



***TRANSIT  
WORKFORCE  
CENTER***

# Making Connections 2022

The National Transit Workforce Conference

December 13 – 14, 2022 • Washington, D.C.






# Online Training and Learning Technologies

December 14, 2022



# Workshop Agenda

- The Power of Online Training
  - Improving Lives through Learning Technologies
  - Best Practices: Creating an Online Training Program
  - Cutting Edge Learning Tools from AC Transit
  - The Future of Learning for Transportation
- 





# Introductions



**Todd Marks**  
Mindgrub



**Julie Deibel-Pundt**  
International Transportation  
Learning Center (ITLC)



**Michael Flocchini**  
AC Transit

The background is a photograph of a modern office interior with large windows and people working at desks. A dark blue gradient overlay covers the entire image. Two thin white horizontal lines are positioned above and below the main title.

# eLearning for Transportation

Todd Marks  
President & CEO  
Mindgrub Technologies

# Todd Marks

## Founder, CEO, & President of Mindgrub Technologies

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Todd Marks, Daily Record's 2021 Most Admired CEO, 2-time EY Entrepreneur of the Year Finalist, member of Baltimore Magazine's 40 under 40, Maryland Tech Council's 2022 CEO of the Year, and The Daily Record's Innovator of the Year, is the founder and CEO of Mindgrub Technologies.

Mindgrub, a member of the Inc. 5000 for ten years running and the Maryland Tech Council's Tech Company of the Year, is an agency at the intersection of technology and business, designing and engineering solutions that define a company's digital presence

**We Make and Market Your Software.**



# CLIENTS

## MARYLAND BRANDS

Mindgrub has worked with a variety of brands across industries. 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.



# What is Online Training?



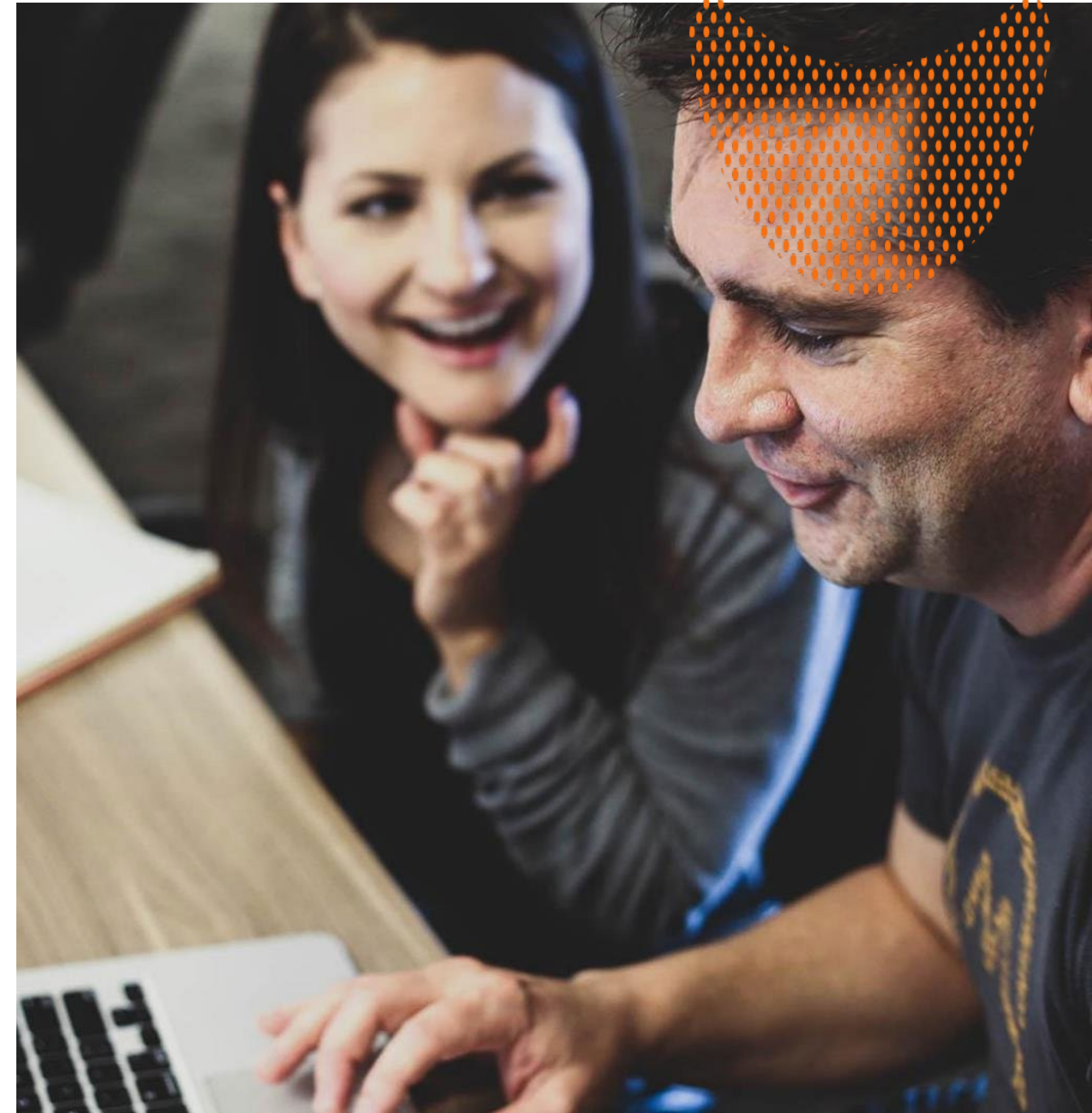


# What is Online Training?

Online training lets organizations and managers teach people skills over the internet via computers, mobile devices or virtual reality

