

AET 334L User Interface / User Experience for Games

UID: 20590

Professor: MJ Johns (they/them) Office Hours: MW 12:45-1:45pm; T 1-4pm

Meetings: MW 3:30-5pm TA: Office Hours: TBD

Course Mode: Online

Overview

This course will focus on UI/UX techniques in game development including flow diagrams, wireframes, user-centered design, usability testing, UI art asset creation, and UI scripting. During this course, students will design and develop a complete User Interface for a game with particular emphasis on how the user interacts and engages with it and how the UI provides feedback to the player. This course will also cover topics on physical interfaces and accessibility considerations.

Learning Outcomes

Upon successful completion of this course, you will be able to:

- Analyze a digital interface to determine its elements, input, and feedback
- Analyze a physical interface to determine its functionality
- Assess a non-game experience for its usability/accessibility
- Design and build a functional User Interface including art, sound, and code
- Document and present your design process

These skills will benefit you in your future collaborative projects as well as preparing you for a career in game development.

You are encouraged to consider your own learning goals for this semester. Write them down and periodically check to see if you are working towards them.

Assessment

All homework assignments and in-class activities are equally weighted toward 50% of the final class grade. Two larger projects will be worth 15% each, one due at midterms and one due at the end of the semester, and will be graded based on the provided rubric. Assignments are due by the start of class on the due date. Participation and professionalism account for 20% of the final grade.

Late Work: It is important to discuss extensions at least 48 hours before a deadline. Same-day extensions *will not* be granted, but with enough notice an alternative deadline can be arranged.

Teams will be expected to meet and work together outside of class. Be prepared to schedule 2-3 hours per week outside of class for team meetings and collaboration. Synchronous class time will also be set aside for group work.

Note: *If you cannot attend class for any reason, please email the instructor/TA and review the Zoom recording and complete any in-class activities.*

Prerequisites

Foundations of Game Development (AET 318) and Foundations of Creative Coding (AET 310). In addition, you should be comfortable working in a game engine such as Unity (typically covered in the two classes above).

Units of Study



❖ Analyzing an Interface

- Physical Interface
 - Output: Display & Speakers
 - Input: Keyboard, Mouse, Controller
- Digital Interface
 - Buttons & Sliders
 - Text
 - Icons
 - Sound Effects

❖ Creating an Experience Flow

- Existing Game
 - Begin with launching the game, step by step until closing the game
 - Take screenshots and document steps
- New Game
 - What do you want the experience to be?
 - User-Centered Design

❖ Designing with Wireframes

- Start Screen
- Tutorial
- Heads Up Display
- Menu / Win / Lose / Pop Up Screens
- Button Mapping

❖ Creating UI Assets

- Icons & Buttons
- Fonts
- Sliders
- Sound Effects (button clicks, popup sounds)
- VFX (particles for damage / health to supplement text)

❖ Implementing Functional UI

- Unity / C#
 - Build UI Layouts
 - Start Screen / HUD / Menus
 - Script Buttons / Text / Sliders
 - Animations / Sounds / Particles

Calendar

Wk		Topic	Assignment Due
1	8 /26	Course Overview, Syllabus	8 /26 A0: Getting to Know Each Other
2	8 /31 9 /2	User Interface and User Experience Physical Interface and Digital Interface	9 /2 A1: Real-World Analysis
3	9 /7 9 /9	<i>No Class</i> HW 1 Presentations	9 /9 HW 1: Physical Interface Analysis (group)
4	9 /14 9 /16	User Experience and Flow Creating a Flow Diagram	9 /14 HW 2: Digital Interface Analysis (group) 9 /16 A2: Real-World Experience Flow
5	9 /21 9 /23	HW 3 Presentations User-Centered Design and Accessibility	9 /21 HW 3: Flow Diagram of Existing Game (group) 9 /23 HW 4: Flow Diagram of Your Project
6	9 /28 9 /30	Assessing Your Target Audience Creating Wireframes	9 /28 HW 5: Target Audience Assessment (group) 9 /30 A3: Wireframes of Existing Game
7	10 /5 10 /7	Usability Testing UI Documentation	10 /5 HW 6: Wireframes of Your Project
8	10 /12 10 /14	Project 1 Presentations Conveying Visual Information	10 /12 Project 1: Complete UI Design
9	10 /19 10 /21	Finding References Creating Sprites for Icons and Buttons	10 /19 A4: Sharing Reference Games
10	10 /26 10 /28	Choosing Fonts and Sounds HW 7 Presentation	10 /26 HW 7: UI Assets for Your Project
11	11 /2 11 /4	Creating Unity UI Scenes Importing Art and Fonts	11 /2 A5: Shared Unity Project
12	11 /9 11 /11	UI Presentations Scripting Popups and Buttons	11 /9 HW 8: Unity UI Scenes
13	11 /16 11 /18	Scripting Health Bar and Points UX and Juice (Animations, VFX, SFX)	11 /18 HW 9: UI Script
14	11 /23 11 /25	Juice Continued <i>No Class</i>	11 /23 HW 10: UX Juice (Record Video)
15	11 /30 12 /2	Final Presentations Final Presentations	11 /30 Project 2: Final Functional UI
16	12 /7	Portfolio	Add final project and process document to portfolio

