

A virtual park scene with avatars and butterflies. The scene is a lush green park with trees, a paved path, and a wooden fence. Several avatars are present: a woman in a black shirt and orange shorts, a child on a skateboard, a man in a white shirt and blue pants, and a woman in a white top. There are also butterflies flying in the sky. A speech bubble from an avatar says "Look at this place! This is one of the most beautiful parks in the city."

Bridging Cultures: Creating Virtual And Augmented Reality For Global Collaborative Learning

Mark Frydenberg,
Bentley University

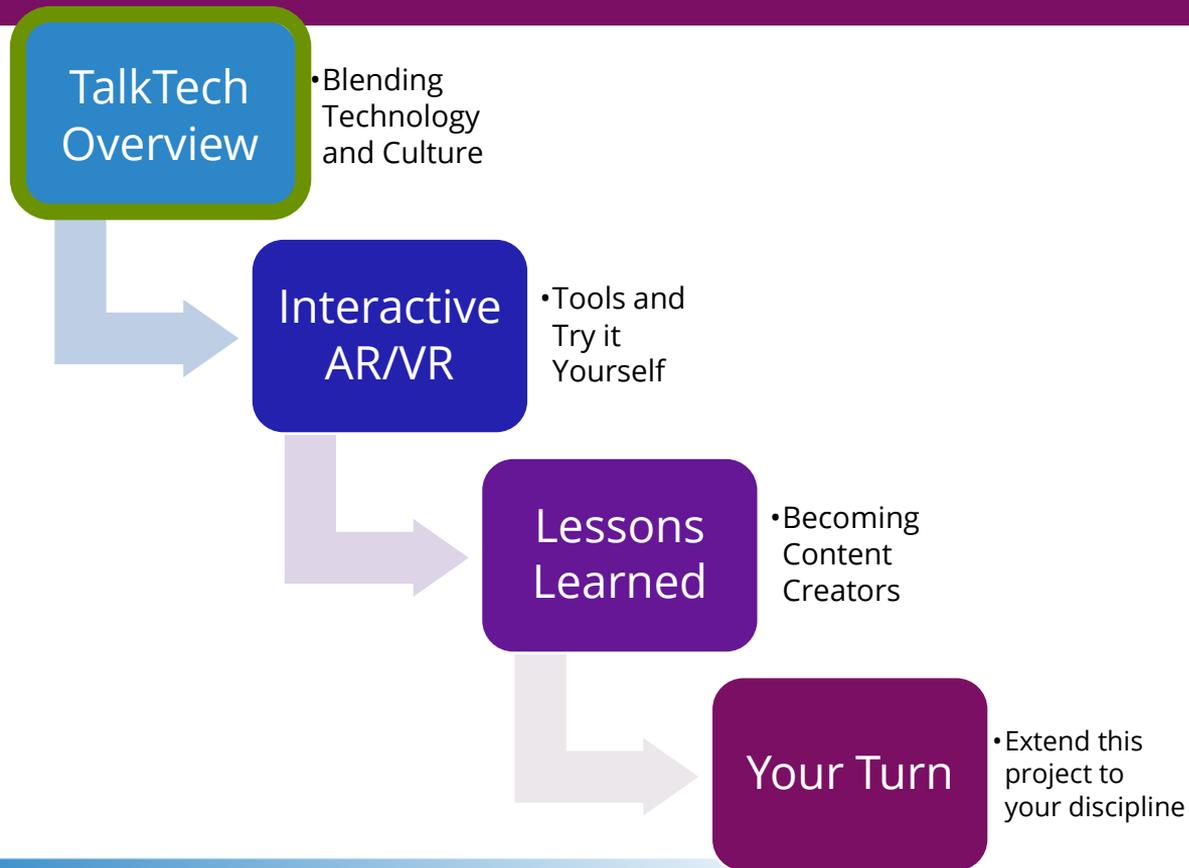
mrydenberg@bentley.edu

< 1/2 >

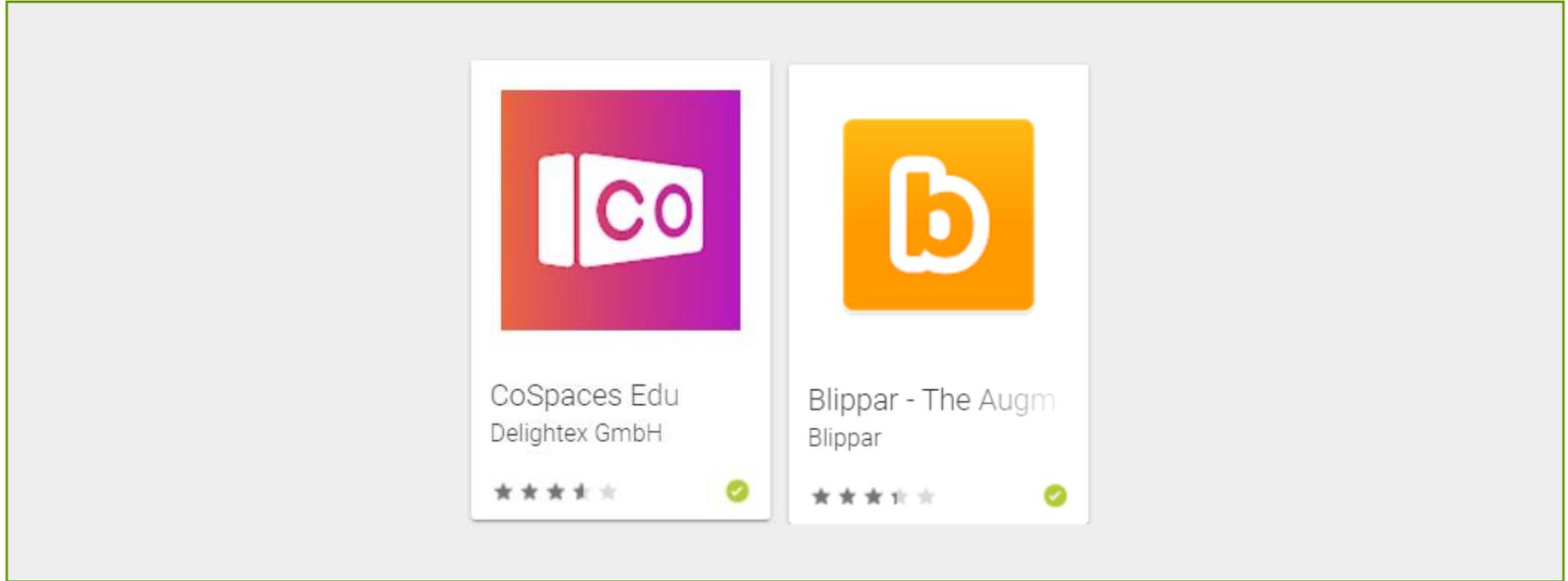
Abstract

Virtual and augmented reality offer immersive environments to experience new places and ideas. Find out how students at universities in the USA and Romania learned about each other's cultures by creating and sharing original VR/AR experiences. Take home tools and techniques for introducing AR/VR in your classroom.

Today's Session: TalkTech Overview



Apps to Download



About Me...



