



THE ASPEN GROUP

# The Superpowers & Kryptonite Brought by Next.JS

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LEAD SOFTWARE ENGINEER @ THE ASPEN GROUP

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8/28/2024



# Agenda

- A Bit About Me & The Aspen Group (TAG)
- The Superpowers
- The Kryptonite
- Key Takeaways

# Survey: Next.JS

# A Bit About Me

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- Software Engineer in Athletic Development, Grocery Industry and Healthcare in last 14 years
- GitHub: <https://github.com/soleo>
- LinkedIn: <https://www.linkedin.com/in/xinjiangshao/>



# The Aspen Group

**AspenDental**  
Smile. We're in your corner.

**ClearChoice**  
DENTAL IMPLANT CENTERS

**Lovet**  
Pet Health Care

**AZPetVet**  
A Family of Animal Hospitals

**physicians**  
urgent care

Now part of  
**wellnow**  
Urgent Care

**chapter**  
AESTHETIC STUDIO



# Common Needs

- **Content** Management (CMS)
- **Book** Appointment
- Brick and Mortar **Offices**

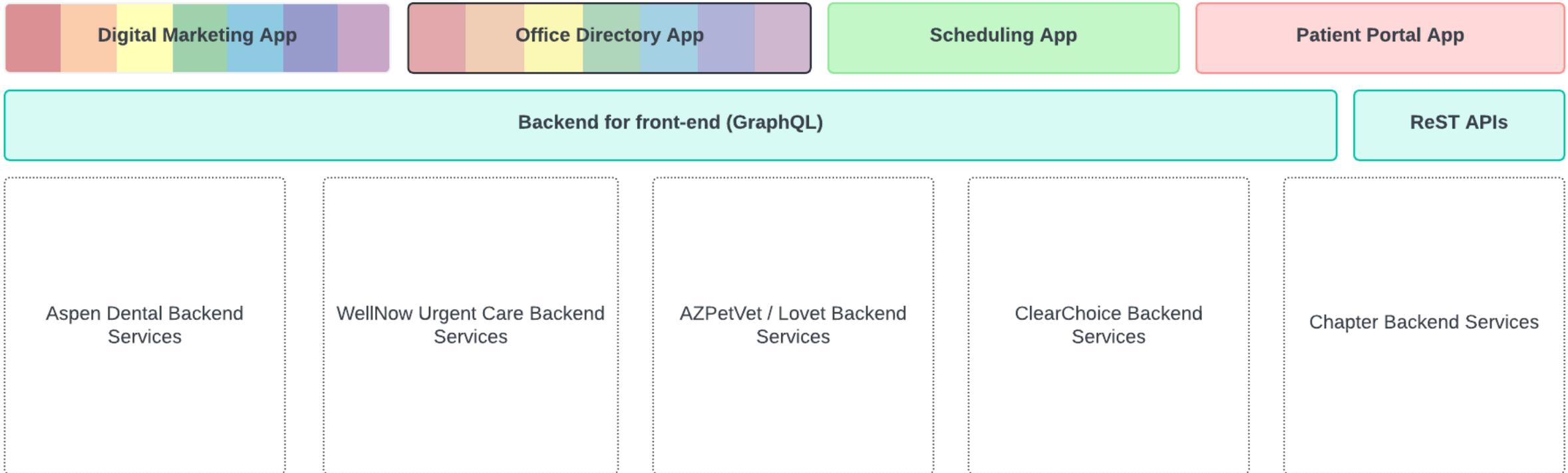
# They are also very different

- Customers
- Regulations
- Technology

# The Superpowers Brought By Next.JS



# Digital Commerce Platform



# Digital Marketing / Office Directory

MULTI-TENANT

wellnow physicians Aurora, IL

Services Resources Schedule

## Get Better, Faster

Reserve a time online, walk in today or access virtual care 24/7 – it's healthcare on your terms.

Schedule Visit Start Virtual Visit

Care We Offer

Illnesses > Injuries > Symptoms >

### Why Choose WellNow?

- Walk-ins always welcome, no appointment required
- Open 7 days a week with extended hours — including holidays
- Low wait times with appointment updates sent to your phone
- 24/7 virtual care anytime, anywhere
- Schedule online, check in online, wait where you're comfortable
- We work with all insurance plans and have a flat rate for uninsured

AZPetVet

Locations Services Why AZPetVet The Experience Resources Careers

Search by ZIP Code

Schedule Appointment

## A unique breed of exceptional veterinary care



Chicago, IL

AspenDental

Schedule appointment

DENTURES DENTAL IMPLANTS CLEAR ALIGNERS GENERAL DENTAL SERVICES COSTS & AFFORDABILITY DENTAL FINANCING & INSURANCE

## Top-rated dental care near you

Get the services you need on your schedule.