## Key benefits of online training:

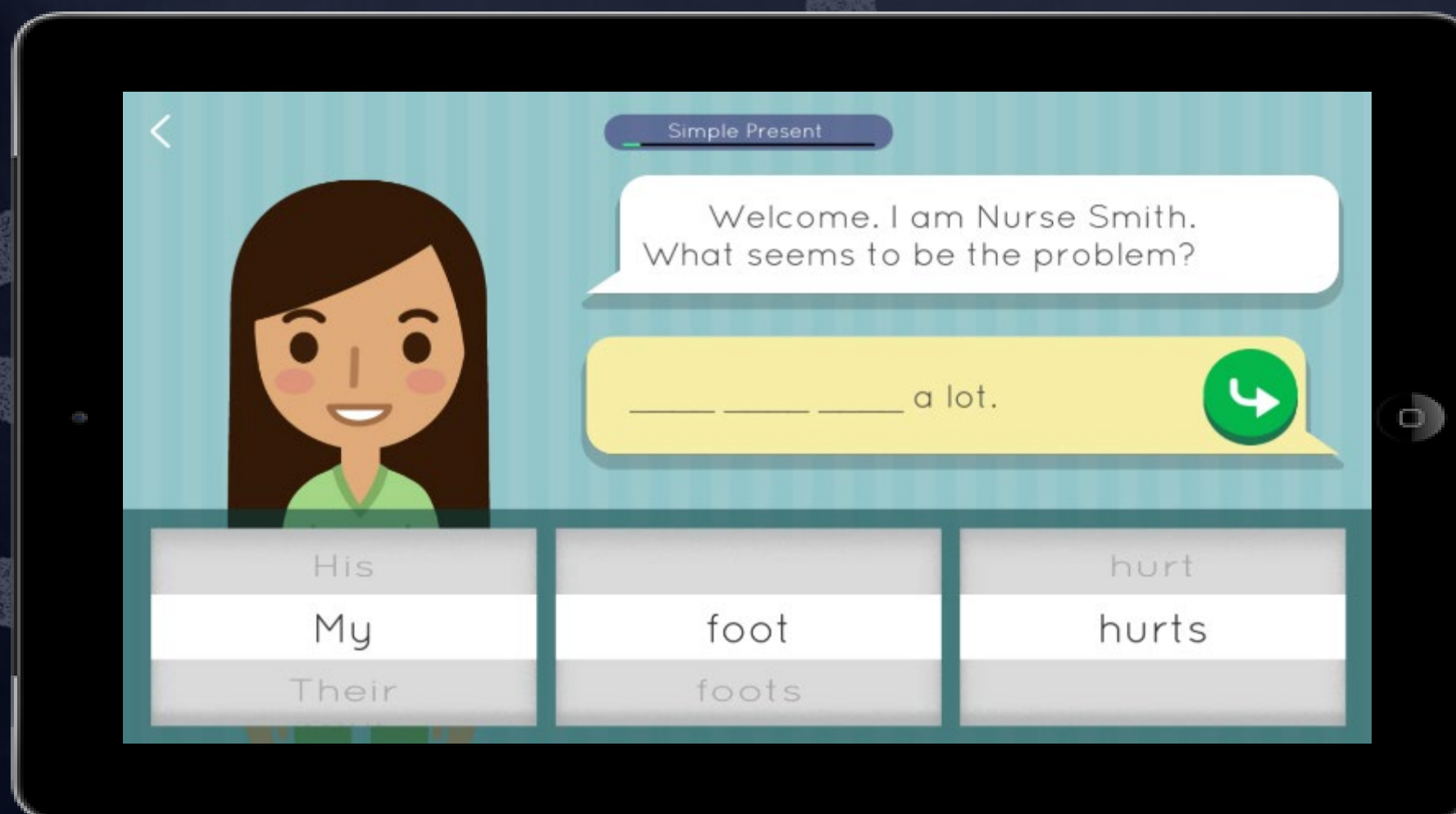
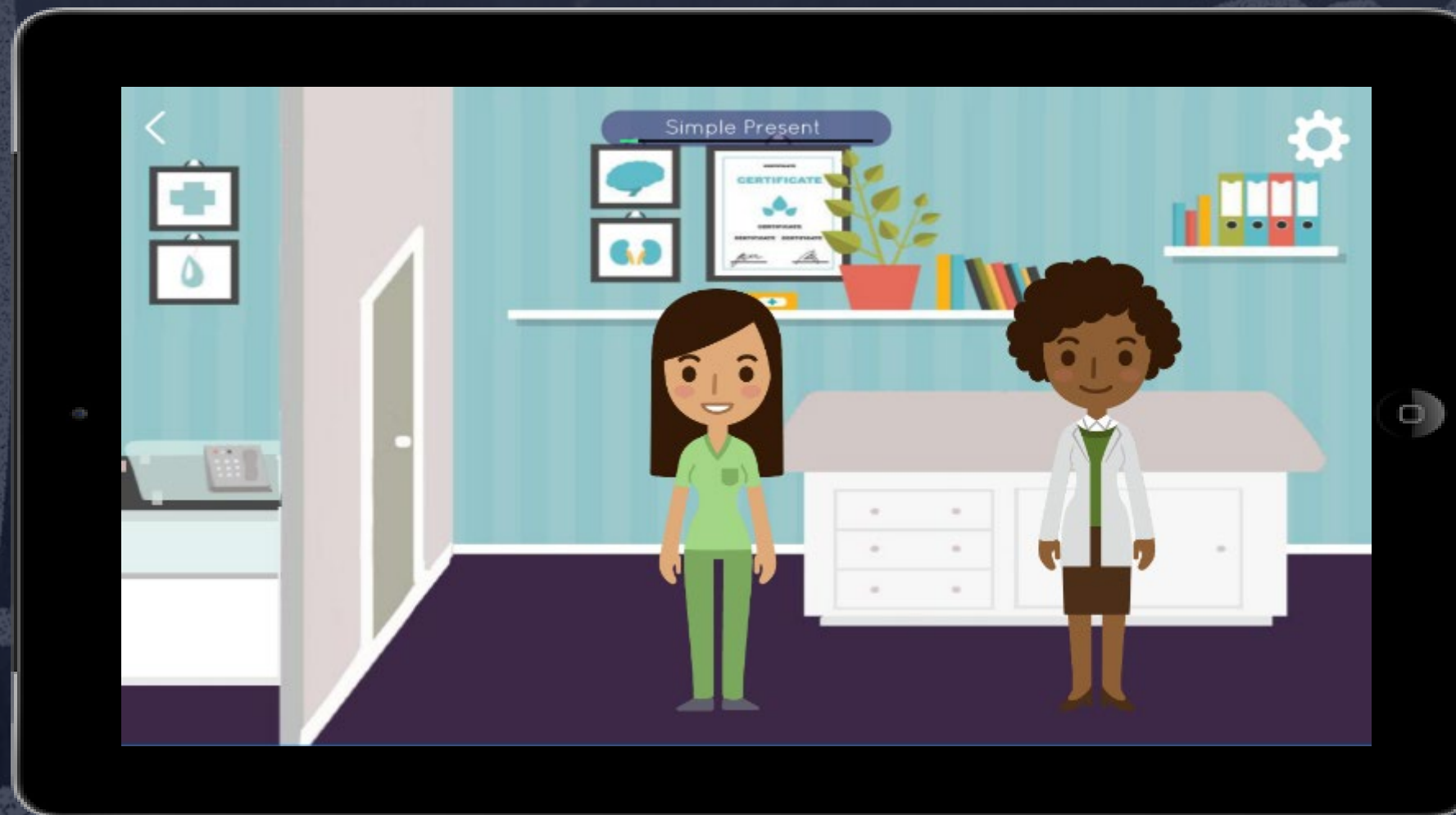
- Flexibility
- Cost Savings
- Just-In-Time
- Career Advancement
- Resource Libraries
- Virtual Collaboration Possibilities





# ESOL SENTENCE WHEEL

## LEARNING SENTENCE STRUCTURE



## CLIENT SOLUTION

Mindgrub worked with ESOL to develop a sentence selection mobile application which would provide students an engaging way to practice sentence structure. The development incorporated a wheel-like scrolling feature which promotes students to swipe and select the proper words to answer the proposed questions. This application provides a fun and friendly environment for students to enhance what they have learned in the classroom through engaging stories which provoke critical thinking. Mindgrub's design team also worked diligently to create pleasing aesthetics which would cater to the appropriate audience, young children.



# Creating an Online Training Program





# Creating an Online Training Program

The key things are to identify when and where a person will complete the training. One what device will they use - desktop, mobile, VR? Will it be asynchronous or synchronous? Can you buy the training or will you need to develop it? Will there be a knowledge check? Will you use a Learning Management System?





