Virtual Environments
INF 385T
Fall 2023 Semester

Class Day and Time: Tuesdays 3:30pm – 6:30pm

Class Location: UTA 1.210A

Instructor:
   Dr. Jakki Bailey
   Pronouns: She/Her/Hers

"Welcome to Virtual Environments! I am Dr. Jakki Bailey, a faculty member in the School of Information. My research and courses focus on people's experiences of immersive and extended reality technology like virtual reality and what that means across the lifespan (from children to adults). I look forward to working with you this semester!"

Course Description

Virtual environments have become an integral component of people's everyday lives for multiple uses such as socializing, learning, and behavior change. The focus of the course is to examine people's social and psychological experiences of virtual environments, such as in virtual reality. Through the course students will learn about the research behind people's experiences of virtual environments. Part of the course involves interacting with virtual worlds and software used to build virtual environments.

Readings and assignments are to be completed before class, and students are expected to participate in discussions as well as submit any relevant examples that incorporate that week's readings and/or assignments.
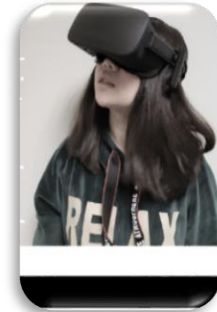
Course Objectives and Learning Outcomes

Students will be able to:

- Understand the technological features of extended reality technology and virtual environments.
- Identify how users experience different aspects of virtual environments.
- Develop interpersonal communication skills and collaborative work skills
- Develop skills related to designing virtual environments

Course Requirements

Classroom Expectations
- Attendance is required for the course.
  - Many of the course activities and assignments are completed in class and in groups.
  - Failing to attend class penalizes your grades and consequentially the other members of your group.

- Bring the appropriate material for note taking, and writing.
  - Although laptops will be used in class, inattentive or discourteous behavior will be noticed and penalized.
  - Before the start of each class, silence all devices such as cellphones, tablets, and computers.

- To foster open discussion, students are asked to be tolerant and considerate of others' viewpoints.

- Food and drink are not allowed in the classrooms.

Course Materials
- All relevant class information will be posted on the course website on Canvas.
  - This includes the most recent syllabus, PDFs of the weekly readings, and any relevant links.
  - Lectures will cover the themes related to the readings as well as material not covered in the readings.
  - The course calendar and readings are subject to change.
  - Laptop for in class work in person

According to the class schedule, students will also need access to a computer with the appropriate software to be used outside of class time (resources are available at the iSchool)

Equipment policy
- During the course students will be using VR headset

- All students must maintain sanitation and safety protocols outlined in class
- All equipment must be returned by the designated day and time
- Any unreturned equipment by the designated time will result receiving a zero for your overall assignments grade.
- It the student's responsibility to properly maintain the equipment

Sharing of Course Materials is Prohibited:

No materials used in this class, including, but not limited to, lecture hand-outs, videos, assessments (quizzes, exams, papers, projects, homework assignments), in-class materials, review sheets, and additional problem sets, may be shared online or with anyone outside of the class unless you have my explicit, written permission. Unauthorized sharing of materials promotes cheating. It is a violation of the University's Student Honor Code and an act of academic dishonesty. I am well aware of the sites used for sharing materials, and any materials found online that are associated with you, or any suspected unauthorized sharing of materials, will be reported to Student Conduct and Academic Integrity in the Office of the Dean of Students. These reports can result in sanctions, including failure in the course.

Class Recordings:

In some cases, class time may be recorded. Class recordings are reserved only for students in this class for educational purposes and are protected under FERPA. The recordings should not be shared outside the class in any form. Violation of this restriction by a student could lead to Student Misconduct proceedings.
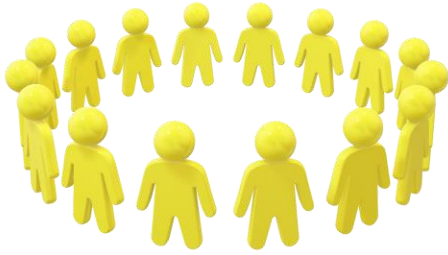
Assignments

