Digital Strategy Capabilities

Case Studies & HealthTech Expertise

Presented By: **mindgrub**

Introduction to Mindgrub

History / Culture / Services

About Mindgrub

Mindgrub pioneers the digital landscape through the design, development, and marketing of custom enterprise websites and applications. We are creative thinkers, engineers, designers, leaders, and doers. Our solutions are rooted in human-centered experience design.

Mindgrub Growth

2002

Humble Beginnings

Mindgrub Technologies, LLC is officially born and its first office is established in a local basement.

2007

Arrival of the iPhone

Sensing a disruption, Mindgrub becomes the first app development team in the area, creating early apps for clients, like GEICO and Dell.

2011

Enterprise Web Dev

Mindgrub offers enterprise web development services leveraging well known open source content management systems.

2014

Regional Expansion

Mindgrub moves its headquarters to Baltimore City. 2014 also saw the opening of marketing offices in NYC, Philadelphia, Boston, and DC.
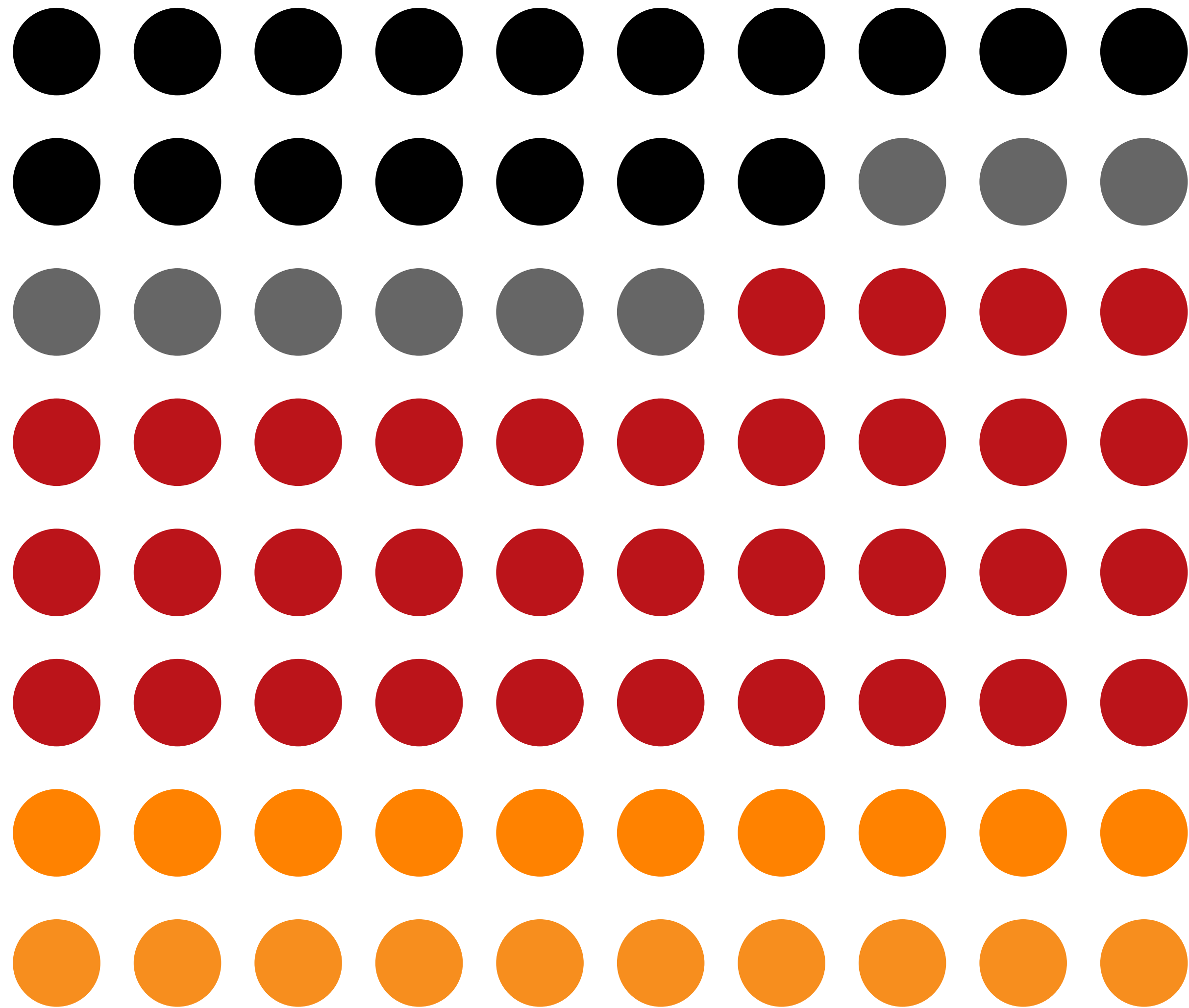
2015

Diversification

Mindgrub acquires 4Thought, a Baltimore based design and branding firm, to expand its capabilities.

Present

Extreme Growth

Mindgrub grows to over 130 full-time employees, working with clients including Under Armour, Exelon, Wendy's, and Crayola.

OPERATIONS / CLIENT SERVICES / ENGINEERING / CREATIVE

Headquarters
1215 E Fort Ave, Baltimore

Nestled in the Southern Baltimore neighborhood of Locust Point, Mindgrub is just minutes from downtown, The Museum of Industry, and Fort McHenry. Before we called our office home, it was the headquarters for Phillip's Seafood and a Coca-Cola bottling plant.

Other Locations

DC
700 12th St NW, Suite 700, Washington, DC

NYC
373 Park Ave South, New York, NY

Philadelphia
1800 JFK Blvd, Suite 300 Philadelphia, PA

Mindgrub

mindgrub.com

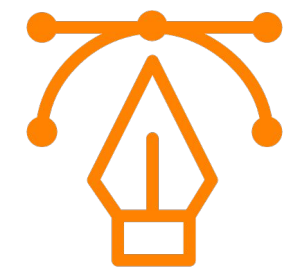# Core Services

What We Do Best

Mobile

Analytics

Web

Agile Coaching

Design & Branding

Team Augmentation

Usability & User Experience
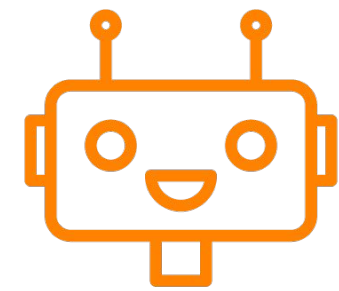
Consulting

Digital & Traditional Marketing

Systems Integration
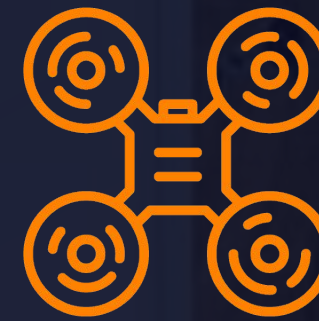
Mindgrub Labs

Beacons

Robotics

AR/VR

Big Data/BI

Wearables

IOT

Drones

Smart Cities

Awards & Recognition

When You Shine, We Shine

Top 100 AR/VR Developers

2019

The Manifest

Best UX Experience for Mobile Sites & Apps

2018

W3

Dev/Design Firm of the Year

2017

Baltimore
Innovation Week

Integrated Campaign of the Year

2016

AMA Mid-Atlantic

Strategic Partnerships

Helping Us Help Our Clients

Mindgrub is always innovating, and has established a reputation of leading technological advancement across multiple verticals and industries. An active contributor to the technology community, Mindgrub always seeks new strategic partnerships that allow us to continue to innovate, iterate, and create the ultimate experience for our clients and their consumers.

HealthTech Expertise

Knowledge & Experience in the Industry

HealthTech Clients

Local & National Brands

Mindgrub has worked with national brands that span several markets and audiences, including health and wellness. Mindgrub tackled each project with teams that understood the need to innovate, iterate, and create the ultimate experience for consumers through the language of the brand. Together, we overcome challenges and present technical solutions that fulfill the needs of clients in the healthcare space.

Mindgrub

CONFIDENTIAL

mindgrub.com

Why HealthTech?

Healthcare advancement and technology go hand in hand. The industry's main challenge today is connecting technology to a specific need. The health industry is expansive, and growing. From AR to big data and health informatics, the health industry is primed for explosive innovation, exploration, and advancement; the versatility and variety of resources are endless. Together with Mindgrub, we can make dreams a reality.

HealthTech Industry Thought Leadership

Presentations & Events

- American Society of Consultant Pharmacists (ASCP)
  - *Independent Living with the Help of New Technology* (2019)
  - *Keynote: The Evolution of Telemedicine and Tech Advances You Can Harness Today* (2017)
- Healthcare Information and Management Systems Society (HIMSS)
- Mindgrub's Outdoor Speaker Series:
  - *Innovation in Opioid Addiction Research*
  - *Agile Marketing for Consumer Brands*

Board of Directors

- Maryland Technology Council, Chairman, 2018-Present
  - Chair of Biotech and Life Sciences, 2016-Present
- Chesapeake Regional Tech Council, Member, 2013-2017

Articles

- [Tips for Marketing Your Telehealth Offerings](#)
- [4 Ways to Give Your Health and Wellness Brand a Boost](#)
- [And more on our blog](#)

Specialized Capabilities

We have extensive experience in software design and development, with expertise and partnerships in the following areas related to the health and wellness industries:

- API development and integrations

- Internet of Things (IoT) integrations

- Electronic Health Records (EHR) integrations

- HIPAA compliance & data security

- Software as a Medical Device (SaMD)

- FDA approval process

- Telehealth, telemedicine, mhealth platforms

- Data analytics and visualization

- Learning Management Systems (LMS)

- Augmented & Virtual Reality (AR/VR)

FHIR APIs & IoMT
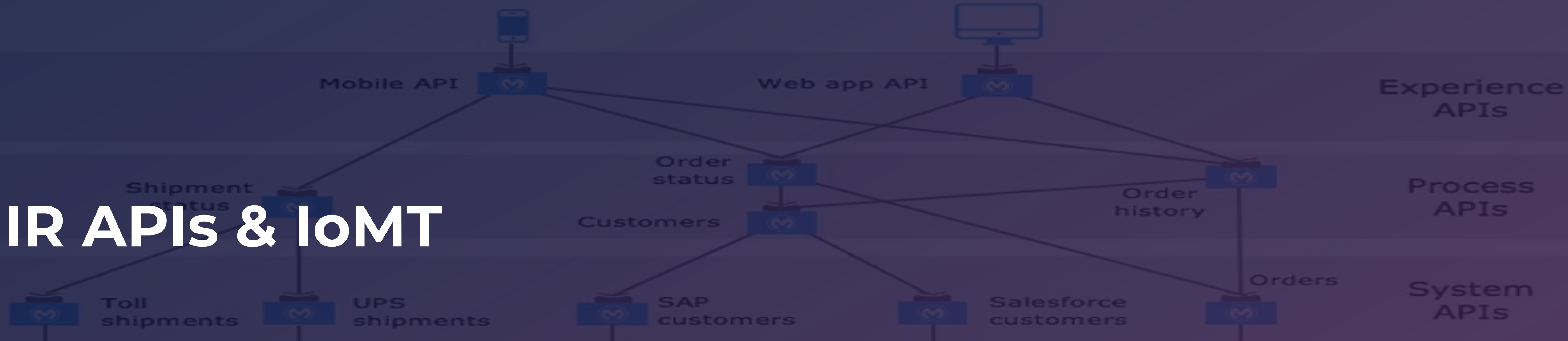
Successful development of and integrations with FHIR (Fast Healthcare Interoperability Resources) APIs relies on robust software development. Mindgrub has integrated software with over 100 RESTful APIs.

- We're currently working on an API to connect medical video devices (i.e., endoscope or other scope device) to a native mobile app for medical training purposes.