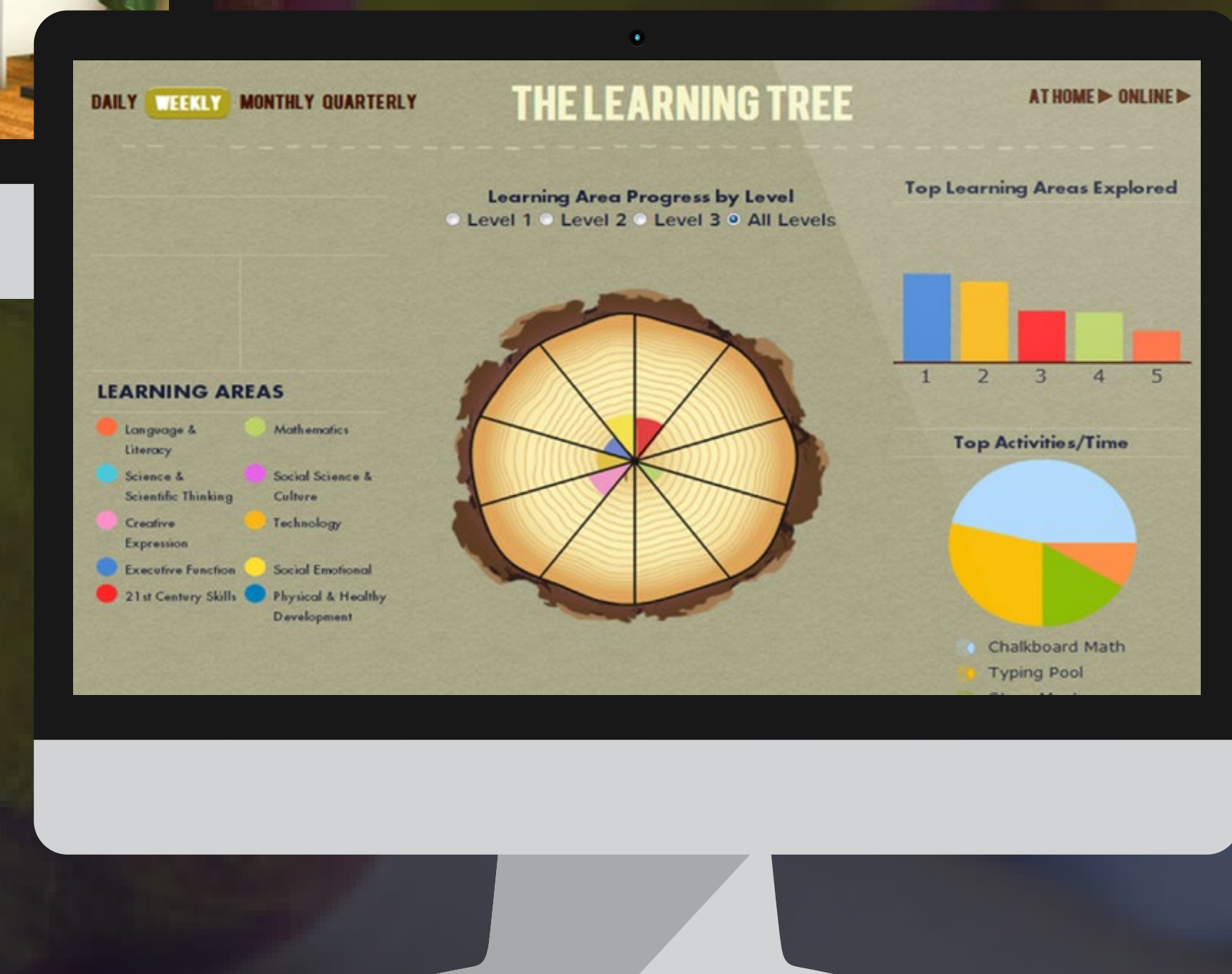
# CURIOSITYVILLE

TEACHING YOUNG CHILDREN WITH GAMES

## CLIENT SOLUTION

Working closely with the Curiosityville team, Mindgrub developed and designed web games to teach art, math, science, and reading. Each game would feature Curiosityville's fun and lovable cast of characters.

Mindgrub utilized advanced data modeling and a custom learning management system to track a child's engagement. Above all, we achieved our goal of making the game fun and education for children.





# Best Practices in Online Training





# Best Practices in Online Training

Remote learning is up 173% since 2005. It's key to the industries of the future.

## Best Practices:

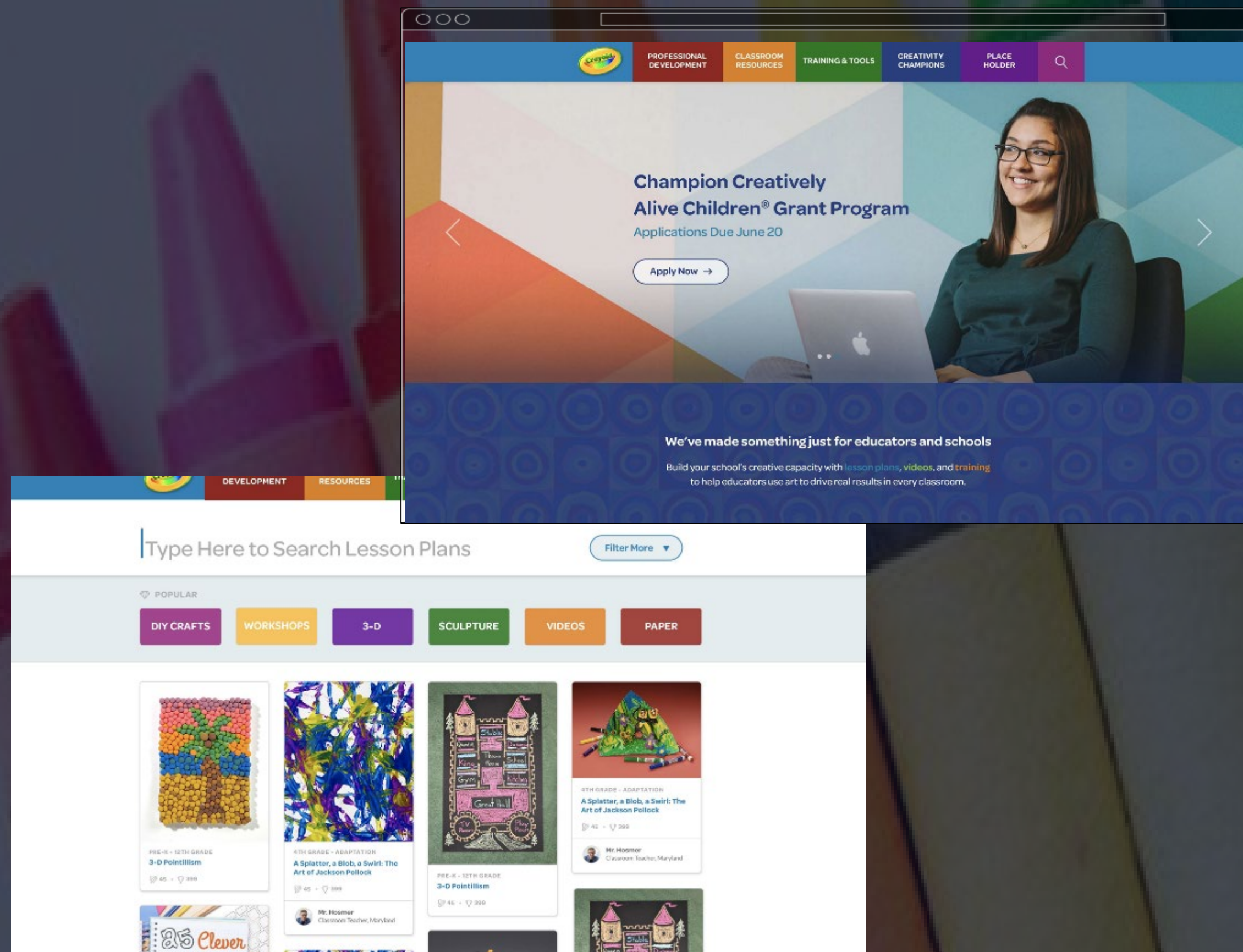
- Use Blended Learning
- Select a Learning Management System
- Leverage Video
- Make it Interactive
- Orient your Students
- Use a “Flipped Classroom” technique
- Leverage “Micro Learning”
- Use Pre & Post Learning Follow Up





# CRAYOLA

## MADE FOR TEACHERS

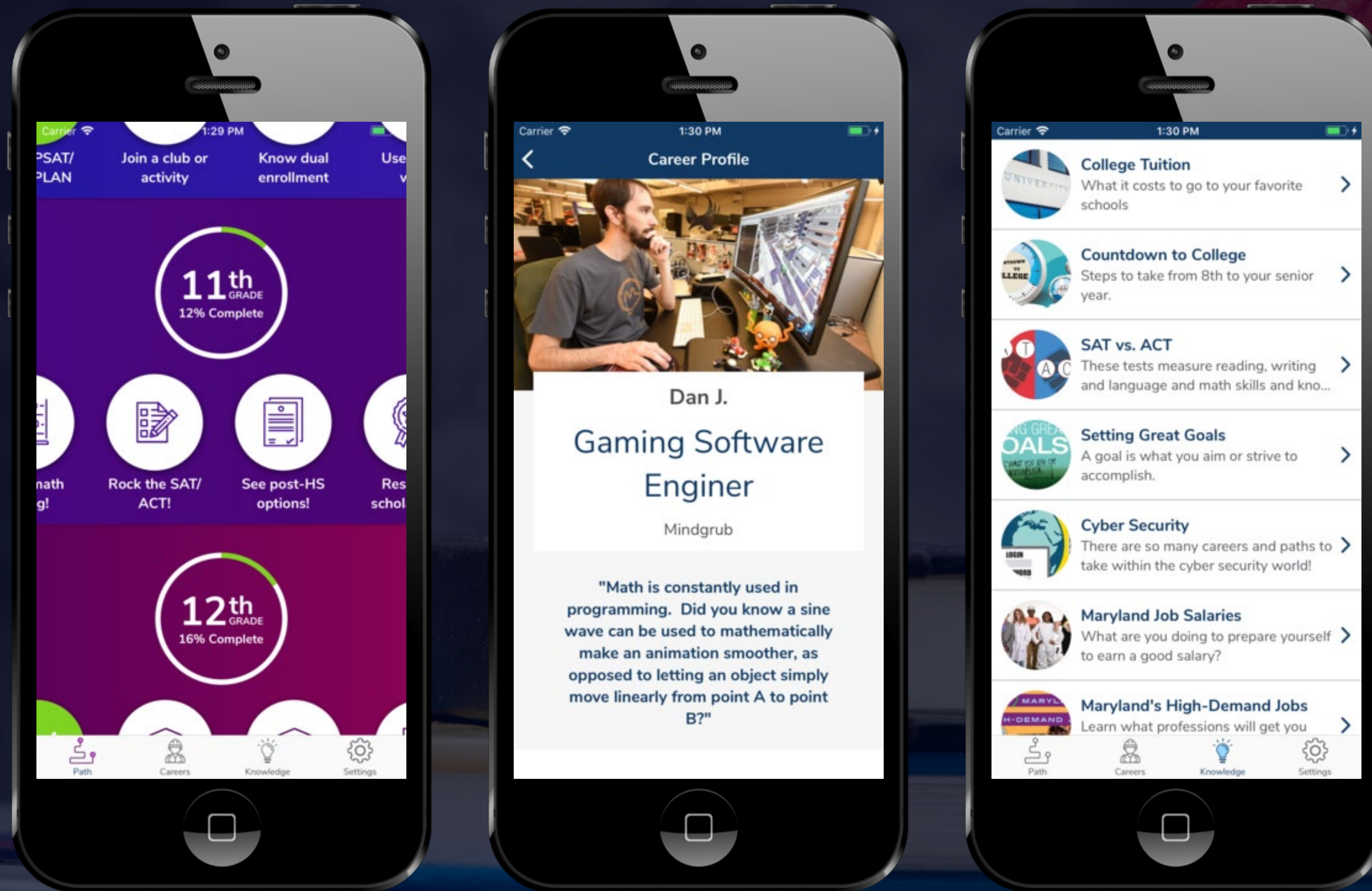


Crayola wanted a way to engage educators and encourage use of their products in the classroom. Mindgrub performed an extensive Sprint 0 with Crayola to determine user needs and content. As a result, we developed a comprehensive platform for educators to access in classroom lesson plans and activities as well as other educational resources offered by Crayola.



