

TalkTech 2017 :

AR & VR (Augmented and virtual reality)

A Collaboration Project between

Politehnica University of Timisoara and Bentley University

Learning Goals

- Explain the differences between augmented reality and virtual reality
- Describe how each enhances the learning experience
- Create AR and VR artifacts
- Develop skills in collaboration, technology literacy
- Evaluate AR and VR tools and explain choices
- How do students react differently?
- How do students tech backgrounds influence their choice of project to complete?

Description

Augmented and virtual reality have brought about new forms of engagement in a variety of industries during 2017 as advances in mobile technologies have raised awareness and usage of these technologies.

With your international partners, you will use web-based collaboration and communication tools to meet both synchronously (in real time using voice, video, and chat) and asynchronously (via email, or messaging) to create and share artifacts of augmented and virtual reality, and then determine best use cases for these technologies.

Each team will create one augmented reality experience and one virtual reality experience for their international partners about one of the topics below. Your international partners will review your AR and VR experiences during a video call

For this project you will use the VICADIS online tool at <http://www.vicadis.net/campus/course/view.php?id=123> to share your group's progress with each other and with your instructors. To access this account please check the email message you received with your login information.

Topics

Prepare an augmented and a virtual reality experience related to one of these topics:

1. Cultural landmarks (concert halls, theatres, museums)
2. Tech Retail (Microsoft or Apple store, or other mobile or tech shop)
3. Public Art (Statues, Sculptures, Building murals)
4. Coffee Shop or Fast Food Chain (Starbucks, McDonalds, or a local one etc)
5. Sports Venue (of your university or city: arena, field or stadium)
6. Supermarket
7. Local landmarks (cathedral, park, town green, or city center square)
8. Campus Landmarks (library, classroom building, computer lab, etc)
9. Cool Technology or Devices (mobile devices, robotics, smart cars, drones)

You all should agree on the topic and research and discuss the content of your presentations, so that the content is similar based on your location. For example, both groups are going to create AR and VR experiences related to a coffee shop. Each group will create their own artifacts which show common local content (ie, menus, inside the shop, links to websites, etc.)

Augmented Reality:

Visit a location near your school related to your topic that you think would be of interest to your international partners.

Determine a background image you can use to represent your location. It can be a photo of a street sign, map, landmark, or other image that scans easily.

Read about and select one of these AR-creation tools with which to create your AR experience: (Presented intentionally in reverse alpha order, with no bias from the instructors as to which one you should use)

- Zap.works,
- Roar (theroar.io)
- Layar
- Blippar
- Aurasma
- Something else you find (Mark or Diana must approve)

Your AR experience should enhance the target image with relevant additional information.

The goal is to show how someone working in the topic area you chose might use one of these applications to create a virtual reality experience. **Write a short paragraph that puts your AR experience in context.**

Virtual Reality

For creating 360 images or videos, try photosphere or another 360 video app on your device's app store. Bentley students can borrow a 360 Camera from the library reserve desk.

Read about these tools (or others that appear with the search query "get started vr tools free"

- Google Blocks vrgoogle.com/blocks (works with Bentley's Oculus)
- InstaVR <http://www.instavr.co/>
- CoSpaces <https://cospaces.io/maker/>

Select one of these apps to create and control your own 3d model of a virtual world. YouTube has several tutorials, so watch a few and then decide which app you want to use, or research another VR creation tool to use. Let us know first.

CoSpaces enables you to animate your VR world without too much difficulty using Blockly, a block-based visual programming environment from Google. Since the UPT students have programming experience, they are required to do this, and can help the Bentley students to animate their VR worlds.

Communication Tools

Share files as necessary, and use any web-based tools you wish in order to communicate constantly, weekly.

ZeeMaps

We have created a "Zee Map" where you can add markers to Google Map easily.

Add markers for your locations, please create pins using the color below for your group:

| | | | |
|---------|-------------|----------|--------------|
| Group 1 | red | Group 7 | light blue |
| Group 2 | purple | Group 8 | light yellow |
| Group 3 | blue | Group 9 | Light purple |
| Group 4 | yellow | Group 10 | White |
| Group 5 | green | Group 11 | Brown |
| Group 6 | Light green | Group 12 | Black |

Visit zeemaps.com/talktech2017

Type TalkTech2017 in the find a map box

Here you can add pins to the map, where each pin contains a multimedia callout . Use Additions - Detailed to add media to your map.

