



Advanced Software Engineering, Fall 2016

Virtual Roll Call 1.0

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LAMP:



Problem

Traditionally the first 15 minutes of a police officer's shift is spent at the station in a briefing room where the shift supervisor, commonly of sergeant rank, goes over a clipboard of information with the officers.

Due to many factors, officers are not always present for roll call briefings. Officers may be in court, assigned to an overlapping shift or may have to start their tour early due to call volume.

Virtual Roll call will allow for officers to be briefed on all the necessary information when feasible.

Solution

Development of a web application where supervisory staff can input relevant information into the software and officers can log in and review the latest postings.

The application needs three modes of access, including:

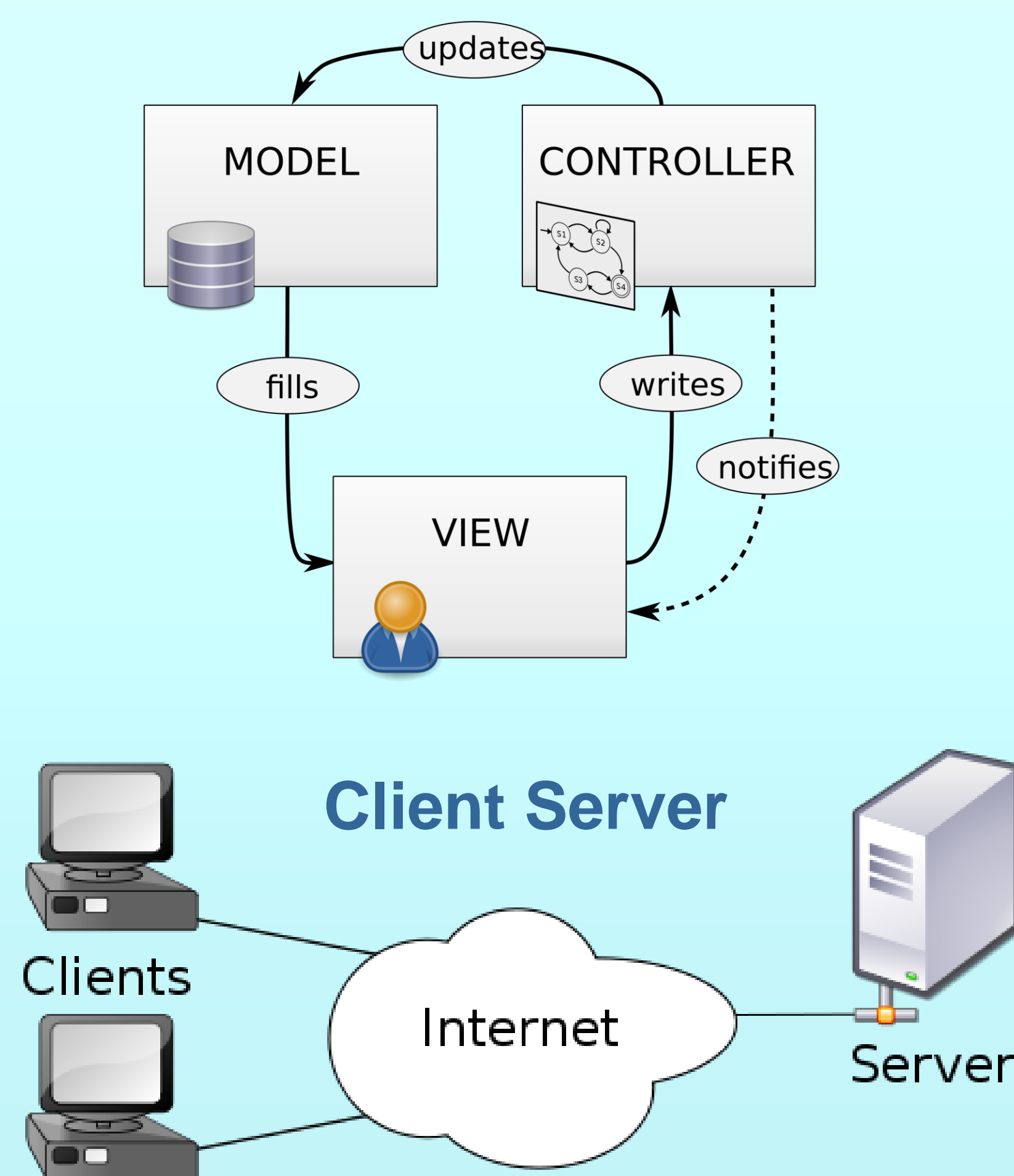
- **Officer** - views documents
- **Supervisor** - adds documents and resets passwords
- **Administrator** – adds/deletes users to system; customizes site settings