# MBRT

## EXPLORING LIFE OUTSIDE THE CLASSROOM



Mindgrub worked with Maryland Business Roundtable for Education (MBRT) to develop the Way to Be! mobile application. This app provides a way for students to explore postsecondary career options as they begin to consider life outside the classroom. Highlights included creative content display, notifications, reminders, and content personalization to help students prepare for success in college or careers.

Play Store:  
<https://play.google.com/store/apps/details?id=com.mbrt.waytobe>

iTunes Store:  
<https://itunes.apple.com/us/app/way-to-be/id1436331764?mt=8>

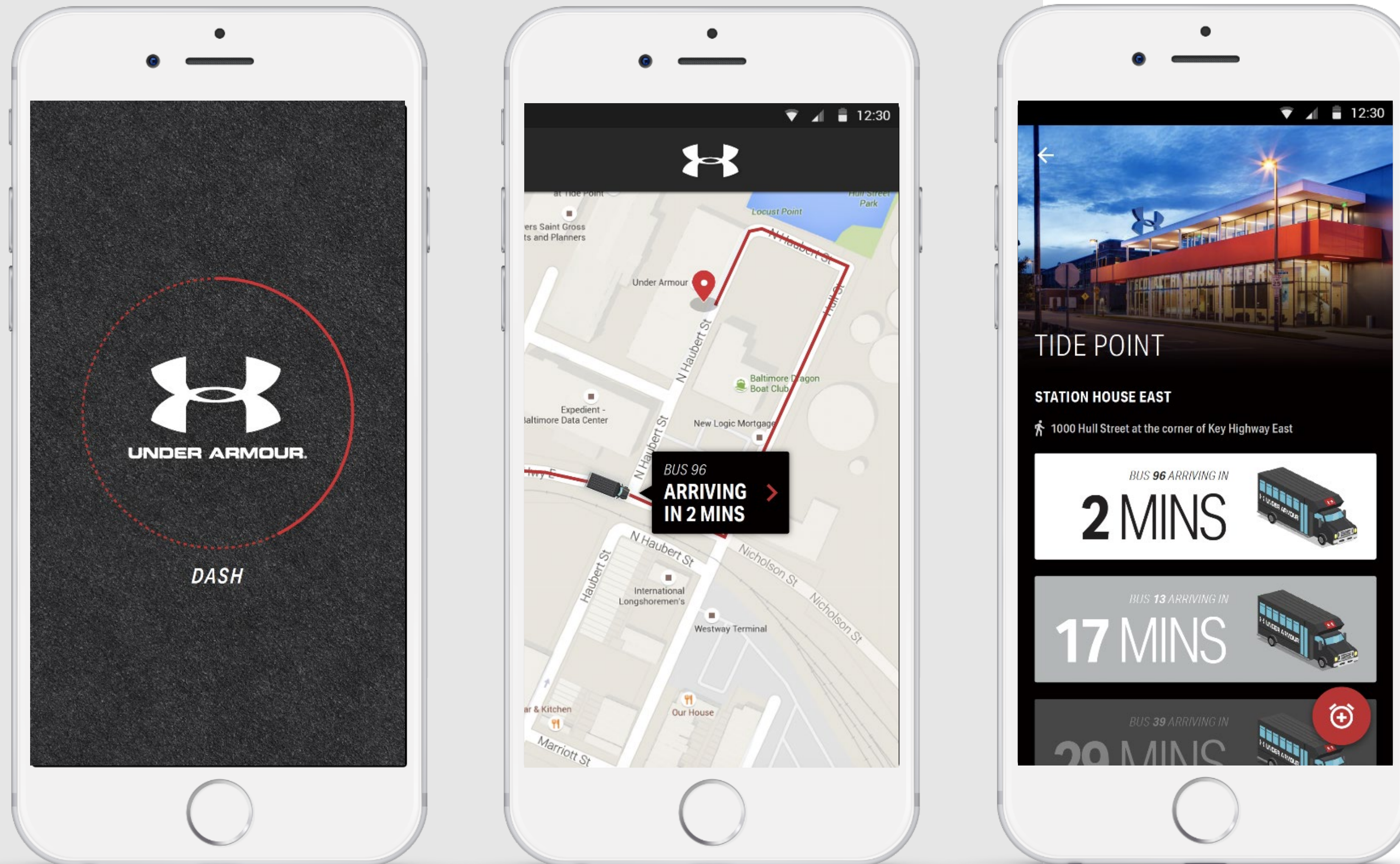


# Where is Online Training Headed?





# Seamless transport between campuses



## Real-time vehicle tracking technology

Utilizing the Trans Loc API, the shuttle app incorporated real-time vehicle tracking for all of Under Armour's buses, including speed, trajectory, and route. Users could tap any shuttle on the interactive map of Locust Point and Port Covington in Baltimore to see its schedule and location, as well as set a countdown and alarm for its arrival.