- B-Line Medical's SimCapture Pro mobile app

- Gilchrist's web portal

- Mercy Medical Center's training software

- ArmadaHealth's Agent Portal (more info on next slide)

ArmadaHealth

Matching Patients with the Right Providers
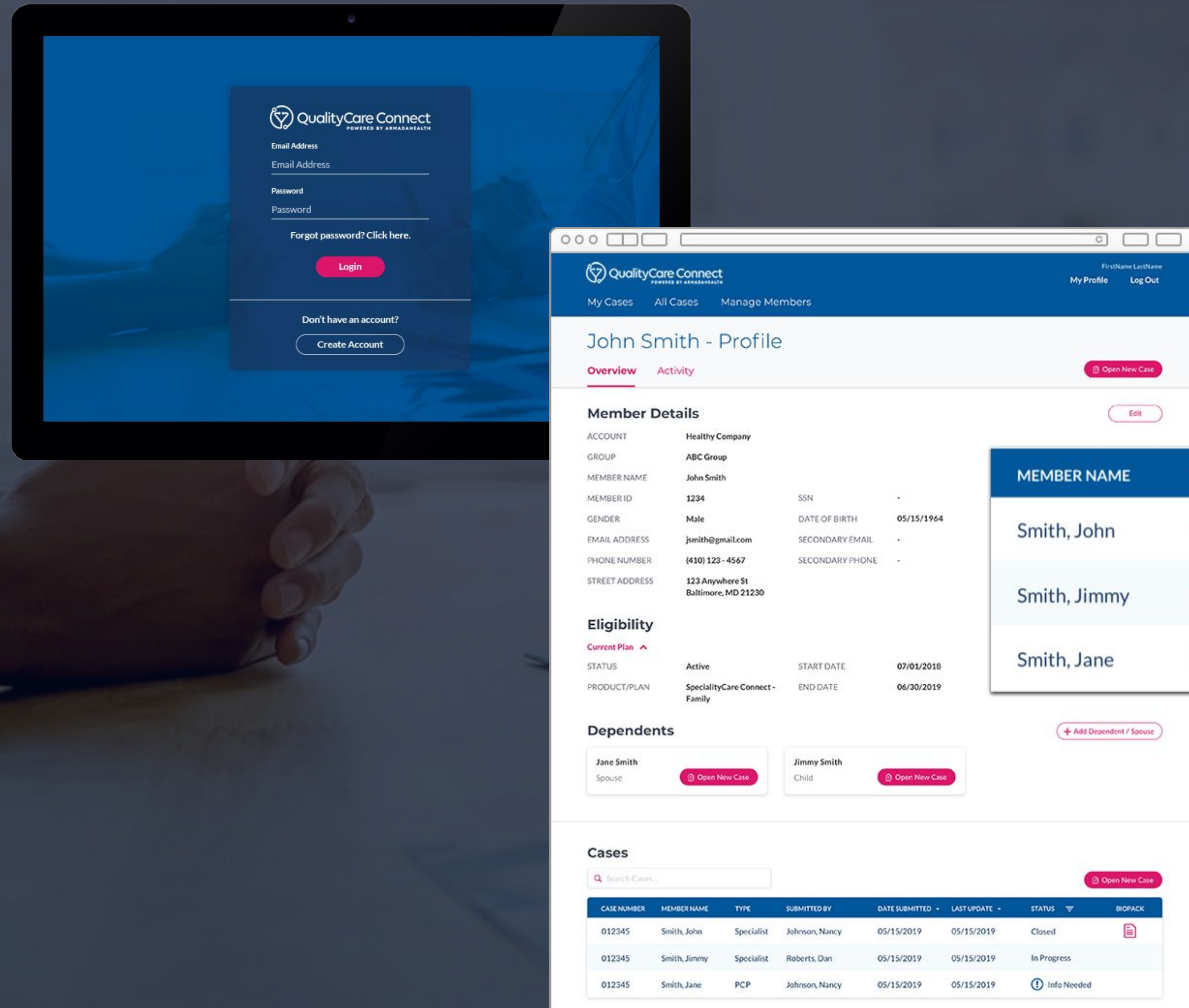
API Integrations

ArmadaHealth worked with Mindgrub to develop an enterprise-grade, web-based software platform. The final system included bundled user interface (UI) layers that provide flexibility for future use, GraphQL for data-driven APIs and to reveal a single endpoint to the UI, Salesforce integration, and custom services to meet specific business functionality needs. By creating a more cohesive, convenient, and intuitive experience, ArmadaHealth is able to connect a high volume of patients with care that can transform their lives.

"Since launching the Agent Portal, health plans, advocacy groups and other care delivery models have found significant value in their agents' ability to now access high quality physician navigation services. The feedback on how intuitive the product is and how seamlessly it works has been outstanding across the board."

~Susan Torroella, COO, ArmadaHealth

mindgrub.com

FHIR APIs to EHR Integrations

- We work with a strong partner that has done numerous of FHIR API to Electronic Health Record (EHR) integrations - Audacious Inquiry

- Project with Johns Hopkins involving integration with Epic

- University of Maryland Medical Center's (UMMC) Healthcare Plans:

  - Patient data and provider directory services for Medicare and Medicaid plans
  - UMMC had ~20 WordPress and .NET websites hosted on-prem with limited disaster recovery and failover
  - Moved everything to the cloud and AWS hosting
  - Ensured data was HIPAA compliant based on AWS best practices to transmit and protect PHI

Mindgrub

mindgrub.com

U.S. Pharmacopeial Convention

Easily Accessing Reference Standards

API Integrations

With the help of Mindgrub, the USP Reference Standards and Resources app provides the latest RS data, including lot numbers, use dates, SDS and certificates, RS in development, and more. The application features fully searchable listings as well as a built-in barcode scanner to facilitate the lookup process. In order to encourage ongoing user interaction, automatic notifications of USP releases are provided. In addition, users can bookmark frequently watched items for future reference.

CONFIDENTIAL

API Integrations

In collaboration with AARP, Mindgrub built the AARP Pharmacy website. This site focuses on showcasing the benefits of participation in AARP's prescriptions discount service and includes a wealth of interactive features including a pricing tool, membership sign up, and pharmacy locator.

Project Components

- WCAG AAA compliance
- Complex third-party API integrations
- Easy to use WordPress CMS
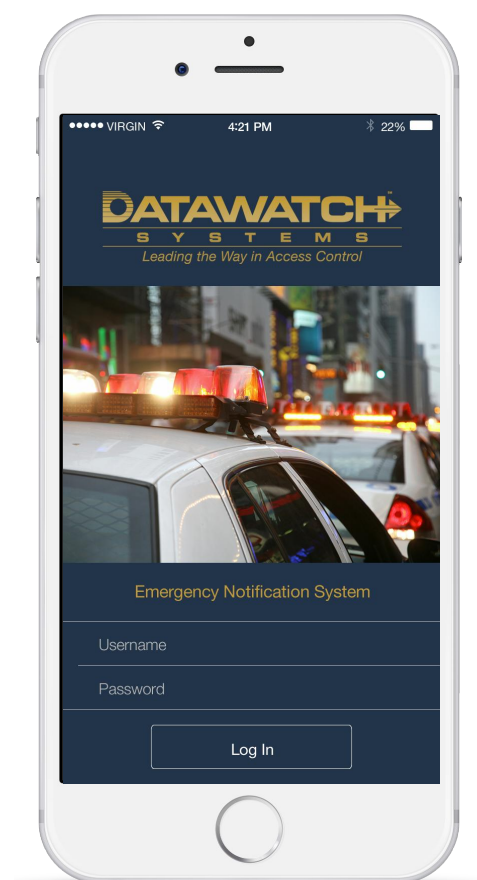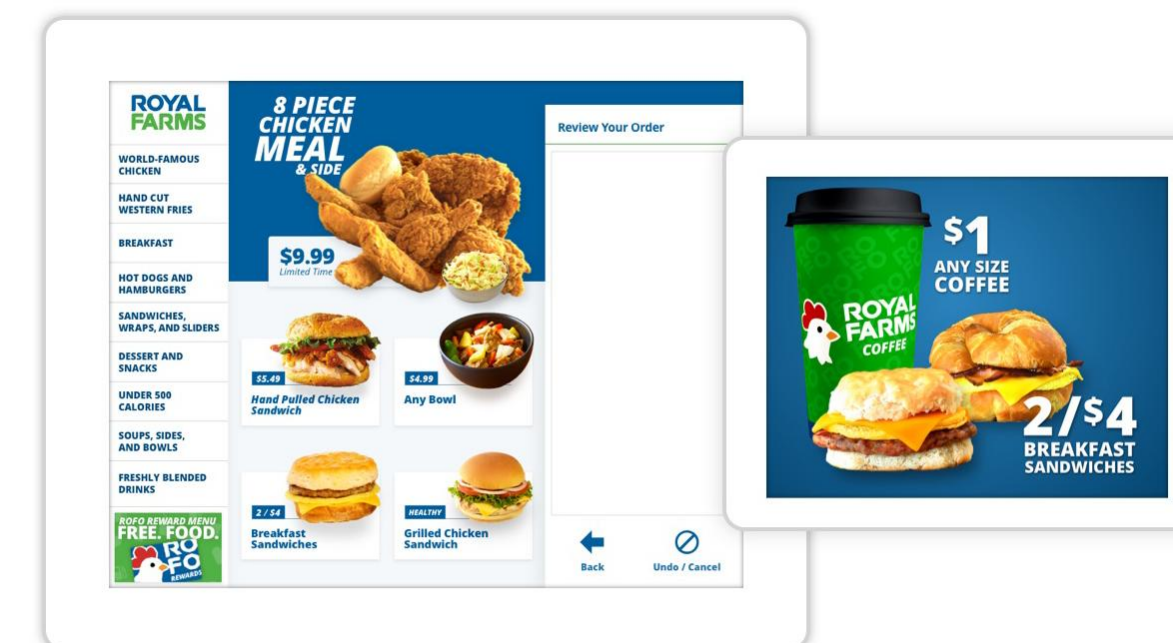
Mindgrub

AARP / OptumRx

Simplifying Prescription Discounts
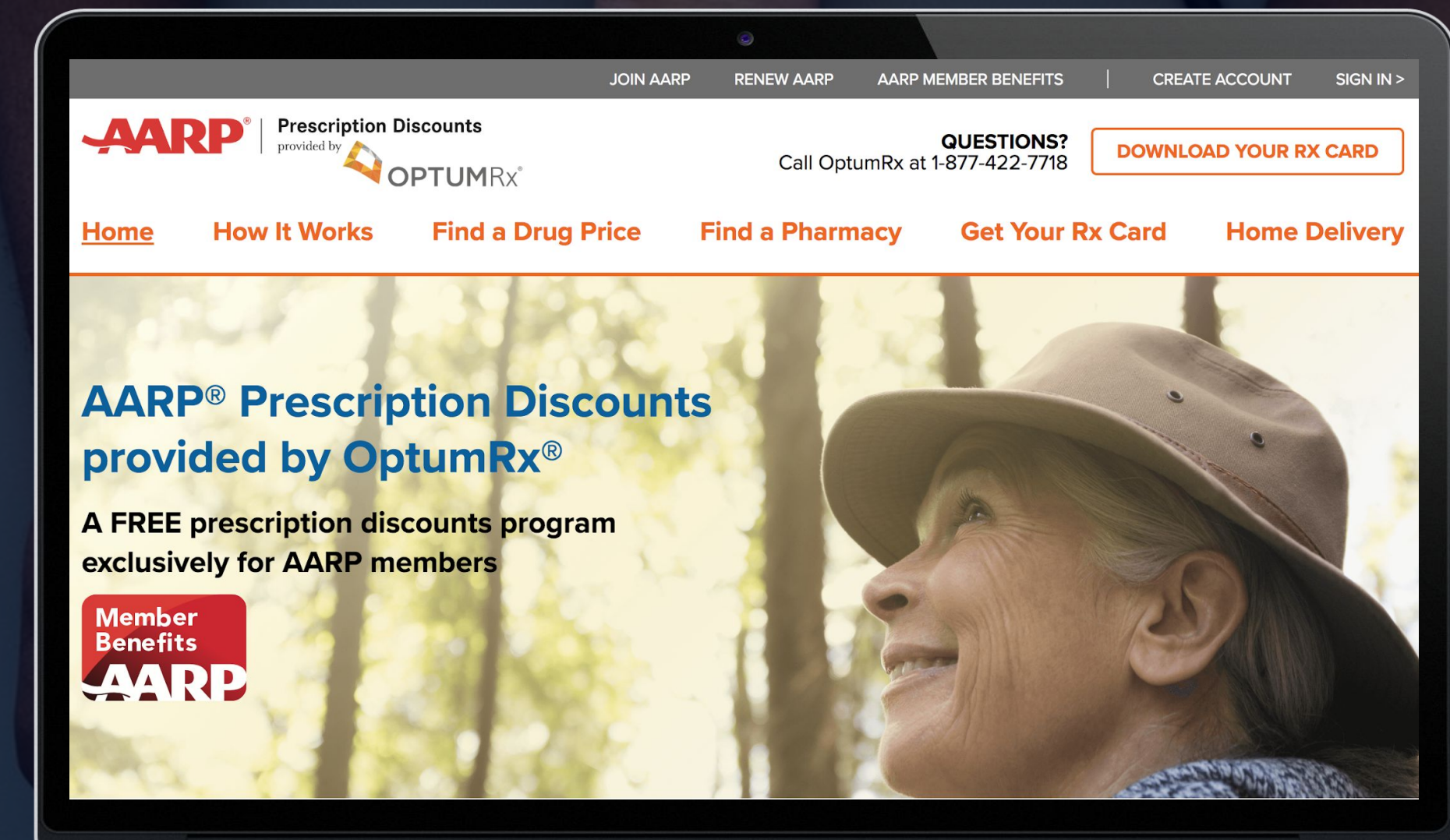
IoMT Vendor Space

