

TalkTech 2019: Exploring Business Applications of Digital Reality

A Global Collaboration Project between
Politehnica University of Timisoara, Romania and Bentley University,
MA, USA



Description

Digital reality (augmented and virtual reality and other immersive multimedia experiences) have brought about new forms of engagement across industries in recent years as advances in mobile technologies have raised awareness and usage of these technologies.

Bentley students in IT 101, introduction to information technology, and UPT students in TMM (Technology of Multimedia) will participate in groups of four (2 students from each school) as members of international teams to explore uses of AR and VR as related to sharing cultural experiences.

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 shared augmented reality experience and one shared virtual reality experience for their international partners. You will review and critique the AR and VR experiences that your partners created for you during a video call.

For this project you will use OpenVM, an online collaboration tool managed by UPT, to share your group's progress with each other and with your instructors. To access this

account please check the email message you will receive with your login information. The course is located here -

Your group also will create a blog on OpenVM to share your group's multimedia and research. Each member of your group should contribute to this.

Please upload the video files that you create to OpenVM in addition to OpenVM.

1 - Select a Topic

Select one of these industries to study applications of augmented and virtual reality.

1. Health care
2. Entertainment / Gaming
3. Real Estate / Home Sales or Rentals
4. Automotive Sales or Design
5. Advertising
6. Tourism
7. Education or Training
8. Retail / Customer Service
9. Sports
10. Marketing / Customer Engagement

Deliverable: (Due by October 9)

Sign up online for a topic you're interested in exploring with a partner. We will notify you if we change your group to better balance the teams.

2 - Use Open VM and Connect with your Partners

We will use OpenVM, an open virtual mobility application hosted in Romania, to manage the project. The link for our project on OpenVM is

<https://hub.openvirtualmobility.eu/course/view.php?id=59>

Complete your profile on OpenVM so that you and your partners can connect with you by email, or some other method that you choose.

Set up a first meeting time when you can discuss how you will work together as a team.

- How will you communicate and make decisions?
- Who is responsible for which tasks?
- Set up accounts on file sharing, messaging or social media apps for your team. Many Bentley students use GroupMe, for group work.

Post a summary of your conversations, text messages, on OpenVM each week as you work on the project.

Deliverables:

- Create your own account and profile on Open VM. (Due by October 15).
- Reach out to your team to setup a first meeting. (Due by October 18.)
- Set up your first meeting for the week of October 21, if not before.

Use OpenVM to document your team's process and the blog page to post your work

3 - Research uses of AR and VR in your industry

Work with your partners to research innovative business uses of virtual reality in the industry you selected above, preferably one happening in your own country. Teams from each school will each write one blog post of approx 250 - 300 words describing what you learned. Include photos or videos if that will help you tell your story. You can write in the OpenVM blog post created for each team.

Then read the blog post that your international partners wrote and individually write a comment on it, describing what you learned, how is similar or different to your team's example.

Be sure to include references to any articles or online sources you used.

Deliverables:

- Blog post due by Nov 1.

- Blog comments due by Nov 8

4 - Augmented Reality

With your partner from your school, create an original AR scene showing an example of how AR might be used in your industry of study. Your international partners will comment and provide feedback on the scene.

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

- [Zap.works](#),
- [Roar](#)
- [Layar](#)
- [Blippar](#)
- [HP Reveal](#)

Deliverables:

By November 8:

- UPT and Bentley students each create one AR experience for your industry. Create an AR experience to enhance the base image with additional information.
- Determine a scannable base image you can use in a business application of AR for your topic. For example, in the automotive industry, you might scan the dashboard of a car and augment it with information about the various displays.
- Select an AR app with which to create an AR experience for your team members. (Both Bentley and UPT students in your group should use the same AR app.)
- Post the base image to the OpenVM blog along with instructions on how to scan it (what program to use, what account to follow, etc. You can add links or QR codes if that helps.) Describe why you chose the AR app that you used.

By November 15:

- Create a video of at most 15 seconds showing how you use the AR app on your phone to scan the other team members' base image and describe the experience.
- Upload the videos and base AR image to the uploads section of your group's OpenVM page.

- Write a critique of the AR experience your partners created, commenting on how this is an effective use of AR, or what might make it more effective. (100 words) Post your critique to the blog.

5 - Virtual Reality

With your international partners, create two original VR scenes showing examples of how VR might be used in your industry of study. (Team members from each school will work on their own scenes within the same CoSpaces project, and add a "jump" button to each scene that will load the other.)

To create 360 degree images or videos, find a 360 degree camera app on your mobile device's app store. Bentley students can borrow a 360-degree camera from Prof. Frydenberg. UPT students can borrow a 360-degree camera from Prof. Andone.

You also can search for 360-degree images to legally download and reuse because they have Creative Commons licenses that allow for modification. Websites such as the ones below offer 360-degree images that you can use.

<https://www.flickr.com/groups/360degrees/>

<https://www.flickr.com/search/?text=equirectangular&license=2%2C3%2C4%2C5%2C6%2C9>

<https://www.openfootage.net/hdri-panorama/>

Deliverables:

By November 1:

- Meet with your groups to discuss and design your CoSpaces VR experiences. Set up the CoSpaces project and post a link to it on the OpenVM Blog.