Schedule appointment (888) 986-3927

- Explore pricing & offers
- View all offers
- Explore the Aspen Dental Savings Plan
- AFFORDING DENTURES
  - Dentures cost
  - How we make dentures affordable
- AFFORDING DENTAL IMPLANTS
  - Dental implant costs
  - How we make dental implants affordable
- General dental service costs
- New teeth straighteners cost

### Dental services we offer

- Dental implants
- Custom dentures
- Teeth straightening
- Emergency care

Chat with us

### What Sets Us Apart

- Flexible Payment Options
- 22 Locations and Growing

### PetVet Services

routine wellness exams and vaccinations, sick and urgent needs, dental care, and surgical care.

smile.clearchoice.com

ClearChoice DENTAL IMPLANT CENTERS

Schedule Now

AFFORDING DENTAL IMPLANTS RESOURCES



### ClearChoice Dental Implant Centers®

- Understand Implants
- Learn About ClearChoice®
- Hear From Patients
- Compare with Dentures
- Explore Costs
- Find Your Location



# Booking Appointment

SINGLE-TENANT

www.stg.azpetvet.com

- 1 Client Information
- 2 Pet Information
- 3 Reason for Visit
- 4 Pet Health Information
- 5 Date & Time
- 6 Appointment Review
- 7 Confirmation

## Client Information




Continue

[Privacy Policy](#)    [Terms and Conditions](#)

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aspental.com

AspenDental
ACCOUNT & BILLING

- 1 Patient Information
- 2 Date & Time
- 3 Additional Patient Information
- 4 Appointment Review
- 5 Confirmation

APPOINTMENT ASSISTANT

## Patient Information

**Let us get to know you**

Provide more information on your current dental health to help us schedule your appointment.

What is your current dental condition? Please select all that apply. \*

- Missing teeth
- Cracked, loose, or failing teeth
- Bleeding/swollen gums
- Can't eat what I want
- Tooth pain
- None of the above

What would you like to improve about your smile? Please select all that apply. \*

- Repair damaged teeth
- Replace missing teeth
- Gum health
- Bite position
- Color of teeth
- Shape of teeth
- Position of teeth (Crooked teeth/Crowding or spacing of teeth)
- Other

Continue

SUPERPOWER I

# Server-Side Rendering (SSR) is Very Powerful

SUPERPOWER II

# Feature Toggle is Your Friend

SUPERPOWER III

# Lots of GraphQL, Sprinkled with ReST API

# The Kryptonite Brought By Next.JS



CHALLENGE I

**It's not that easy to  
observe your requests  
when you cannot see  
them in Browsers**

aspental.com

AspenDental

Surprise, AZ

# Top rated dental care near you

Get the services you need on your schedule.

[Schedule appointment](#) (888) 519-9248

“ I will c o . . ”

Dental services we offer

41 / 139 requests | 138 kB / 20.1 MB tran

Network tab in browser developer tools

Request Payload:

```
{
  "operationName": "facilityByCode",
  "query": "query facilityByCode($code: String!) {
    variables: {code: \"3330\", brand: \"ASPEN_DEN
```

OpenTelemetry Collector UI

web-officedirectory: GET 2.5%

2024-08-27 21:24:04.177 GET 200

41 spans

Span Name	Duration	Start Time	End Time
GET (77.2ms)	77.2ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.254
ts.connect (60.25ms)	60.25ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.237
tcp.connect (20.09ms)	20.09ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.197
GET (72.72ms)	72.72ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.249
dns.lookup (18.5ms)	18.5ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.196
dns.lookup (18.19ms)	18.19ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.196
ts.connect (56.55ms)	56.55ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.234
tcp.connect (19.69ms)	19.69ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.197
POST (546.74ms)	546.74ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.724
dns.lookup (12.8ms)	12.8ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.190
ts.connect (18.73ms)	18.73ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.196
tcp.connect (13.56ms)	13.56ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.191
GET (98.65ms)   web-officedirectory:GET	98.65ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.276
POST (131.35ms)	131.35ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.308
GET (14.57ms)	14.57ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.192
POST (792.01ms)	792.01ms	2024-08-27 21:24:04.177	2024-08-27 21:24:05.009
GET (13.94ms)	13.94ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.191
GET (17.7ms)	17.7ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.195
GET (47.79ms)	47.79ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.225
ts.connect (33.11ms)	33.11ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.210
tcp.connect (10.46ms)	10.46ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.187
dns.lookup (9.49ms)	9.49ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.187
GET (62.25ms)	62.25ms	2024-08-27 21:24:04.177	2024-08-27 21:24:04.239