We'd like you to create a VR and AR experience for your international partners related to a place in your locale and post the artifacts to the map in that place's location.

Tasks and Milestones

Work in groups of 6 (3 Bentley and 3 UPT students).

| Step | Who | Deliverable | Due Date | Grade |
|-------------------------|-------------------|---|----------------|----------|
| Make Contact | All group members | Sign up for a group, add your profile to Vicadis and contact your team members | Week of Oct 15 | |
| Evaluate AR and VR apps | All group members | Research and discuss the AR and VR creation apps. One person from the group should write a short (100 words) blog post describing which apps your group chose to use, and why. Post it to the VICADIS blog. Include comments from other group members by name from your discussion. | Oct 20 | 5 points |

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| | | Discuss the format and content for your AR and VR experiences that you will create for your partners. | | |
| Create AR experience | Bentley students create for UPT, UPT create one for Bentley | <p>Create an AR experience for your international partners.</p> <p>Post your target image to the Zeemap along with instructions on how to access it (using which app, and who to follow or what code to enter) to see the augmented content.</p> <p>Also post to Vicadis. http://www.vicadis.net/campus/course/view.php?id=123</p> | Nov 5 | 10 |
| AR Review | Team | <p>Online call with your partners. Show them how to access the AR content you created.</p> <p>Short video (max 15 sec) demo posted to flipgrid.</p> | Nov 10 | 5 |
| AR Video Reviews | Bentley students review UPT AR experience, UPT students review Bentley | <p>Max 2 min video (from students from your school) posted to flipgrid - one Bentley student video, one UPT student video critique showing them viewing the AR experience</p> <p>Link to video posted to ZeeMap with video</p> | Nov 10 | 5 |
| Create VR experience | Bentley students create for UPT, UPT create one for Bentley | Link to files or website posted to Zeemap and Vicadis | Nov 20 | 10 |
| VR Group Call | Team | Online call with your partners. Show them how to access the VR content you created. | Nov 27 | |

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|-------------------------------|--|---|-------|-----------|
| | | Short video (max 15 sec) demo posted to flipgrid. | | |
| VR Video Reviews | Bentley students review UPT AR experience, UPT students review Bentley | Max 2 min video (with from students from your school) posted to flipgrid Link to video posted to ZeeMap with video | Dec 3 | 5 |
| AR vs VR Conversation | Team | 5 Min Video, Post on Vicadis Blog summarizing similarities and differences between experiences Compare the AR/VR artifacts you made with those of your international partners. How are the topics similar and different in each country? | Dec 3 | 5 |
| Individual Reflections | Each Person | Individual reflections. Post 200 words in your group blog in Vicadis. <ul style="list-style-type: none"> • What did you learn from this project? • For conveying what type of information or content is AR most suitable? • For conveying what type of information or content is VR most suitable? | Dec 3 | 10 |
| Final Presentation | Each group | By Dec 3 all groups will need to upload their videos as files in their group upload area in Vicadis, post the links of your work in the group blog. Present in 5 minutes your work in front of your class Romanian students on Dec 4 joined in by | Dec 4 | |

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| | | their US colleagues | | |
| Your Participation | Each Person | Evidence that you did your share of the work and that your group worked well together | | 5 |
| Social Media (Extra Credit) | Each Person | Tweet or Post about the project While not required, we encourage you to share the links to your work on Twitter or Instagram. Please use the hashtag #talktech2017 and make the post public. We'll be searching for that hashtag on Twitter and Instagram! | Anytime | 5 |

Holidays:

Nov 22-26, - Bentley Thanksgiving Holiday
 Nov 30 - 1 Dec - National Day in Romania

Grading

Post the final versions of all of your work files on Vicadis.
 Share transcripts of your chats, email messages, or other communication as evidence of your collaborative efforts.

Use whatever social media, digital media, communication and collaboration tools you wish to work efficiently together (e-mail, Skype, messaging, etc).