Process

This is a Flipped/Blended class, meaning that videos/readings/games will be assigned to complete outside of class, and class time will be reserved for discussions, activities, and group work. Come prepared to contribute to each class.

Most activities in this class will be collaborative and will involve critical thinking and problem solving while working with others. You will build on prior skills in art, audio, code, and design to contribute to the group and solo projects.

This is a safe space for failure. Don't be afraid to try something ambitious or challenging!

What Will You Do?

- Analyze existing systems
- Collaborate and brainstorm
- Design iteratively
- Be creative and thoughtful
- Solve technical challenges
- Help (and learn from) your classmates

What Will You Make?

- A UX Design Packet, including:
 - Flow Diagram
 - Wireframes
 - UX Research
 - Art Direction
- A Fully-Functioning UI, including:
 - UI Art (buttons, icons, font)
 - Sound Effects and Animations
 - Scripted Interactions

Study Habits

Time Management

A valuable skill for traditional classes, and a crucial skill for online/hybrid classes. Take control of your schedule and optimize your time for success. Below you will find several excellent resources for better managing your time:

- [Randy Pausch's Time Management](#)
- [Time Management Fundamentals](#)
- [Tips for Working Remotely](#)
- [Remote Office Productivity](#)

Note Taking

Taking notes helps you to retain more of the information you are learning. Although it may seem unnecessary for pre-recorded lectures (after all, you can rewatch them anytime), I encourage you to consider the value of the note taking process even for asynchronous material.

- [Study Skills \(Part 2: Note Taking\)](#)

Professionalism in Remote Work

While colleges converted to online out of necessity, remote work in the tech industry has been commonplace for years. It is highly likely you will work in some kind of online setting during your career. This class is an opportunity to practice professionalism in an online environment.

- [Video Conference Presence](#)
- [Writing Business Emails](#)
- [Virtual Teams](#)
- [Freelancing Tips](#)

Classroom Policy



This course will have synchronous meetings on Zoom (set-up your account at (<https://utexas.zoom.us/>)). You can find the Zoom meeting links on Canvas under the Zoom tab. You must be logged in with a UT ID to access the classroom. If you have trouble logging in please contact IT for help.

In an effort to create a community and get to know each other, you are required to have your face visible during the synchronous Zoom meetings either using a webcam, or by having a recent photo for your Zoom profile picture (*not an icon, avatar, or gif*).

We will have asynchronous discussions and activities on Canvas and on Slack. Please join the Slack [AET 334L UIUX](#). Once you join the Slack please set your name and profile picture.



Participation in both the synchronous Zoom and the asynchronous Slack counts towards your Professionalism grade - please be respectful of others at all times.

Class Recordings Notice: *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.*

Required Equipment & Material

All students **MUST** have access to a computer (Mac or PC) that can run Unity, and internet access. If you do not have access to these, please seek help through the [Student Emergency Fund](#) or [Texas One Stop](#).

You will also need paper and pens/pencils. You may also find it useful to have a smartphone or camera for taking pictures of hand-drawn ideas.

Strongly recommended: USB or Bluetooth mouse - laptop touchpads are not ideal for Unity.

Resources

[Getting Started with Unity](#)

[MJ's Tutorial Series](#)

(Optional) *The Gamer's Brain* by Celia Hodent and *Understanding Comics* by Scott McCloud

Grades

Homework and In-Class Activities: 50%
Participation and Professionalism: 20%
Project 1: 15%
Project 2: 15%

Final grades will be determined on the basis of the following rubric. Please note: to ensure fairness, all numbers are absolute, and will not be rounded up or down at any stage. Thus a B- will be inclusive of all scores of 80.000 through 83.999. The University does not recognize the grade of A+.