CHALLENGE II

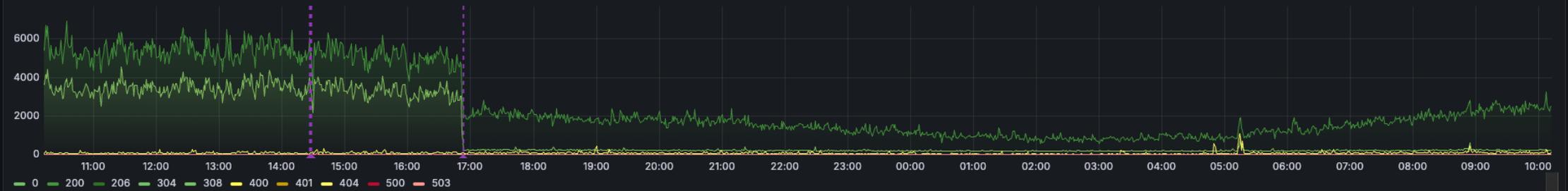
**You need to turn on  
some experimental  
features after all**

```
module.exports = {  
  experimental: {  
    instrumentationHook: true,  
  },  
}
```

CHALLENGE III

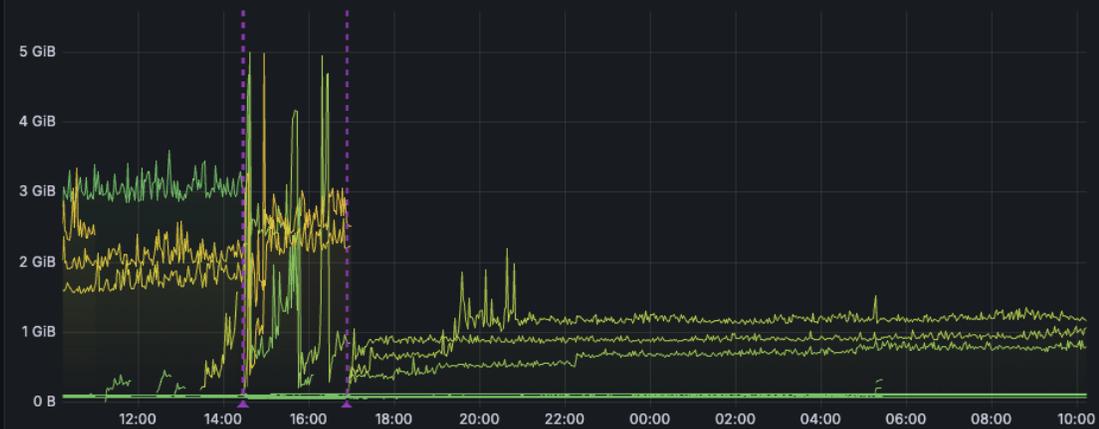
# Server-side Memory Leak is No Joke

Istio All HTTP Traffic Rate

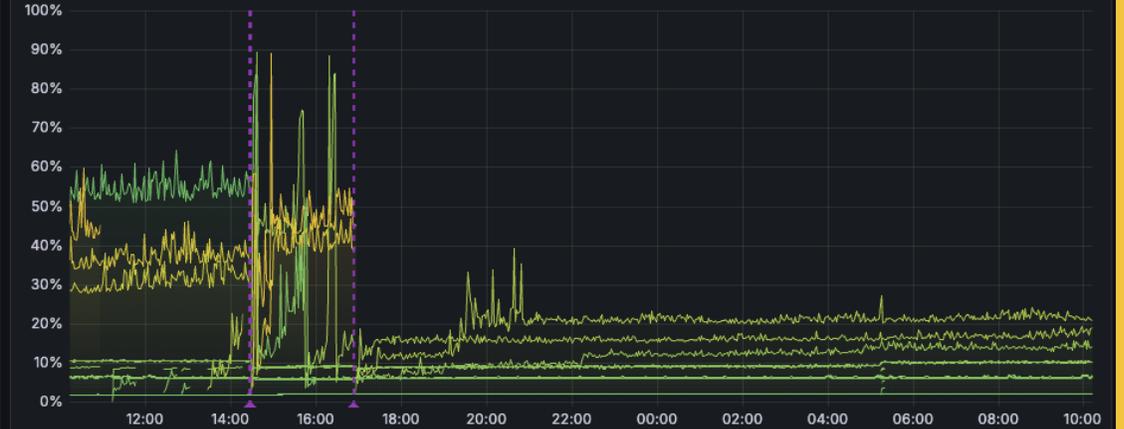


~ Memory

Container Memory Usage Bytes



Container Memory Usage Percent

