

# Art 380: Game Theory

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First Lecture

# Introductions

- I am Neal McDonald
  - MS, CIS & MFA
  - Production Experience: Lamb & Company
  - Game Industry: Half-Life total conversion, Greenhouse Software
  - Teaching Maya 6 years
  - [mcd@umbc.edu](mailto:mcd@umbc.edu), [www.workly.com](http://www.workly.com)
- Please call me “Professor McDonald”
  - That’s what my boss wants.
  - Or, “Neal”
  - Not “McDonald,” that’s what you call recruits.

# Syllabus

- Grades:
  - 2 papers
  - every other week, a blackboard test on the reading— they all count as one grade
- My faculty web site has vital materials:
  - [www.umbc.edu/~mcdo/380/](http://www.umbc.edu/~mcdo/380/)
  - For instance: the syllabus
  - I intend to use Blackboard for chapter tests.
- You don't need to know how to program

# Class goal

- Help you become a game designer
  - Big problem: nobody knows exactly how to make good games.
  - Lots of good, incompatible, incomplete theories
- But I can teach you
  - History: games, organizations, practices..
  - Vocabulary
  - Analysis techniques
  - Professional practices

# Why is game design hard?

- We don't all agree on the definition of the word "game."
- Games are related to play. Play is related to consciousness. We don't understand consciousness.
- Games are an art form, so, hopefully, any how-to would be obsolete right away.

# Analogy to film

- Teachers can teach you
  - How to write screenplays with structure
  - How to operate a camera
  - 3-point lighting
  - How to hire actors
- We can't teach you how to make a great film.

# Each lecture is in three parts:

1. Theory, readings, philosophy
2. Discussion of non-computer-assisted games
3. Discussion of computer-assisted games

# Class Part 1: Theory

- How to \_\_\_\_\_ games
  - analyze
  - critique (and therefore, improve)
  - write about (for a grade)
  - compare
- Cultural Analysis
- Psychology
- Philosophy

# Game Studies

- Rules of Play is the foundation text of Game Studies— published 2004
  - different from “game theory”, which is math about decision-making
- A thriving academic field
  - Several journals, a several star experts
  - Ian Bogost, Eric Zimmerman, Jesper Juul, Jane McGonigal, Espen Aarseth

# Games are Art?

- Our culture has this debate about something every 20-30 years
- That something always, always turns out to be...
  - Oh, wait! WAIT A MINUTE!

# Brown vs. Entertainment Merchants Assn.

- “Video games qualify for First Amendment protection. Like protected books, plays, and movies, they communicate ideas through familiar literary devices and features distinctive to the medium. And ‘the basic principles of freedom of speech . . . do not vary’ with a new and different communication medium.
- Vote 9-2, Thomas and Breyer dissenting

# The NEA thinks they are art

- Go get yourself a grant!
  - <http://www.nea.gov/>
- But too bad: their annual budget is only ~\$150M
  - For that, you could make Gran Turismo 6 or GTA 5, but not both.

# Why do games need to be art?

- Art is a tool for the glorification of elites.
  - John Sharp, SCAD
- I guess we could make games about rich people being awesome.



# Class Structure, 2

- History of Non-Computer-Assisted games
  - Board games, card/domino games, team games, children's games, puzzles, ... ??
- You will be tested on rules and strategy
  - "Is X a legal move?"
  - "What is the best move in this situation?"

# Why learn about old games?

- Making non-computer games is 100x faster, so early development for any game is usually paper, board and dice.
- Games are always made by refining other games; the canon is your box of parts.
- Educated adults should know Poker, Chess, Backgammon, Mancala, and Go.

# Class Structure 3: Video Games

- Canon content
  - same reasons as last slide.
- Business content:
  - business models, business past and future
  - so you can know where you want to go.
- Post-mortems: analysis of finished game-development projects
  - vocabulary, goals, power structure, roles, ..

- Questions about class structure?

# In Closing: Something Ancient

- Windmill, or 9-man's Morris
- A popular game in the middle ages

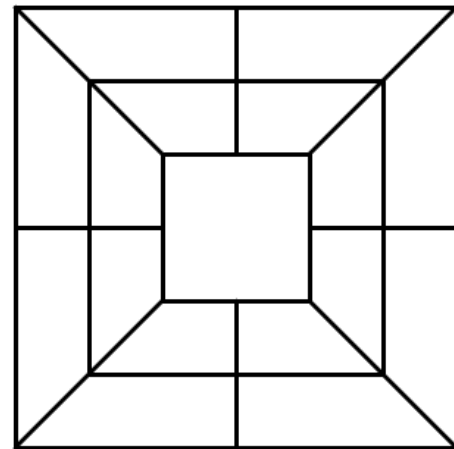
# 9-man's Morris: Description

**Setting/Arrangement:** This is a board game, for two players, no time limit on moves.

**Equipment:** The board, as shown, and 9 markers-- checkers do well.

## **Definitions:**

"windmill"-- 3 in a straight row.



# 9-man's Morris: Rules

- 1) Start with a blank board
- 2) First phase: take turns adding pieces on line intersections until all have been placed.
- 3) Second phase: Take turns moving pieces along the line segments.
- 4) In either phase, when a player forms a windmill, she may remove one of her opponent's pieces.
- 5) No jumps
- 6) The game is over when a player is down to two pieces, or can't move.

# Interesting how?

- It makes set-up a phase of game play
- There are two sets of rules
- Probably very old

# How old?

- This stone is from a archeological dig of an Ice-Age site.
  - >8,000 years old.



- Note: there is no information about how this object was used.
- Photo: Creswell Heritage Trust

# For Next Time

- Get the book
- Read Chapters 1-4, 40 pages.
- Read Ludis Florentis, a pdf on my web site
  - [userpages.umbc.edu/~mcdo/380/](http://userpages.umbc.edu/~mcdo/380/)