

Syllabus: CM 202: Computational Media Research

Overview of computational media research strategies. Includes case studies of how particular projects were defined and completed and how interdisciplinary concerns have been successfully integrated. Considers the expressive and authorial affordances of different system architecture approaches.

[Piazza Forum](#)

Grading

Project 1: 25%

Project 2: 25%

Project 3: 25%

Class Participation: 25%

Safe Space

It is important that we all work together to help foster an environment in which students feel safe asking questions, posing their opinions, and sharing their work for critique. If at any time you feel this environment is being threatened—by anybody, including the professor—speak up and make your concerns heard. If you do not feel comfortable speaking about it in person, you may leave private feedback, anonymously if you wish, on Piazza. If you feel uncomfortable broaching this topic with the professor in any way or for any reason, you should feel free to voice your concerns to the Dean's office.

DRC Statement

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089, or by email at drc@ucsc.edu.

Schedule

Week 1

Tuesday, January 10

Class canceled because of strike.

Thursday, January 12

Course introduction. What does it mean to combine humanities, arts and engineering?

Week 2

Introduction to HTN (hierarchical task network) planning, the framework for the first project.
Readings on interdisciplinary technical practice.

Tuesday, January 17

Introduction to HTN planning. Bring your computers to class. Will include brainstorming of possible projects.

Material to watch and read before class

The [planning section](#) of the Udacity course on [Knowledge-Based AI](#). You'll need to create an account to sign into Udacity and view this course content, but it's free (the wonderful world of free [MOOC](#) content). The Planning section consists of 27 videos, which might at first scare you, but each one is quite short, and a number of them are little quizzes interspersed to help you test your understanding. So end-to-end all the planning videos are only about 27 minutes long.

The planning videos will introduce you to predicate-based representations of domains, operators, and, at the end, the higher-level tasks of HTN planning. After this high-level introduction, to more deeply understand the SHOP2 HTN planning model, read this paper:

[SHOP2: An HTN Planning System](#)

Dana Nau, Tsz-Chiu Au, Okhtay Ilghami, Ugur Kuter, J. William Murdock, Dan Wu, Fusun Yaman

Directions for download

[Download the GUI interface version of JSHOP2.](#)

Directions for running it can be found in the README file. Note that the directions to set the classpath *are wrong*. Instead, you'll want to set the classpath as follows:

Windows: JSHOP2_DIRECTORY\antlr.jar;JSHOP2_DIRECTORY\bin.build\JSHOP2.jar;.

Unix: JSHOP2_DIRECTORY/bin/antlr.jar:JSHOP2_DIRECTORY/bin/JSHOP2.jar:.

In the paths above, change JSHOP2_DIRECTORY to the directory path for whatever directory you've put JSHOP in.

Thursday, January 19

Readings

[Toward a Critical Technical Practice: Lessons Learned in Trying to Reform AI](#)

Philip E. Agre

This is a chapter in Geof Bowker, Les Gasser, Leigh Star, and Bill Turner, eds, *Bridging the Great Divide: Social Science, Technical Systems, and Cooperative Work*, Erlbaum, 1997.

[Towards A Performative Aesthetics of Interactivity](#)

Simon Penny

Fibreculture Journal, Issue 19, 2001.

HTN Planning Domain Example

I've [created an example simple planning domain](#) (Hello World) with instructions for how you make a new domain.

Week 3

Rhetoric and interpretation: how simulations encode points of view and are situated in networks of human meaning making.

Tuesday, January 24

Checkin re: HTN planning project.

Thursday, January 26

Readings

[The Rhetoric of Video Games](#)

Bogost, Ian. "The Rhetoric of Video Games." *The Ecology of Games: Connecting Youth, Games, and Learning*. Edited by Katie Salen. The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning. Cambridge, MA: The MIT Press, 2008. 117–140. doi: 10.1162/dmal.9780262693646.117

[Game-O-Matic: Generating Videogames that Represent Ideas](#)

Mike Treanor, Bryan Blackford, Michael Mateas and Ian Bogost
Procedural Content Generation Workshop at Foundations of Digital Games 2012

[Proceduralist Readings, Procedurally](#)

Chris Martens, Adam Summerville, Michael Mateas, Joseph Osborn, Sarah Harmon, Noah Wardrip-Fruin, Arnav Jhala
Proceedings of the Experimental AI in Games workshop at AIIDE 2016

Week 4

Tuesday, January 31

Q & A and brainstorming about HTN Project

Thursday, February 2

Continued discussion of rhetoric readings.

Week 5

Narrative

Tuesday, February 7

HTN planning project due. Introduction to Project 2: evolutionary computation. Will include brainstorming of possible projects.

Here is [JGAP](#), the java-based framework for evolutionary computation that we looked at in class.

Thursday, February 9

[Curveship: An Interactive Fiction System for Interactive Narrating](#)

Montfort, Nick. "Curveship: An Interactive Fiction System for Interactive Narrating", *Proceedings of the NAACL HLT Workshop on Computational Approaches to Linguistic Creativity*, pp. 55-62, Boulder, Colorado. 4 June 2009. More about the Curveship system, including code, can be found [here](#).

[Chapter 2](#) of *Story: Style, Structure, Substance, and the Principles of Screenwriting*

Robert McKee

[Structuring Content in the Facade Interactive Drama Architecture](#)

Mateas, M. and Stern, A. In *Proceedings of Artificial Intelligence and Interactive Digital Entertainment (AIIDE 2005)*, Marina del Rey, June, 2005.

Week 6

Tuesday, February 14

Checkin re: Project 2.

Thursday, February 16

Week 7

Social Simulation

Tuesday, February 21

Checkin re: Project 2

Thursday, February 23

[Chapter 7: Dramaturgical Theorizing](#)

Turner, Jonathan H. From *Theoretical sociology : a concise introduction to twelve sociological theories*. Los Angeles : SAGE Publications, 2014.

[Social Story Worlds With Comme il Faut](#)

McCoy, Joshua; Treanor, Mike; Samuel, Ben; Reed; Aaron A.; Mateas, Michael & Wardrip-Fruin, Noah. *IEEE Transactions on Computational Intelligence and AI in Games*, Vol. 6, No. 2, June 2014.

[Versu—A Simulationist Storytelling System](#)

Evans, Richard & Short, Emily. *IEEE Transactions on Computational Intelligence and AI in Games*, Vol. 6, No. 2, June 2014.

[Prom Week](#)

This game was made with the Comme il Faut system in the second reading.

Week 8

Game Developers Conference

Tuesday, February 28

Thursday, March 2

Week 9

Introduction to Neural Networks and Computational Models of Ideology

Tuesday, March 7

Introduction to Neural Networks

Thursday, March 9

[Generation of Ideologically-Biased Documentary Histories](#)

Mateas, M.; Vanouse, P.; Domike, S. From *Proceedings of the Seventh National Conference on Artificial Intelligence*. July 31–August 2, 2000, Austin, Texas. Published by The AAAI Press, Menlo Park, California.

[Computational and Cognitive Infrastructures of Stigma: Empowering Identity in Social Computing and Gaming](#)

D. Fox Harrell . Proceedings of the 7th ACM Conference on Creativity and Cognition (C&C 2009), Berkeley, California, October 26-30, 2009, pp. 49-58.

Week 10

Design Spaces

Tuesday, March 14

Thursday, March 16

Finals Week

Wednesday, March 22

Neural network project due.