# LMC 6310:

# The Computer as an Expressive Medium

Fall 2020

Location:

Online – Synchronous MS Teams

Times:

MW: 9:30a – 10:20a
F (lab): 9:30a –12:15p

Instructor:

Dr. Anne Sullivan
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TA:

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## Course Description

How do we express ourselves through digital media? What roles do the creator and technology play in this process? And how does the creation and existence of digital media affect our culture, society, and environment? The goal of this course is to gain computational literacy and experience applying critical perspectives to programming and prototyping as a creative practice; that is, to understand computation as an expressive medium. We will juxtapose reading and discussion of seminal articles and works in computational media with interactive digital projects designed to exercise specific technical skills as well as encourage conceptual explorations in computational art and design and what it means to "make with meaning".

This version of the course follows an interactive and user-centric approach. We will cover narrative, procedural, and tangible digital media in the following ways:

1. Introduction to vocabulary, theories, and research areas specific to that medium through discussion and foundational readings.
2. Applying critical perspectives to foundational work by reading critical works and focusing on questions and challenges from our perspective in discussions.

3. Explore examples of existing media to better understand ways in which these challenges and questions have been approached.
4. Create hand-on projects for each of these domains, using a critical perspective developed through the readings and discussions.

Students will read selected foundational texts for specific media formats, present examples, engage in critical reflections, discuss challenges and open questions, and experiment with their own responses to all of this through the assignments. Some coding exposure is beneficial, and you will be introduced to Twine, JavaScript, P5.js, and Arduino.

Projects may require some small purchases such as Arduino hardware prototyping kits for the third project (although some are also available for checkout). However, there is no single textbook, and all readings will be provided online. We will use online tools to support collaboration as effectively as possible as this is a course that builds on active discussion and critical reflection.

## Learning Objectives

- Gain familiarity with seminal readings and works in the fields of interactive narrative, generative art/coding, and interaction design.
- Demonstrate comprehension, application, and justifications of theoretical knowledge when creating digital media artifacts.
- Demonstrate the ability to design, create, and assess digital media artifacts and contextualize them within theoretical frameworks, combining humanities and computation to “make with meaning.”

## Materials

Students will be required to buy or check out any needed materials, primarily for the Arduino project later in the semester.

## Required Texts & Artifacts

All texts will be provided or available in pdf format.

Some artifacts we examine in class may not be free, but it is my intention to keep the cost as low as possible.

# Course Schedule

**Please note:** changes can (and will) occur!

| Week | Dates | Class Topic | Reading – due by start of class |
|---|---|---|---|
| 1 | 8/17 | Introductions & Course Overview | |
| | 8/19 | Introduction to Critical Practice | • Harwood, Graham. "**Teaching Critical Technical Practice**." The Critical Makers Reader:(Un) learning Technology.<br>• Dada, Maria. "**The Counter-Testimony of the Maker**." The Critical Makers Reader:(Un) learning Technology 30.2 (2004).<br><br>Both readings are available here: https://networkcultures.org/wpcontent/uploads/2019/11/CriticalMakersReader.pdf |
| | 8/21 | Lab - Twine | |
| 2 | 8/24 | Introduction to Interactive Narrative | **Example**: Romeo and/or Juliet<br><br>**Readings:**<br>• Rettberg, Scott. ***Electronic literature***. John Wiley & Sons, 2018.<br>Chapters 1 & 4.<br>• Costikyan, Greg. "**Games, storytelling, and breaking the string**." Second Person: Roleplaying and Story in Playable Media (2007): 514. http://electronicbookreview.com/essay/games-storytelling-andbreaking-the-string/<br>**Video**:<br>https://www.youtube.com/watch?v=narjui3em1k<br>  |

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| | 8/26 | Examples of Interactive Stories – chosen and presented by students | See MS Teams for list |
| | 8/28 | Lab | |
| 3 | 8/31 | Critical Examinations of Interactive Narrative | Pick 2:<br>• Rouse, Rebecca. "**Someone Else's Story: An Ethical Approach to Interactive Narrative Design for Cultural Heritage**." International Conference on Interactive Digital Storytelling. Springer, Cham, 2019.<br>• Parvin, Nassim. "**Doing justice to stories: on ethics and politics of digital storytelling**." Engaging Science, Technology, and Society 4 (2018): 515-534.<br>• Nyamnjoh, Francis B. "**ICTs as Juju: African inspiration for understanding the compositeness of being human through digital technologies**." Journal of African Media Studies 11.3 (2019): 279-291.<br>• Salter, Anastasia. "**Playing at empathy: Representing and experiencing emotional growth through Twine games**." *2016 IEEE International Conference on Serious Games and Applications for Health (SeGAH)*. IEEE, 2016. |
| | 9/2 | **DUE: Narrative media idea** (presentation of your concept in class) | |
| | 9/4 | Lab | |
| 4 | 9/7 | Labor Day – No Class | |
| | 9/9 | Work on project (small group discussions) | |
| | 9/11 | Lab | |