Assignment Overview
- Class Participation and Attendance: 20%
- Quizzes: 40%
- Final Project: 40%
    - Final Demo of VR application
    - Final Video Sales Pitch Video and Presentation

Participation & Attendance

- **Class participation:** All students are expected to participate in discussions/ activities in class and on the course website.
    - Weekly readings are to be completed before class.
    - Successful participation in class are evidence during discussion that you have done the readings, including a willingness and ability to summarize, synthesize and evaluate.
    - Completing and submitting materials related to class activities

• **Attendance**: Students are expected to attend all class sessions, to arrive on time and stay for the duration of class.
  o Attendance will be taken during each class period in person and online.
  Absences will only be excused in situations following University policy (i.e., illness, religious holy days, participation in University activities at the request of
  o university authorities, and compelling absences beyond your control) with proper documentation and timely notification (prior to class for non-emergencies).
  o By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day.
  o If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.
  o Excessive tardiness may be considered as an unexcused absence except in situations following university policy.
• **Accommodations**: Students will need to provide documentation to the Dean of Student's Office so the most appropriate accommodations can be determined.
• Participation is crucial and the quality of your involvement contributes to your success and the success of the class by creating a collaborative learning environment.

Quizzes
Quizzes will reflect the use and development of virtual environment, and how it may relate to users' experience. Quizzes will include information from course readings, lectures, and in-class activities

Collaborative Group Project
In collaborative groups students will design and build a VR application (see final project prompt for details). During the latter half of the semester, class time will be dedicated to working on building and testing the VR application.

Grading
This class employs a plus/minus grading system. For more information on this system, please consult the University's General Information Catalog. Below is the grade scale the University employs and which will be used in this class:

Meets major requirement		Does not meet requirement	
Grade	Percentage	Grade	Percentage
A	≥94.00	C-	70.00-73.99
A-	90.00-93.99	D+	67.00-69.99
B+	87.00-89.99	D	64.00-66.99
B	84.00-86.99	D-	60.00-63.99

B-	80.00-83.99	F	<60.00
C+	77.00-79.99		
C	74.00-76.99		

GRACE POLICY: Time-bank options for individual assignments

Sometimes we have bad days, bad weeks, and bad semesters. In an effort to accommodate any unexpected, unfortunate personal crisis, I have built "time banks" into our course. You do not have to utilize this policy, but if you find yourself struggling with unexpected personal events, I encourage you to e-mail me as soon as possible to notify me that you are using our grace policy. You may use this policy one of two ways (please choose, and let me know):

- You may have a two-day grace period for one assignment, OR
- You may have 2 one-day extensions for two different assignments.

Course Policy

You are responsible for reading and following these class policies, and any additional policies that develop over course of the semester.

Instructor Communication

E-mail is the official mode of communication for the university and the most reliable means of contacting me. ***Do not use the messaging facilities in Canvas; these messages do not arrive in my e-mail inbox.*** Please allow at least a 24-hour window for email responses and plan accordingly. Please limit emails to 5 sentences or less. If your question about a reading or an assignment takes more than 5 sentences to express, please come see me in office hours. If you cannot make office hours, please email me to arrange an appointment.

Copyright Notice

These materials may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials.

Names and Personal Pronouns

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender identity & expression, and nationalities. Class rosters are provided to the instructor with the student's legal name, unless they have added a "chosen name" with the registrar's office, which you can do so here: https://utdirect.utexas.edu/apps/ais/chosen_name/. I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the pronouns you use (she/he/they/ze, etc). Please advise me of any changes early in the semester so that I may make appropriate updates to my records. For instructions on how to add your pronouns to Canvas, visit

https://utexas.instructure.com/courses/633028/pages/profile-pronouns. More resources available on the Gender and Sexuality Center's website, www.utgsc.org.

Classroom Recording
To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Original Work
Cheating and plagiarism not are tolerated. If an assignment turned in for credit is found to have been plagiarized, you will receive a grade of 0 points and a formal reprimand in your student file. You will be subject to the University's disciplinary penalties, including the possibility of failure in the course. *Some assignment require submission of individual work while other assignments are submitted as a group.* It is your responsibility to identify the requirements for each assignment. If you have any questions about the requirements, please contact the instructor.

