

# Design:

## Pervasive Game Design Strategies

Mobile and Ubiquitous Games

ICS 163

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Content adapted from:

Pervasive Games: Theory and Design

Experiences on the Boundary between Life and Play



# Pervasive Game Design Strategies

- PacManhattan
- Tangible Experience Design
- The Magician's Curtain
- Runtime Game Mastering
- Games Telling Stories
- General Issues of Game Design
- Disruption



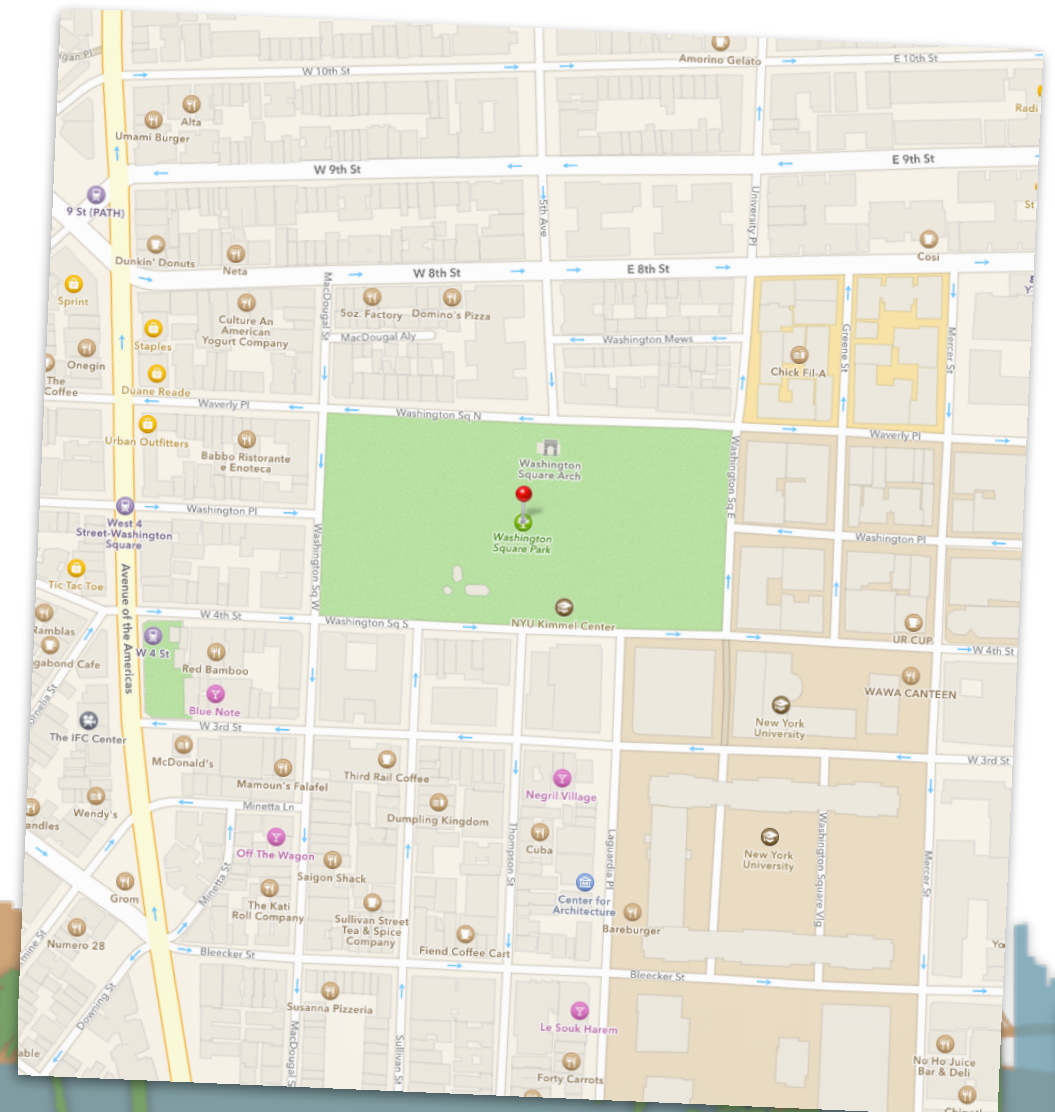
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# Pervasive Game Design Strategies

