Designing User Interfaces for Children
INF 385T
Fall Semester 2019

Class Day and Time: Mondays 3:00pm-6:00pm

Class Location: UTA 1.204

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

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University Catalog Course Description

Interactive digital technology infiltrates homes, schools, and entertainment venues, changing how people think, and socialize. What is the impact of growing up with substantially greater access to information? How might a user's age influence such technologies' use?

Each week will consist of lecture and/ or class discussion, digital media labs, or presentations.   Labs will consist of interacting with and evaluating a digital technology and/or creating content based on cognitive and social development research. Weekly readings are to be completed before class, and students are expected to participate in discussions as well as submit relevant examples that incorporate that week's readings and/or labs. Finally, students will complete a design project to create an age-appropriate digital technology based on the course material and additional outside sources.   The design project will include a paper write up and in-class presentation.

Course Objectives and Learning Outcomes

The course provides students with an overview of topics related to child development and user interface design for children, with an emphasis on early and middle childhood.

Through this course students will learn about technology's potential impact on cognitive and social development and how child development relates to media design. Students will interact and

evaluate digital media technologies on children's learning, including social learning.

Topics include, but are not limited to, brain development, social cognition, symbolic processing, media usage, and self-representation.

<u>Students will be able to:</u>

- Understand and employ developmental research and theory to design digital interfaces for children

- Effectively identify and evaluate features of media- technology through a cognitive and social developmental lens

- Discuss the pros and cons of if and when to introduce technology into children's lives

- Develop interpersonal communication skills and collaborative work skills

Course Requirements

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

Bring the appropriate material for note taking, and writing. Although laptops are permitted, 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.

Small snacks and drinks are welcome in the classroom but meals are not. This policy will remain in effect until it becomes a distraction or disruption.

<u>Course Materials</u>
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 readings as

well as material not covered in the readings. The course calendar and readings are subject to change.

According to the class schedule, students will need to bring or have access to a laptop in class for lab work as well as a digital camera such as on a smartphone, laptop computer, or tablet.

Assignments

Assignment Overview
Class participation and attendance: 20%
Lab Reports and Presentations: 35%
Final project: 45%

Participation & Attendance
Class participation will comprise of 20% of the final grade. Weekly readings are to be completed before class. All students are expected to participate in discussions/ activities in class and on the course website. Half of your score will relate to participation and the other half to attendance.

As part of class participation students may include posting content related to the readings such as a discussion question or an example of an artifact. These submissions are designed to help you prepare for class as well as the lab assignments. To receive full credit, responses must explicitly refer to and synthesize the readings of the week

Students are expected to attend all class sessions, to arrive on time and stay for the duration of class. Students cannot to take this course if they are enrolled in other courses that conflict with our class time. 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.

Attendance will be taken during each class period. Absences will only be excused in situations following University policy (i.e., illness, religious holy days, participation in University activities at the request of university authorities, and compelling absences beyond your control) with proper documentation and timely notification (prior to class for non-emergencies).

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. 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. Excessive tardiness may be considered as an unexcused absence except in situations following university policy.

<u>Labs</u>
Labs will consist of students in groups of 3 interacting with and/or evaluating a digital technology in terms how it relates to cognitive and social development and designing digital interfaces for children. For each lab, students will submit an artifact and a 2 to 4-page write-up responding to the lab prompt.

The artifact and write-up should reflect the course's readings and lectures (more details for the lab requirements will be in each prompt). All materials must be submitted by the designated day and time. Late submissions will not be accepted. Labs comprise of 35% of the final grade.

<u>Final Project</u>
Finally, in pairs, students will assess users' interactions with a media-technology. They will present their findings and provide recommendations based on research, theory, and their collected data. Finally, groups will present their design project in class and submit a term paper (1 per pair). In addition, each group member will individually submit a collaboration statement providing their perspective on the quality of the overall group collaboration. The final project will consist of 45% of the final grade.

