Release Summary
Slug Meter
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Key user stories and acceptance criteria:

User Story: As a manager, I want to access historical data about gym occupancy so I can make more informed decisions in scheduling my employees.

Acceptance criteria:
- ❖ Use a command-line interface to access crowd history data from the database
- ❖ View gym occupancy data for the past week
- ❖ View gym occupancy data for the past month
- ❖ View gym occupancy data for the past year
- ❖ View total gym occupancy data

User Story: As a gym-goer, I want to be able to scan into the gym, so that the gym knows how many people have entered.

Acceptance criteria:
- ❖ Scan a QR code that leads to a website
- ❖ DB is automatically updated when the QR code is scanned

User Story: As a student, I would like to see a concise and informative graphic regarding the gym's occupancy level.

Acceptance criteria:
- ❖ View current gym occupancy on the website
- ❖ View gym occupancy data for each day of the week on the website
- ❖ View gym occupancy data for each hour of each day of the week on the website
- ❖ View gym occupancy data for the month on the website

User Story: As a student, I want an approximation of how busy the gym will be at any given time so that I can design my gym schedule.

Acceptance criteria:
- ❖ Be able to view gym occupancy prediction for the rest of today
- ❖ Be able to view gym occupancy prediction for any remaining days of the current week
- ❖ Be able to view gym occupancy prediction for any day of next week
- ❖ Be able to view gym occupancy prediction for any hour of any day of next week

User Story: As a student or employee, I want a website to navigate so that I may have access to different sources of information about past, present, and future gym occupancy.

Acceptance criteria:
- ❖ Access and interact with multiple graphs of current gym occupancy on the website
- ❖ View the graph of gym occupancy data for each day of the week on the website
- ❖ View the graph of gym occupancy data for each hour of each day of the week on the website
- ❖ View the graph of gym occupancy data for the month on the website
- ❖ View the graph of gym occupancy prediction for any day of next week
- ❖ View the graph of gym occupancy prediction for any hour of any day of next week

Known Problems:

1. There are two sets of constant files, one for frontend and one for backend. Any changes to one will require changes to the other.

2. Pages intended entirely for server logic are currently publicly accessible, potentially delivering a less-than-optimal user experience.

3. There is an uncaught exception when running the application launch script more than once. It is thrown because the backend server stays active when killing the app, which only kills the frontend. When running the script again, it tries to launch the backend on the port that it is still already running on.

4. Minor visual bug: On refresh, no matter what page is currently selected, the "Live" link is highlighted.
5. Effects are undefined when frontend server, backend server, or client are in another timezone.
6. Effects are undefined for leap years and daylight savings. (It appears to work but we don't know for sure)
7. The current highlighted bar for live occupancy doesn't show within the last hour before closing each day.
8. The ML model only predicts data for the upcoming week, and is not run automatically. It needs to be run manually daily.
9. Slug-setup.py and slug-start.py are only known to work on Windows computers.
10. Frontend and Backend servers are currently hosted only on localhost. They are not configured to handle multiple users or significant request loads.

Product Backlog:
- ❖ Accessible on Mobile

❖ Arrows to seamlessly select the previous/next day on the "/Trends" page

❖ Calendar selector for the "/Trends" page which will automatically populate the chosen month's heatmap and the chosen day's predictive data

❖ Notification system to alert users best time to go to the gym, under the conditions they specified

❖ Legends to help make charts more intuitive

❖ QR Sign-in system