As more companies look to connect devices to the internet, there is an even greater demand for our highly-skilled developers.

- We've developed IoT software for several different use cases

  - Kiosks for Wendy's and Royal Farms

  - A UI for Morningstar's solar power inverter/charger

  - A building management app for Datawatch Systems

- We're working with a client to integrate a video-based mobile app with medical camera devices to provide real-time video feedback to the mobile app while in use with a test dummy patient.
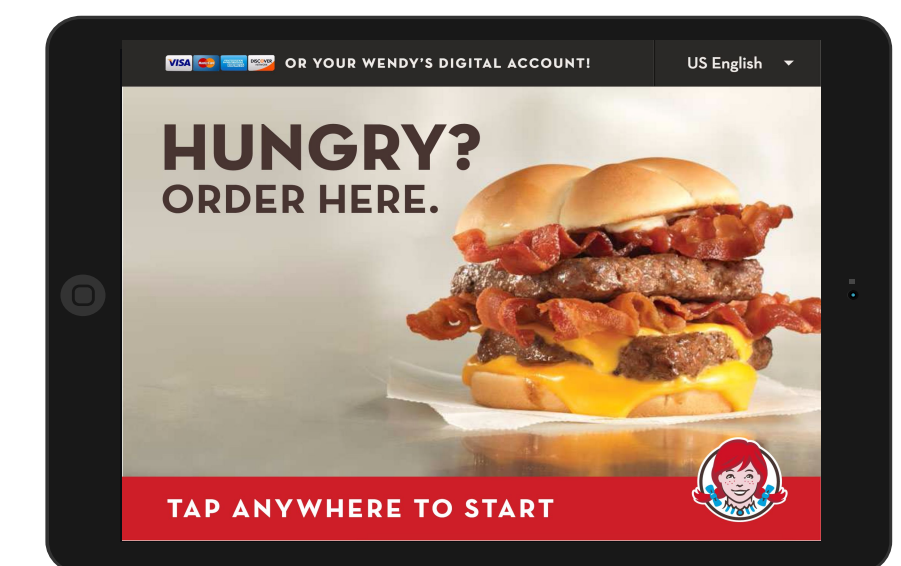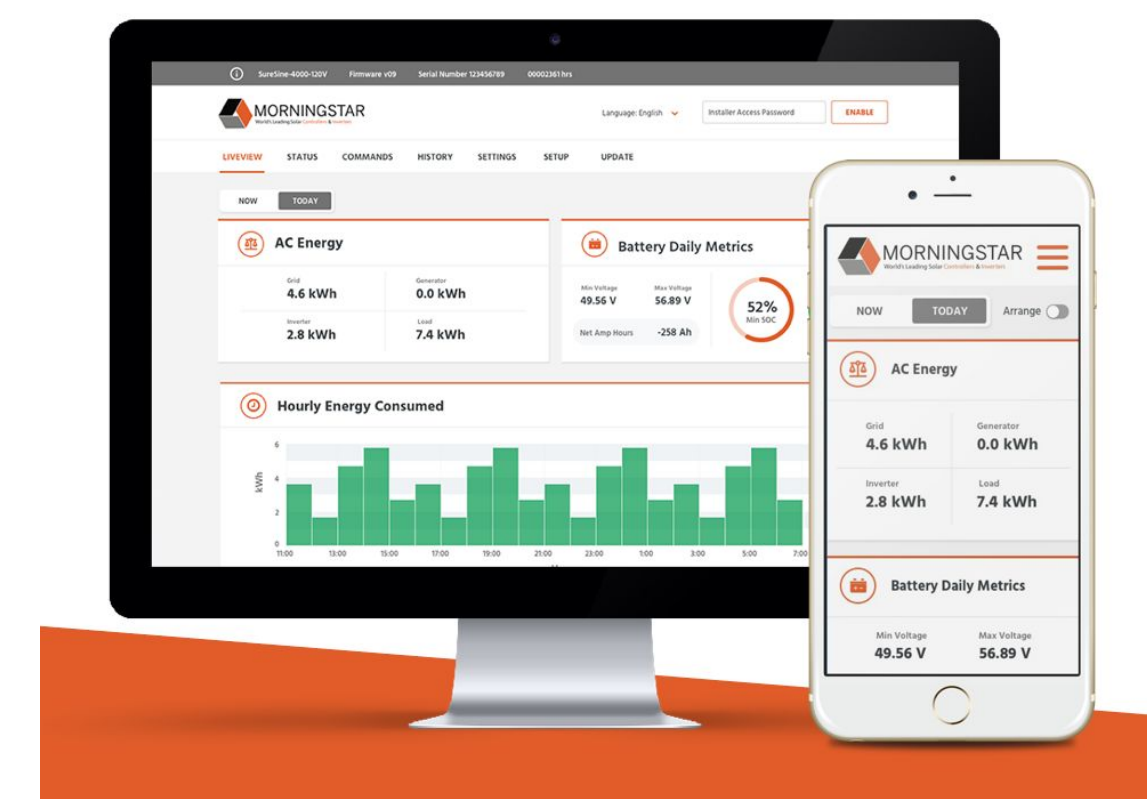
Mindgrub

IoMT Vendor Space

Mindgrub worked with International Biomedical, a global market leader in neonatal and pediatric health products, to develop a touchscreen web interface with administrative controls and a dashboard for its baby warming technology. The device consists of a warming table, web cam, weight scale, heart rate monitors, and code systems. We collaborated with a certified vendor for hardware-software integrations.

Project Components

- IoMT integration
- HIPAA compliant

Mindgrub

International Biomedical
Monitoring Vitals Through Tablet Apps

HIPAA Compliance

Mindgrub employees receive and complete Health Insurance Portability and Accountability Act (HIPAA) training to protect data privacy and ensure confidentiality and integrity of protected health information (PHI).

- Use Amazon Web Services (AWS), Acquia, Pantheon, and other approved cloud vendors to build HIPAA- compliant cloud architecture

- Work with HIPAA-certified auditors

- Case studies:
  - University of Maryland Medical Center's Healthcare Plans websites (previously mentioned)
  - International Biomedical's IoMT enabled Baby Warmer (previously mentioned)
  - Gilchrist Hospice Care's intranet system (more info on next slide)
  - Continuum Clinical's mobile app (more info on next slide)
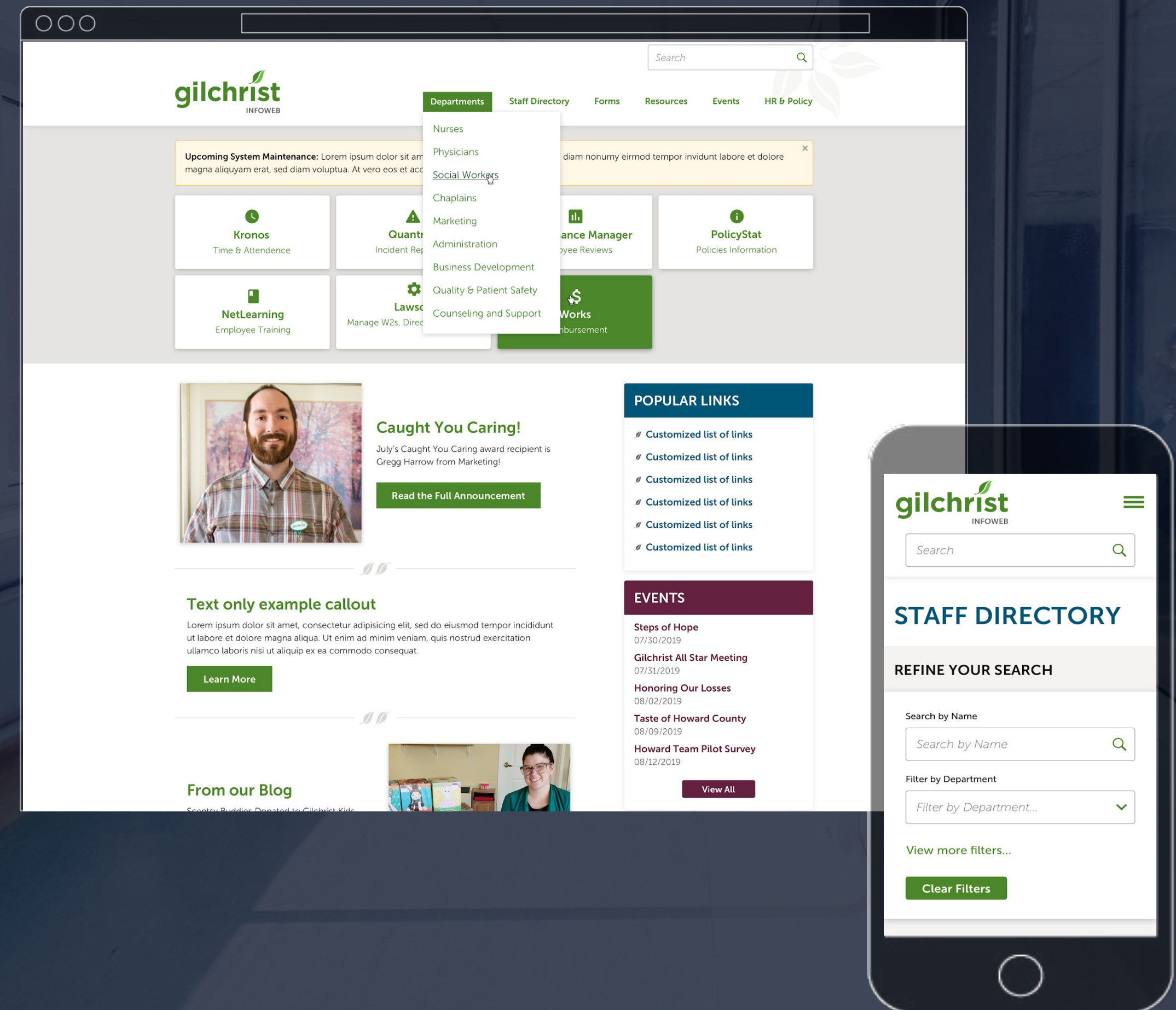
Mindgrub