- PacManhattan
  - Created by NYU students in 2004 in a Big Games class
  - Based on a visual pun of seeing similarities between the Pacman board and the streets of New York





# Pervasive Game Design Strategies

- PacManhattan
  - Performative play component - spectacle
  - Design goals
    - Multiplayer
    - Fun
    - Human-Scale
    - True to original game play



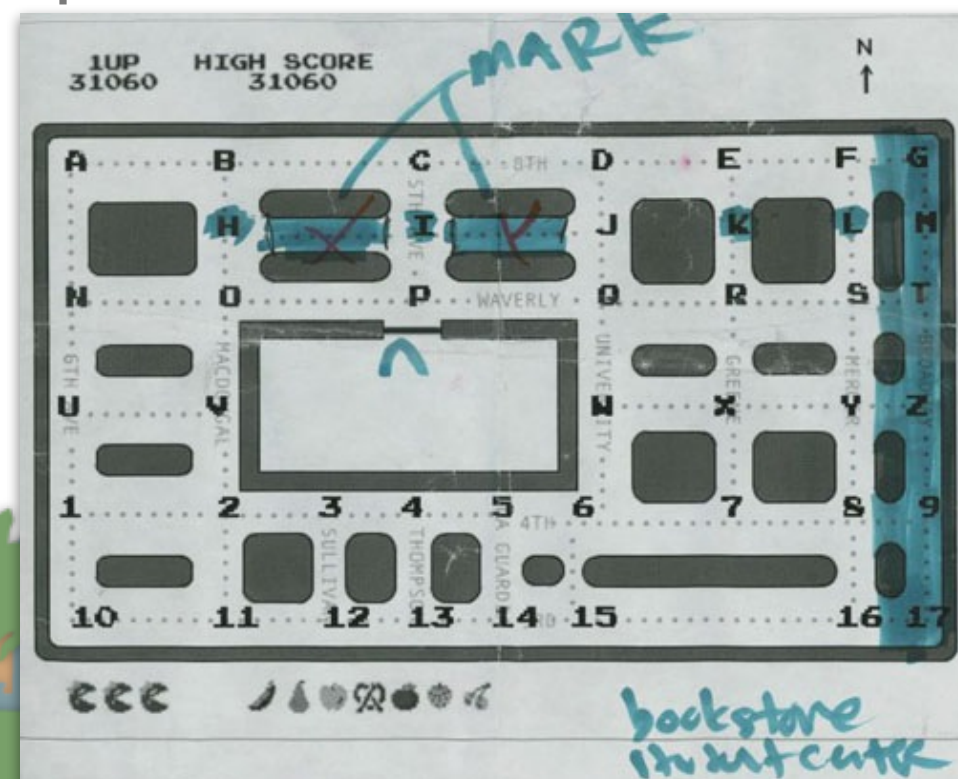
# Pervasive Game Design Strategies

- PacManhattan
  - Original design included custom GPS beacons
    - Abandoned due to complexity
  - Instead each runner had a game master/controller
    - Continually connected by voice phone
  - Controllers manually updated position on a game board in the operations center



