

USchedule

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Project Description

Background

- LAC + USC psychiatry has a residency program with residents who rotate through the facility under Chief Resident Dr. Kelly Jones
- She is responsible for **creating a call schedule** at the hospital
 - She currently makes this by hand

Our Application

- USchedule is a web application that creates and outputs a schedule in 2 month long blocks using constraints provided by Dr. Jones
- The system is meant to accelerate her scheduling process and ensure all of her desired constraints are satisfied



100 hours



24 residents

Project Goals

-01-

Develop an understanding
of react, flask, AWS, and
building an application from
beginning to end

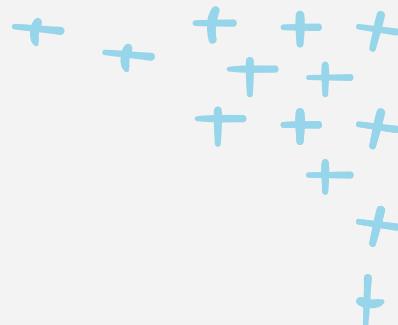
-02-

Create a webapp that can
take resident preferences and
algorithmically generate a call
schedule based on constraints

-03-

Optimize Dr. Jones'
scheduling process, saving
her hundreds of hours per
year

Breakdown



Flask App

Hosts information to be used in front end, uses Database Access Object to work with DB, pushes input to Algorithm

GUI

Comprehensive GUI displays and changes information using Flask App

Algorithm

Pulls input from Database and pushes output to Database

Database

Accessed using Flask, which uses Database Access Object



Project Justification

- » Allows us to demonstrate sufficient knowledge of the software and product development process
- » Exposes us to all the benefits and challenges of working on a team to build a product
- » Gain experience planning and working on a product from beginning to execution while making improvements along the way (working iteratively)
- » Challenges us to communicate professionally with stakeholders and senior leadership as we would a professional work space



Project Challenges

» System constraints

- ◊ Developing an optimal algorithm to take in certain constraints was a huge challenge (but we did it!)
- ◊ AWS credits ran out mid-project

» Communication/Time constraints

- ◊ 6 team members, 6 schedules, 1 stakeholder, 1 project advisor

» COVID-19

- ◊ Limited time/access to each other and campus made it difficult to execute on everything we had hoped
- ◊ Surprisingly were able to be more productive working remotely

Welcome to USchedule



VIEW ALL RESIDENTS



VIEW CURRENT SCHEDULE



CREATE NEW SCHEDULE

GO BACK TO LOGIN PAGE

Search

ACTIONS	NAME	LAST	BLOCK	YEAR	WEEK OFF
	Amelia	Jay	1	1	
	Lina	Nguyen	1	1	
	Chris	Santander	1	1	
	Liam	Namba	1	1	
	BJ	Johnson	1	2	
	Andrew	Forney	1	2	
	Sophia	Prochnow	1	2	
	Las	Vegas	1	2	
	John	Dondi	2	1	
	Kendal	Narwick	2	1	
	Claire	Michael	2	1	
	Sam	Robinson	2	1	
	Fake	Name	2	2	
	Megan	Gradient	2	2	

BLOCK SCHEDULE

FULL SCHEDULE

RESIDENT	BLOCK
Amelia Jay	1
Lina Nguyen	1
Chris Santander	1
Liam Namba	1
BJ Johnson	1
Andrew Forney	1
Sophia Prochnow	1
Las Vegas	1
John Dondi	2
Kendal Narwick	2
Claire Michael	2

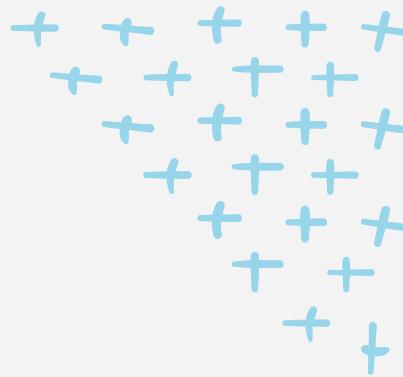
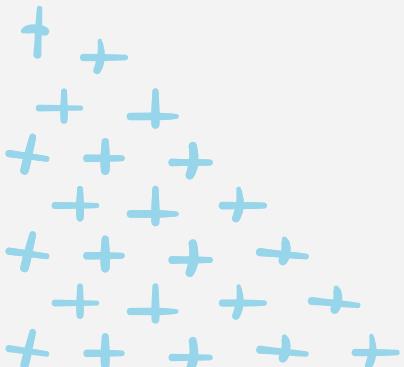
 Search

BLOCK SCHEDULE

FULL SCHEDULE

	RESIDENT	YEAR	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
▼ BLOCK: 1										
	Amelia Jay	1	B / OFF	B / DF	B / SC	B / LC	B / NF	B / DF	B / SC	B / LC
	Lina Nguyen	1	D / LC	D / OFF	D / DF	D / SC	D / LC	D / NF	D / DF	D / SC
	Chris Santander	1	C / LC	C / DF	C / SC	C / LC	C / NF	C / DF	C / OFF	C / SC
	Liam Namba	1	C / DF	C / SC	C / LC	C / OFF	C / DF	C / SC	C / LC	C / NF
	BJ Johnson	2	C / SC	C / LC	C / NF	C / DF	C / SC	C / LC	C / OFF	C / DF
	Andrew Forney	2	D / DF	D / SC	D / LC	D / NF	D / DF	D / SC	D / LC	D / OFF
	Sophia Prochnow	2	B / NF	B / DF	B / SC	B / LC	F / OFF	F / DF	F / SC	F / LC

DEMO



Special Thanks!



Shout out to all our CMSI professors for making our past 4 years at LMU amazing!

BJ, Forney, Dondi, Toal, Massao

Thank you to Dr. Jones for giving us this fun idea for our year long senior project!

THANK YOU

Questions??