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| 5 | 9/14 | Work on project (small group discussions) **DUE: Narrative Media Technical Prototype** | |
| | 9/16 | Work on project (small group discussions) | |
| | 9/18 | Lab - P5.js | |
| 6 | 9/21 | **DUE: Narrative Media Project (Project #1)** | |
| | 9/23 | Introduction to Computational/ Generative Media | • Galanter, Philip. "**What is generative art? Complexity theory as a context for art theory**." *In GA2003–6th Generative Art Conference*.2003. https://www.philipgalanter.com/downloads/ga2003_paper.pdf<br>• Cook, Michael. Possibility Space Blog - **Tutorial: Generative & Possibility Space**. http://www.possibilityspace.org/tutorial-generative-possibilityspace/index.html |
| | 9/25 | Lab | |
| 7 | 9/28 | Examples of generative art | **NON-INTERACTIVE LIST**<br>Look at a sampling of the projects shown on at least 3 of the websites:<br>• **Michael Hansmeyer** – visual http://www.michaelhansmeyer.com/projects<br>• **Nervous System** – visual, tangible https://n-e-r-v-o-u-s.com/projects/<br>• **Jared Tarbell** – visual http://www.complexification.net/gallery/<br>• **Inconvergent (Anders Hoff)** – visual https://img.inconvergent.net/ |

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| | | | (He also has some interesting writing about his process here for future reference: https://inconvergent.net/generative/<br>• panoramical – visual, audio (game is available if you want to try it out) http://www.panoramic.al/<br>• HatNote – visual, audio http://listen.hatnote.com/#<br>• Flowing Data – collection https://flowingdata.com/category/visualization/artisticvisualization/<br><br>INTERACTIVE ART LIST<br>Spend some time playing with the following two interactive examples:<br>• Chromata - https://www.michaelbromley.co.uk/experiments/chromata/<br>• Silk - http://weavesilk.com/<br>OPEN PROCESSING<br>Click through to some of the examples that look interesting:<br>• Open Processing - https://www.openprocessing.org/browse/# |
| | 9/30 | Critical Examinations of Computational/ Generative Media | • D'Ignazio, Catherine, and Lauren F. Klein. "Feminist data visualization." Workshop on Visualization for the Digital Humanities (VIS4DH), Baltimore. IEEE. 2016.<br>• Crawford, Kate. "Artificial intelligence's white guy problem." *The New York Times* 25.06 (2016). https://www.nytimes.com/2016/06/26/opinion/sunday/artificialintelligences-white-guy-problem.html |

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| | | | • Noble, Safiya Umoja. "Introduction." ***Algorithms of oppression: How search engines reinforce racism***. NYU Press, 2018 |
| | 10/2 | Lab | |
| 8 | 10/5 | DUE: procedural project idea (presentation of your concept in small groups) | |
| | 10/7 | Work on project (small group discussions) | |
| | 10/9 | Lab | |
| 9 | 10/12 | Work on project (small group discussions) | |
| | 10/14 | Work on project (small group discussions) | |
| | 10/16 | Lab | DUE: procedural project technical prototype |
| 10 | 10/19 | Work on project (small group discussions) | |
| | 10/21 | Work on project (small group discussions) | |
| | 10/23 | Lab | |
| 11 | 10/26 | Working day | |
| | 10/28 | DUE: procedural project (Project #2) | |
| | 10/30 | Lab | Using the microphone & webcam as inputs |
| 12 | 11/2 | Introduction to Glitch Art | DESIGN PERSPECTIVE<br>Glitch art design: an inside look at the history and best uses |

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| | | | of a modern trend https://99designs.com/blog/design-history-movements/glitch-artdesign/<br><br>PROCESS PERSPECTIVE<br>Glitch it Good: Understanding the Glitch Art Movement http://www.theperipherymag.com/on-the-arts-glitch-it-good |
| | 11/4 | NO CLASS | NO CLASS |
| | 11/6 | Lab | Databending Intro |
| 13 | 11/9 | Examples – Glitch Art | • https://photomosh.com/<br>• http://www.errozero.co.uk/glitchatron/#<br>• https://www.thisiscolossal.com/2015/11/faig-ahmed-glitchedrugs/ |
| | 11/11 | Critical Examinations of Glitch Art | • How Does Glitchy Art Show Us Broken Is Beautiful? \| Idea Channel \| PBS Digital Studios https://www.youtube.com/watch?v=7MCmBHPqz6I<br>  <br>• Shabbar, Andie. "Queer-Alt-Delete: Glitch Art as Protest Against the Surveillance Cis-tem." *Women's Studies Quarterly* 46, no. 3 & 4 (2018): 195-212.<br>• Menkman, Rosa. ***The glitch moment (um).*** Amsterdam: Institute of Network Cultures, 2011. |
| | 11/13 | DUE: glitch art project idea | Lab - Databending part 2 |
| 14 | 11/16 | work day | |
| | 11/18 | work day | |
| | 11/20 | Lab - work day | |

