UMPD Management System

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Feasibility Study

For our project, we will be building an application to manage the flow of information between shifts for the University of Miami Police Department. The goal of the project is to ensure that the Lieutenant performing roll call at the beginning of each shift will have all of the relevant information from the previous shift. Currently, all of this information is stored with pen and paper, and passed to the Lieutenant by hand.

The domain of our project is all of the information recorded during a shift. This includes BOLO's (be on the lookout for), information about open cases, incident reports, roll call (who showed up and when), scheduling information, and a map with updated locations of important events. Additionally, our application should link in with the UMPD Blue Book database for tracking notices from within the office as well as local and state and federal departments.

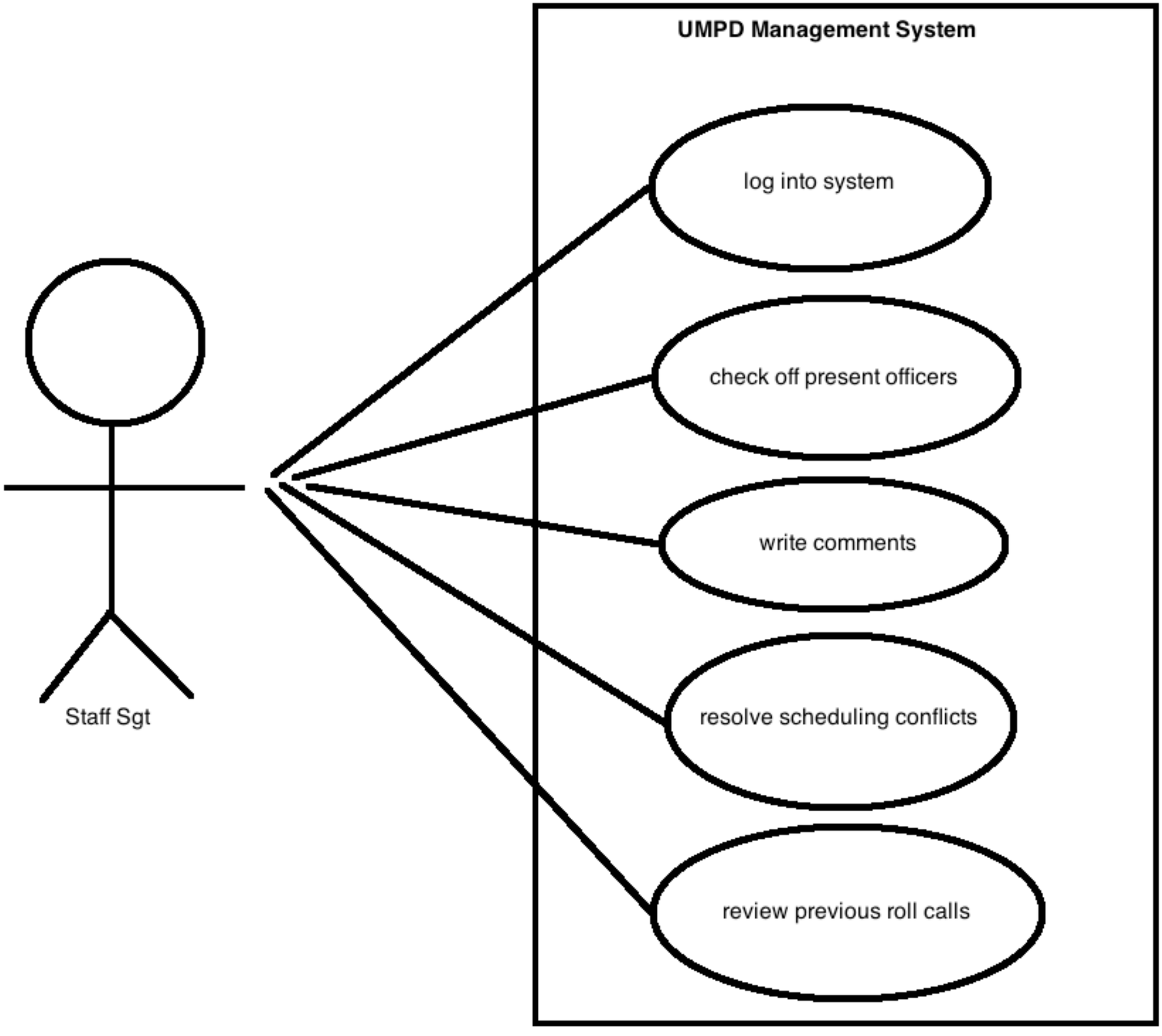
From our preliminary research, and our conversation with the UMPD, there is little to no software currently around that fills this need. Most departments, even large departments currently most of this process with pen and paper. Because of this our work will be completely original. Initially our target is the UMPD, but if our project is successful, it appears there would be a large demand for our product, and we could potentially scale up to other departments around the city or the state. If this were to be the case, we would expect to add more functionality and a nicer interface, and potentially even pursue monetary compensation.