Course at a glance

Week, Date	Topic	Note or Deadline
Week 1	• No Class	
Week 2	• No Class	Labor Day
Week 3	• Approaches to Learning • Approaches to Interface Design	
Week 4	• Symbolic & Conceptual Understanding	
Week 5	• Executive Function and Attention • Designing Apps & Games	Lab#1 Due
Week 6	• Digital Representations	Lab #2 Due
Week 7	• Fantasy & Reality	No official class: Work on own
Week 8	• Social Cognition	Lab #3 Due
Week 9	• Final Project: Readings TBD	Final Project Assignment #1
Week 10	• Final Project: Readings TBD	Final Project Check-in
Week 11	• Final Project: Readings TBD	
Week 12	• Final Project: Readings TBD	
Week 13	• Final Project: Readings TBD	Final Project Assignment #2
Week 14	• Final Project: Readings TBD	
Week 15	• Final Project: Readings TBD	
Week 16	• Project Presentations • Conclusions	Final Paper and Collaborations Statement Due

<u>Grading</u>
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	Points/Percentage	Grade	Points
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		

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. It is always helpful if your e-mail includes a focused subject line that begins with "INF 385T." **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.

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.

Style manual
Please use the American Psychological Association's style manual. 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/

Personal Pronoun Preference
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. I will gladly honor your request to address you
by an alternate name or gender pronoun. Please advise me of this
preference early in the semester so that I may make appropriate
changes to my records.

Student Rights & Responsibilities

- You have a right to a learning environment that supports mental
  and physical wellness.
- You have a right to respect.
- You have a right to be assessed and graded fairly.
- You have a right to freedom of opinion and expression.
- You have a right to privacy and confidentiality.
- You have a right to meaningful and equal participation, to self-
  organize groups to improve your learning environment.
- You have a right to learn in an environment that is welcoming to
  all people. No student shall be isolated, excluded or diminished in
  any way.

With these rights come responsibilities:

- You are responsible for taking care of yourself, managing your time, and communicating with the teaching team and with others if things start to feel out of control or overwhelming.
- You are responsible for acting in a way that is worthy of respect and always respectful of others.
- Your experience with this course is directly related to the quality of the energy that you bring to it, and your energy shapes the quality of your peers' experiences.
- You are responsible for creating an inclusive environment and for speaking up when someone is excluded.
- You are responsible for holding yourself accountable to these standards, holding each other to these standards, and holding the teaching team accountable as well.

University Policies

Academic Integrity
Each student in the course is expected to abide by the University of Texas Honor Code: "As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity." **Plagiarism is taken very seriously at UT.** Therefore, if you use words or ideas that are not your own (or that you have used in previous class), you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course. You are responsible for understanding UT's Academic Honesty and the   University Honor Code which can be found at the following web address:
http://deanofstudents.utexas.edu/sjs/acint_student.php

Q Drop Policy
If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see:
http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop

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
Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

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

Week 1

August 26, 2019
No official class

Week 2

September 2, 2019
Labor Day- No official Class

Review syllabus and course expectations.

Week 3

September 9, 2019
Approaches to Learning

National Scientific Council on the Developing Child. (2007). The timing and quality of early experiences combine to shape brain architecture. Working Paper No.5.

Knudsen, E.I. (2004). Sensitive periods in the development of the brain and behavior. *Journal of Cognitive Neuroscience, 16*(8), 112-1425.

Rogoff, B. (1990). Chapter 6 from *Apprenticeship in thinking: Cognitive Development in Social Context*. New York, NY, US: Oxford University Press. 110-134.

Approaches to Interface Design

Gleman, D.L. (2014). Chapter 2: Playing and Learning In *Design for Kids: Digital Products for Playing and Learning*. Brooklyn, New York: Rosenfeld Media.

Norman, D. (2013). The psychopathology of everyday things. In The d*esign of everyday things:* Revised and expanded edition (pp. 1-36). New York, New York: Basic Books.

Week 4

September 16, 2019
Conceptual and Symbolic Development

DeLoache, J. S. (2004). Becoming symbol-minded. *Trends in Cognitive Science, 8*(2), 66-70.

Richert, R.A., Robb, M.B., & Smith, E.I. (2011). Media as social partners: The social nature of young children's learning from screen media. *Child Development*, *82*(1), 82-95.

Hirsh-Pasek, K. & Golinkoff, R.M.(2003) *Einstein never used flashcards: How our children really learn—and why they need to play more and memorize less*. United States of America: Rodale
READ: *Playing the numbers: How children learn about quantity* Sections: Counting principles: What children can do when.