- Mark Frydenberg
- Bentley University, Waltham, MA
- Sr. Lecturer, Computer Information Systems
- Director, CIS Sandbox, a Technology Social Learning Space
- Author, Technology for Success and Discovering Computers (Cengage)
- Research: Tech Literacy and New Technology

Expand side panel

Talk Tech



Mark Frydenberg



Diana Andone



Satellite

Google

Man data ©2020 Google, INFRG, United States, Terms, Surf feedback, 1000 mi

TalkTech 2019

- 26 Bentley Students
- 28 UPT students
- Ages 18-20
- Ages 21-23

- Most never created AR/VR before
- Most used online storage and collaboration tools
- Spoke English
- Frequently use the web, computers, and mobile devices

TalkTech: A Global Exploration of Technology and Culture

- UP Timisoara and Bentley University
- Students select common industries and research AR/VR applications in their own countries to create a VR scene
- Create scenes conveying a use of AR/VR in that industry in your home country from a cultural perspective



Project Goals

- Produce a tangible deliverable within a short time while working as a member of a global team
- Develop digital literacy skills with ICTs
- Communicate using both synchronous and asynchronous tools
- Increase cultural awareness / impact of globalization
- Critique and review VR scenes from a cultural perspective



Project Based Learning Approach

Introduce	AR/VR concepts to business and technology education
Create	AR/VR artifacts related to a particular industry from a cultural perspective
Synthesize	research about applications of AR and VR
Apply	technology and digital literacy skills
Work	as members of international teams

TalkTech Topics

Explore uses of AR / VR in one of these industries.

Create your own AR artifact to present to your international partners. Create a video demo.

Create a VR scene that conveys a cultural experience from your country based on this topic.

Health
care

Entertainment
/ Gaming

Real Estate /
Home Sales or
Rentals

Automotive
Sales or Design

Advertising

Tourism

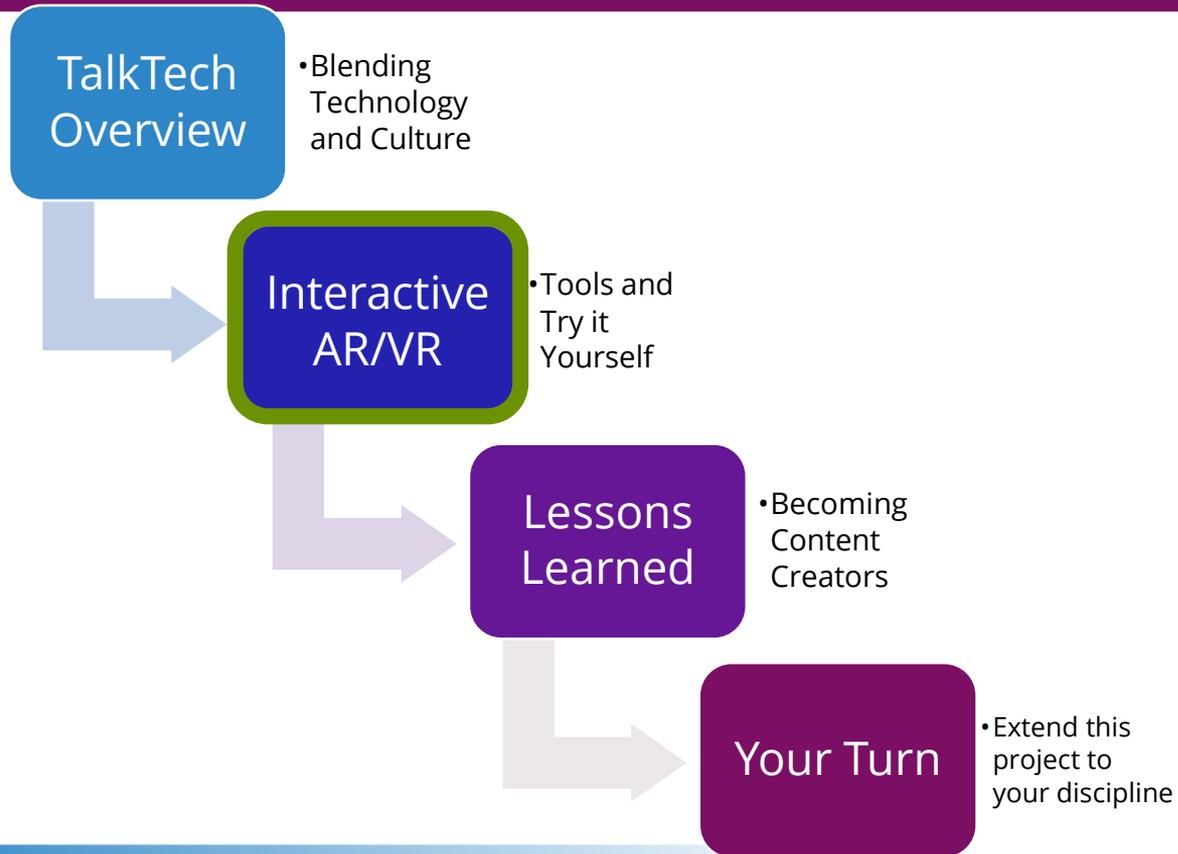
Education or
Training

Retail /
Customer
Service

Sports

Marketing /
Customer
Engagement

Today's Session: Interactive AR/VR



Augmented vs Virtual Reality

Augmented Reality

- Mixes the real world with virtual content
- Interact and distinguish between both
- Hold a mobile device in front of a real world scene to see virtual content



Virtual Reality

- Creates an immersive, 360-degree virtual world
- Hard to tell what's real and what's not
- Wear a VR headset or goggles to see virtual content