mindgrub.com

HIPAA Compliance

In collaboration with Gilchrist Hospice Care's IT team, Mindgrub updated the user experience, design, and backend system of Gilchrist's intranet. Stakeholder interviews and a code audit of Gilchrist's previous system were used to identify a strategic approach to make the site more intuitive and less cumbersome for staff members to find information and for managers to update content. The new intranet will be deployed on Gilchrist's internal servers and is HIPAA compliant.
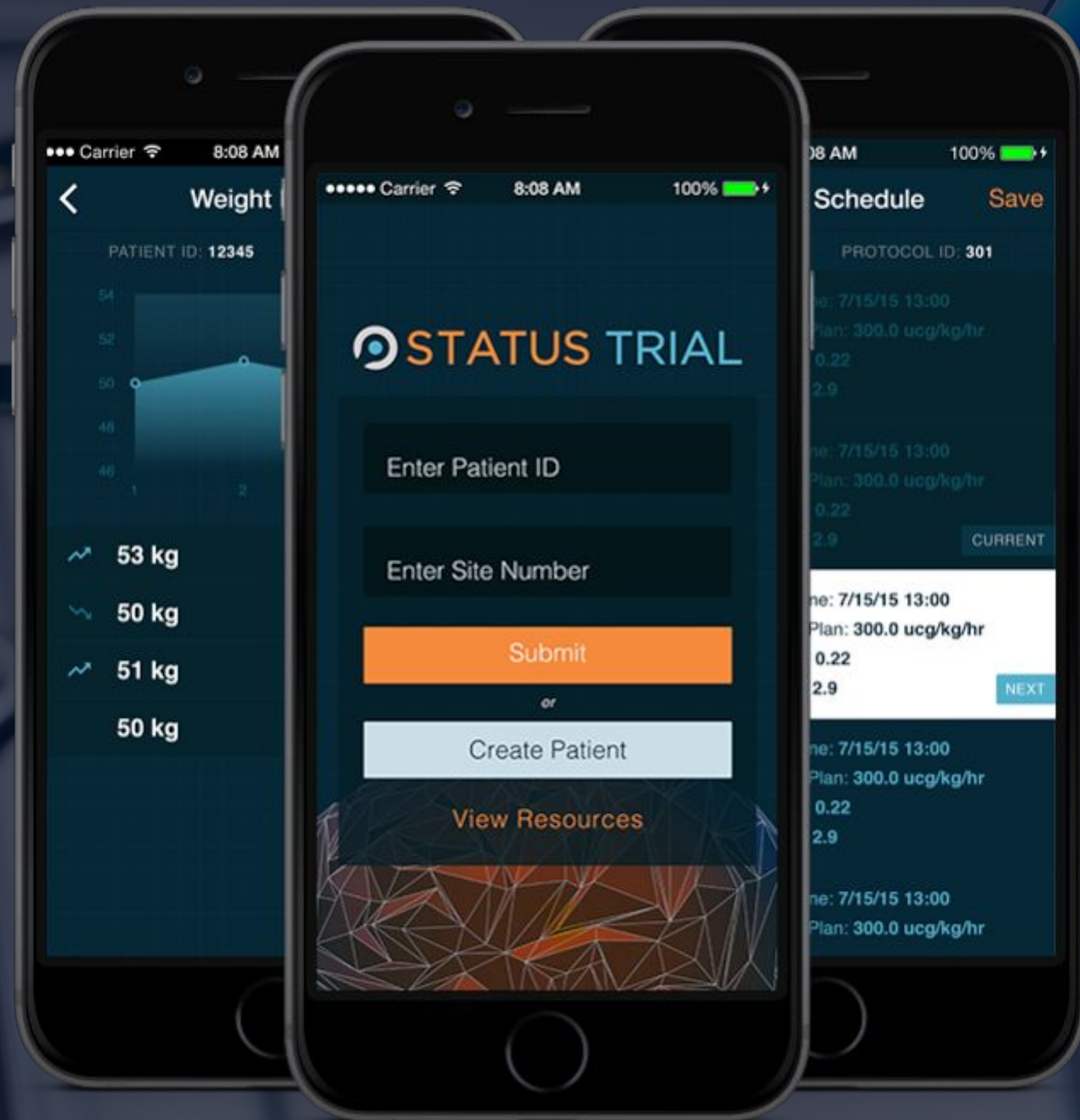
Mindgrub

Gilchrist Hospice Care

Improving Healthcare Efficiency through an Intranet Refresh

Continuum Clinical

Ensuring Pharmaceutical Safety Standards

HIPAA Compliance

Mindgrub worked with Continuum Clinical to develop an iOS and Android application that allows healthcare practitioners the ability to control patient information and proper dosage. Using the application, users can enter patient data including vitals and track dosage history. Moreover, an automatic push notification is sent when an additional dosage is required, ensuring that the correct medicine is provided to the right patients, at the right time, at the right dosage amount.

CONFIDENTIAL

Software as a Medical Device (SaMD)

Advancements in tech have made it possible to treat diagnose, mitigate, or prevent disease without the need for medical device hardware. We've collaborated on several projects that involved SaMD.

- Vasoptic Medical's high-image retinal scanner

  - Detect early-onset diabetes

  - Software: scan and scan processing

  - FDA approved hardware device

- Shriners Hospitals for Children, scoliosis detection app

  - Health-related software, though not a diagnostic tool (more info on the next slide)

VASOPTIC MEDICAL INC.
ADVANCING HEALTHCARE THROUGH INNOVATIVE DIAGNOSTICS


Shriners Hospitals for Children®

Spinescreen

Helping Parents Identify & Find Scoliosis Treatment Centers

CLIENT SOLUTION

Mindgrub worked with the Shriners Hospitals for Children to bring scoliosis identification tools to parents. Leveraging the built-in sensors of modern smartphones, the resulting application provides a quick, informal, way to regularly monitor a child's spine for abnormal spinal curves.

In addition to the test, the application also provides a platform through which Shriners can educate parents about other signs of scoliosis as well as available treatment options.
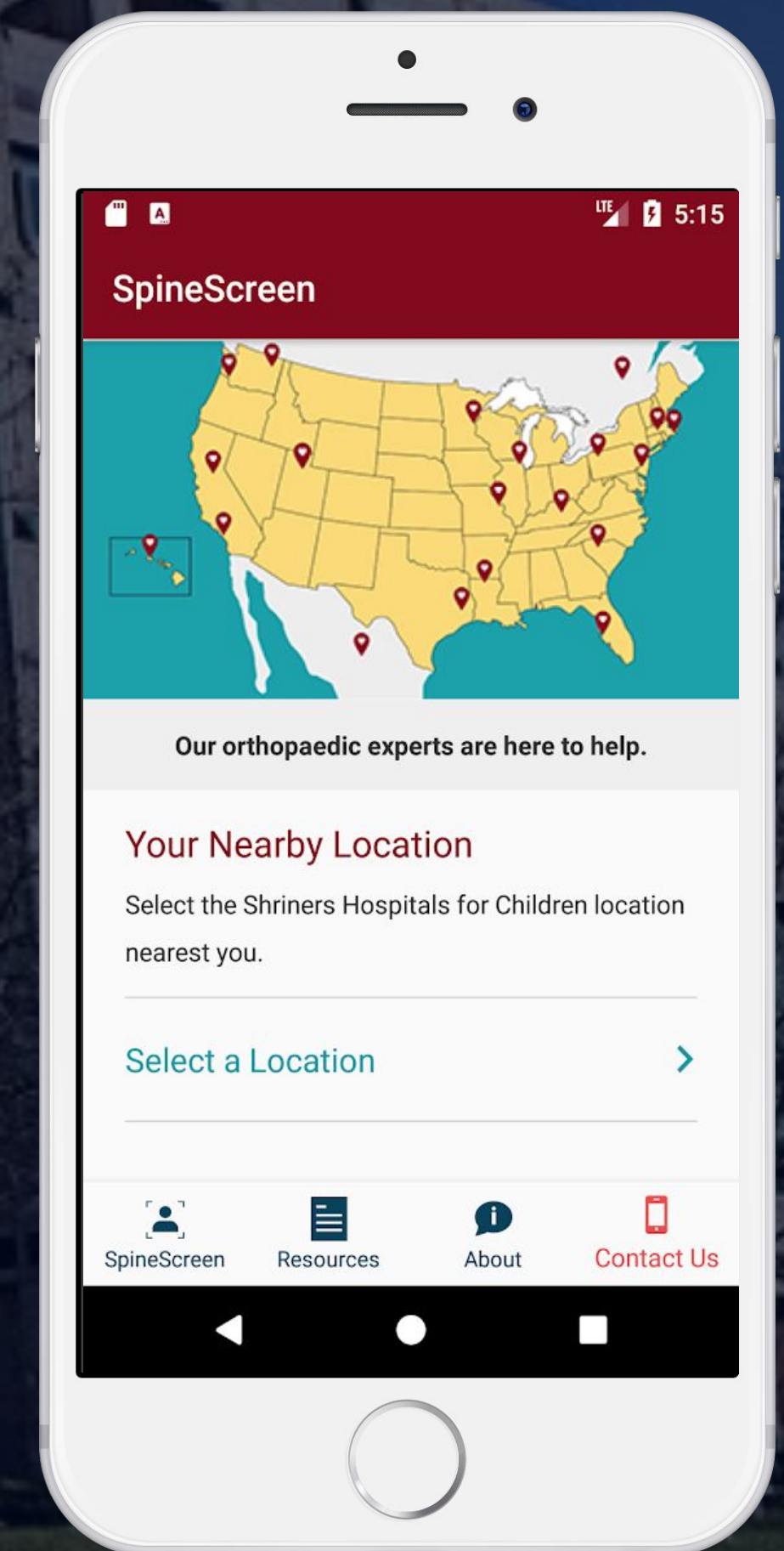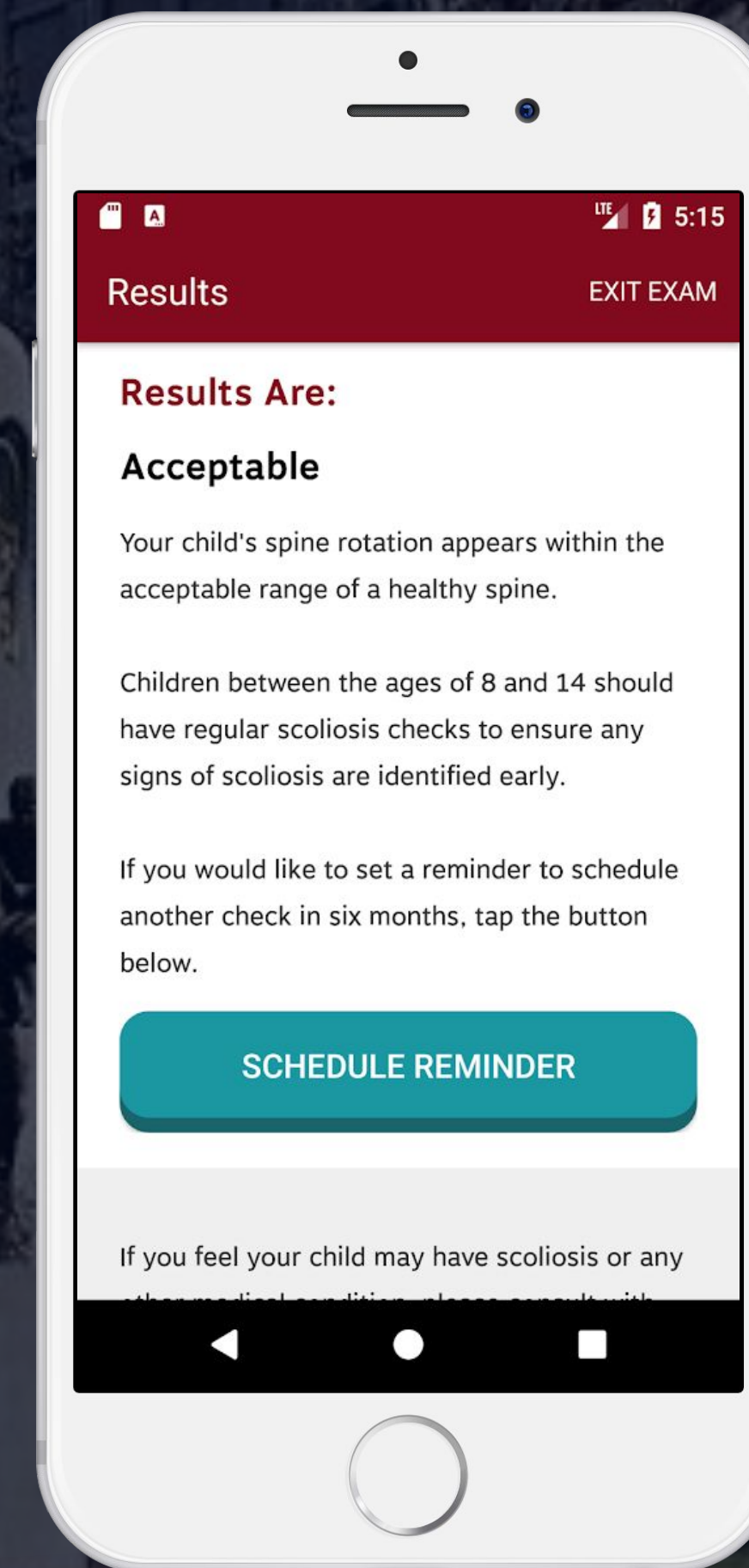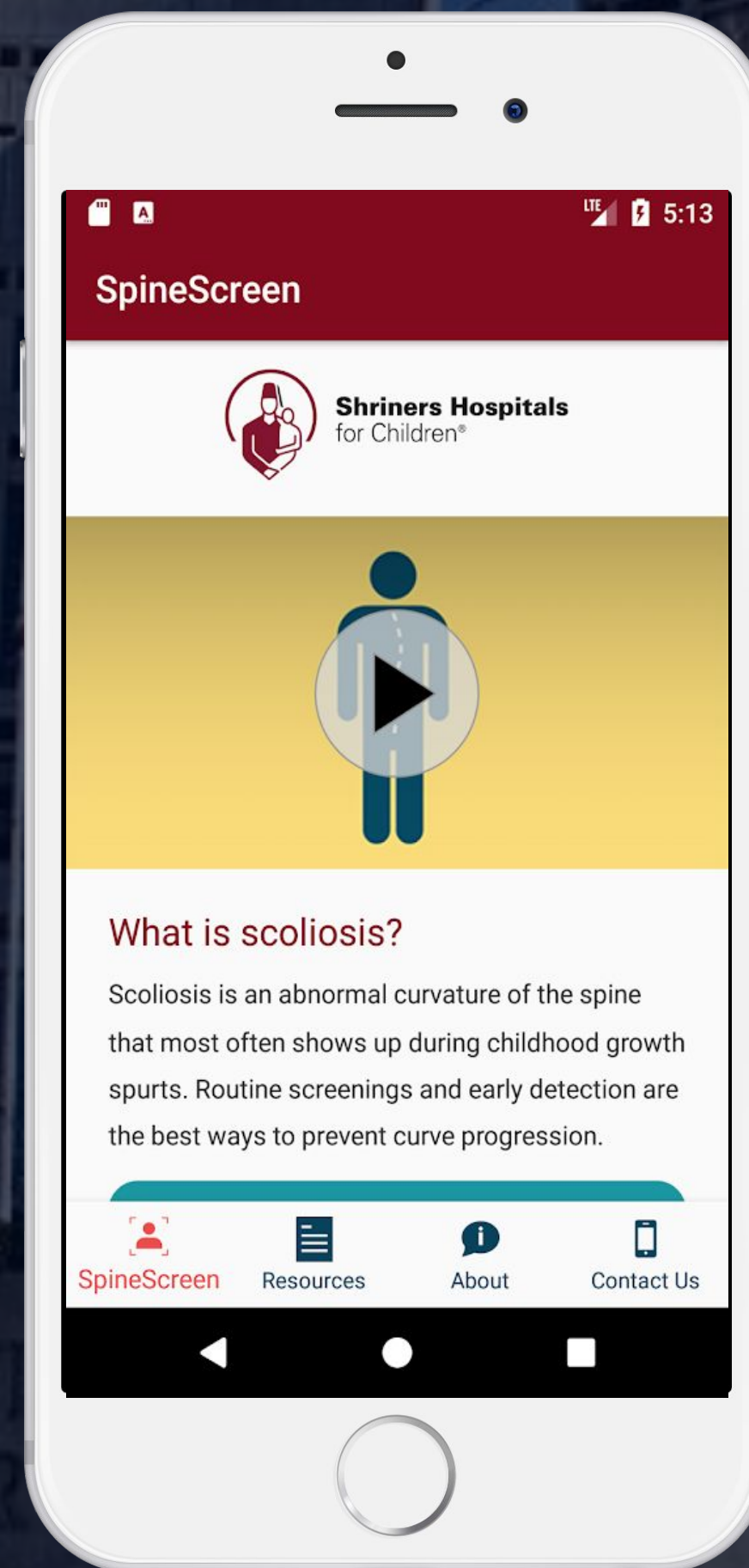
Mindgrub

