



Analysis of Usability Dataset

2025-08-02

Samuel Theising

First Look

Observations

1. Data is well organized
2. Columns designed for human readability, not analysis.
3. Only one building worth of data.

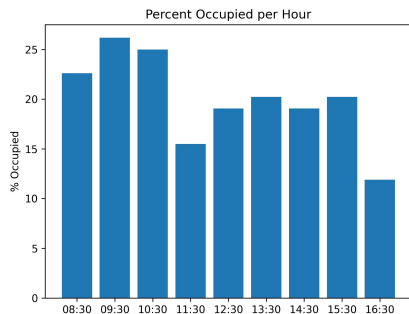
Restrictions

1. No physical layout.
2. Unknown if individual workstations are assigned.
3. Unknown restrictions on usage of conference rooms

Initial Ideas

Additional analyses identified after the initial pass, during the days when I wasn't able to actively work on the project.

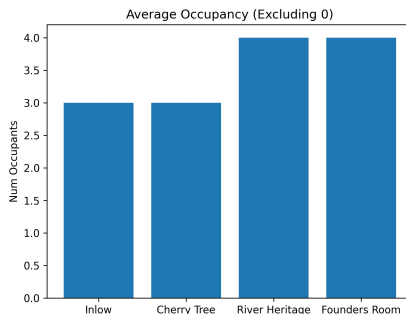
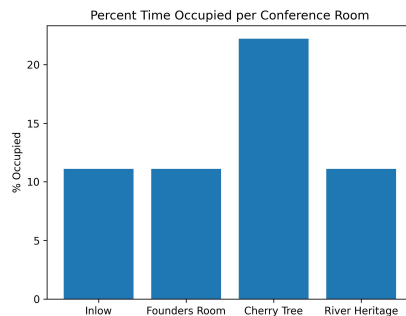
Idea: What percentage of the rooms are occupied per hour?



Cherry Tree is an anomaly due to being the only room with 2 visits.

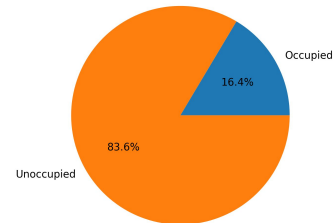
This anomaly was further shown here, as one of the two visits were a single worker taking the room.

Idea: How used are the conference rooms, by time and capacity?

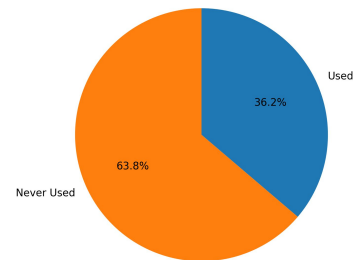


Worth noting: Founders room saw roughly equal occupancy despite higher capacity. (21 vs 6-8)

Time Occupied vs Unoccupied (Individual Workspace)



Workstations: % Used vs Never Used (Daily)



Idea: Are the individual workstations underutilized? How many are actually used?

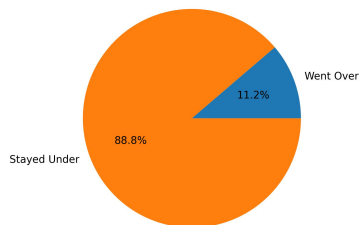
Bringing It Together

Key Metrics:

- Workstations never used: 63.8%
- Avg conf-room visits: 1.25/day
- 11.2% single person areas over capacity

11.2% of single-person areas exceeded capacity at least once. That accounts for 26% of the total occupied single-person areas.

Percentage of Stations That Went Over Capacity



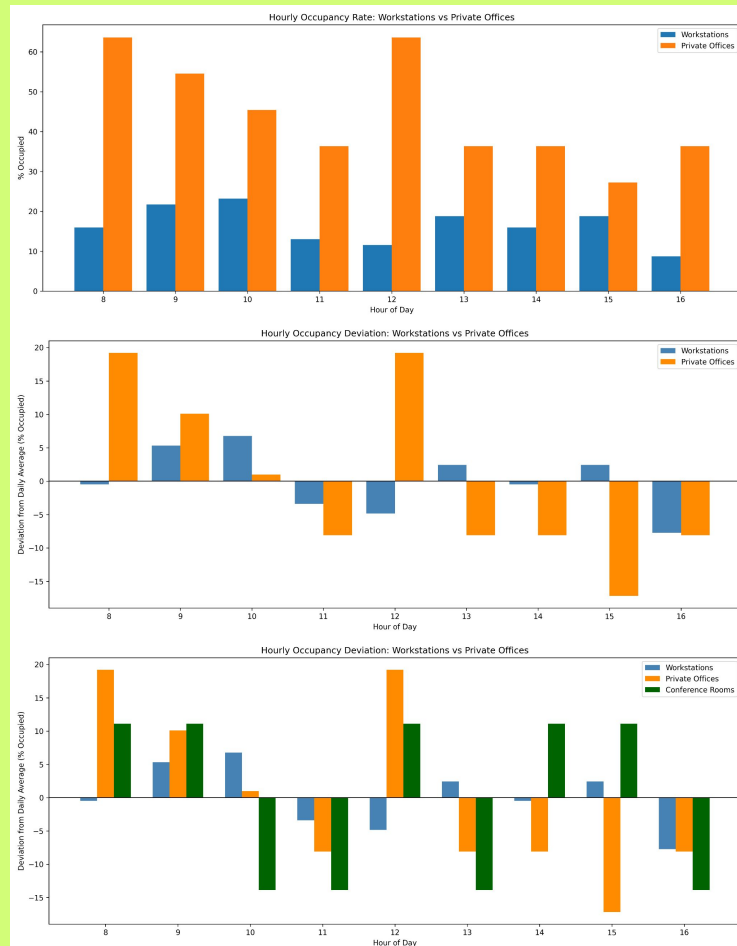
Private offices were consistently at higher occupancy. Not unexpected considering their smaller volume.

Private offices held higher peaks during mornings and lunch, but individual stations remained consistent all day.

When accounting for deviations from the mean across all work areas, there wasn't an obvious pattern.

The morning meetings coincided with spikes of private office occupancy, implying they were not the ones booking. The afternoon saw opposite spikes.

All stations saw major drops during lunch, but offices recovered faster.



Actionable Insights

Conference rooms were underutilized, with only 1-2 uses per day per room, and never above 70% capacity.

There was consistent collaboration outside of areas with capacity for 2+ individuals

A significant number (64%) of individual workstations went unused across the day

Pilot turning 10-15% of lowest-use workstations into free-form collab areas. Keep or increase if usage and collaboration rise without harming work quality.

This will better fit with the current employee workflow, and encourage further collaboration.

Resources Used

Language: Python

Libraries

- Polars
 - <https://pola.rs/>
- Matplotlib
 - <https://matplotlib.org/>

Tools

- Editor
 - VS Code
- Runtime
 - Python 3.13.5
- Version Control
 - GitHub

GitHub:

https://github.com/SDTheising/DORIS_Interview

Contact

theisingsamuel@gmail.com

(812)582-9228