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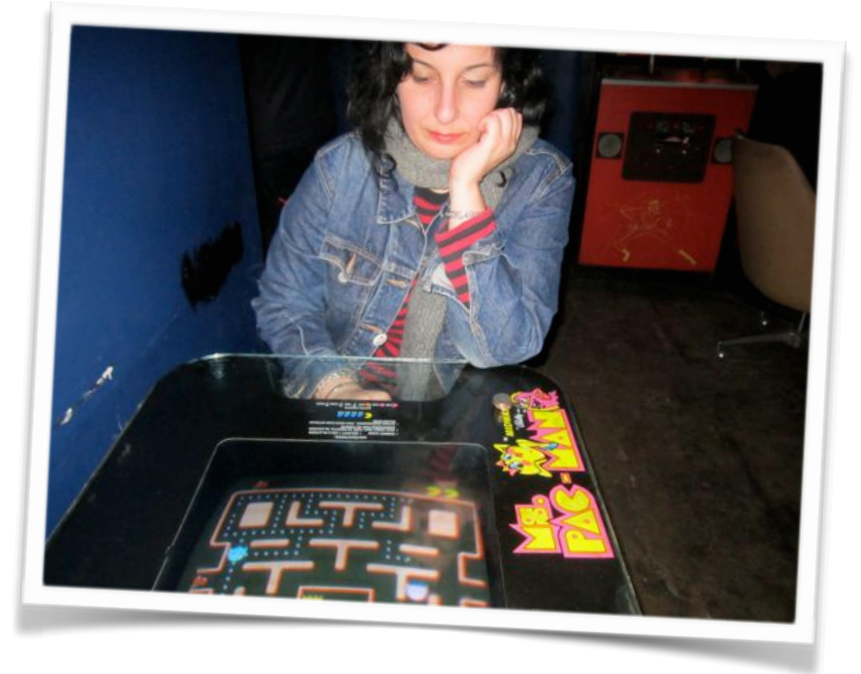
# Pervasive Game Design Strategies

- PacManhattan
  - Information asymmetry leveraged in design
    - Pacman can see all data
      - locations, dots
    - Ghosts can not see Pacman data
      - Of course, real world info trumps the game board
  - PowerPills implemented with a ribbon on four lampposts
    - Untying them reverses play for 60 seconds



# Pervasive Game Design Strategies

- PacManhattan
  - Result created an unexpected bond between controller and player
  - Game was fun and athletic
  - Did not devolve into just a “stunt”
  - Solitary game became social
  - Social expansion was clearly present
  - Traffic made the game somewhat dangerous
  - Recreated around the world





# Pervasive Game Design Strategies

- PacManhattan vs Human Pac Man





# Pervasive Game Design Strategies

- PacManhattan vs Human Pac Man



# Pervasive Game Design Strategies

- Things to consider when designing a pervasive game
  - Holistic approach
  - Each decision impacts other aspects of the game
  - Some decisions may be in conflict with others
  - **Normative:** Things you should do



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# Pervasive Game Design Strategies

- Tangible Experience Design
  - Pervasive games should be focussed on tangible experiences
    - Exciting real-world tasks that provide feelings of achievement
    - Lend themselves to recounting after the fact





# Pervasive Game Design Strategies

- Setting and Surpassing Expectations
  - Establish expectations in game play
    - Then exceed them
  - Escalate previous experiences
    - “Find the clue inside the rat”
  - Use unexpected twists
    - Change the game dynamic
  - Use far-out game play
  - Players may respond in kind





# Pervasive Game Design Strategies

- Linked Tasks
  - You must complete Task A before beginning Task B
  - Adds meaning to tasks
    - simple tasks that are chained make more sense
    - “finding a location via a puzzle, then going there”
  - Linked tasks can form the entire game structure
    - Scavenger Hunts
  - Force collaboration through interdependence
    - “Disruption”



# Pervasive Game Design Strategies

- Real Challenges
  - Breaking historically accurate codes
  - Climbing actual structures
  - Do not need to be difficult if they are meaningful
    - “fixing a printer jam”
- Know your players well
- Provide hints
- Foster teamwork and networking



# Pervasive Game Design Strategies

- 360 Illusion
  - “Indexical Environment”: A perfect representation of the game world from real world environments.
    - This is an ideal
    - Acting in the game world and real world is the same
  - Integrate into the environment
  - Establish a clear level of indexicality
  - Choose thematics wisely
  - Encourage collective make-believe