Requirements

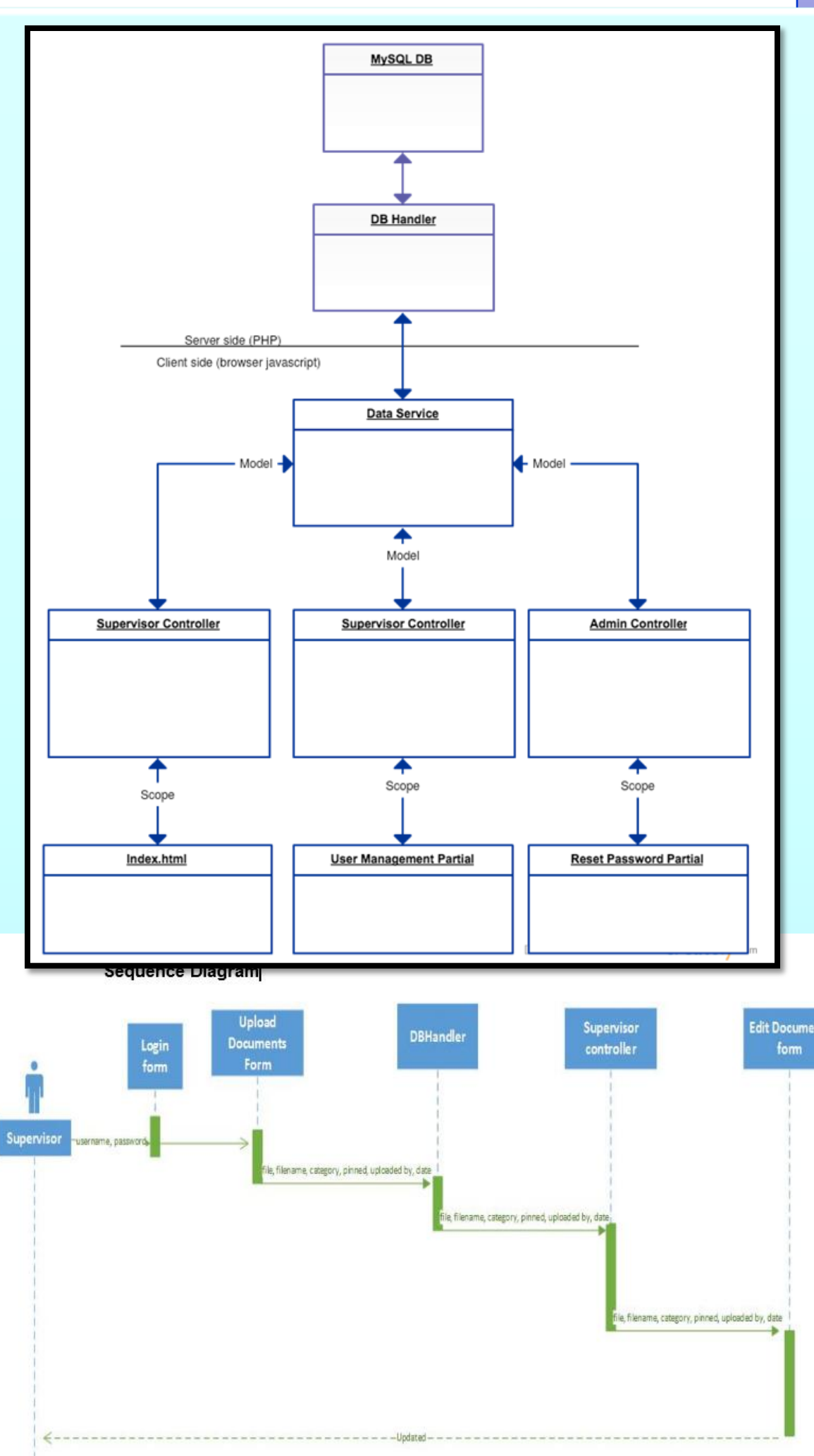
- Users need username and password to access system
- Users should be directed to appropriate view based on credentials
- Administrators should be able to add/delete/edit users in the system
- Administrator should customize site settings such as department name, logo, and category lists
- Supervisor should upload documents to the system, and pin important ones
- Officers should be able to view/download uploaded documents

