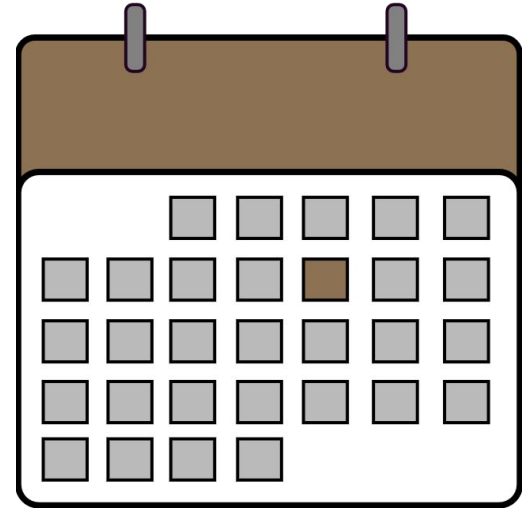


Design Review

#3

TA Scheduling and Management
System (**QuickSched**)



Volodymyr (Vova) Saruta

BEST MENTOR EVER

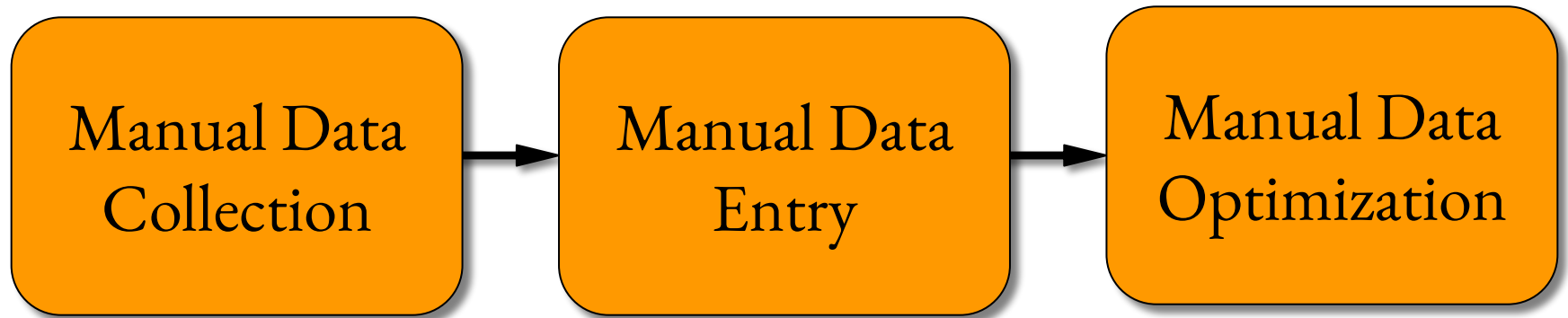


Doctor Fofanov

- Associate director for graduate programs at SICCS
- Associate lab coordinator for bioinformatics labs



Problem: Client Current Workflow



Solution Overview



- Web based instance application
- Django Web Framework
- SQLite3
- Assisted automation