Make Your Own Augmented Reality Tools



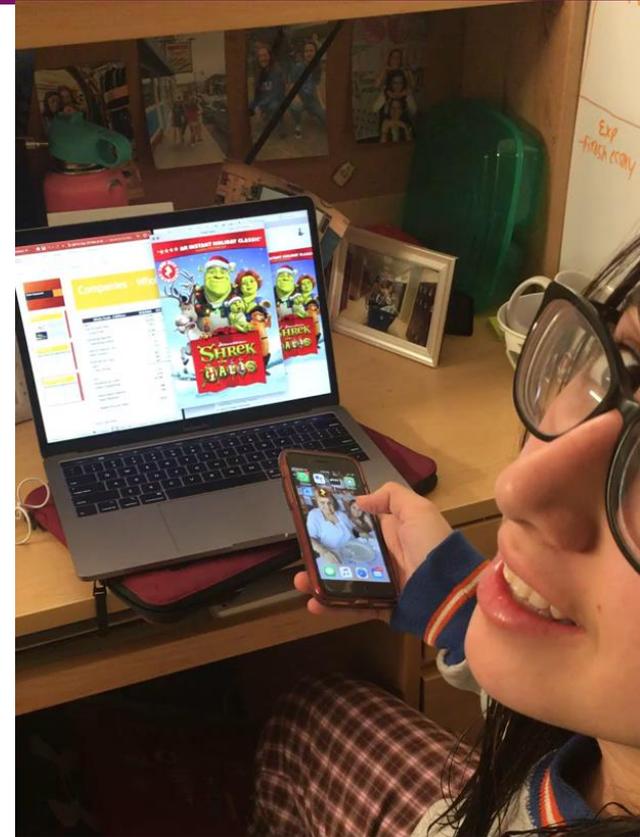
thearoar.io



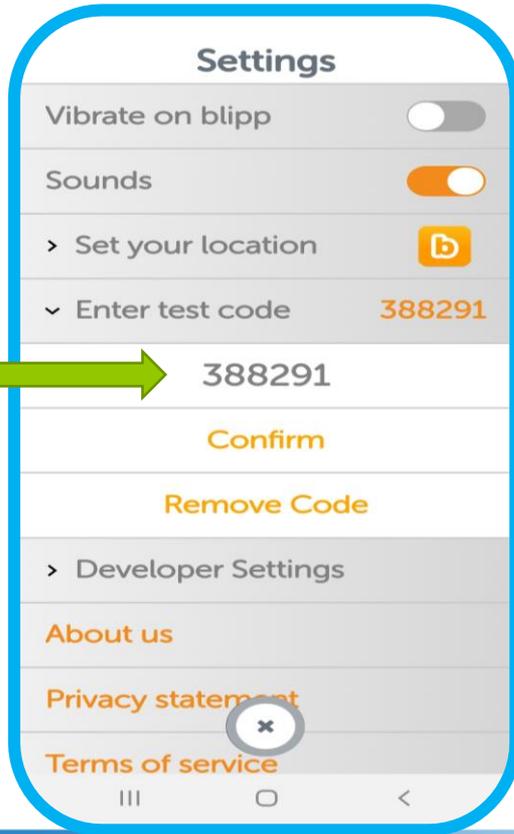
zappar.com



blippar.com



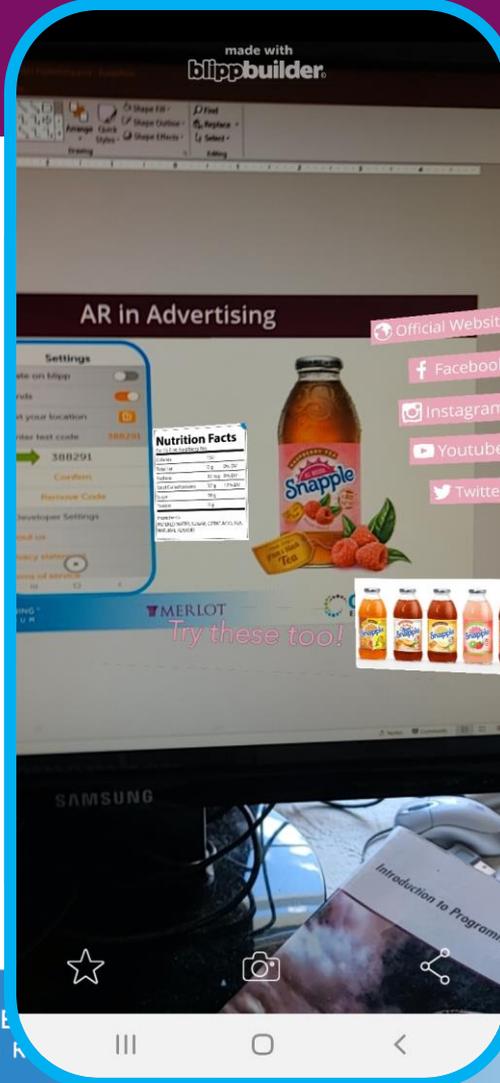
AR in Advertising



Advertising



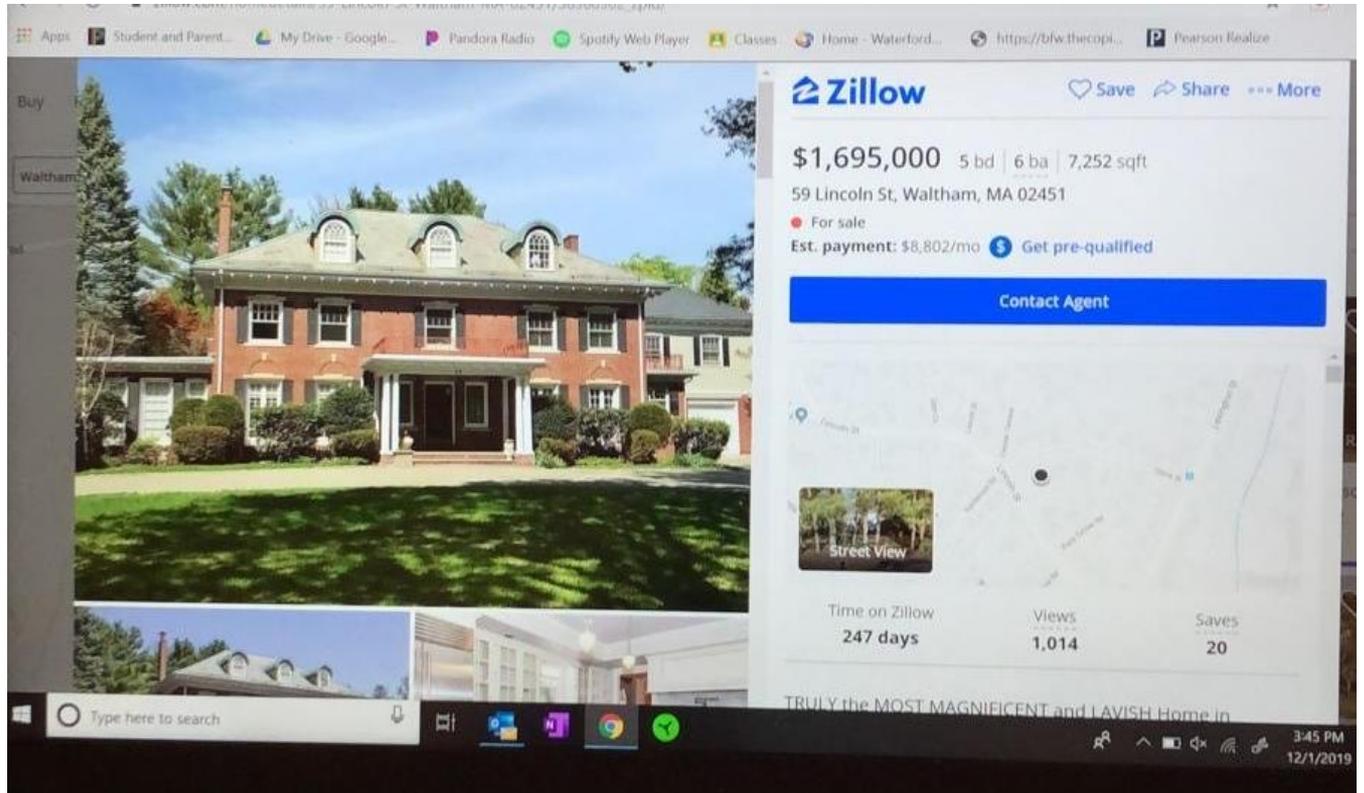
388291



AR Example: Real Estate



Code: Alex



Buy

Waltham

Zillow

Save Share More

\$1,695,000 5 bd | 6 ba | 7,252 sqft

59 Lincoln St, Waltham, MA 02451

For sale

Est. payment: \$8,802/mo Get pre-qualified

Contact Agent

Street View

Time on Zillow: 247 days

Views: 1,014

Saves: 20

TRULY the MOST MAGNIFICENT and LAVISH Home in

Type here to search

3:45 PM 12/1/2019

Make Your Own Virtual Reality



cospaces.io/edu



<https://edu.cospaces.io/LQR-CAY>

VR Tech



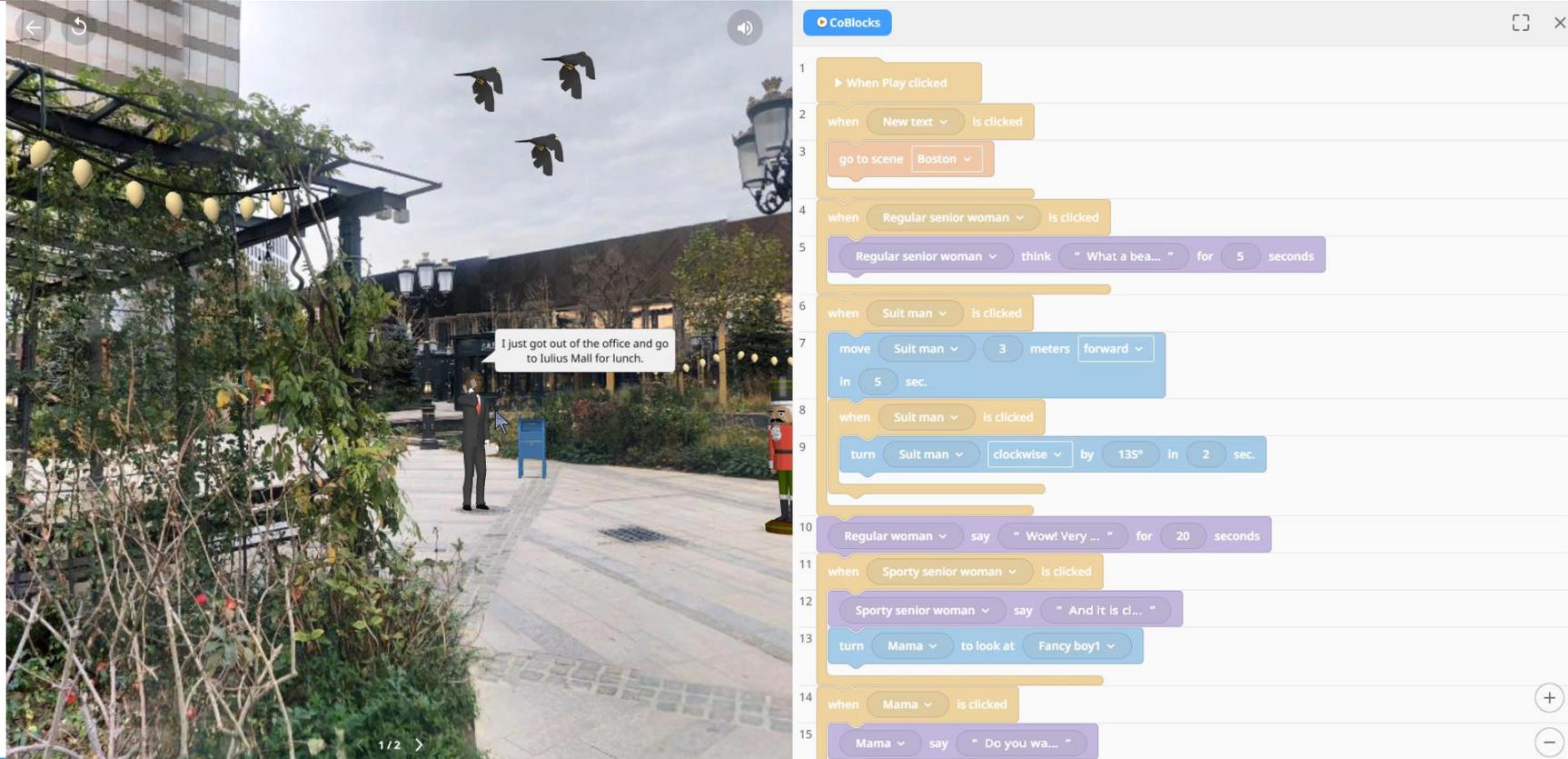
Using CoSpaces

The screenshot displays the CoSpaces Edu web interface. At the top, there is a navigation bar with the CoSpaces Edu logo, a search bar, and utility icons for chat, help, and a PRO badge. The main content area is titled 'Classes > TalkTech2019 > tt19team16'. On the left, a sidebar menu includes 'Gallery', 'Classes' (which is highlighted), 'CoSpaces', and 'Archive'. The 'Classes' section shows two tabs: 'Assignments' and 'Student's Free Play'. Below these