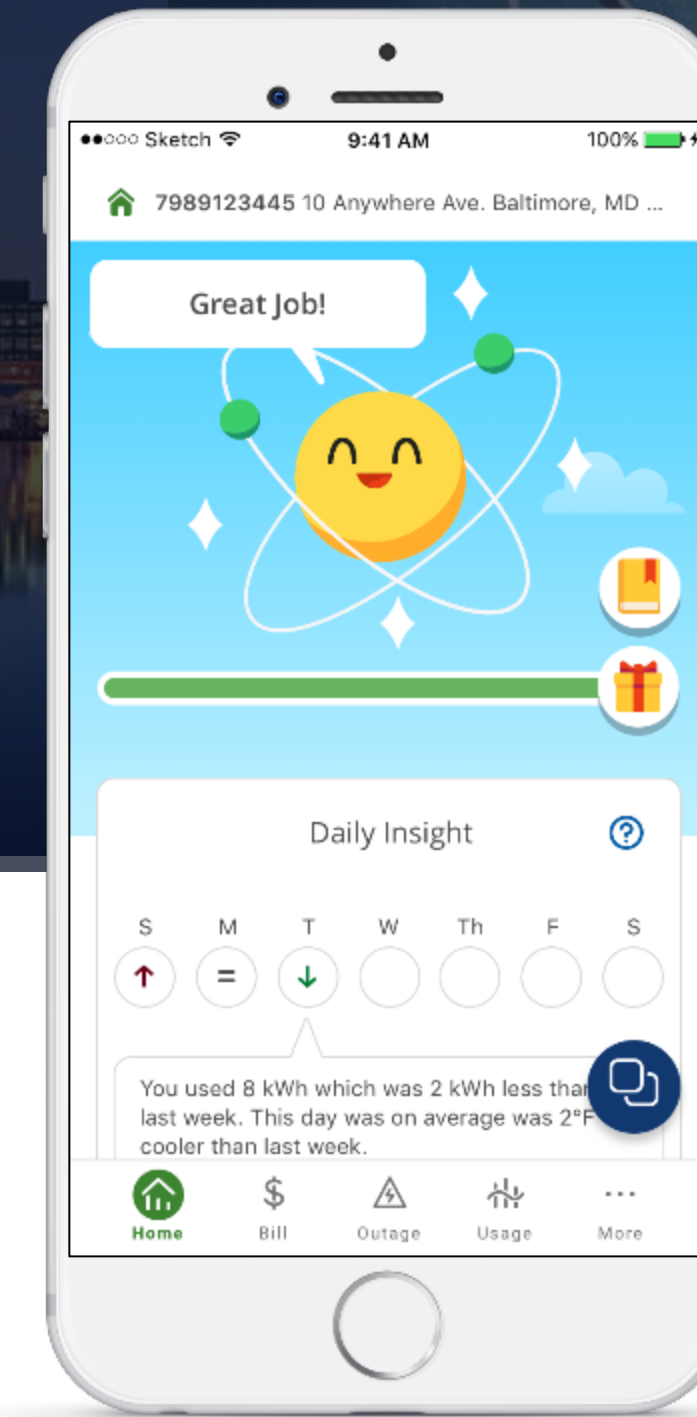


# Baltimore Gas and Electric

## A Mobile Case Study

### Overview

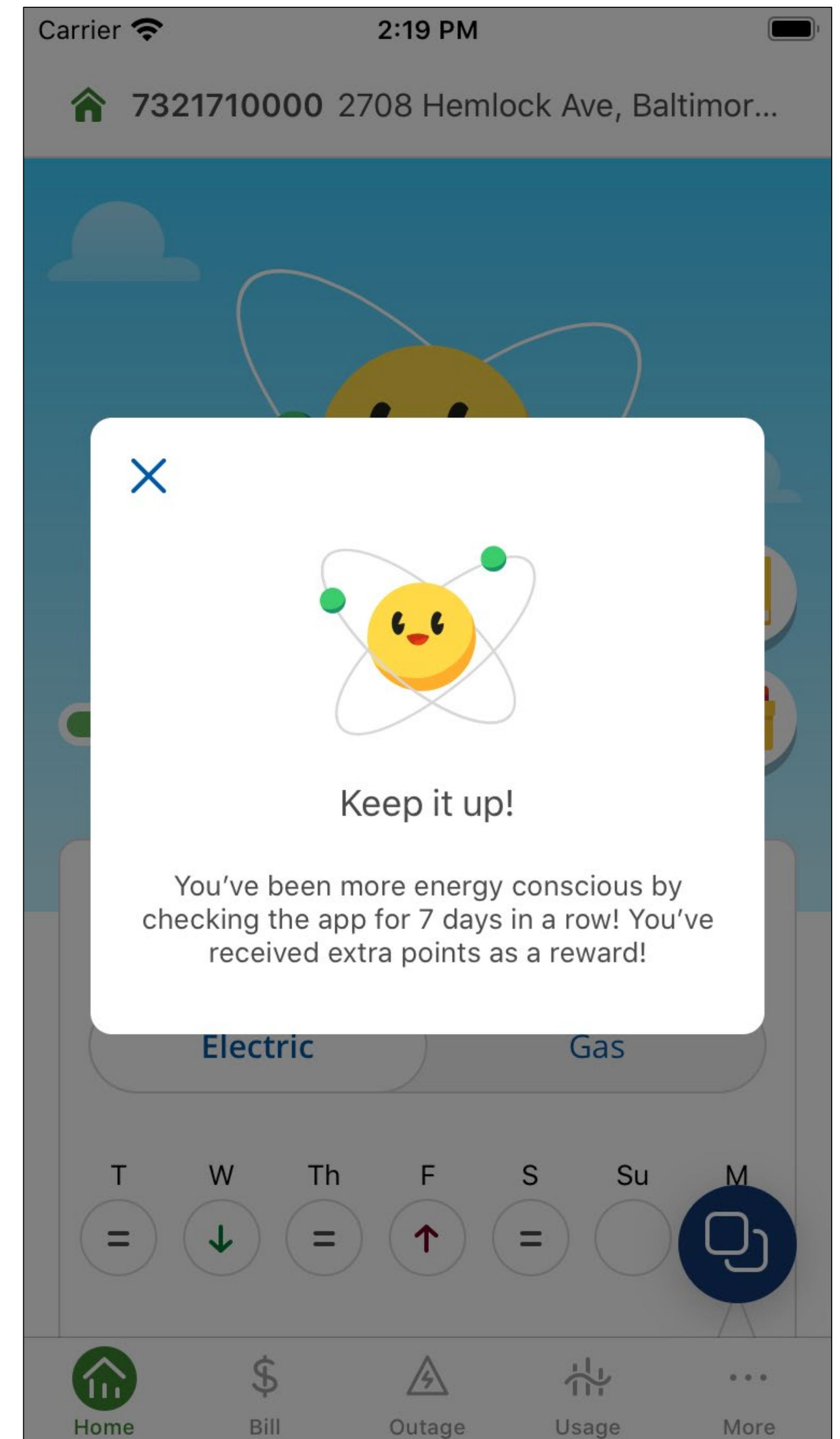
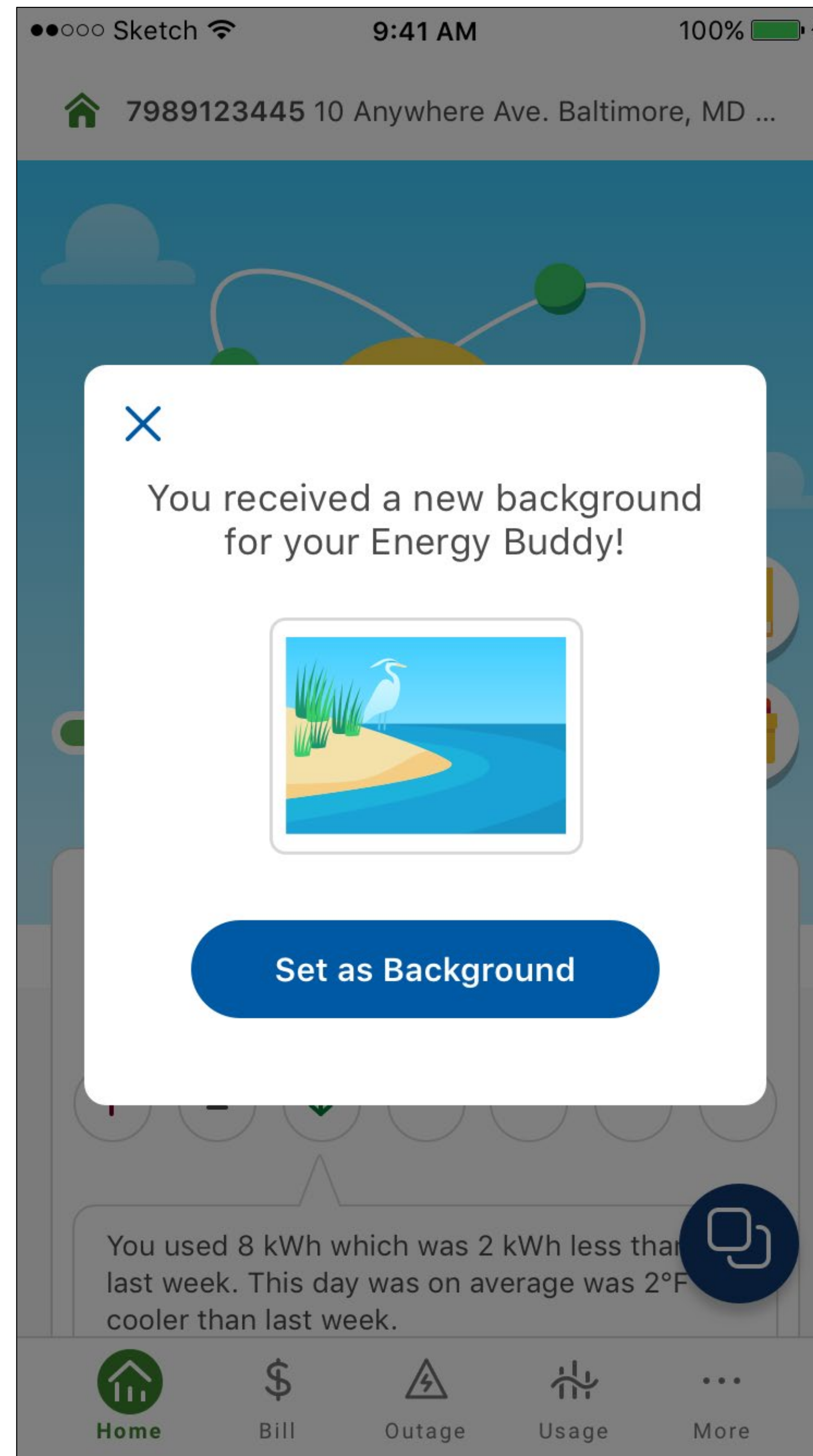
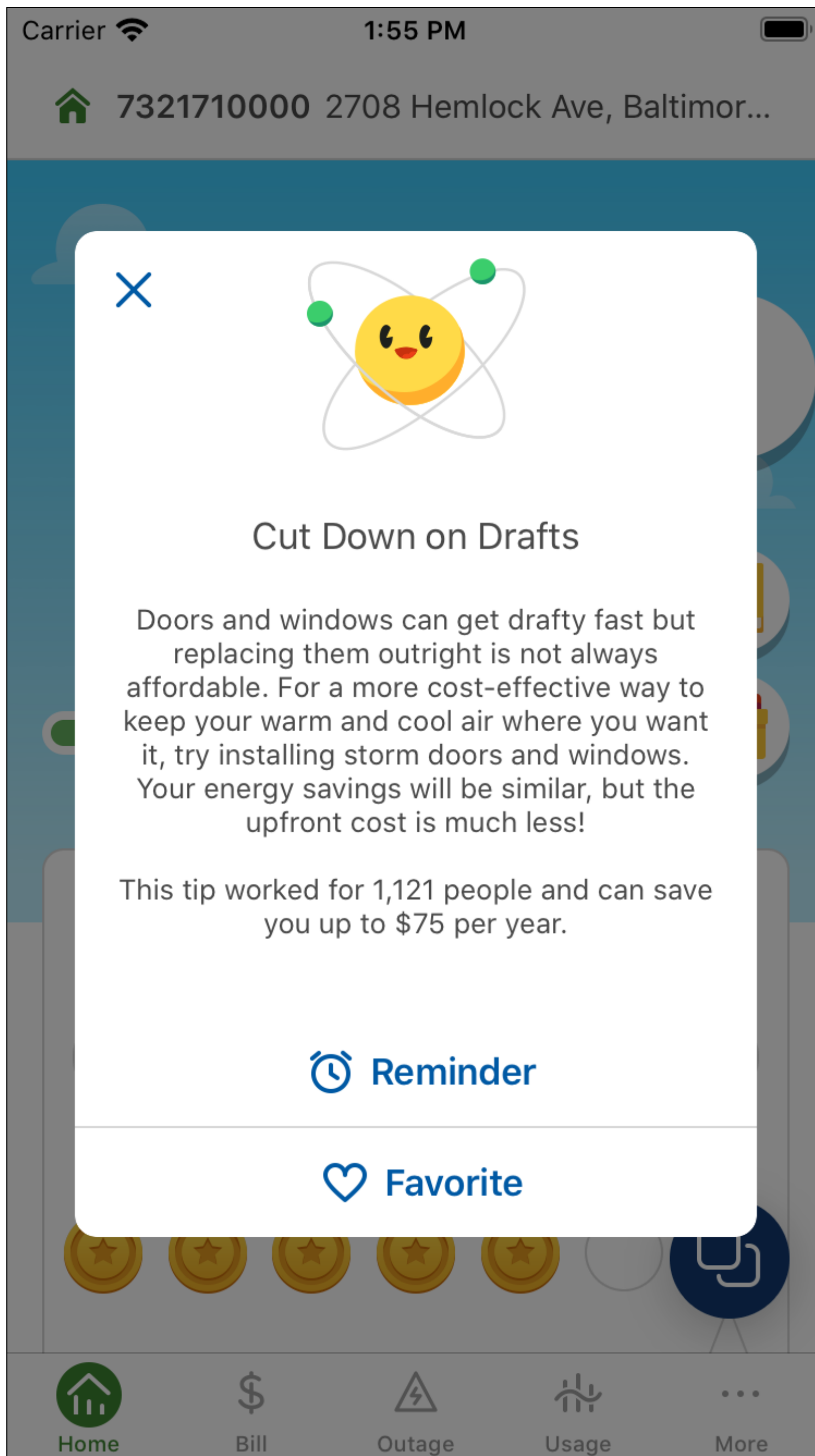
Working with the behavioral energy efficiency team, Mindgrub partnered to create a gamified mobile experience for residential customers. Our goal was to increase the user's awareness of their usage data, encourage frequent engagement with the mobile application, increase exposure to energy savings tips, and enhance the user's experience with the mobile app by providing a fun, playful experience.



