal evaluation results are still to be documented.

Next steps

I will upload the recorded demo to the Informatics server and link it on my landing page. I will then use the task list for structured self-testing, record expected and actual results, improve unclear steps, and finish the user-help instructions. This is a practitioner case study; I am part of the intended specialist audience, and I am not planning interviews or recruited participant testing.

Working prototype: https://malcomdaggett.pythonanywhere.com/