tabs, three CoSpace thumbnails are visible: 'Team 17' featuring a snowman and a rainbow, 'CoSpace' showing a cityscape, and 'Team 16' depicting a group of people on a walkway. At the bottom left, there is a summary section with the following information: 'Plan active until: Dec 11, 2020', 'Seats occupied: 28/30', 'Users', and 'License plan'.

CoSpaces Example: Iulius Gardens



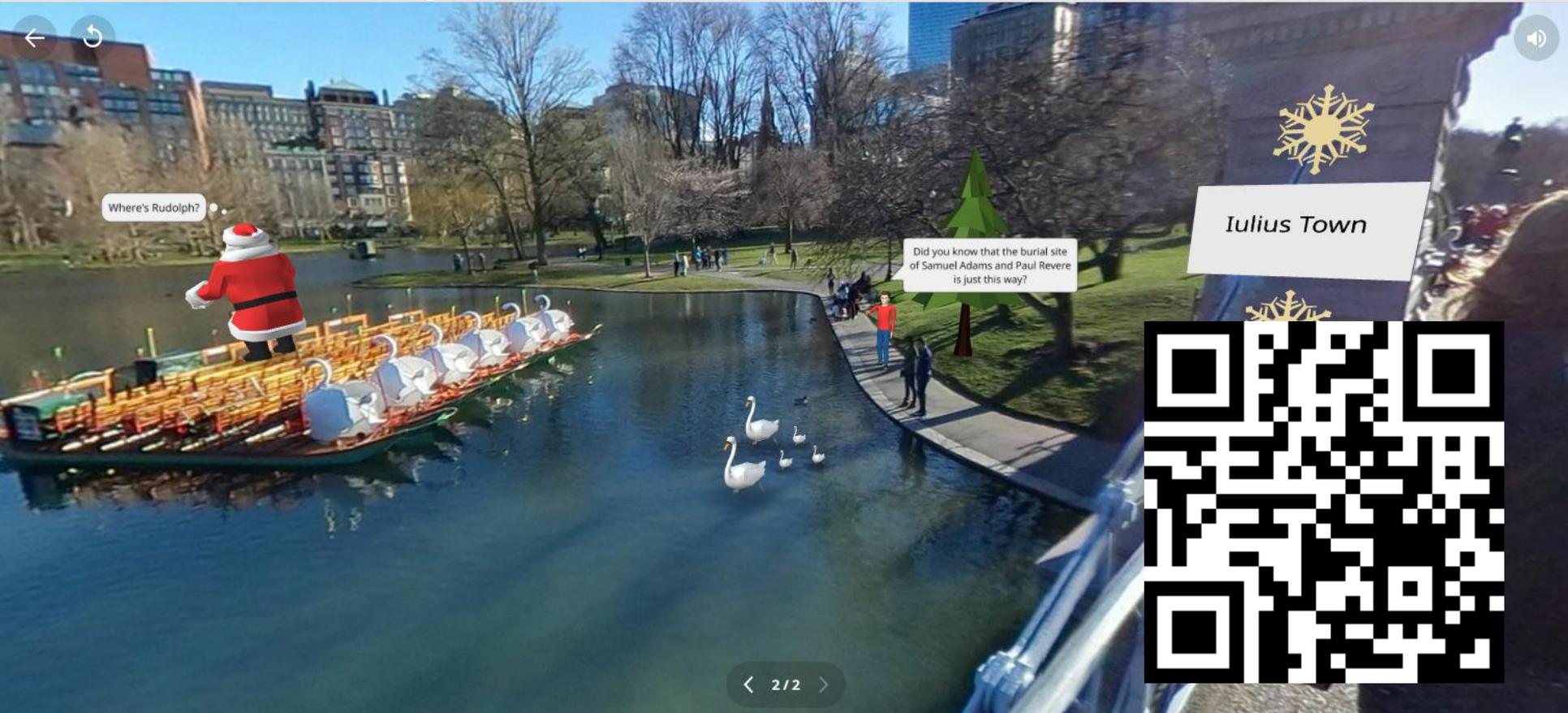
Critical Thinking through Coding



The image displays a Scratch project interface. On the left, a scene titled "1/2" shows a man in a suit standing in a park-like setting. A speech bubble above him reads: "I just got out of the office and go to Iulius Mall for lunch." On the right, the Scratch script editor shows a sequence of 15 blocks:

- When Play clicked
- when New text is clicked
- go to scene Boston
- when Regular senior woman is clicked
- Regular senior woman think "What a bea..." for 5 seconds
- when Suit man is clicked
- move Suit man 3 meters forward in 5 sec.
- when Suit man is clicked
- turn Suit man clockwise by 135° in 2 sec.
- Regular woman say "Wow! Very ..." for 20 seconds
- when Sporty senior woman is clicked
- Sporty senior woman say "And it is cl..."
- turn Mama to look at Fancy boy1
- when Mama is clicked
- Mama say "Do you wa..."