Web Based Instance

- Hosted through AWS
- LightSail
- Ubuntu/Bitnami



Django

- Python based web framework
- Front-end and back-end



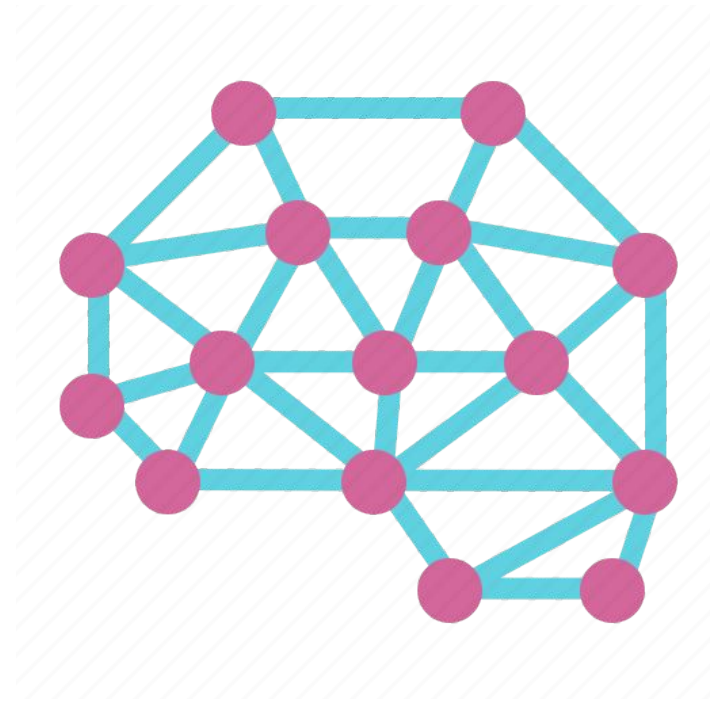
SQLite3

- Django default
- Primary database
- Speed vs. scale



Assisted Automation

- Provide schedule templates
- Assign scores to TA's
- Version control

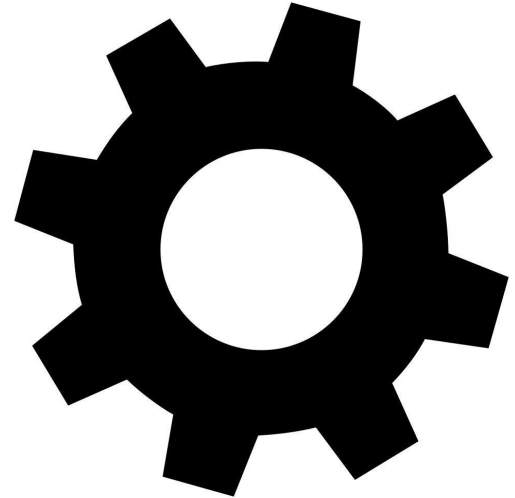


Client Improved Workflow



Functional Requirements

- User-based authentication and permissions
- TA scheduling optimization
- Account configuration and setup
- GUI
- Data management system