Hospital Applications

Mindgrub has designed and developed software for many hospitals and medical centers to meet their specific needs, installing systems in facilities with data security and firewall protection.

- Gilchrist Hospice Care's intranet system (previously mentioned)
  - Redesigned internal intranet
  - Collaboration with Gilchrist's IT team
  - HIPAA compliant system
- Mercy Medical Center's training tools for nurses (more info on the next few slides)

Mindgrub
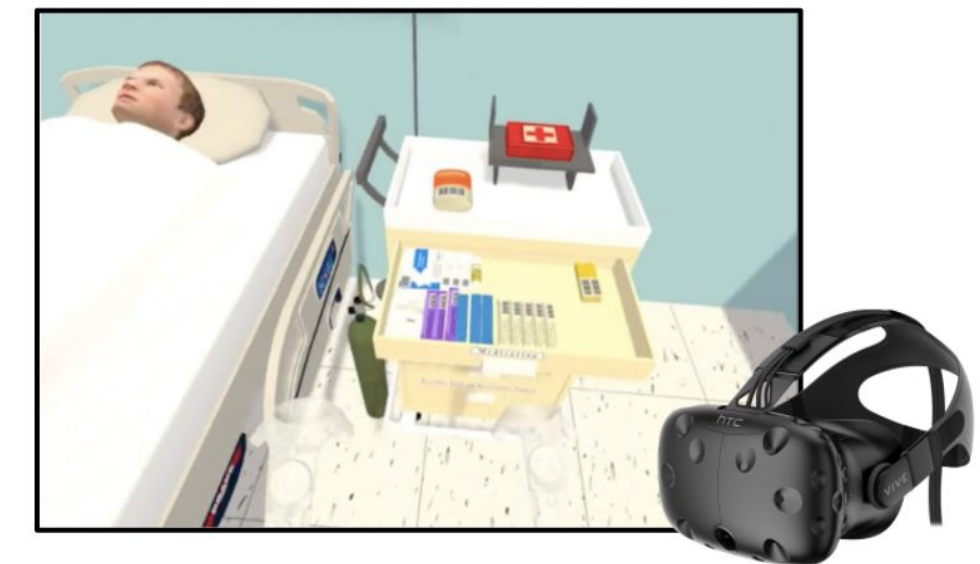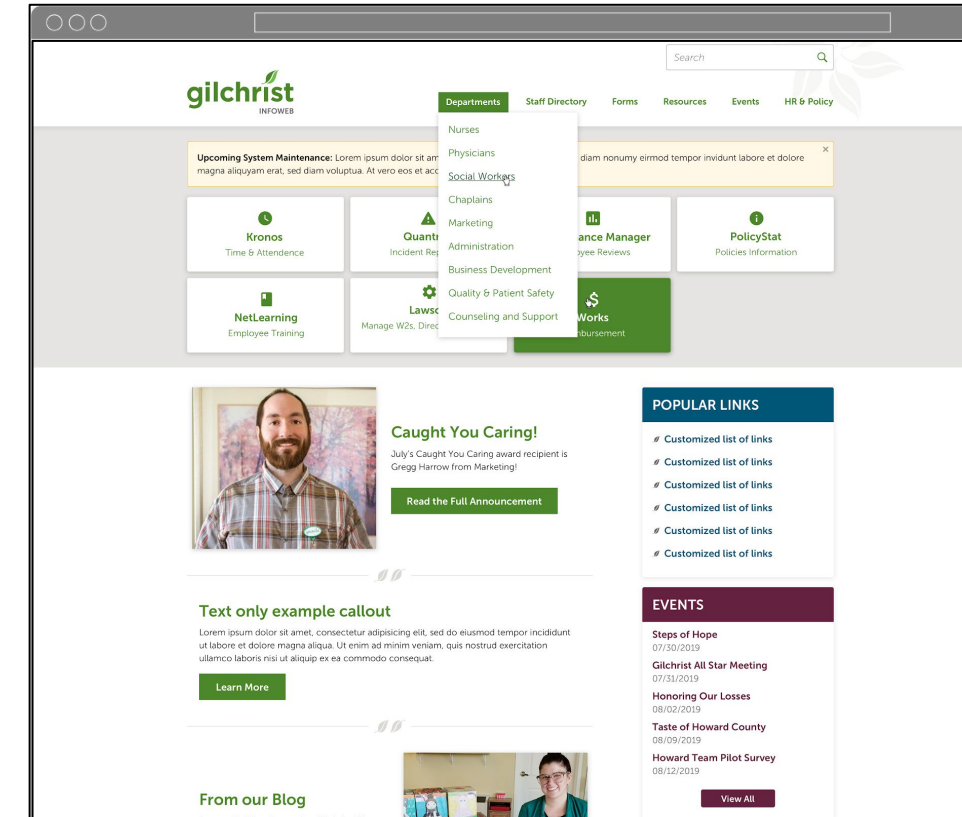
Mercy Medical