System Design

Model-View-Controller



Object Design



Implementation

Front end



Back end

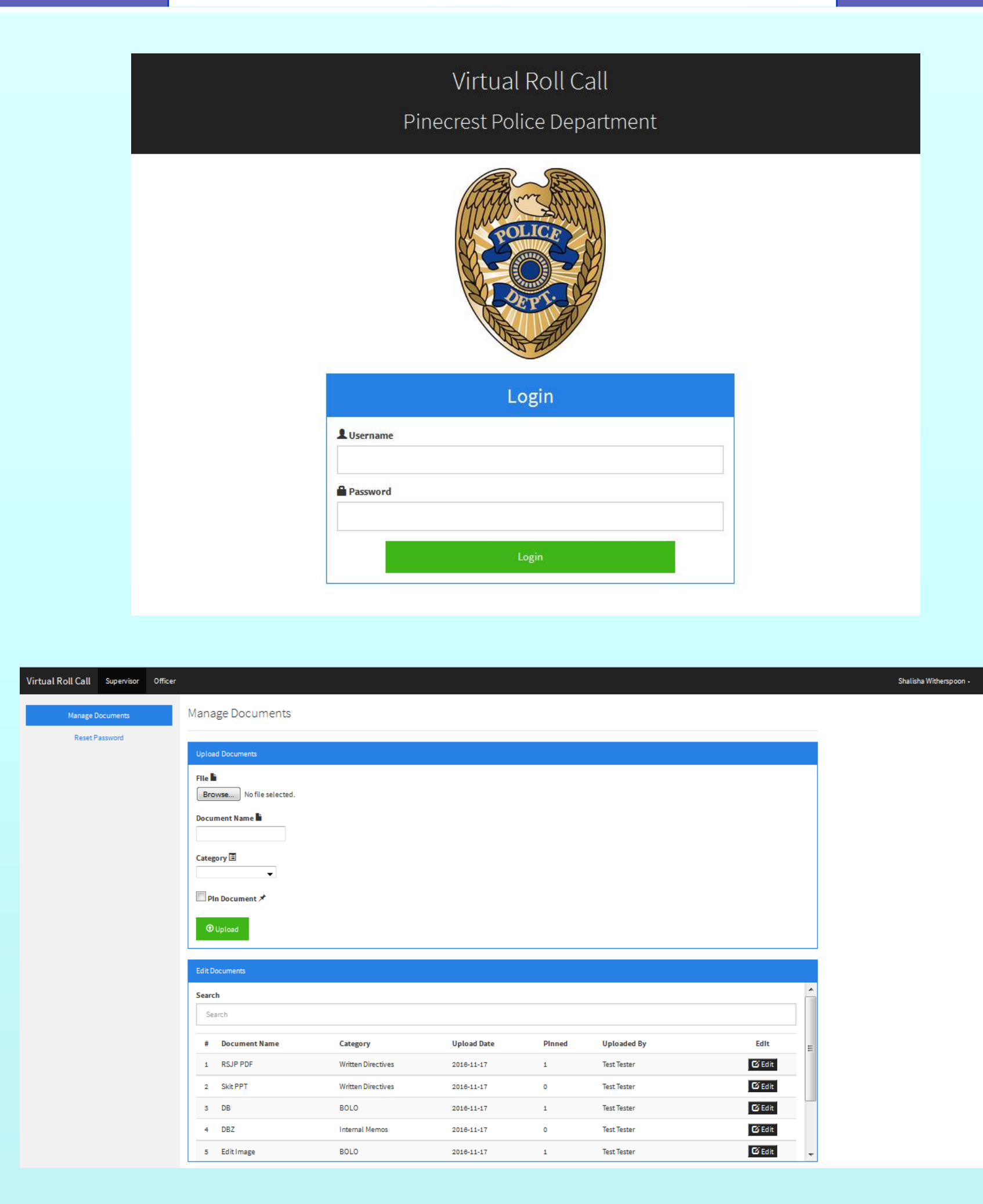


Verification

Sunny Day:	
Purpose	Verify that document metadata is added to DB
Entrance Condition	1. User is logged in as Supervisor role 2. User selects file they wish to upload to system
Input	The document name, category, pinned status (date and uploaded by is added from session)
Expected Output	Document metadata displayed in Edit Documents panel table
Rainy Day	
Purpose	Verify documents cannot be added with the same name
Entrance Condition	1. Supervisor uploaded previous document and metadata 2. Supervisor chooses new file to upload
Input	User enters previously added file name to new uploaded file meta data
Expected Output	New file metadata is not added to Edit Documents panel table
Integration Test	
Purpose	Verify that correct metadata is being added to DB
Entrance Condition	1. User is logged in as Supervisor role 2. User navigates to Manage Documents view
Input	1. Supervisor browses for document to upload 2. Supervisor inputs file name, category, and whether document is pinned in Upload Documents form 3. DB adds the inputted document metadata to the form, along with the logged in Supervisor's name and date from the current session

Test were conducted to verify that Supervisors could add unique documents to the database, and pin them so that important documents appear at the top of the page.

Screenshots



Summary

Contributions

- Login system
- User Interface
- Adding document metadata to system
- Front end development (adding, deleting, editing user)
- Officer view document dashboard
- Pinning documents

By the end of the semester, the Pinecrest Police Department's Roll Call System was successfully virtualized, so that officers can conveniently view uploaded documents anytime and anywhere, which will be of great service to the community.

Acknowledgement

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