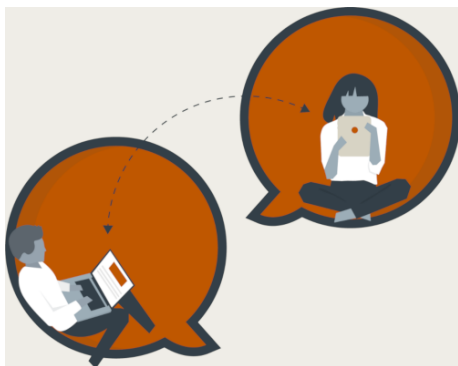
A = 94-100	A- = 90-93	B+ = 87-89
B = 84-86	B- = 80-83	C+ = 77-79
C = 74-76	C- = 70-73	D+ = 67-69
D = 64-66	D- = 60-63	F = 0-60

Resubmitting Assignments

If you are disappointed by an assignment grade, you may request to resubmit. If it is a team assignment, all team members must be involved in this conversation. In order to make this request you must provide an explanation of what you will improve to earn an increased grade.

Attendance Policy

As detailed above, attending class during the scheduled synchronous Zoom meeting times earns Professionalism credit. Class time will be used for collaborative activities, and students must be *active participants* to receive credit.



If attending a scheduled class meeting is not possible, students are expected to promptly notify the instructor of extenuating circumstances and provide an update of their progress to teammates and instructors, or complete relevant class activities on their own time.

All absences will be excused if you inform us by the end of the missed class day and provide the relevant updates. An emergency absence can also be excused after the fact (such as medical/family emergency or loss of internet).

Communication with instructors and teammates is crucial. If you do not inform us of the absence, it will be “unexcused” and will deduct 2 points from the professionalism grade (out of 20).

Universal Design for Learning (UDL) and Inclusive Instructional Design (IID)

This course was designed following principles of Universal Design for Learning and Inclusive Instructional Design. Wherever possible, course materials will be provided in a variety of different formats including text, video, audio, and interactive (games).

Other accessibility considerations have been made such as text versions or Closed Captions, screen reader capability, and flexible deadlines. There are no timed tests - all quizzes will have unlimited time and allow multiple attempts. Excused absences will be allowed provided you give advance notice to instructor and teammates, and complete the in-class activity on your own time.

Services for Students with Disabilities (SSD)

As stated above, this course was designed to be accessible and inclusive to all, however there may still be cases where accommodations need to be made. If you feel there are any barriers you might face, whether documented or not, please feel free to discuss them with me. I am open to any ideas you have that will make this course better for you.

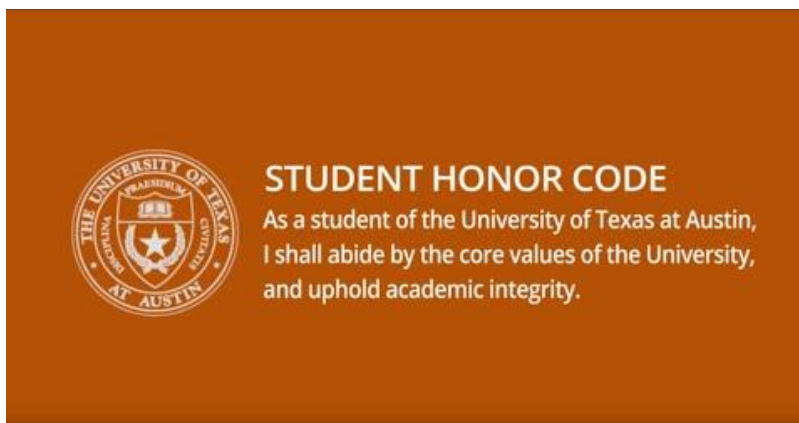
The University of Texas at Austin provides academic accommodations for qualified students with disabilities. For more information, contact Services for Students with Disabilities (512-471-6259, ssd@austin.utexas.edu, <http://ddce.utexas.edu/disability/>, or videophone 512-471-6644).

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, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name, unless they have added a "preferred name" with the Gender and Sexuality Center (<http://diversity.utexas.edu/genderandsexuality/publications-and-resources/>).

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 gender 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.

Academic Integrity



The University's Honor Code states that "As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity." You are expected to maintain absolute integrity and a high standard of individual honor in scholastic work undertaken at the University.