Use cases:

- Messaging between UMPD personal
- Disperses announcements to various personal and tracks when they received this information for accountability purposes
- Records and tracking attendance of all UMPD personal (Roll Call)
- Searches through the various databases
- Populates a UM map with recent crimes and "hotspots" to present crime data in a more intuitive way
- Provides a time-frame search function on the UM map with various filtering options to provide a way to track particular types of crimes over time or isolate a specific time frame window
- Provides a computer interface for the various forms personal must fill out (e.g. Shift Commander Summary Reports, Case Reports, etc.)
- Manages the input data from the various forms in a centralized, searchable database
- Provides a searchable computer interface for UM's Blue Book database's information
- Provides a standardized form allowing officers to generate BOLOs that incorporate photos and/or video
- Populates the database with these BOLOs and disperses them within the department and sends them out to local law enforcement
- Manages task assignments and directed patrol assignments
- Provides a secure log-in for all personal and controls the level of information available to a particular officer based on his rank
- Ties in with the current scheduling software to make all personal schedules

Extra (reach) features:

- Analyzes the database's information for possible correlations between seemingly separate cases and suspects
- Tracks and reports trends and statistics in data (i.e. 82% of bike thefts happen between 2pm-5pm behind the Memorial building)
- Provides extra scheduling features allowing officers to: request specific days off and put in vacation requests, send a request to another officer for a shift-trade, place shifts that he would like/needs to have covered in a "bin", pick-up shifts that have been placed in this "bin", etc. Additionally, any scheduling changes will appear as "pending" until a supervisor approves them.


UMPD Management System
log into system
check off present officers
write comments
resolve scheduling conflicts
review previous roll calls
Staff Sgt

This high-level user diagram depicts a Staff Sergeant's interaction with our software system while he is taking roll call. This roll call task is done at the beginning of every shift, so this will be a commonly used system function.

First, the officer is presented with a log-in screen. He is to enter his user name and password on this screen. Then depending on his rank, different system functions will become available to him. The Staff Sergeant is the one responsible for handling the roll call at the beginning of the shift, so he will be the actor in this specific use case.

Once logged in, the system populates with the current schedule. The staff sergeant goes through checking off all present officers and recording the time of their arrival. There is a comments option available next to each officer. He may choose to utilize this option to make various comments on officers. These comments will be stored and made available only to those officers to whom this information is relevant.

Sometimes, one officer cover a shift for another on short notice. Our system provides a mechanism to handle this. There is an option on the bottom of the page allowing the Staff Sergeant to edit the current personal on duty. This allows hours to be tracked and these changes will be recorded and accounted for throughout the system.

The Staff Sergeant will also have the option of reviewing previous roll calls. He may do this with a range of dates or a specific date, or he may choose to isolate a specific officer and monitor his attendance record.

ELEMENT	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8
USER INTERFACE								
Reports								
Map								
BOLOs								
Roll Call								
Home/Announcements								
DATABASE								
Get Info from BOLO Database								
Save / Edit Roll Call								
Save / Edit Reports								
Store / recall login info								
Store / recall map data								
MISC								
Login tab / security								
User accounts / privileges								
ANALYTICS								
BOLO tracking								
Crime analysis								
STAFF ALLOCATION								
Heather	UI Reports		Login data from DB	Roll Call		BOLO Tracking		
Olivia	UI Reports	Store / recall login info	BOLO database		Map Data	Analytics		
Enid		BOLOs		Map			BOLO Tracking	
Ben		Save / edit Reports		Map data	Home/Anncouncements		Analytics	
Brendan	Misc login tab	User accounts		Roll call data		Map Data	Analytics	

Description of staff allocation chart:

The feature-heavy nature of this project means that essentially each group member will always be working on some aspect. However, there are several major phases of production that can be subdivided.

The first major phase is the UI phase. This section will be devoted to creating a user interface in Java Swing, and making sure each tool performs as desired. The UI has several different tabs which perform different functions. The second main component is the database, which will be worked on by most group members throughout the project. The final component is data analytics, which will analyze data taken from the database and will be used to track BOLOs and show crime statistics, such as common places where crimes occur on campus. The final part can only be done once the UI and database work is complete.

Heather: Heather will be working on the Reports tab of the UI initially. Then, she will work on hashing and storing login data in the database, as well as retrieving that data when someone logs in. She will then work on the Roll Call tab of the UI and make sure the Swing tools work as planned. Finally, she will do analytics work if time permits, specifically in BOLO tracking.

Olivia: Olivia will start on the UI Reports section with Heather. Then, Olivia will do the initial work in the login tab dealing with the database, which will then be passed on to Heather. Olivia will then work on getting information from the BOLO database and displaying it in the tab correctly. Then, she will do intermediate work with the map data from the database. Finally, she will do analytics on the map data if time permits.

Enid: Enid will start out working on the UI BOLOs tab and making sure all the Swing components work. Then, he will make the Map tab in the UI. This includes placing the map on the page and being able to use tools like placing markers and showing warnings. Finally, Enid will work on BOLO tracking analytics.

Ben: Ben will focus mostly on the database work in the project. He will start working on saving and recalling reports from the Report tab. Then, he will work on getting data from the geolocation software to be used on the map. He will then work on the UI section, on the Home page and Announcements tab. Finally, he will work on data analytics if there is time.

Brendan: Brendan will start out working on the login tab in the UI. Then, he will work on setting up a user account system that will let each user have different permissions and views. He will then work on getting the roll call data from the database and saving edits. Brendan will then work on getting map data from the database and displaying it appropriately in the UI. Finally, he will work on data analytics if there is time.