By November 15:

- Finish your combined VR experience in CoSpaces, and be sure to add
 - animations, avatars, signs, or dialogue
 - a "Jump" button to switch between scenes created by each team
 - Watch this video for a quick tutorial on how to switch scenes in CoSpaces.
<https://youtu.be/8dMNt9tLon8>

- Share with your partners, watch it in VR using Google CardBoard or on your screen

By November 30:

- Create a 30 second screen video showing the two scenes and the switching from one to another. Embed it in a blog post, in your team blog, on the Open VM Blog. Please insert also the link, if you publish it on YouTube or use embeded frame.
- Create another 2 to 3 minute video in which all four team members discuss and critique the VR scenes created by your partners. Post the video to in a blog post on OpenVM. Embed it in a blog post, in your team blog, on the Open VM Blog. Please insert also the link, if you publish it on YouTube or use embeded frame.
- Write a short review of the VR scene your partners created, describing similarities, differences, and lessons learned.

6 - Reflections

Group Reflection (Due by Dec 7)

Record a short video (4 minutes at most) with your group describing what worked and didn't work for your team while creating this project, What challenges and successes did you have while working as a team? Post it to the OpenVM Blog.

Individual Reflection (Due by Dec 7)

Each person: write a blog post (about 250 words) on OpenVM describing your experience on this project.

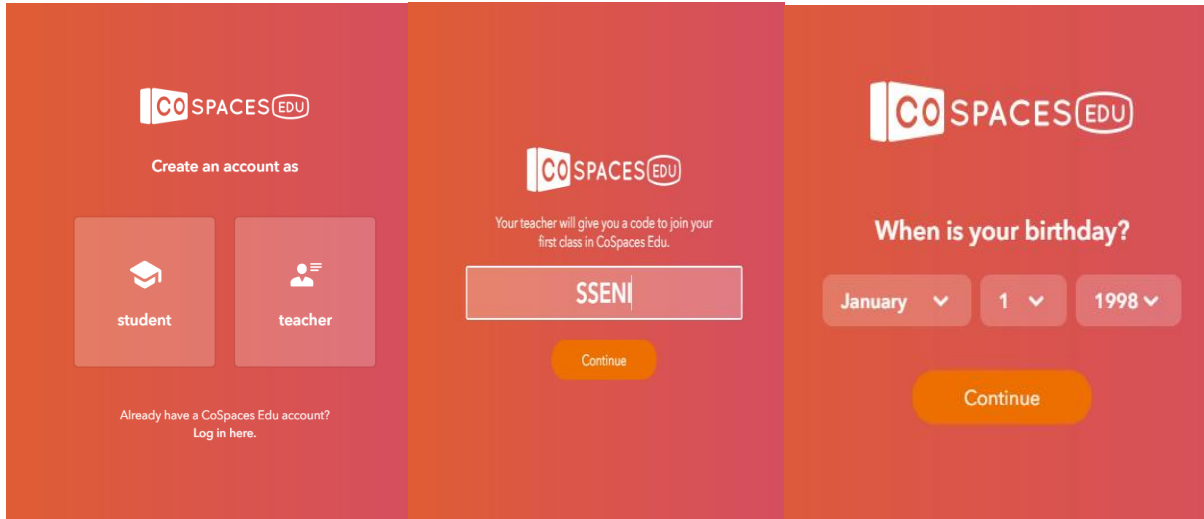
- What did you learn?
- For conveying what type of information or content is AR most suitable?
- For conveying what type of information or content is VR most suitable?
- What you learned from watching the VR experience.
- How does VR add to your learning experience?

Using CoSpaces

Use [CoSpaces](#) to create your VR experience. Watch the first three minutes of [this video](#) for a quick introduction. CoSpaces enables you to animate your VR world without too much difficulty using CoBlocks, a block-based visual programming environment within CoSpaces. Since the UPT students have programming experience, they are required to do this, and can

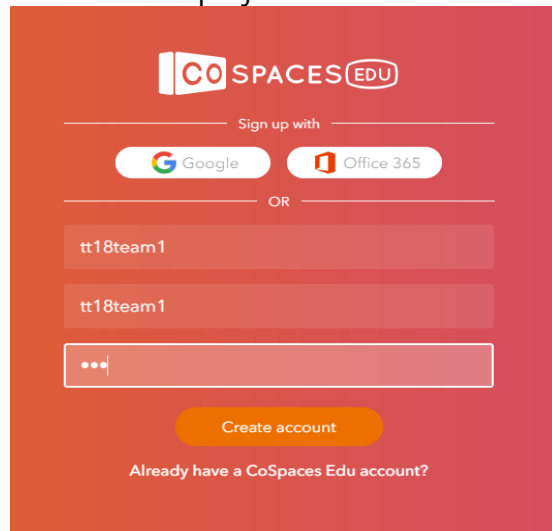
help the Bentley students to animate their VR worlds. Bentley students can ask CIS Sandbox tutors for help.

One person on your team will create an account on CoSpaces for your entire team to share. Enter the code **9Q8S5** to join our class. Then enter your birthday.



Finally, accept the terms and conditions.

Set your name and username to be **tt19teamX** (where you replace X with your team number). Select a password for your team, and share it with all members of the team so you can work together on the same VR project.



The projects should be stored in <https://edu.cospaces.io/Studio/Class/9q8s5/Assignments> .

Watch this video for a quick tutorial on how to switch scenes in CoSpaces.
<https://youtu.be/8dMNt9tLon8>

In Class Presentations on Monday Dec 9.

We will discuss your work on the project on December 9 in class.

Grading

Post the final versions of all of your work files on OpenVM so we have them.
Share transcripts of your chats, email messages, or other communication as evidence of your collaborative efforts. We will grade each component of your work.

Rubric to follow.

Holidays:

Nov 27-29, - Bentley Thanksgiving Holiday

Nov 30 - 1 Dec - National Day in Romania