### Key Features

- Earn rewards for energy savings
- Receive push notification reminders about usage
- Complete tasks such as paperless eBill enrollment
- View usage stats over time
- Receive energy savings tips





# What is the VR & Metaverse and What Will it Become



# TOP USES OF THE METAVERSE

- Gaming & eSports
- Entertainment
- Education
- Healthcare
- Manufacturing
- Retail
- Remote Working
- Tourism
- Social Media
- Private Digital Spaces / Real Estate
- Banking & Finance



Courtesy [www.analyticsvidhya.com](http://www.analyticsvidhya.com)



# PEABODY INSTITUTE

360 DEGREE VIDEO



## CLIENT SOLUTION

Peabody Institute wanted a way to better reach potential students and faculty. As a result, Mindgrub developed and shot a series of 360 degree videos that provide site visitors with a fully immersive experience.

Check out one of the 360 degree video [here](#)



# MERCY MEDICAL

EFFECTIVE TRAINING THROUGH GAMIFICATION

21

## CLIENT SOLUTION

We developed a 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.





<http://www.youtube.com/watch?v=mrIIOPR4wlc>











# QUESTIONS?

I'VE GOT ANSWERS - [todd.marks@mindgrub.com](mailto:todd.marks@mindgrub.com)



(410) 988-2444



[info@mindgrub.com](mailto:info@mindgrub.com)



1215 E Fort Ave



[mindgrub.com](http://mindgrub.com)





# Learning Technologies

- Intuitive
- Support systems
- User community
- Skills of production team
- Works for end users





# eLearning Authoring Tool: Storyline



Provided below are the steps to perform a Load Study.  
Drag and drop them into the right order.

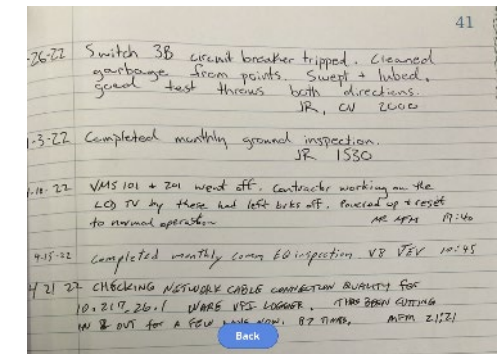
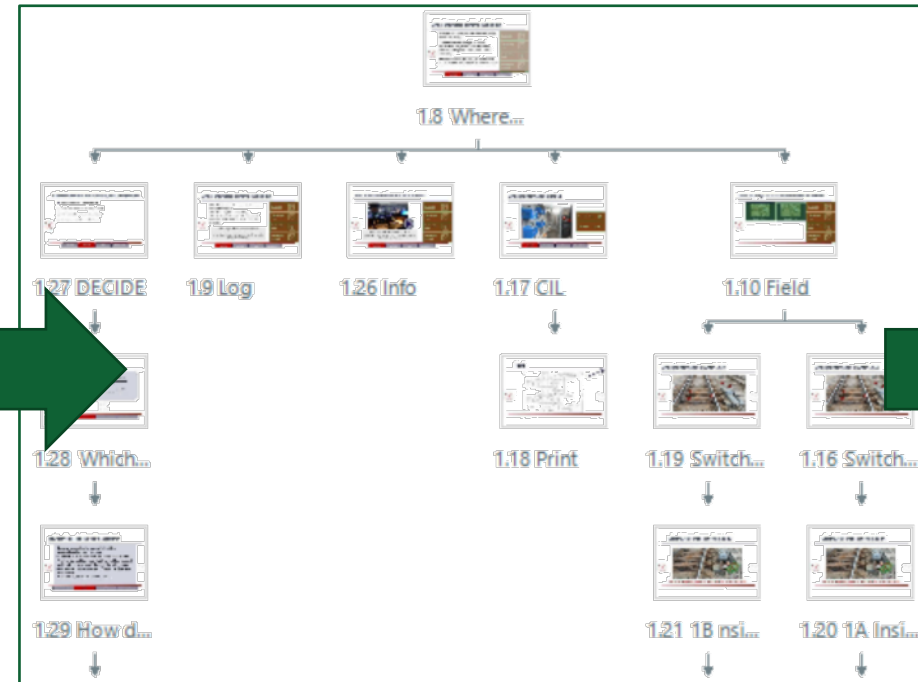
- 1 Hook up to the feeders or service
- 2 Set power system parameters
- 3 Set recording time
- 4 Record the data
- 5 Download and review the measurements

Source: CDA - Simple steps to perform a load study (<https://www.controlsautomation.com/perform-a-load-study>)