Late assignments
I do not accept late assignments. Students who anticipate difficulties with completing assignments on time should consult with the instructor as soon as possible so that alternate solutions can be discussed. When negotiated in advance, arrangements can often be made.

Writing Style manual for assignments
Please use the American Psychological Association's style manual (i.e., APA 7th edition). In particular, please be sure to follow its citation formats and rules on language bias.
Example guide:
https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html

Religious holy days
A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

Use of E-mail for Official Correspondence
All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in

order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your e-mail address are available at http://www.utexas.edu/its/help/utmail/1564

Documented Disability Statement
You will need to provide documentation to the Dean of Student's Office so the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities (SSB 4.104, 471-6259). Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471-6259 voice or 471- 4641 TTY for users who are deaf or hard of hearing). Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. If you plan to make use of specialized services through SSD please inform me before the second class meeting. For more information, visit http://www.utexas.edu/diversity/ddce/ssd/

A safe learning environment and Title IX
Beginning January 1, 2020, Texas Senate Bill 212 requires all employees of Texas universities, including faculty, report any information to the Title IX Office regarding sexual harassment, sexual assault, dating violence and stalking that is disclosed to them. Texas law requires that all employees who witness or receive any information of this type (including, but not limited to, writing assignments, class discussions, or one-on-one conversations) must be reported. If you would like to speak with someone who can provide support or remedies without making an official report to the university, please email advocate@austin.utexas.edu. For more information about reporting options and resources, visit http://www.titleix.utexas.edu/, contact the Title IX Office via email at titleix@austin.utexas.edu, or call 512-471-0419. Although graduate teaching and research assistants are not subject to Texas Senate Bill 212, they are still mandatory reporters under Federal Title IX laws and are required to report a wide range of behaviors we refer to as sexual misconduct, including the types of sexual misconduct covered under Texas Senate Bill 212. The Title IX office has developed supportive ways to respond to a survivor and compiled campus resources to support survivors."

Land Acknowledgment

(I) We would like to acknowledge that are class meets on Indigenous land. Moreover, (I) We would like to acknowledge and pay our respects to the Carrizo & Comecrudo, Coahuiltecan, Caddo, Tonkawa, Comanche, Lipan Apache, Alabama-Coushatta, Kickapoo, Tigua Pueblo, and all the American Indian and Indigenous Peoples and communities who have been or have become a part of these lands and territories in Texas, here on Turtle Island.

University Resources for Students

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus:

Services for Students with Disabilities

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact
Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329- 3986 (video phone).
http://ddce.utexas.edu/disability/about/

Counseling and Mental Health Center

I urge students who are struggling for any reason and who believe that it might impact their performance in the course to reach out to me if they feel comfortable. This will allow me to provide any resources or accommodations that I can. If immediate mental health assistance is needed, call the Counseling and Mental Health Center (CMHC) at 512-471-3515 or you may also contact Bryce Moffett, LCSW (iSchool CARE counselor) at 512-232-2983. Outside CMHC business hours (8a.m.-5p.m., Monday-Friday), contact the CMHC 24/7 Crisis Line at 512-471-2255.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support.
http://www.cmhc.utexas.edu/individualcounseling.html

The Sanger Learning Center

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas.

For more information, please visit http://www.utexas.edu/ugs/slc or call 512-471-3614 (JES A332).

Undergraduate Writing Center: http://uwc.utexas.edu/
Libraries: http://www.lib.utexas.edu/
ITS: http://www.utexas.edu/its/
Student Emergency Services: http://deanofstudents.utexas.edu/emergency/

Basic Needs Security
Any student who faces challenges of affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believe this may affect their performance in the course, is encouraged to contact the Office of the Dean of Students – Student Emergency Services (SES) for support. Please notify the instructor if you are comfortable doing so and I will make efforts to provide any resources that I may possess to help you navigate issues of food insecurity or residential displacement.
SES Concerns and
Emergencies: http://deanofstudents.utexas.edu/emergency/concernsemergencies.php
SES Food Pantry:
http://deanofstudents.utexas.edu/emergency/pantry.php
SES Confidential Advocacy and
Support: http://deanofstudents.utexas.edu/emergency/advocacysupport.php

BeVocal
BeVocal is a university-wide initiative to promote the idea that individual Longhorns have the power to prevent high-risk behavior and harm. At UT Austin all Longhorns have the power to intervene and reduce harm. To learn more about BeVocal and how you can help to build a culture of care on campus go to wellnessnetwork.utexas.edu/BeVocal

Important Safety Information

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right – it probably isn't. Trust your instincts and share your concerns.