CoSpaces: Boston Public Garden



Creating VR with CoSpaces

The screenshot displays the CoSpaces VR development environment. At the top, the title bar reads "Team16 - Boston". The interface includes a top navigation bar with "Home", "Undo", "Redo", "Help", "Share", "Code", and "Play" buttons. On the left, a search bar and a library of assets are visible, including "Camera", "Text panel", "Diver woman", "Santa", "Fancy man #2", "Cloud 1", "Cloud 2", "Park bench", "Casual girl", "Casual boy", "Snowman", "Pine tree (crooked)", "Snowflake 3", "Snowflake 4", "Christmas tree", "Cloud 3", "Cloud 4", and "Cloud 5".

The central 3D scene features a snowman wearing a black top hat and a red scarf, standing on a wooden pier overlooking a body of water. In the background, a vibrant rainbow arches over a cityscape. A speech bubble above the snowman contains the text: "Welcome to Boston Commons! There's so much to do here, look around at all of the tourists!". The scene also includes stylized white clouds and a small Christmas tree on a rock in the water.

On the right, the "CoBlocks" visual programming editor is open, showing a script with three steps:

1. When Play clicked
2. when Text panel is clicked
3. go to scene Julius Town

The bottom of the interface features a "Settings" gear icon and a "Library" section with "Unload" and "Environment" options.

CoSpaces Example: Shopping Malls

<https://edu.cospaces.io/UXL-CRU>



Creating the Teleport Feature with CoSpaces

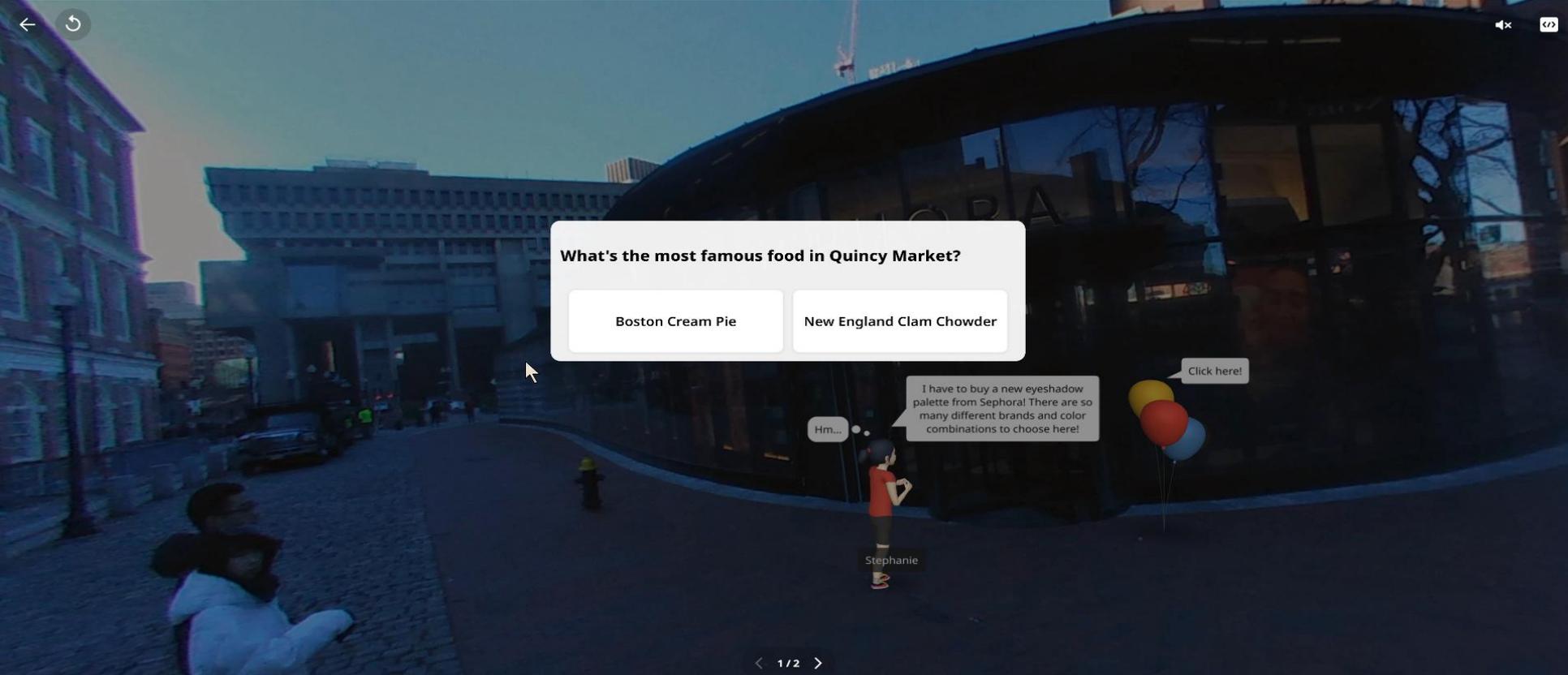
Christina & Sabrina - Scene2

The screenshot displays the CoSpaces application interface. On the left, a 3D scene shows a store window display with a sign that says "FRUITED CHRISTMAS". A character named "Saleswoman" is positioned near a "Customer" character. A speech bubble from the saleswoman says "How can I help you??" and a callout points to a "Click here!" button. The right side of the interface features a "CoBlocks" programming area with the following script:

```
1 When Play clicked
2 when Balloons is clicked
3 go to scene Scene1
4 turn Alice to look at Ann
5 when Ann is clicked
6 set animation of Ann to Walk
7 Ann say " Good Idea! ..."
8 move Ann on path Straight path
   in 10 sec.
9 when Alice is clicked
10 set animation of Alice to Walk
11 Alice say " Let's go to ..."
```

Below the programming area is a QR code. At the bottom, there is a character selection menu with categories: Characters, Animals, Housing, Nature, Transport, Items, Building, Special, and Search. The "PEOPLE" category is selected, showing various 3D human models.