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| 15 | 11/23 | **DUE: glitch art technical prototype** | |
| | 11/25 | Thanksgiving Break | |
| | 11/27 | Thanksgiving Break | |
| 16 | 12/7 | **DUE: project presentation** (in-class, exam period) | |

## Statement on Inclusion and Diversity

The Ivan Allen College of Liberal Arts supports the Georgia Institute of Technology's commitment to creating a campus free of discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status. We further affirm the importance of cultivating an intellectual climate that allows us to better understand the similarities and differences of those who constitute the Georgia Tech community, as well as the necessity of working against inequalities that may also manifest here as they do in broader society.

## Information for Students with Disabilities

Students with disabilities at Georgia Institute of Technology will find programs designated to coordinate academic accommodations and promote access to all phases of university life. Such programming is coordinated through the ADAPTS-Disability Services.

The ADAPTS-Disability Services Program is a functional part of the Office of the Dean of Students. ADAPTSDisability Services Program personnel oversee and coordinate programs to ensure accessibility to students with disabilities on an individual basis. The Georgia Institute of Technology strives to provide equal access to a college education as well as support to students with disabilities in their experience in the university community.

More information is available at: http://disabilityservices.gatech.edu/

## What to do if you fall behind

Everybody drops the ball sometimes, especially during a global pandemic, and students often find themselves unable to keep up due to an illness or family emergency. If this happens to you, come and see me about it as soon as possible to make alternate arrangements for work that has been missed, and continue coming to class.

## Coping with our High-Stress Culture

The stresses of the current year from events outside the classroom make clear how important it is to look after ourselves and one another. The beginning of the semester is a good time to think about pacing your work, so you don't have to pull all-nighters and you don't get into a cycle of accelerating anxiety.

Make your own physical and mental health a priority. Set aside regular time to do things you enjoy that are not class, research, or work related. If you find yourself often skipping fun time in favor of work, schedule your fun activities at the beginning of your day, and do them before the work for the day.

If you are experiencing anxiety or depression or a medical, personal, or family crisis, or if you just feel overwhelmed and unable to cope with the many pressures of being a graduate student at Tech or a human being on this planet at this moment in time, please do not hesitate to reach out for help. Everybody needs help sometimes, and the graduate school years are often a personally challenging time in ways that can be frightening and isolating.

You are not alone, and many of us are available to be sympathetic listeners and to share our own strategies for coping with stressful situations. In addition, professional counselors and medical practitioners have expertise that can be very helpful. The Dean of Students Office has a list of services here: http://studentlife.gatech.edu/content/services

## Writing and Speaking Support at the Communications Center

Alumni consistently emphasize the value of presentation skills for success in digital media careers. Everyone is encouraged to maximize their writing and speaking skills so that you can do justice to your very smart ideas. You can get help from the Communication Center, located in Clough Commons 447 with trained professional and peer tutors offering help to undergraduate and graduate students with written projects and presentations. Their services are free and confidential, and they can be reached at commlab@gatech.edu or 404-385-3612 or via their website http://www.communicationcenter.gatech.edu

## Sharing of work

Participation in the course implies permission for sharing work with others in the class and with future students if your work is judged to be a good example. If you are not comfortable with this, please let me know. Unless I am informed by you in writing (email) that you do not want your work shared with others in the context of current and future versions of this course, I will assume that it is available.

## Requirements and Grading

You must complete all of these requirements to receive a grade in the course. If you fail to hand in any one of these, regardless of your total points, you will receive a grade of Incomplete.

Late work is not accepted unless you have discussed it with me. I am fairly flexible with these things; you just need to speak to me about it!

## Assignments

All students are responsible for the assigned readings, attending critiques & presentations, and four team project assignments:

P1: Interactive Narrative-based Design Experience

P2: Interactive Generative Design Experience

P3: Physical Interaction Design Experience

The grading scale will be: Participation (10%), P1 (30%), P2 (30%), P3 (30%)

## Honor Code Statement

Students are expected to adhere to the Georgia Tech Honor Code: http://honor.gatech.edu