Gleman, D.L. (2014). *Design for Kids: Digital Products for Playing and Learning*. Brooklyn, New York: Rosenfeld Media.
READ these sections in Chapter 6 6- 8 year olds:
"High Score"
"We Need Some Stinkin' Badges"

Interface Design & Conceptual & Symbolic Development Lab

Week 5

September 23, 2019
Approaches to Interface Design Lab #1 Due at 9:00am

Executive Function & Attention
Obradović, J., Portilla, X. A., & Boyce, W. T. (2012). Executive Functioning and Developmental Neuroscience: Current Progress and Implications for Early Childhood Education. In R. C. Pianta, L. Justice, W. S. Barnett & S. Sheridan (Eds.), Handbook of Early Childhood Education (pp. 324-351). New York: Guilford

Designing Games and Applications for Children

Hirsh-Pasek, K., Zosh, Golinkoff, R.M., Gray, J.H. Robb, M.B, & Kaufman, J. (2015). Putting education in "education" apps: Lessons from the science of learning. *Psychological Science in the Public Interest, 16*(1), **Read pages 7-34.**

Gleman, D.L. (2014). *Design for Kids: Digital Products for Playing and Learning*. Brooklyn, New York: Rosenfeld Media.
READ:

Chapter 5 4-6 year-olds: "Make Learning Part of the Game"; "Give Feedback and Reinforcement"; "Keep it Challenging"

Chapter 6 Section 6-8-year olds: "Explain, Explain, and Explain Again"

Chapter 7 Sections 8- 10-year-olds: "Up the Complexity"

"Stranger Danger" until the end.

Lab #2 Executive Function and Attention

Week 6

September 30, 2019

*Executive Function and Attention Lab #2 Due at 9:00am *

Digital Representations: Avatars and Embodied Agents
Bailenson, J.N. & Blascovich, J. (2004). Avatars. *Encyclopedia of Human-Computer Interaction*, Berkshire Publishing Group, 64-68

Kätsyri, J., Förger, K., Mäkäräinen, & Takala, T. (2015). A review on different uncanny valley hypotheses: Support for perceptual mismatch as one road to the valley of eeriness. *Frontiers in Psychology, 6* (390) Retrieved from https://www.frontiersin.org/articles/10.3389/fpsyg.2015.00390/full

Brunick, K.L., Putnam, M.M., McGarry, L.E., Richards, M.N., & Calvert, S.L. (2016). Children's future parasocial relationships with media characters: The age of intelligent characters. *Journal of Children and Media, 10* (2), 181-190.

Bailey, R., Wise, K., & Bolls, P. (2009) How avatar customizability affects children's arousal and subjective presence during junk food-sponsored online video games. *CyberPyschology & Behavior, 12*93), 277-283.

Yee, N., & Bailenson, J.N. (2009). The proteus effect: Implications of transformed digital self-representation on online and offline behavior. *Communication Research, 36*(2), 25-312.

Digital Representations Lab #3

Week 7

October 7, 2019
No Official Class: Work on own

Fantasy and Reality
>Richert, R.A., Shawber, A.B., Hoffman, R.E., & Taylor, M. (2009). Learning from fantasy and real characters in preschool and kindergarten. *Journal of Cognition and Development*, *10* (1-2), 41-66.
>
>Woolley, J.D., & Ghossainy, M.E. (2013). Revisiting the fantasy-reality distinction: Children as naïve skeptics. *Child Development*, *84* (5), 1496-1510

Week 8

October 14, 2019
Digital Representations Lab Due at 9:00am

Introduction to Final Project

Social Cognition
>Blakemore, S.-J, & Mills, K.L. (2013). Is adolescence a sensitive period for sociocultural processing? *Annual Review of Psychology*, *65*, 9.1-9.21.
>>Read: 9.1-9.6 (stop before "Social brain network")
>Read: 9.10-9.16 (Start at "Peer rejection)

Week 9

October 21, 2019
Final Project Assignment #1 Due at 9:00am
Final Project: Readings TBD

Week 10
October 28, 2019
Final Project: Readings TBD
Week 11
November 4, 2019
Final Project: Readings TBD

Week 12

November 11, 2019
Final Project: Readings TBD

Week 13

November 18, 2019
Final Project Assignment #2 Due at 9:00am
Final Project: Readings TBD

Week 14

November 25, 2019
Final Project: Readings TBD

Week 15

December 2, 2019
Final Project: Work Session

Week 16

December 9, 2019
Final Paper & Collaboration Memo Due at 9:00am

Project Presentations
Conclusions