Teleport Feature



CoSpaces Example: Iulius Gardens

<https://edu.cospaces.io/SRY-CMW>

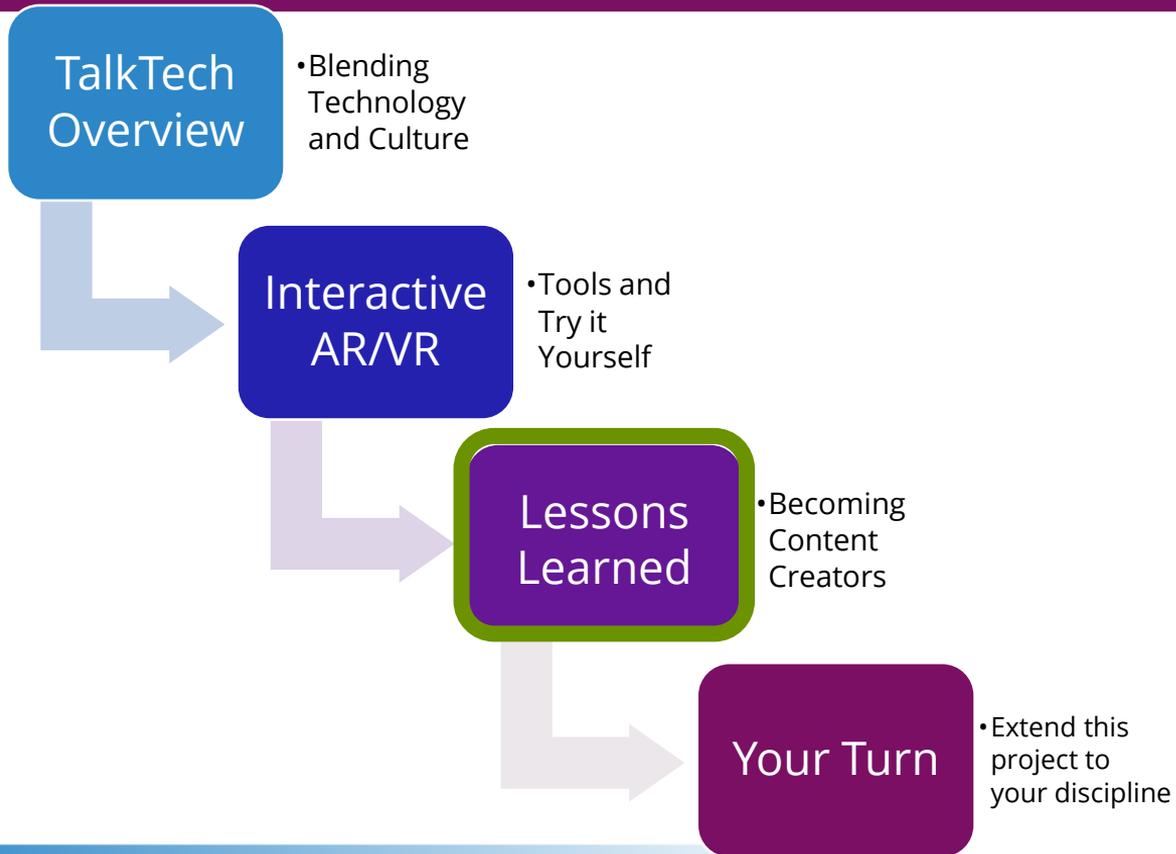


360-View on
Phone

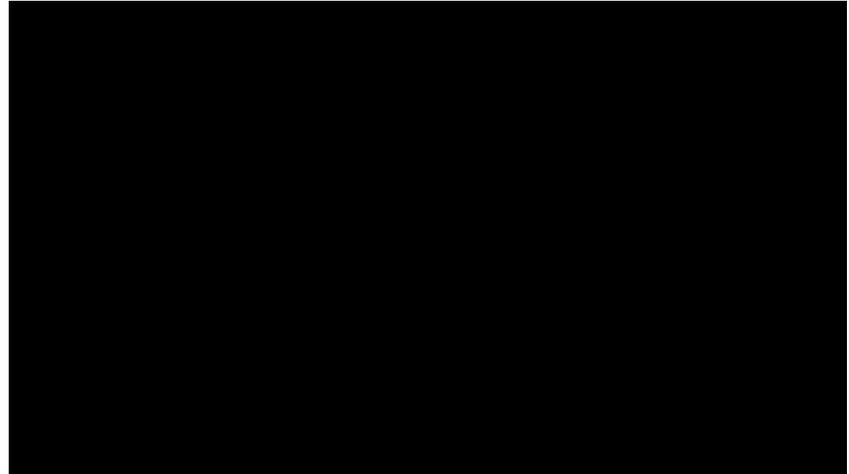
Use with
Cardboard Viewer



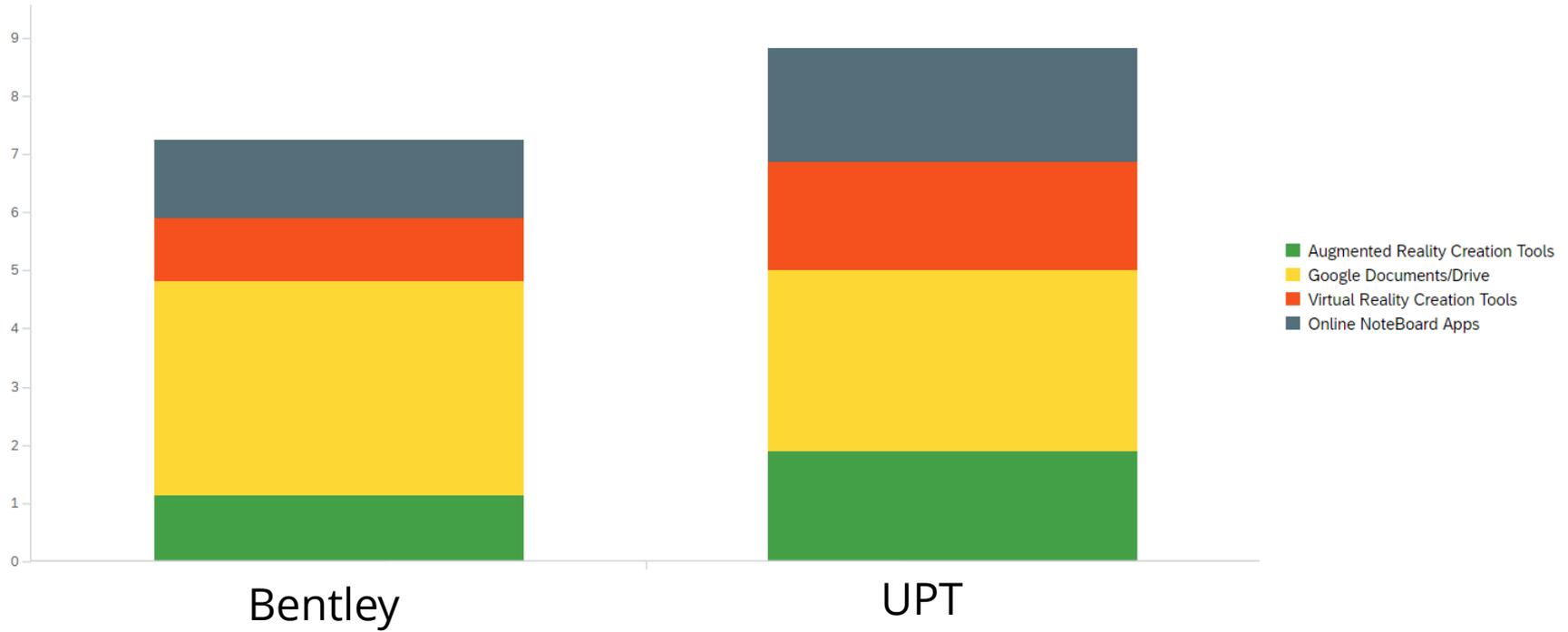
Today's Session: Lessons Learned



Student Reflections



Tools Used: Prior Experience



Virtual Mobility



Mark Frydenberg @checkmark - Nov 11

Welcome @diando70 to IT101X @bentleyu skyping in from timisoara to talk about global collaboration, tech trends