### Conventional vs. Protective Relays

Drag and drop the function into the right category

Conventional	Protective
Top manufacturer is SEL	Monitors for problems then isolates them
Electromagnetic devices	Use coil to control contacts
Inverts a signal, by using contacts	







# Learning Management System



ITLC Priority	Consideration	Vendor 1	Vendor 2
1	Content Management for trainer download	X	X
1	Ability to create groups of courses and user permissions	X	X
1	Ability for trainer to copy course and customize content		
1	Blended learning	X	
1	Intuitive (Admin)		
1	Intuitive (User)	X	X
1	Appropriate cap on number of users		
1	Appropriate cap on file size		X
1	Appropriate cap on total file storage		
1	SCORM packages supported	X	X
1	Media formats supported	X	
1	Reasonable Pricing	X	
2	Learner Tracking/Grading/Reporting		
2	Branded easily		X
2	Customer Service	X	X
3	Ability to create individual learning paths		X
3	Gamification/Social Learning (Badges, leader boards, etc)		
3	Security (cloud or server based)		
3	eCommerce connection like paypal (if we will sell courses)		X





# Lessons Learned: Learning Technologies



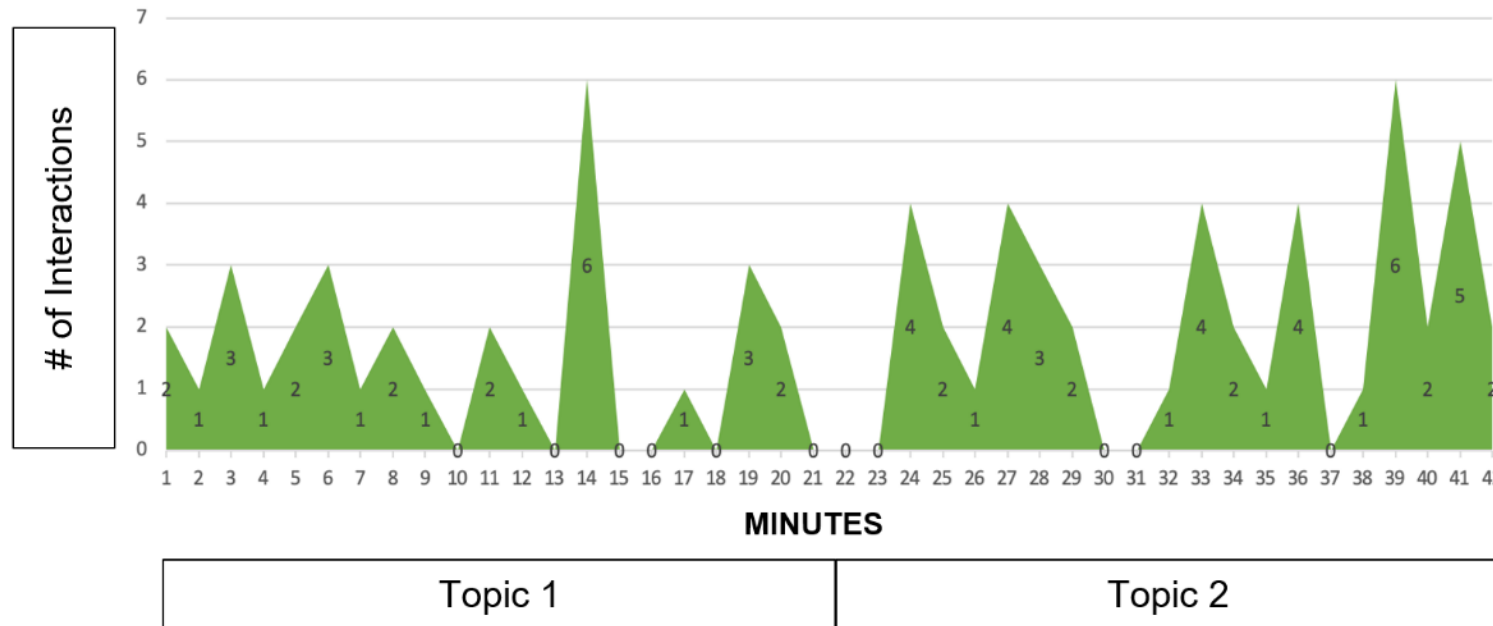
- Start with a needs assessment
- Manage expectations
- Consider inhouse capabilities
- Collaborate!
- Have a training plan for users
- Phase implementation
- Celebrate and Reflect often
- Look for the lessons





# Virtual Instructor Led Training

- New functions
- Various class sizes and locations
- Intentionally connect with learners
- Engage learners frequently





# Virtual Instructor Led Training

- Three+ people behind the scenes
- Two facilitators with varied perspectives
- Mix up presentation style
- Site visits beforehand
- Supplement with instructional tools







# ZERO EMISSION BUS UNIVERSITY

**AUGMENTED REALITY:  
TRAINING REIMAGINED**

**Michael Flocchini**  
**Training and Education Manager**  
**Alameda – Contra Costa Transit District**

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## ZERO EMISSION BUS UNIVERSITY

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## ABOUT AC TRANSIT

### Serving the Bay for 60+ Years

- ∞ California's largest bus-only system
- ∞ 3<sup>rd</sup> largest bus only transit in US
- ∞ 364 sq. miles, 1.5 million

### Our riders ...

- ∞ 65% low income
- ∞ 75% people of color
- ∞ 43% riders do not have access to a car
- ∞ 30,000 students every school day

## FTE's, FLEET & FACILITIES



**2,200+ FTE's**

### Facilities - 7

- Richmond D3, Emeryville D2, East Oakland D4, Hayward D6
- Central Maintenance Facility
- Training & Education Center
- General Office

### Fleet - 637 buses

- ZEBs 43 (36 FCEB & 7 BEB)
- On order: 21 BEB
- Future: 34 FCEB (25 40' & 9 60')