Effective Training through Gamification
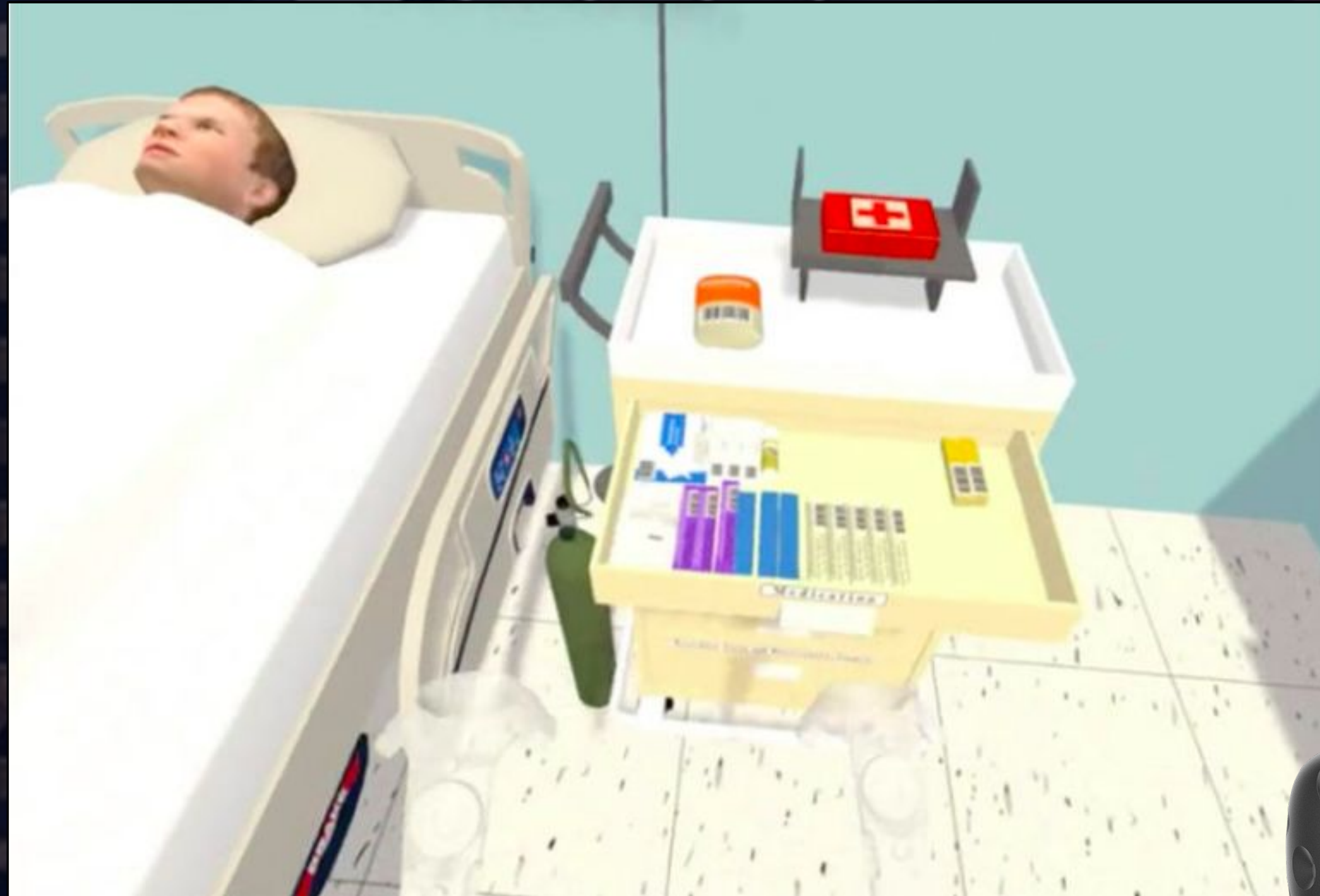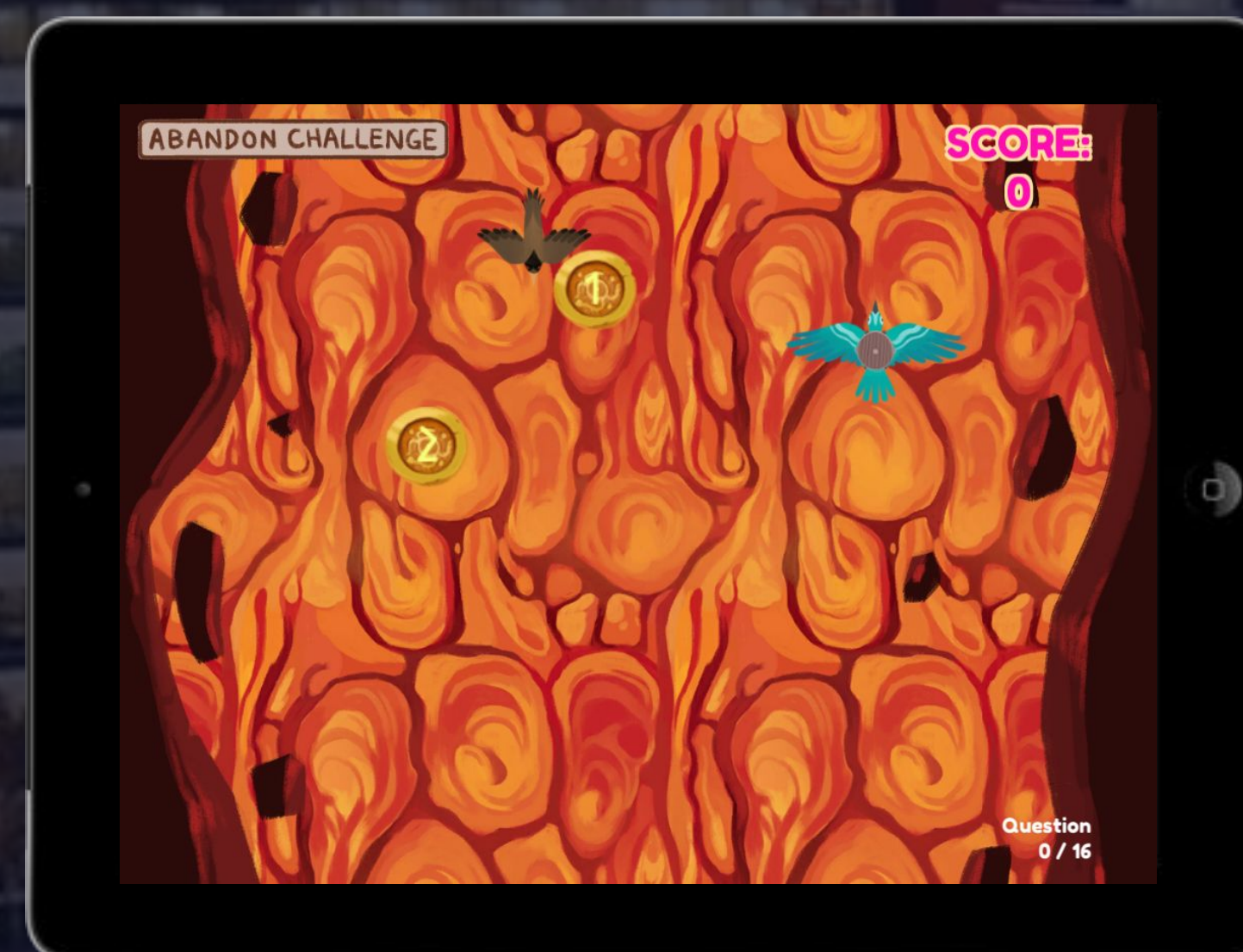
CLIENT SOLUTION

We developed both a mobile and VR training experience for the nursing program at Mercy Medical. By gamifying the training experience, Mercy has reported much higher knowledge retention as well as a significant reduction in costs.

CONFIDENTIAL

mindgrub.com

Mercy Medical

**A Journey of Care**

CLIENT SOLUTION

Mindgrub created an educational game that takes place in another realm. A user progresses through different terrains to explore different areas that hold learning objects for nurses to move through the world. Nurses can also create custom avatars to customize outfits, hairstyles and other personalized aesthetic traits. Mini games were included in the realm to incorporate learning materials. Once these quizzes are completed, nurses receive badges. A leaderboard feature is included for nurses to see how they stack up against other nurses going through the program.
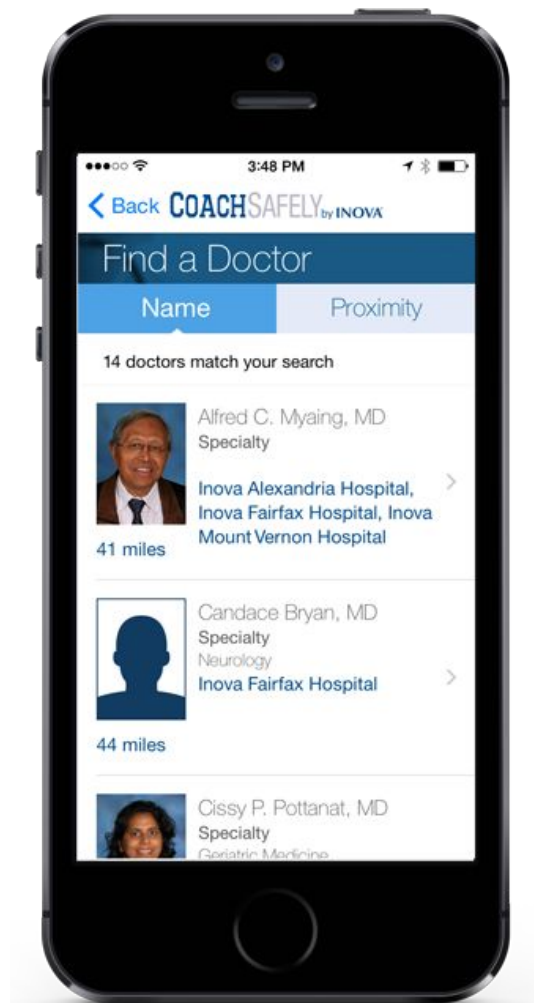
mindgrub.com

FDA Approval Process

When it comes to taking digital offerings to the FDA, we will work with our trusted partners specialized in medical law to help with that process.

- There are a few projects that could have been FDA approved diagnostic tools if our clients wanted to pursue that opportunity:

  - The scoliosis detection app for Shriners Hospitals for Children (previously mentioned)