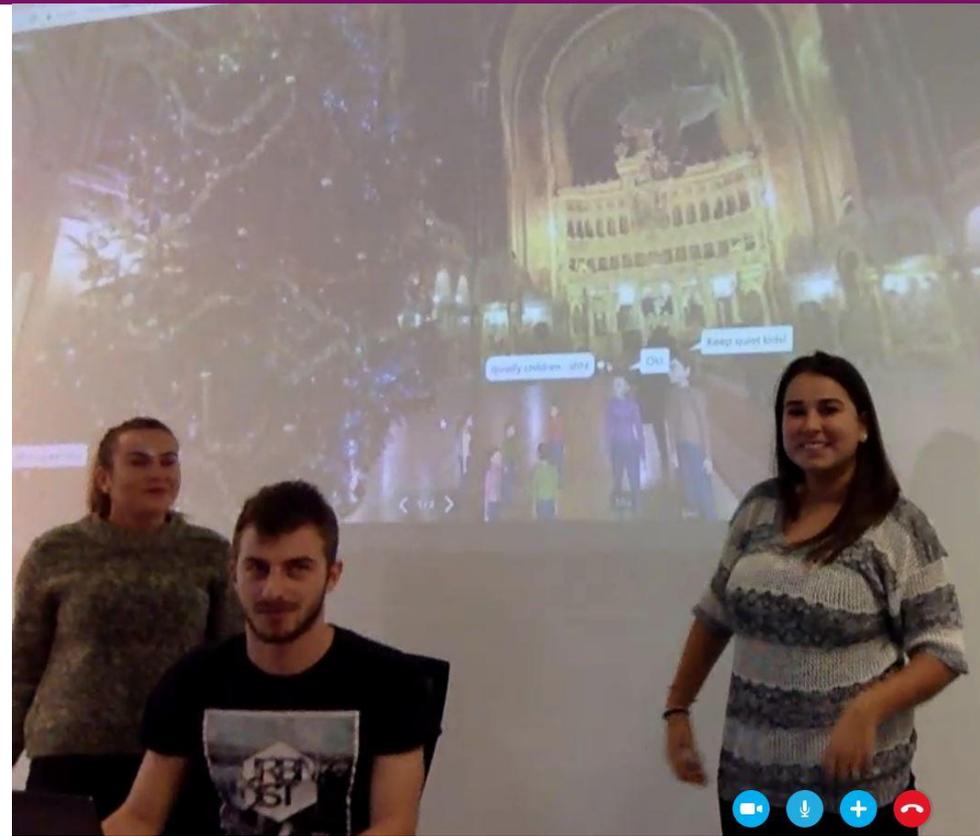


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EDUCATION REIMAGINED

Presentations





Mark Frydenberg
@checkmark

Skyping in with @diando70's students in @uptimisoara to kick off #talktech 2019: AR and VR in Business, a collaboration with honors IT 101 students @bentleyu talktechproject.net

7:57 AM · Oct 14, 2019 · Twitter Web App

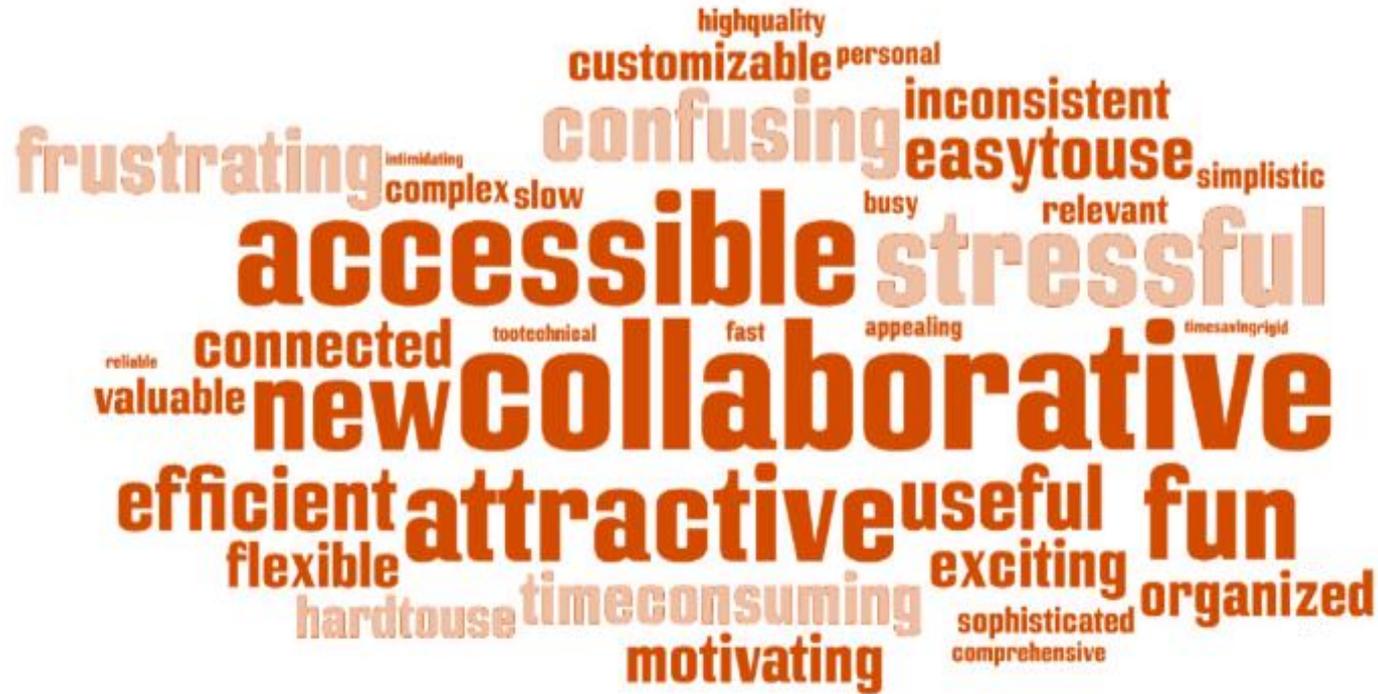
2 Retweets 2 Likes

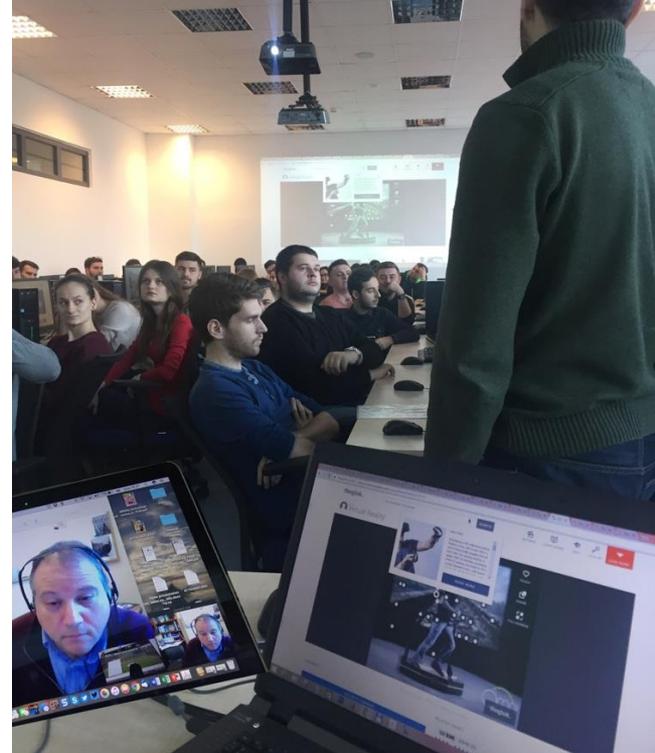


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Word Cloud





TalkTech Tasks and Digital Literacy Skills

Research applications of VR; identify scenes for VR content

Create 360-degree image for their VR artifact.

Enhance 360-image to create an interactive VR scene

Add code to animate avatars with gestures and motion

Test in a browser.

View on a laptop, mobile device, or cardboard headset

Can students create virtual reality artefacts with only basic technology skills?

Are students capable of learning technologies necessary for working in a global environment?

Share or embed media online

Discuss similarities, differences, and cultural influences with international partners via video-conference.