AWS LightSail Instance

Ubuntu/Bitnami

Internal Optimizer

Django Web App

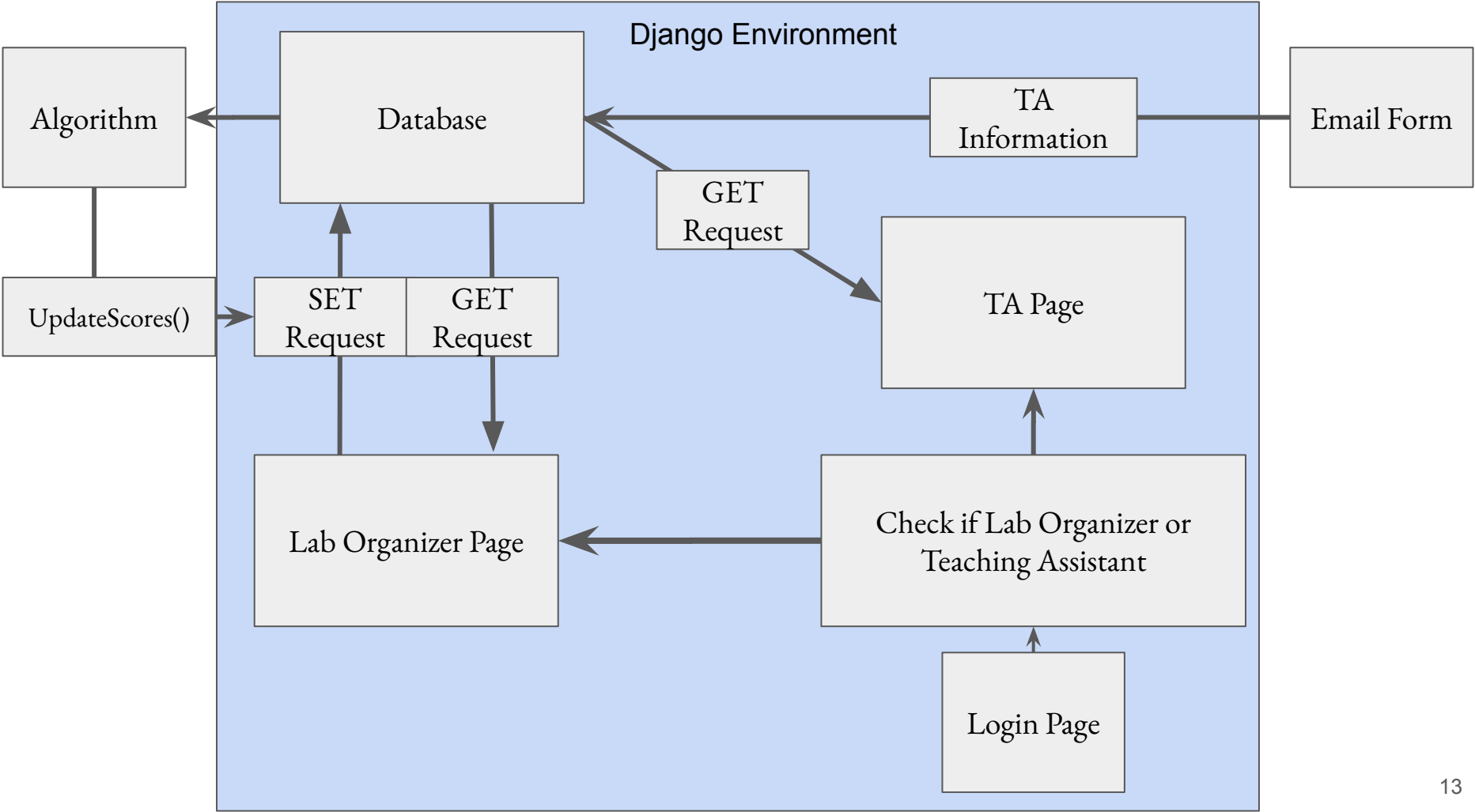
TA Data

Course Info

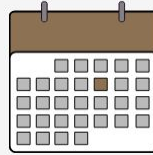
Account Info

Template Engine

Forms



Prototype Review



QuickSched

Please sign in

Sign in

ver 0.9

Prototype Review - Lab Organizer Page

 QuickSched

SPR2022

Propagate

version 0

Go

#	Subject	Catalog ID	Section	Course ID	Start Time	End Time	Days	Instructor	TA	Switch
1	CS	126	001	1234	11:10 a.m.	12:20 p.m.	M, W, F	McAddis, C.	▼	▶
2	CS	249	001	4321	4 p.m.	5:30 p.m.	T, Th	Leverington, M.	▼	▶
3	CS	212	002	5678	2:20 p.m.	3:30 p.m.	T, Th, F	McAddis, C.	▼	▶

 Schedule

 TA Management

 Semester Management

 Admin

 Sign Out

Prototype Review - Schedule Generation

SPR 2022 TA Selector



Propagate

version 1 Go

Type to filter...

Uncontracted TA's

Contracted TA's

- John Smith
- Vanessa Maxis
- Travis Young

How prioritized will TA's with proper experience be?

- Low Priority
- High Priority
- No Priority

Submit

This will generate a new schedule version!

Catalog ID	Section	Course ID	Start Time	End Time	Days	Instructor	TA	Switch
126	001	1234	11:10 a.m.	12:20 p.m.	M, W, F	McAddis, C.	Travis Young	▾ ▸
249	001	4321	4 p.m.	5:30 p.m.	T, Th	Leverington, M.	John Smith	▾ ▸
212	002	5678	2:20 p.m.	3:30 p.m.	T, Th, F	McAddis, C.	Vanessa Maxis	▾ ▸


Prototype Review - Switches

 QuickSched

 TA Selector

 History

 Semester

 Schedule

 TA Management

 Semester Management

 Admin

 Sign Out

SPR2022

Propogate

version 1

#	Subject	Catalog ID	Section	Course ID	Start Time	End Time	Days	Instructor
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2	CS	249	001	4321	4 p.m.	5:30 p.m.	T, Th	Leverington, M.
3	CS	212	002	5678	2:20 p.m.	3:30 p.m.	T, Th, F	McAddis, C.

Switch Options



1

John (CS249:4321) Unfit score: 0



Travis (CS126:1234) Unfit score: 0

Deviation Score: 0

2

Vanessa (CS212:5678) Unfit score: 20



Travis (CS126:1234) Unfit score: 0

Deviation Score: 20

Prototype Review - Management

Updated semester assignments!

Allow TA Edit

TA's will be allowed to edit their own information until this date and time!