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/
Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at:
www.utexas.edu/emergency

Course Readings/Schedule

Unit I: Hardware & User Experience

Week 1 August 22, 2023
Course Introductions
Software and Technology Preparation

Week 2 August 29, 2023

Defining Virtual Reality
    Bailenson, J. (2018). Practice made perfect. In *Experience on demand : What virtual reality is, how it works, and what it can do.* New York: W. W. Norton & Company.

Technological Immersion
    Cummings & Bailenson (2016). How immersive is enough? A meta-analysis of the effect of immersive technology on user presence. *Media Psychology*, *19(2),* 272-309

    Bailenson, J. (2018). How to build good vr content. In *Experience on demand: what virtual reality is, how it works, and what it can do.* New York: W. W. Norton & Company.

Optional reading:
    Spanlang, B., Normand, J-M, Borland, D., Kilteni, K., Giannopoulos, E., Pomes, A., Gonzalez-Franco, M.,…Slater, M., (2014). How to build an embodiment lab: Achieving body representation illusions in virtual reality. *Frontiers in Robotics and AI*, 27 (9), 1-22.

Week 3 September 5, 2023
Quiz #1
Forming Collaborative Project Groups

Week 4 September 12, 2023
Introduction to Unity
Unit II: Avatars & User Experience

Week 5 September 19, 2023
Avatars

    Bailey, J.O., & Bailenson, J.N. (2015). Virtual Reality and Collaboration. In R.A. Calvo, S.K. D'Mello, J. Gratch, & A. Kappas (Eds)., *The oxford handbook of affective computing* (pp.494-502)

    Bailenson, J. (2018). Protecting Nonverbal data tracked in virtual reality. JAMA *Pediatrics*, *172* (10), 905-906.

Optional Reading

    Steptoe, W., Steed, A., & Slater,M. (2013). Human tails: Ownership and control of extended humanoid avatars, *IEEE Transactions on Visualization and Computer Graphics*, *19* (4), 583-590. doi: 10.1109/TVCG.2013.32.

Week 6 September 26, 2023
Quiz #2
Avatar & Side Quest Tutorial

Unit III: Agents and User Experience

Week 7 October 3, 2023

Embodied Agents

    Bailenson, J. (2018). Bringing social back into the network. In *Experience on demand : what virtual reality is, how it works, and what it can do.* New York: W. W. Norton & Company.

    Gratch, Jonathan et al. "Creating Rapport with Virtual Agents." *Intelligent Virtual Agents*. Berlin, Heidelberg: Springer Berlin Heidelberg. 125–138. Web.

Optional Reading

    Blascovich, J., Loomis, J., Beall, A., Swinth, K., Hoyt, C., & Bailenson, J.N. (2002). Immersive virtual environment technology as a methodological tool for social psychology. Psychological Inquiry, 13, 103-124.

Week 8 October 10, 2023
Quiz #3
Agent Tutorial
Project Check-in and Work Session

Unit IV: Group Projects and User Experience

Week 9 October 17, 2023
Group Self-Evaluation
Unity Tutorial & Project Work Session/Testing

Week 10 October 24, 2023
Unity Tutorial & Project Work Session/Testing

Week 11 October 31, 2023
Unity Tutorial & Project Work Session/Testing

Week 12 November 7, 2023
Unity Tutorial & Project Work Session/Testing

Week 13 November 14, 2023
VR Showcase

Week 14 November 21, 2023
No class- holiday week

Week 15 November 28, 2023
Collaboration Statements and Final Project Reflections due