Good morning! My name is Scott Russell; I invite you to call me Scooter, like my friends do. I'm here today with Kevin Abbott to talk about “Emerging Educational Technology You Can Use” and how the University Libraries is becoming a destination for emerging tech and a partner for collaboration and innovation.
My focus will be on new spaces and services in our main library, Waldo Library. Academic libraries are undergoing significant transformations. All across the country, they are being recognized as more than just a “warehouse of books”. Students and faculty are finding new ways to engage with our space, with our librarians, and with the services we provide.

We still provide access to print and electronic resources. Our physical collection contains over 1.5 million print books, print journals, and physical media titles. Our online collection contains over 1 million electronic books, more than 100,000 electronic journals and serials, and nearly a quarter of a million streaming audio and video titles.
Students see the library as a “neutral space” where they gather in small groups to collaborate or look for individual quiet spaces to study. While that has always been part of the Libraries’ purpose, many academic libraries are now also being seen as homes for new or experimental technology.

Here you see our newly renovated first floor in Waldo Library with features that highlight some of those changes: more comfortable and eclectic furnishings, more color in the carpet, and significantly improved lighting. In addition, Waldo Library has 165 public computers primarily for student use.

Last year we had more than half a million visitors to our Libraries.
My goal is to leverage this perception of the Libraries as academically neutral space to provide a technology rich experience for our patrons.

We already know that students are using the Libraries for their basic technology needs. Last year we had over 188,000 logins on our public computers and we saw 1.9 million pages printed by our patrons. That’s 33% of all quota printing on campus.

Our goal is to offer more innovative services and spaces to meet instructional and research needs. And the specific niche I’m trying to fill is that “inbetween” space: we need to provide tools better than what the students can provide for themselves, while not trying to replicate or compete with high-end or specialized services offered for majors out in the colleges. But between those two extremes is a very broad space and today I’d like to show you how we’re starting to fill that niche by highlighting four recently opened Emerging Technology spaces in Waldo Library.

Do note that all of these spaces are available and free for use by WMU faculty, staff, and students.
The first space I’d like to show you is the Makerspace.
Located on the second floor of Waldo Library, the Makerspace is a collaboration with the Innovation Club, a student organization. The Makerspace has 3D printers, soldering irons, hand tools, power tools, computers, materials, and much more. It’s a place for students to get hands on experience and to develop their ideas in a safe space.

The I-Club manages and staffs the Makerspace. The Libraries provides them with space and modest funding to develop and enhance the space.
I first learned about the Makerspace about 18 months ago. Tom Wolf approached me because the Innovation Club had outgrown their small room on the second floor of the University Computing Center and they were still growing.

In the fall of 2018, we worked with OIT and the I-Club to move the Makerspace from the UCC to its new home on the 2nd floor of Waldo Library and held a Grand Reopening ceremony last October. The space in Waldo is about 4 times the footprint of their previous space with room to spill out into the public areas for events. The I-Club and their Makerspace continues to grow and I'm already starting to wonder if and when they'll need still more space. It's a wonderful problem to have.
The next space I’d like to show you is our Learning Glass Studio. This is another collaboration between OIT and the Libraries.

The initial purchase and pilot project was run by John Mackenzie in OIT. He had everything set up in one of his studios in Dunbar Hall. This worked great as he learned the technology and what it could do but it was pretty far off the beaten path for anyone that wanted to use it. When John went looking for a more accessible home for it, he looked to us in the Libraries as a potential partner.

Last November, we brought that equipment over to Waldo Library and opened the Learning Glass Studio on the Lower Level.
You might be asking yourself, “What is a Learning Glass Studio?” Well, I'm glad you asked. Learning Glass is a simple tool that solves a pretty simple problem. The problem is one instructors and professors have had for a long time: “how can I engage with my class if I'm forever turning my back on them to write on a chalkboard or whiteboard?” You can't maintain eye contact with them, you don't always see hands in the air for questions right away, you're talking towards the board and not towards the students, you get a crick in your neck from turning around all the time … you get it.

So Learning Glass is used in conjunction with a video camera and can be used either in a live lecture setting (if you have enough control of the lights) or as part of a video recording, perhaps as part of a flipped classroom.

The simple technological innovation is this: as the instructor writes on the glass, ...
… the image is flipped during the recording process. This allows the instructor to write naturally while facing the audience or camera. Simple, yes?