Date & Time mm/dd/yyyy



--:--:--



Submit

Schedule

TA Management

Semester Management

Admin

Total TA's: 4

John Smith	incomplete profile	▼
Vanessa Maxis	incomplete profile	▼
Travis Young	incomplete profile	▼
Zoe Timberlake	incomplete profile	▼

Click here to upload a new roster of TA's

Challenges and Resolutions

Asynchronous web page updates

Redis integration

Recruitment of TA's

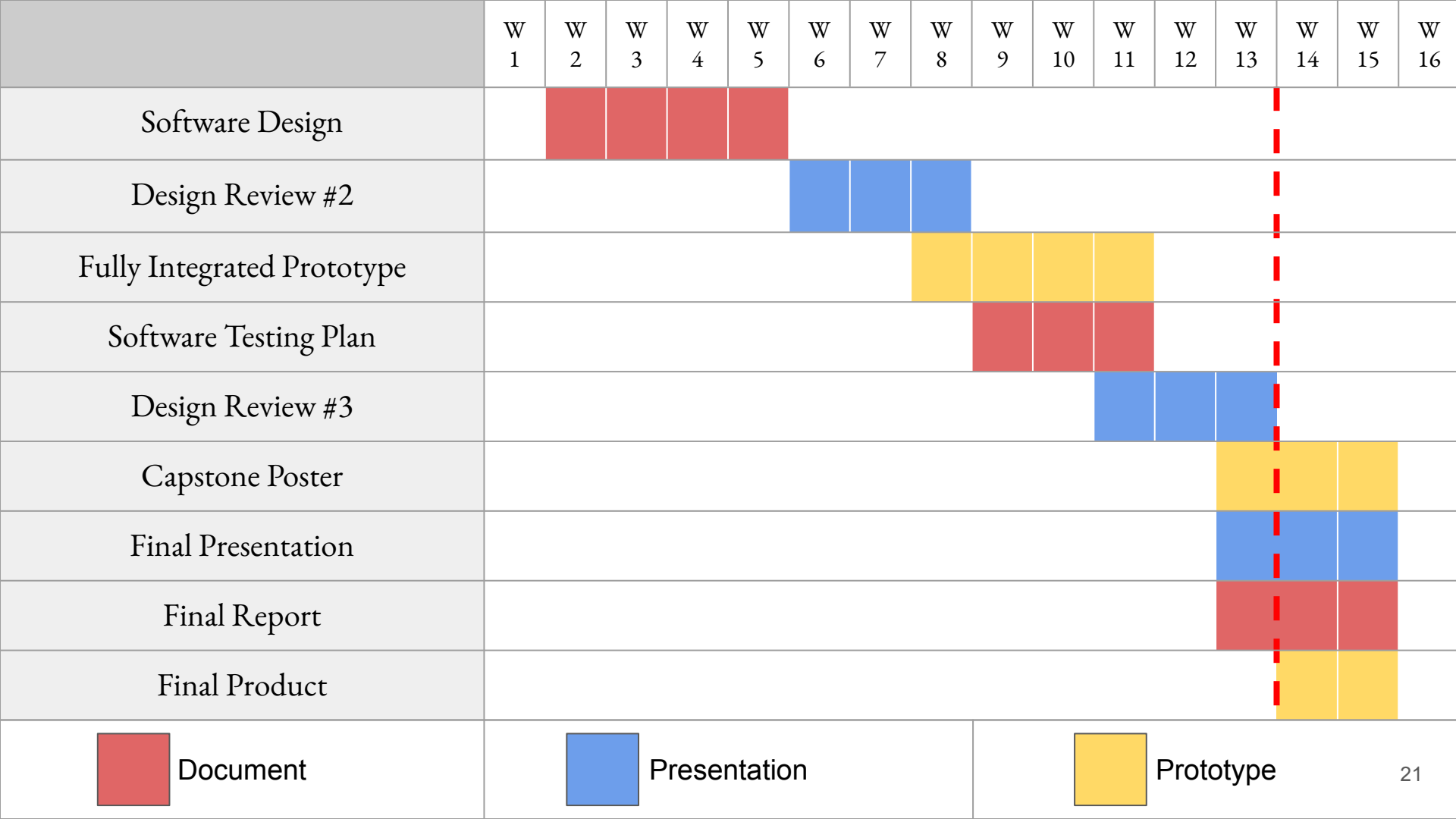
JQuery

SQLite, default for Django

CSV File Upload

Testing Plan

- Test assertions of data through Django-assisted testing
- Test migrations to our own remote server
- Stress testing UI and database with large amounts of data
- Usability testing with client and other lab organizers



Document



Presentation



Prototype

Conclusion