1

**Microsoft Hololens** –interactive:  
Hands/Eyes – both provide  
commands; audio capable as  
well.

**Pics 2 and 3**  
Teacher directs and highlights

**Pic 4**  
Student points and confirms



2



3



4





(1) Trainer sees student's view; fully interactive, visual and audio

AIR COMPRESSOR

STEPS

(2) Trainer at a remote location



Mike Brock

58°F Mostly cloudy

9:39 AM  
10/18/2022

ASUS

Splendid Try me



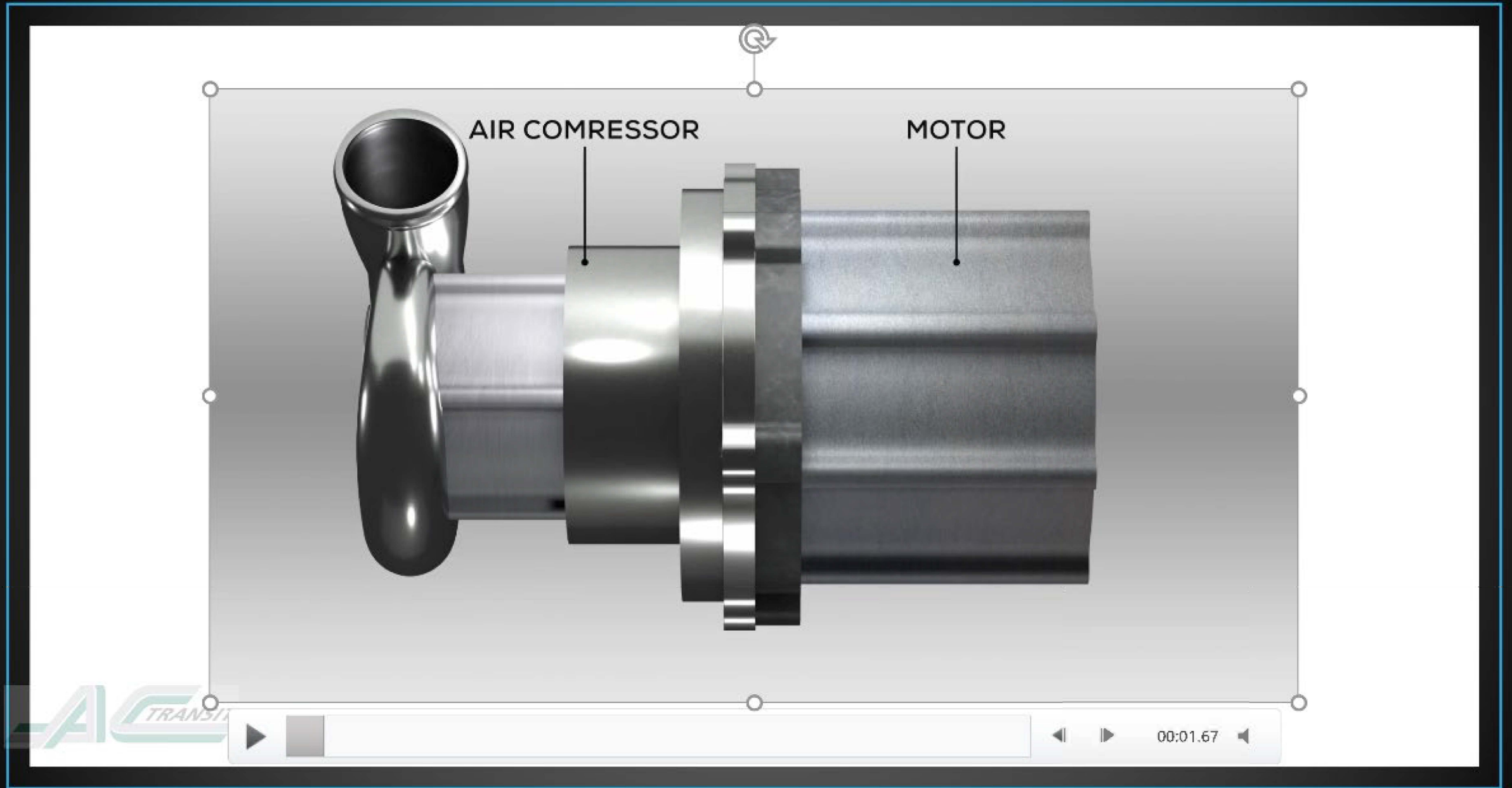
AIR COMPRESSOR

MOTOR

**Animated graphic  
provides visual  
procedural  
support.  
Hands-free, eye  
command ...  
controls play.**







To view video: <https://vimeo.com/782645336/d4b3f92957>

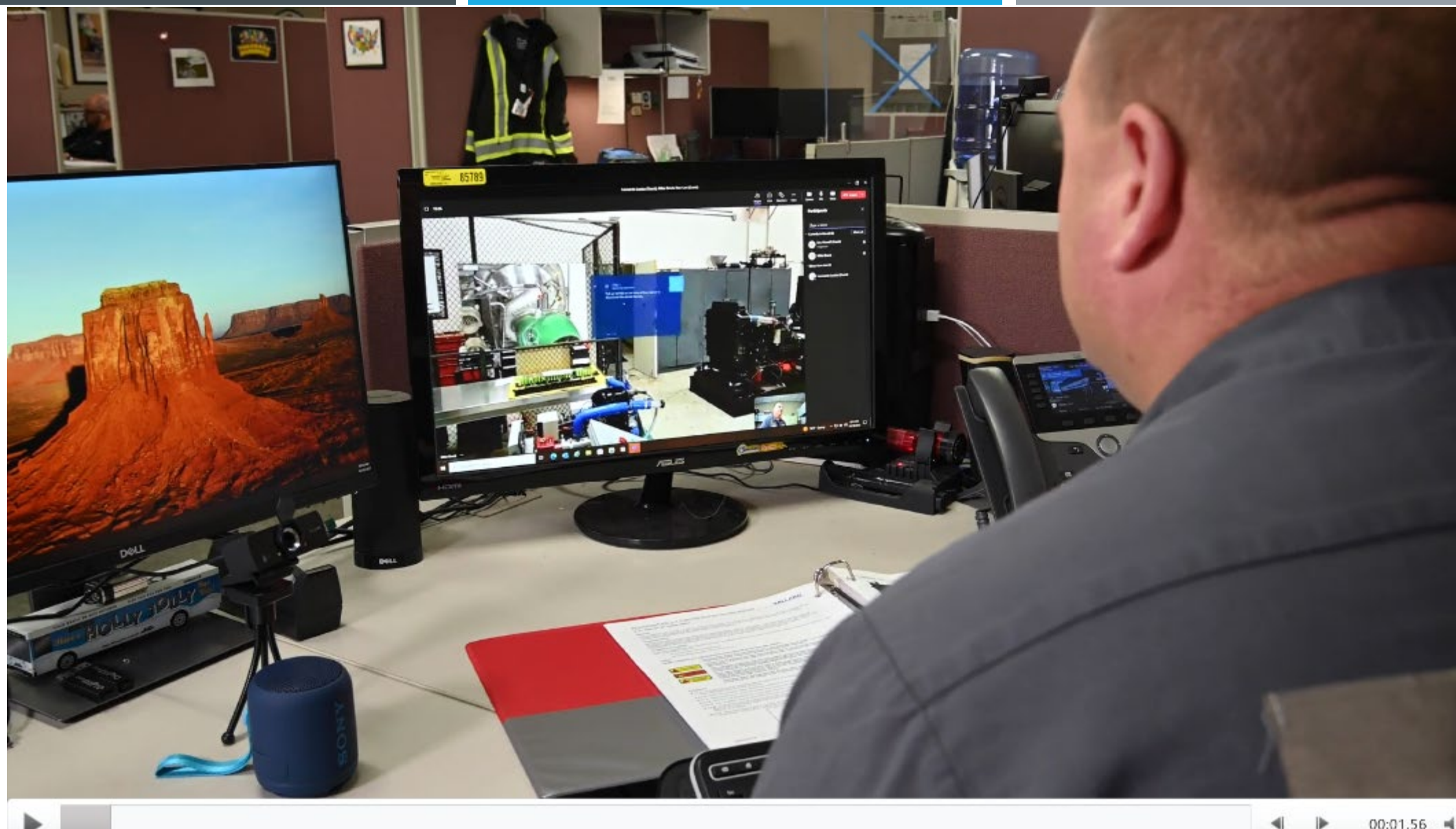
**HOLOGRAM – LIVE ASSIST**

**TRAINER'S VIEW**

**LEARNING BY DOING**







To view video: <https://vimeo.com/782646774/65f6006647>

ANYONE WHO HAS NEVER  
MADE A MISTAKE HAS NEVER  
TRIED ANYTHING NEW



YES, WE'RE DOING IT

EVERY STEP, PICTURE, PROCESS, ACTION,  
RESULT

THE EVOLUTION OF ADVANCED TRAINING  
RE-IMAGINED



HONORS ZEBU AR TEAM

IMMERSED TECHNOLOGIES – MIKE BROCK AND KELLY BRACKEN

AC TRANSIT STAFF – SPECIAL MENTION TED STAFF

BALLARD POWER SYSTEMS INC





# THANK YOU



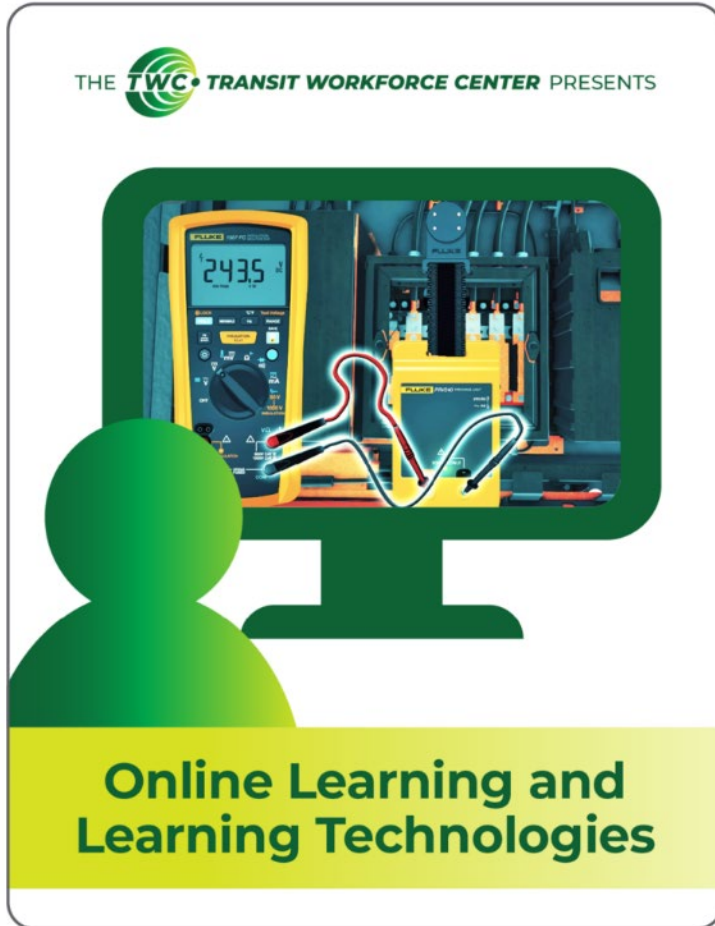


# Q&A





# Additional Resources





# THANK

# YOU!