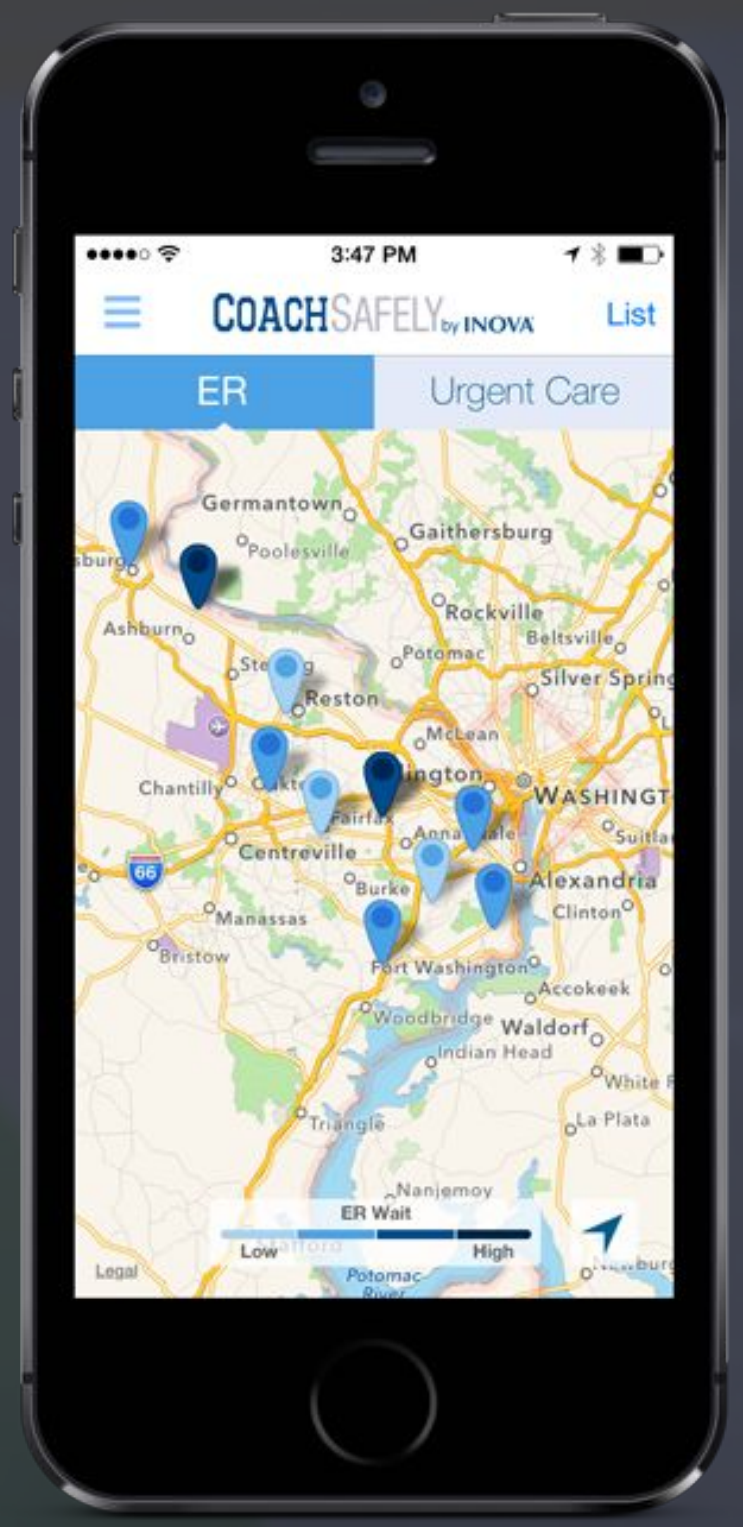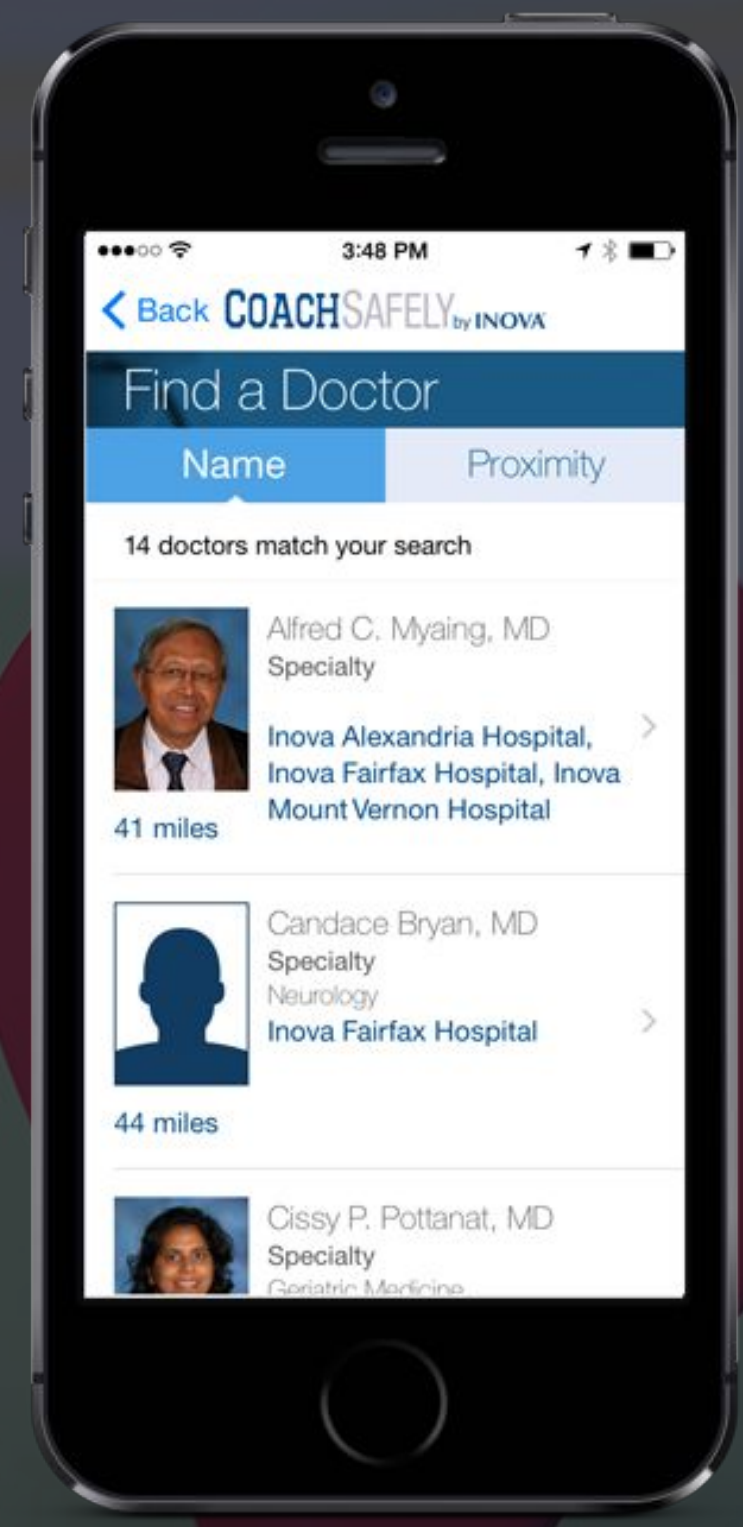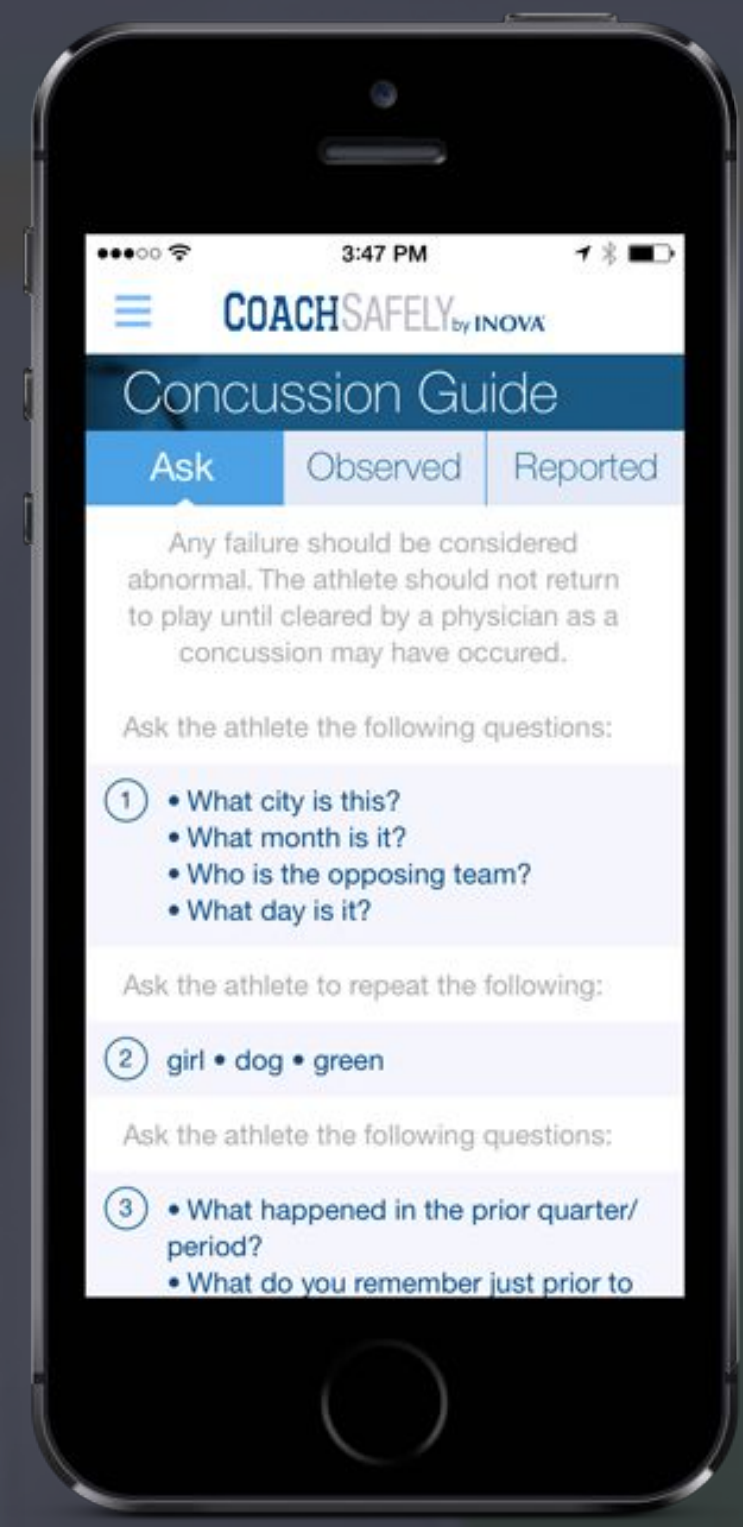 - Inova's concussion app (more info on the next slide)
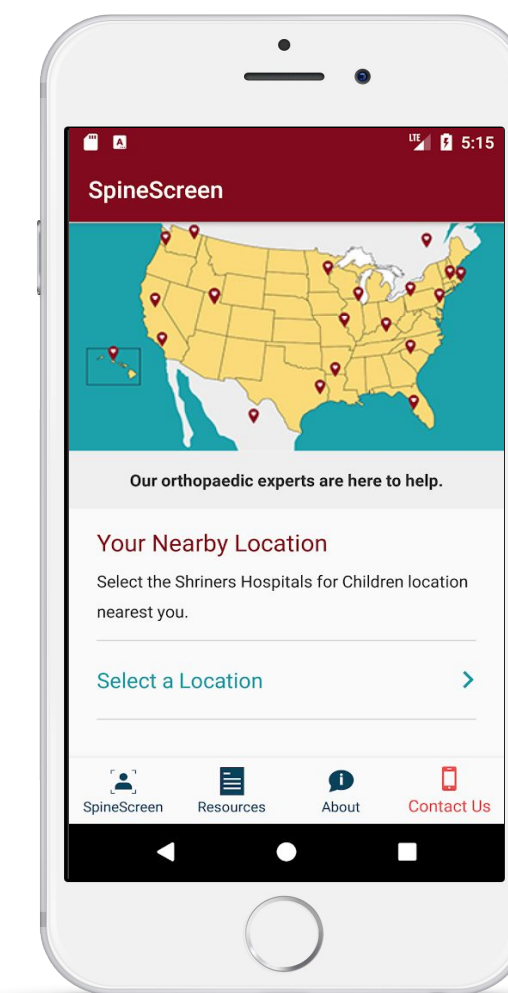
Inova

COACH SAFELY

CLIENT SOLUTION

The Coach Safely mobile app offers a variety of features that allow visitors to easily pull up information on the health system's six hospitals and nine emergency room locations throughout Northern Virginia. With GPS enabled, coaches can determine how to get their players the fastest professional care with estimated ER drive times based on traffic, location, and current wait time.

CONFIDENTIAL

mindgrub.com

CNMC

A Fun Way to Learn Healthy Eating Habits

CLIENT SOLUTION

Mindgrub worked with the Children's National Medical Center (CNMC) to design and develop a prototype game focused on promoting healthy eating and exercise habits in Children with Type 1 & 2 Diabetes

Mindgrub leveraged gamification and learning content to make a rich interactive experience for children. Children go on an epic adventure to progress on a game board and win points for completion of healthy living and diet activities.

mindgrub.com

FlavoRx

## Increasing Conversions with Digital Marketing

CLIENT SOLUTION

Mindgrub provided digital marketing services to FlavoRx in order to successfully target pediatric prescribers in lower performing geographic regions and increase the number of conversions on the adherence toolkit. Over the course of ongoing relationship with FlavorX, we have implemented a strategic PPC marketing plan and ongoing support with landing page implementation in HubSpot.