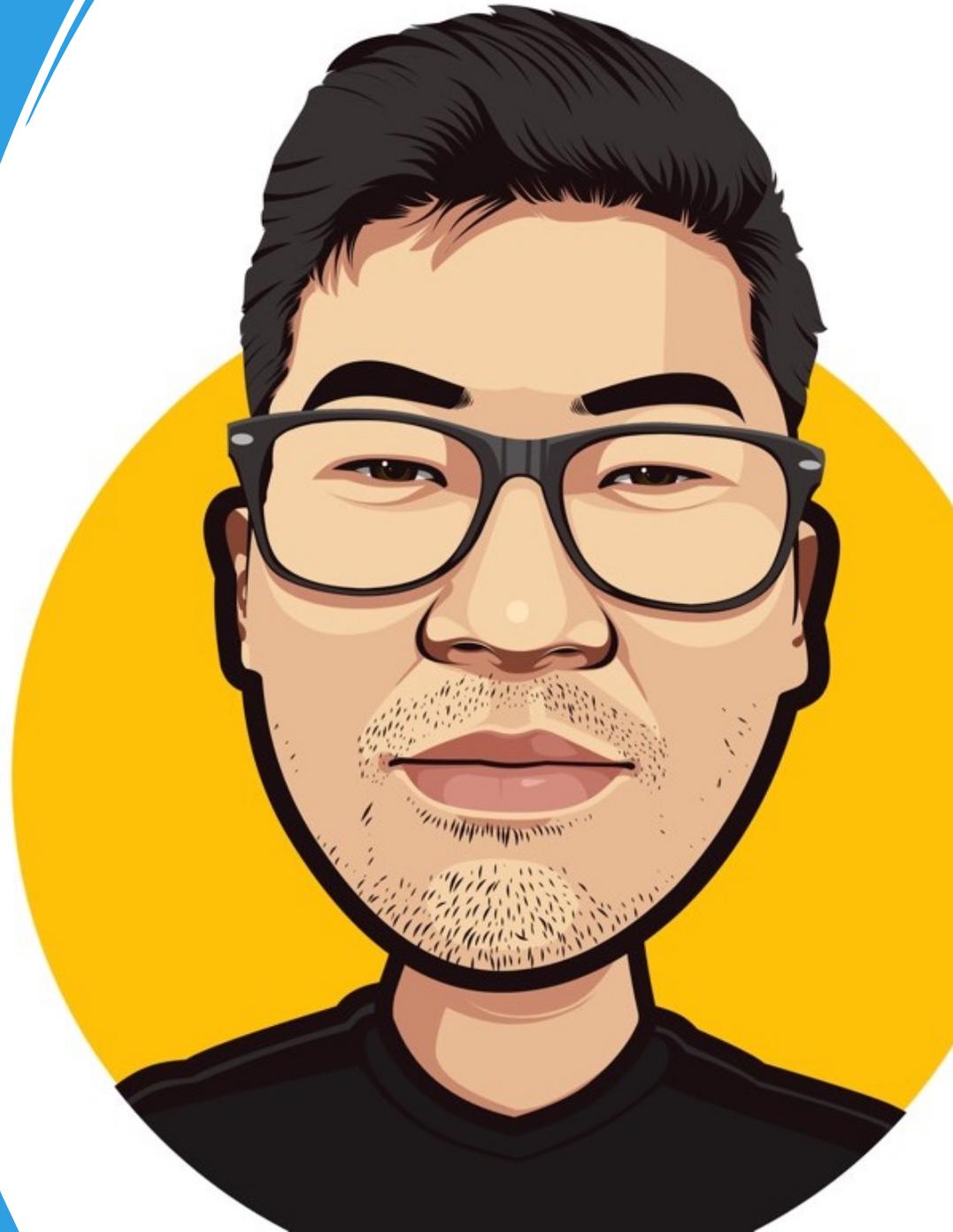


# Key Takeaways

- Treat your application as a full stack app if opt-in SSR
- OpenTelemetry is a must-have
- Use feature toggle & GraphQL often

# We're hiring as well





Questions?

# About Me

- Software engineer by day, aspiring chef by night. Fueled by a passion for design and cooking, Xinjiang Shao creates and designs both code and cuisine.
- GitHub: <https://github.com/soleo>
- LinkedIn: <https://www.linkedin.com/in/xinjiangshao/>