Studies are already starting to show higher levels of student engagement and information retention when Learning Glass is used instead of a traditional whiteboard.
And here’s what the full setup looks like: on the left you see the table with the Learning Glass on it. Our Fine Arts Librarian, Mike Duffy, is providing the demonstration. And on the right you see the flipped image on a monitor in the studio. If you look closely, you’ll see John Mackenzie tucked back in the shadows.

So that’s our Learning Glass Studio. It’s located on the Lower Level of Waldo Library and I’d be happy to give anyone a live demo.
The third space I’d like to mention is our Multimedia Editing Suite.
Earlier this year I asked for advice from faculty members in the Multimedia Arts Technology program to get ideas for opening a Multimedia Editing Suite in Waldo Library. They made hardware and software recommendations in line with my goal of providing those “niche” services. In this space we want to offer audio and video editing capabilities to students outside the MAT and similar majors. Think about the Economics student who wants to create a podcast as a class project or the marketing class that wants to design a video for social media.

We now have a room on the Lower Level of Waldo, painted in video-editing-friendly middle gray, equipped with an iMac Pro, a 61-key keyboard, and 2 microphones. The software install includes Final Cut Pro, the full Adobe Creative Cloud suite, Ableton Live, Avid Pro Tools, and a few others.

This suite should be opening later this semester. Watch the Libraries’ website for news and a launch date.
I'm going to turn the rest of the program over to Kevin Abbott. Kevin and I are co-directors of the Virtual Reality Lab so it's another collaboration between OIT and the University Libraries. The Lab is located on the Lower Level of Waldo Library. If you haven't come to the VR Lab, I invite you to do so. We have a lot of games and we have a lot of educational content, so there's something for everyone. And Kevin and I also brought a couple of our newest headsets with us today. We'll have them available at our table during the 10:15 time slot coming up. Stop by and try them out.
Virtual Reality Lab

GOALS

- Introduce faculty and provide a resource
- Allow all to learn how to create VR content
- Fun and Social activity for students in the library

STATS

- Opened February 2018
- 7 Oculus Rift VR Stations with 50+ VR Titles
- 3,000+ Visitors
- Introduced at least 1,000 members of the community to VR for the very first time.
Virtual Reality Lab - Course Usage

Technology in the Arts, Honors College - Kevin Abbott
Period Styles, Department of Theatre - Kathryn Wagner
Intro to Unity, School of Music - Kevin Abbott
Sculpture II, School of Art - Patrick Wilson
Greek History, Department of History - Anise Strong
Roman History, Department of History - Anise Strong
Studio III, Interior Design - Beth Jari
Multimedia Journalism, School of Communication - Sue Ellen Christian

Hosted courses from Educational Technology, HPER, Dance, Product Design and Nursing, including follow-up discussion sessions about the technology
Virtual Reality Lab - Outreach + Exposure

- Participated in girls STEAM event at the Kalamazoo Public Library
- Hosted faculty and staff from Glen Oaks Community College,
- Participated in All Portage Student Elementary STEAM night at Air Zoo
- Hosted students from El Concilio Tutoring Program, Otsego High School, NASA/Lego Team, KRESA and Kalamazoo County Parks
- Kalamazoo College, & Northern Michigan University, Grand Valley State University & Michigan State University.
- Provided Guidance to approx. 10 other universities
- Featured on WWMT (twice)
- Featured in WMU Magazine article
- Featured in a Filmmaker Magazine article
VR Development Studio

GOALS
- Create the capability to develop new content for use at WMU and beyond.
- Provide the opportunity for testing and experimenting with VR technology.
- Provide students with a studio-based experience working on real projects.

STATS
- Began in July 2018
- Six student employees from Music Technology, Computer Science, Art, Product Design and Theatre.
Projects

- W Care VR Nursing Simulation
- Cinderella VR Pop-Up Book
- Honors Thesis Project
- Blindness and Low Vision 3D Map Project
- Oculus Quest - Mobile VR
WCare VR Nursing Sim

- Developed with The Bronson School Of Nursing
- Subject Matter Expert: Susan Houtrouw, Pediatric Clinical Nurse Specialist

GOALS

- Address access issue to current simulation laboratory
- Provide unlimited opportunity for students to practice and perfect the procedures
- Provide immediate learning feedback and data
- Gain experience with creating complex VR content
Getting Involved in VR
Getting Involved

- Visit the VR Lab
  - M-F 9am-5pm, Sun-Thur 7pm-10pm
- Bring your team to the VR Lab
- Introduce your students to VR
  - Discuss how it will impact the industries they will be moving into.
- Brainstorm projects