Mindgrub

mindgrub.com

Ambu

Ad Campaigns + ABM Strategy

CLIENT SOLUTION
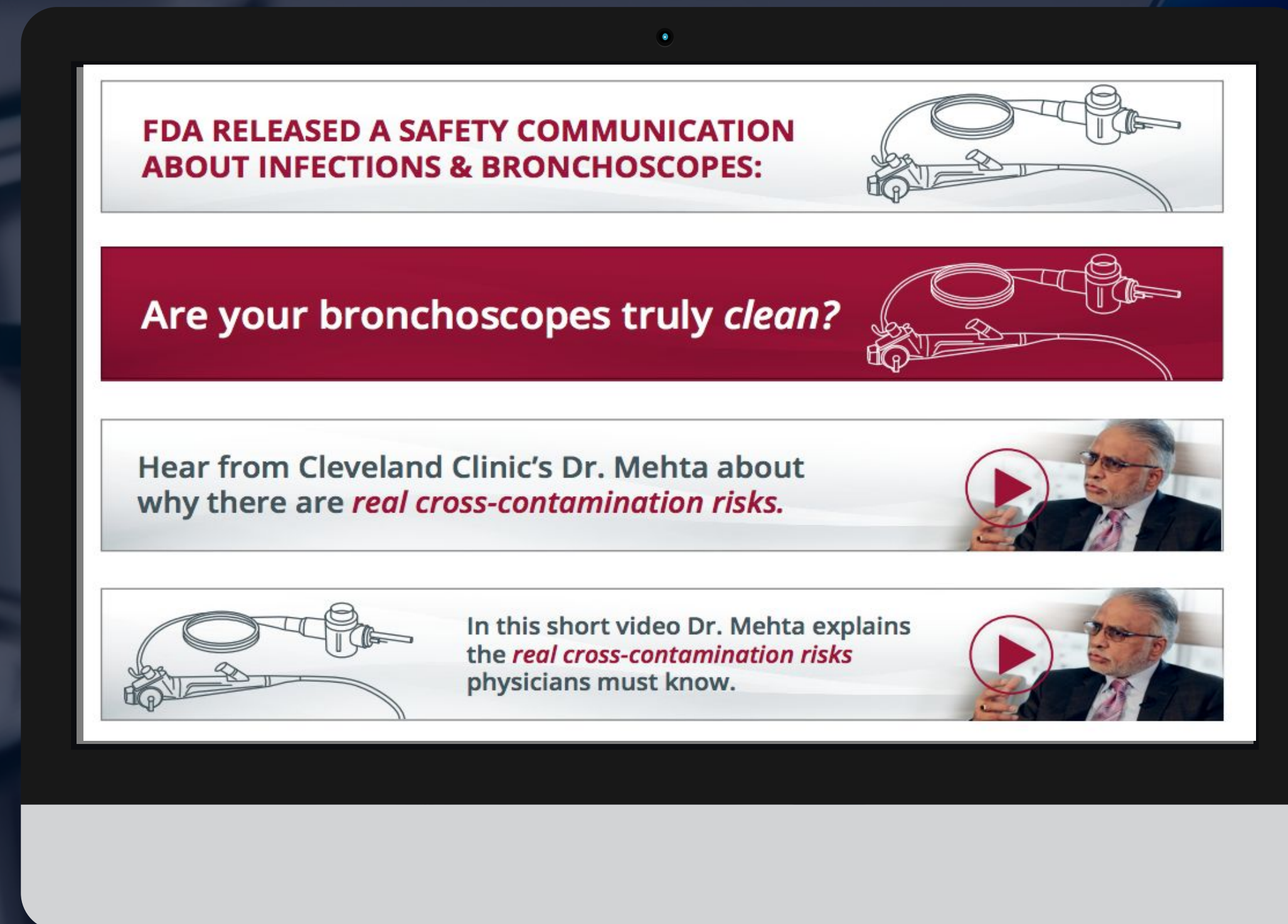
Mindgrub provided top tier digital marketing services to Ambu. We ran a six-month pilot program to showcase the effectiveness of account-based marketing and integration with sales. By targeting a small number of hospitals and leveraging Ambu's salespeople, we converted these leads through effective content creation, paid advertising, and enhanced sales processes.

Ulman Cancer Fund

3D Cycling Experience

CLIENT SOLUTION

How do you make exercise more fun? The answer: virtual reality. With help from Mindgrub, the Ulman Cancer Fund for Young Adults has a new VR cycling experience available to patients in their clinic. The goal was to create a simulation almost identical to that of riding outdoors without the risks and health concerns associated with being outside while on certain treatment regimens.

CONFIDENTIAL

mindgrub.com

Brain Balance

Brand Marketing to Create Help + Hope for Families
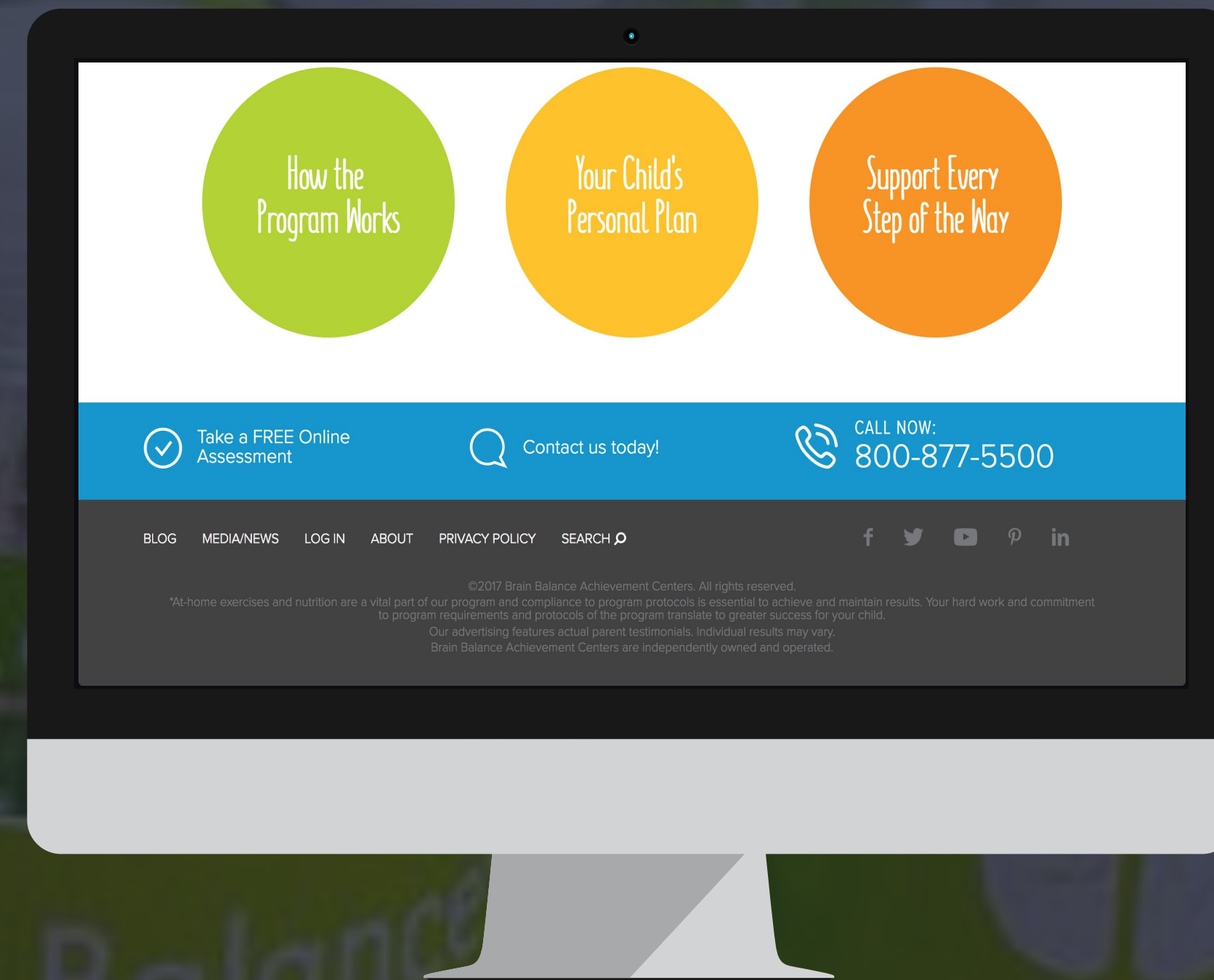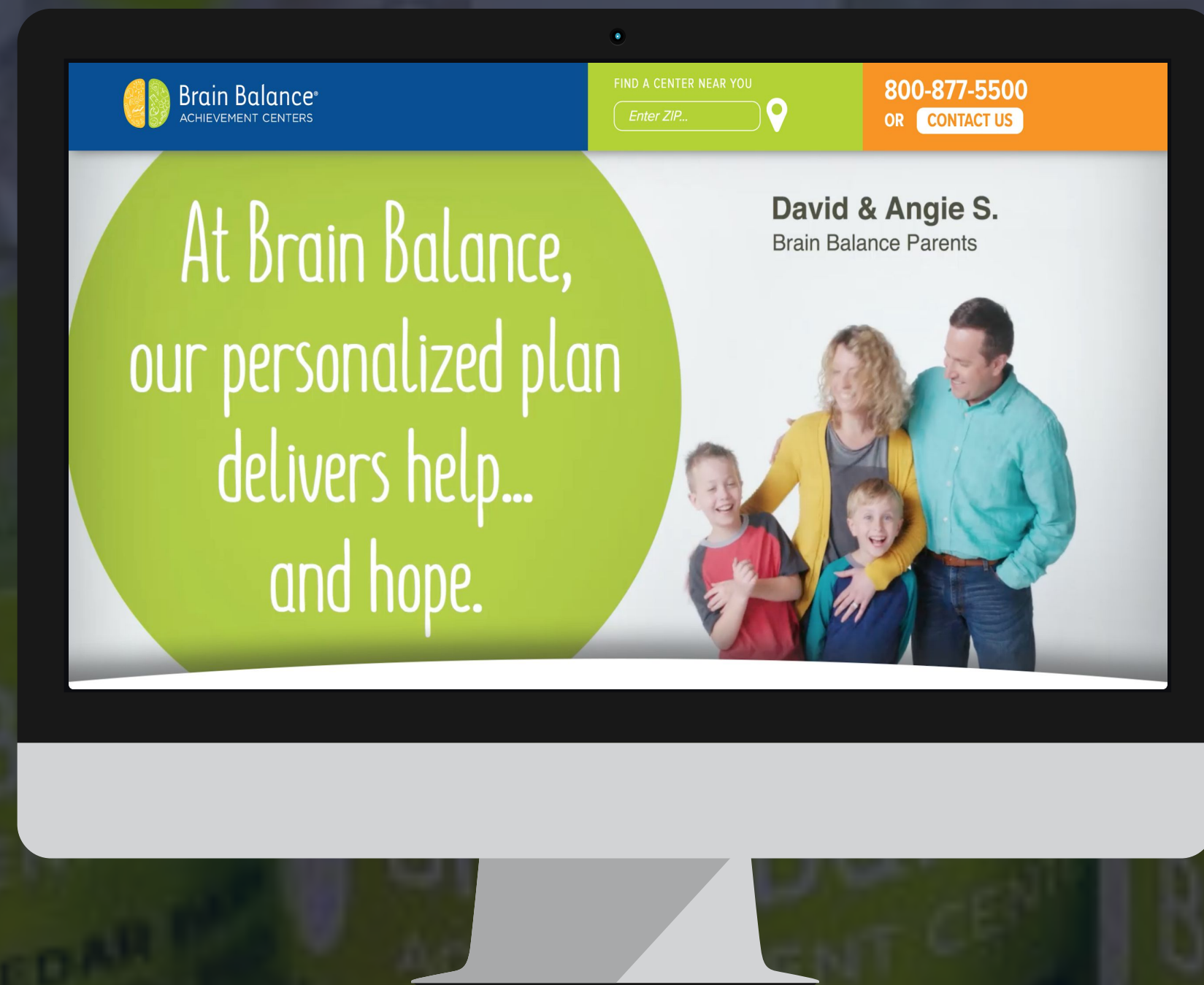
CLIENT SOLUTION

Mindgrub worked with Brain Balance to refresh their brand, providing design updates that will appeal to new and existing clients. Our work with Brain Balance included re-skinning their WordPress website with a fresh and colorful design to create a playful website that provides visitors with clear information about the organization's services. Moreover, we perform website maintenance and conduct any necessary development updates.

Mindgrub   mindgrub.com

Brain Balance

Brand Marketing to Create Help + Hope for Families

CLIENT SOLUTION

Mindgrub has worked with Brain Balance to refresh their brand, providing design updates that will appeal to new and existing clients. Our work with Brain Balance has included re-skinning of their WordPress website with a fresh and colorful design. The result is a playful website that provides visitors with clear information about the organization's services. Moreover, we perform maintenance on the website and conduct any necessary development updates and changes as necessary.

mindgrub.com

Brain Balance

Brand Marketing to Create Help + Hope for Families

BRANDING

In addition to services related to the website, Mindgrub is working with Brain Balance to update their collateral and marketing process. Collateral included banner ads, display posters, commercials, promotional products, and more.

Brain Balance

Brand Marketing to Create Help + Hope for Families

400%	128+	215
Increase in Lead Gen	Operating Franchises	Qualified Leads/Day

DIGITAL MARKETING

Our marketing work with Brain Balance has been highly successful, with over 50% increase in revenue since we assumed responsibility. Web growth has also been up over 100% year over year since the successful launch of their new website in conjunction with marketing efforts. Moreover, our campaign recently won runner up for the American Marketing Association's Campaign of the Year award.