At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:

- acknowledge the contributions of other sources to your scholastic efforts
- follow instructions for assignments and observe the standards of your academic discipline
- avoid engaging in any form of academic dishonesty

(adapted from http://deanofstudents.utexas.edu/sjs/acint_student.php)

Academic Dishonesty

In promoting a high standard of academic integrity, the University broadly defines academic dishonesty as including any act designed to give an unfair or undeserved academic advantage, such as: Cheating, Plagiarism, Unauthorized Collaboration / Collusion, Falsifying Academic Records, Misrepresenting Facts (e.g., providing false information to postpone an exam, obtain an extended deadline for an assignment, or even gain an unearned financial benefit), Multiple submissions (submitting essentially the same written assignment for two courses without authorization to do so), Any other acts (or attempted acts) that violate the basic standard of [academic integrity](#).

Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. (from http://deanofstudents.utexas.edu/sjs/acint_faculty_syllabus.php)

Plagiarism

“Plagiarism” includes, but is not limited to, the appropriation of, buying, receiving as a gift, or obtaining by any means material that is attributable in whole or in part to another source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course requirement (from [Sec. 11-402](#)).

Student Support Services



There are numerous free and/or low-cost support services available to students at UT. They include (but are not limited to) the following:

Fine Arts Career Services (512-232-7333, utexas.edu/finearts/careers) provides a full range of services and resources to support students and alumni.

The Undergraduate Writing Center (512-471-6222, uwc.utexas.edu) helps students with every phase of writing assignments for their courses.

The Sanger Learning Center (512-471-3614, utexas.edu/ugs/slc) provides study skills, time-management, and note-taking courses.

University Health Services (512-471-4955, healthyhorns.utexas.edu) provides medical and health promotion services for currently enrolled students and some non-students who are officially enrolled in certain University programs.

The Counseling and Mental Health Center (512-471-3515, cmhc.utexas.edu) helps students with their personal concerns so that they can meet the daily challenges of student life.

University Attendance Policy: Religious Holy Days

As discussed in the Attendance Policy, all absences will be excused provided you inform me prior to the absence, including observance of a religious holy day.

Q Drop Policy

The State of Texas has enacted a law that limits the number of course drops for academic reasons to six (6). As stated in Senate Bill 1231: "Beginning with the fall 2007 academic term, an institution of higher education may not permit an undergraduate student a total of more than six dropped courses, including any course a transfer student has dropped at another institution of higher education, unless the student shows good cause for dropping more than that number."

Behavior Concerns Advice Line (BCAL)

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>

Title IX Reporting

Title IX is a federal law that protects against sex and gender-based discrimination, sexual harassment, sexual assault, sexual misconduct, dating/domestic violence and stalking at federally funded educational institutions. UT Austin is committed to fostering a learning and working environment free from discrimination in all its forms.

When sexual misconduct occurs in our community, the university can:

1. Intervene to prevent harmful behavior from continuing or escalating
2. Provide support and remedies to students and employees who have experienced harm or have become involved in a Title IX investigation
3. Investigate and discipline violations of the university's relevant policies(<https://titleix.utexas.edu/relevant-policies/>)

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.

I am a Responsible Employee and must report any Title IX related incidents that are disclosed in writing, discussion, or one-on-one. Before talking with me, or with any faculty or staff member about a Title IX related incident, be sure to ask whether they are a responsible employee. 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 1-1512-471-0419.

UT Electronic Mail Notification Policy



Electronic mail (e-mail) is a mechanism for official University and instructor communication to students. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University- and course-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.

It is the responsibility of every student to keep the University and instructor informed of [changes in their official e-mail address](#). Consequently, e-mail returned with "User Unknown" is not an acceptable excuse for missed communication. Similarly, undeliverable messages returned because of a full inbox or use of a spam filter will be considered delivered without further action required of the University or instructor. (see [e-mail notification policy](#))

Professor Bio

MJ Johns (they/them) is an Assistant Professor of Practice in the Department of Arts and Entertainment Technologies. MJ has worked in game design and development studios ranging from small start-ups to larger AAA teams. They have experience with a variety of technology including mobile, PC, web, VR, and AR. MJ's AAA credits include Call of Duty: Modern Warfare Remastered and Mafia III.

In addition to teaching Game Design, MJ also runs their independent game studio Astire Games developing and publishing mobile and web games, including recent releases Spell Sigil and Cosmos Arena.



You did it! Thanks for reading the syllabus!