Digital Literacy (Steve Wheeler)

Social
Networking

Transliteracy

Maintaining
Privacy

Managing
Digital Identity

Creating
Content

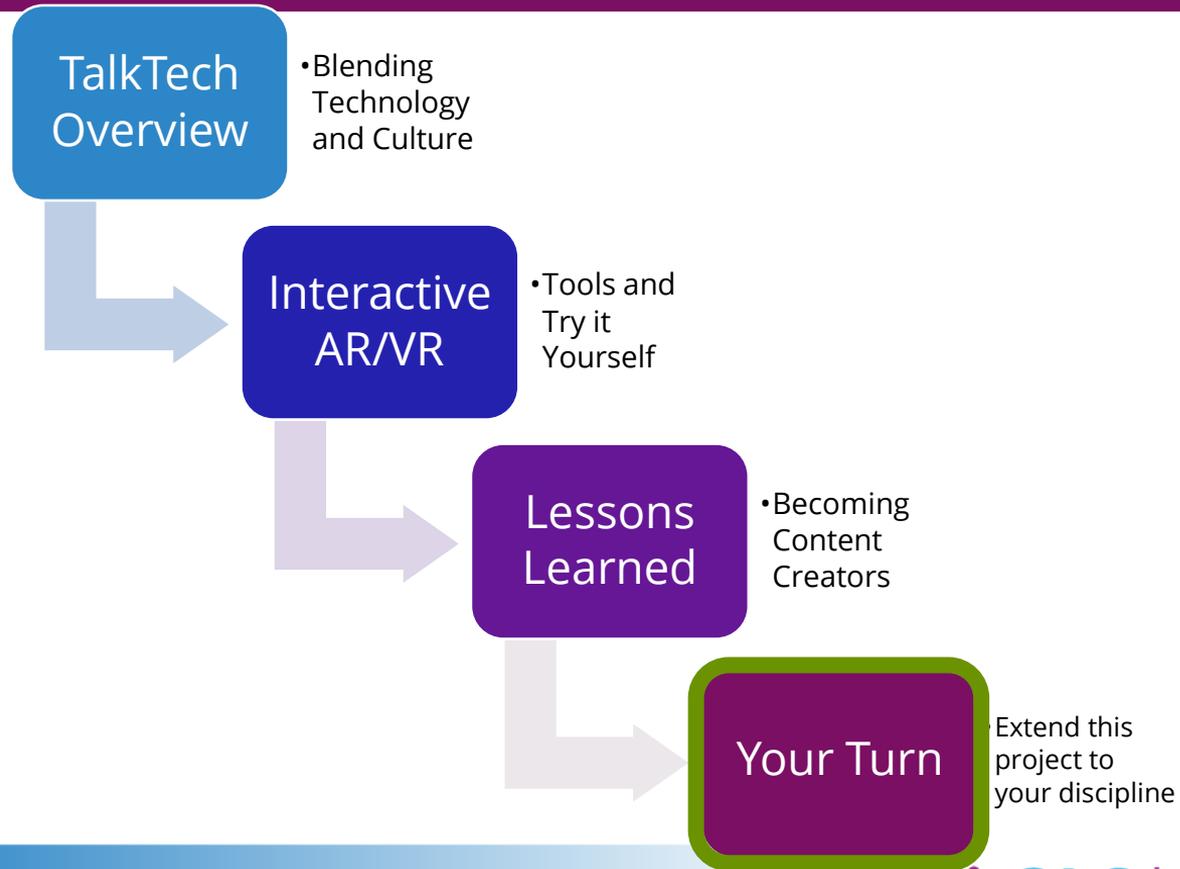
Organizing
and Sharing

Reusing /
Repurposing

Filtering and
Selecting

Self-
Broadcasting

Today's Session: Your Turn



How did this project help you experience culture?

I learned more about their daily lives by communicating with them. The VR experiences somewhat had an impact on this because their environment pictures showed us what parts of Romania looked like.

I got to see similarities and differences between things in America and in Romania. VR showed the similarities and differences more than AR.

How did this project help you experience culture?

We got to see part of Unirii Square through their VR experience, which gave us insight as to what Romania is like. We got to see the architecture, which was very different from the architecture here. The VR increased our positive experience, because it made the whole scene more immersive, and the talking characters were useful in informing us about Unirii Square.

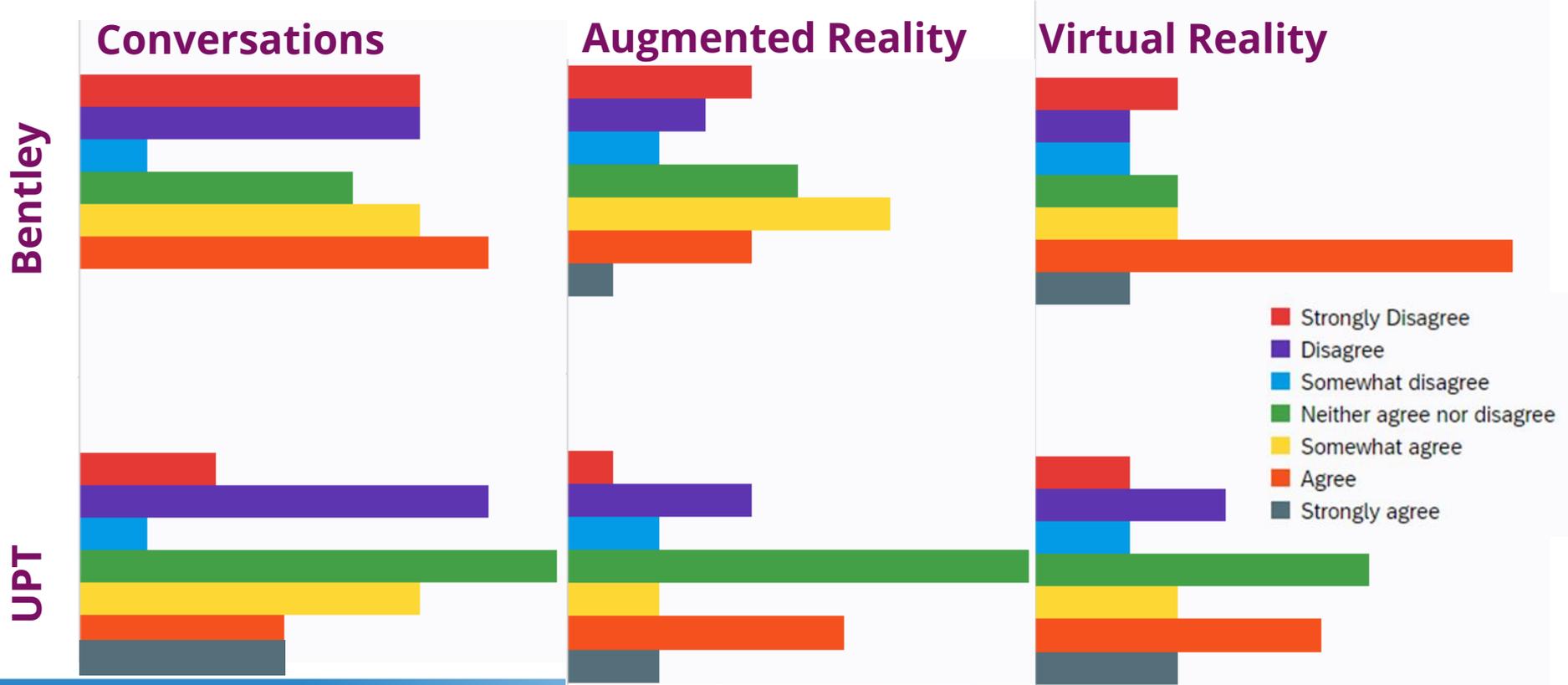
By talking to them we saw what it's like for an American student and we saw the differences between our 2 cultures. Also, by seeing their VR scene we learned what a college dorm looks like.

Comments on Culture

The VR part of my American friends makes me feel like I am in USA, lots of people and a big street . Here I found another image of Sephora. The store is placed outdoor and our is placed indoor that makes one different because in Romania we rarely have a store like this outdoors.

I think if anything this project made me see how similar I can be to people across the world. The use/knowledge of AR and VR saw that the Romanians and I were basically on the same page.

I learned about their culture through



Thank You!



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- Navigate to specific session to evaluate
- Select “Evaluate Session” on session details screen (located under session type and track)
- Complete session evaluation*

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Five (5) \$25 gift cards will be awarded

Must submit evals using the OLC Conferences mobile app or website