Project Moon Jelly

Plan Your Future.
What is a physician group? How does it operate?

- Groups of doctors work with hospitals like contractors (not directly employed by hospital)
- Call time determines when each doctor is finished working
  - Post call works the least
  - 1st-2nd call work the longest (1st call is on call 12 hrs)
  - 1st call is split into AM and PM shifts
  - Cardio specialist must always be in 1st-3rd call in case of emergencies
- Scheduling becomes a complicated mess.
Our client’s current solution

- Written in Excel
- Hand typed
- Time consuming
- Saved locally

- Current software is expensive
- Does not fit the needs of physician groups
Our solution

- Automated Scheduling
- Saved online
- Clean UI
- CSV Export
The cutting edge technologies.
How the scheduling works

Users [Number users/day] Users that day [Algorithm] Matrix of slots Schedule
How to use the application
From scratch

- First account is an administrator.
- Administrators add other users by email.
- Other users set their password and can sign in once added.
- Administrators then create the schedule.
  - Number of doctors working each day is inputted.
  - Which doctors are working each day is inputted.
  - Schedule is then automatically generated.
All User Privileges

- Logging In
- Password Protection
- View Schedule
- Exporting Schedule as CSV
- Message Administrators

Admin Only Privileges

- Adding Users
- Removing Users
- Viewing User Information
- Elevating User Privileges
- Building Schedule
- Viewing Messages
Challenges We Faced

- We lost a comrade in battle.

- None of us knew anything (about web development)
  - Setting up a database
  - Using a cloud platform (Heroku)
  - Learning a web framework (Flask)

- The algorithm.
  - No existing sorting algorithms worked
  - No special api calls to help us
  - Very specific/niche control flow
Balancing Algorithm Functionality

**General**
- Users should get an equal number of each call spot
- Users should alternate between long calls (1st, 2nd, 3rd) and short calls (4th, 5th, 6th)
- There can be a different number of users working each day

**Specific**
- There must be a cardio specialist in the top 3 spots
- Must work post call after 1st call PM
- Only 3 people work on weekends, and first and second call are dependent on who worked on Friday
- Shouldn’t work multiple weekends in a row
- Many, many more
Looking Towards the Future

- Vacation times
- Post call and third call requests
- Streamlining the algorithm
- Uploading CSV files
- 5 week schedule
- Multiple Hospital Locations