# Pervasive Game Design Strategies



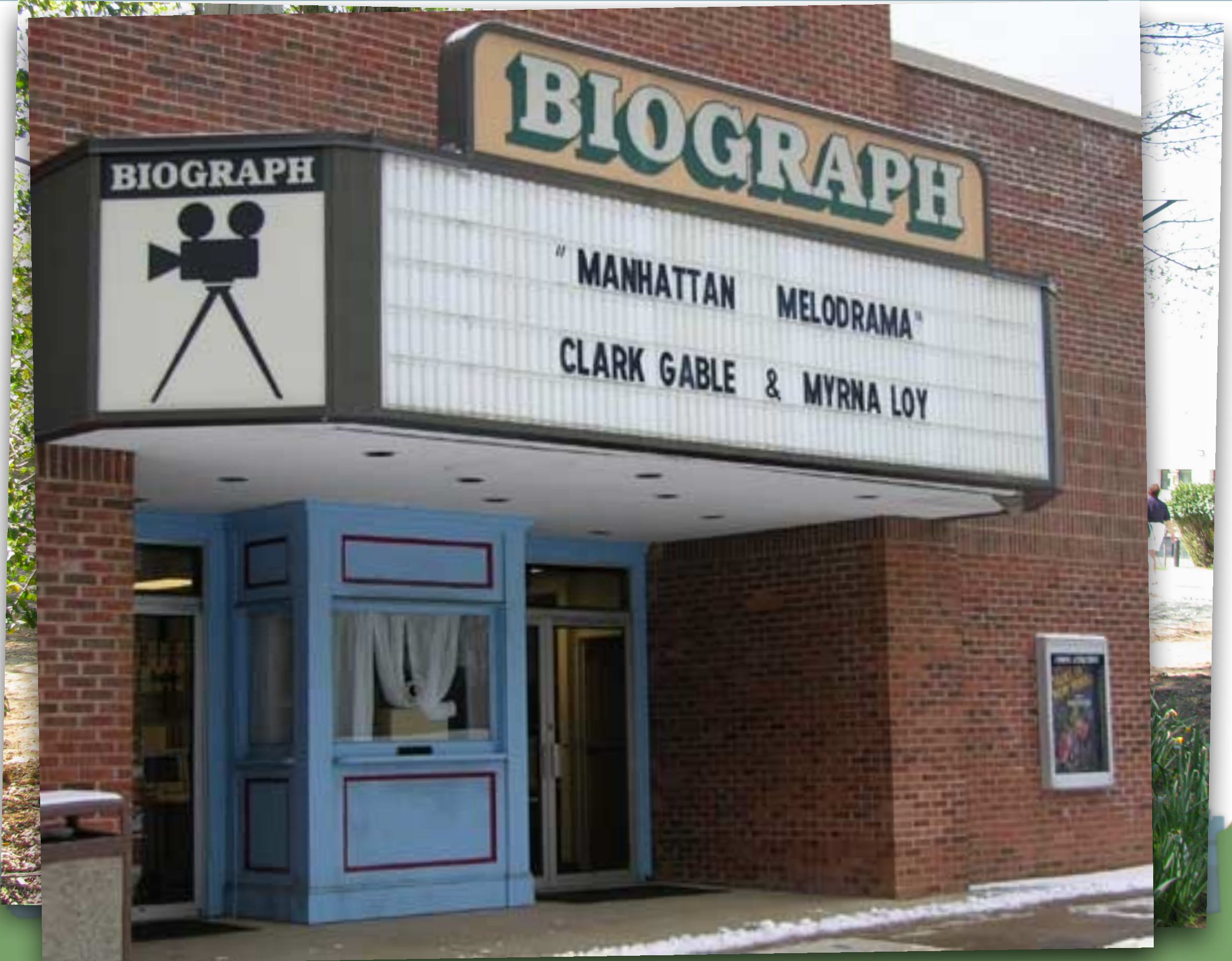


# Pervasive Game Design Strategies





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# Pervasive Game Design Strategies

- National Training Center, Fort Irwin, CA
  - 15 towns
  - 350 Non-Player characters
  - Combat training before going to Afghanistan



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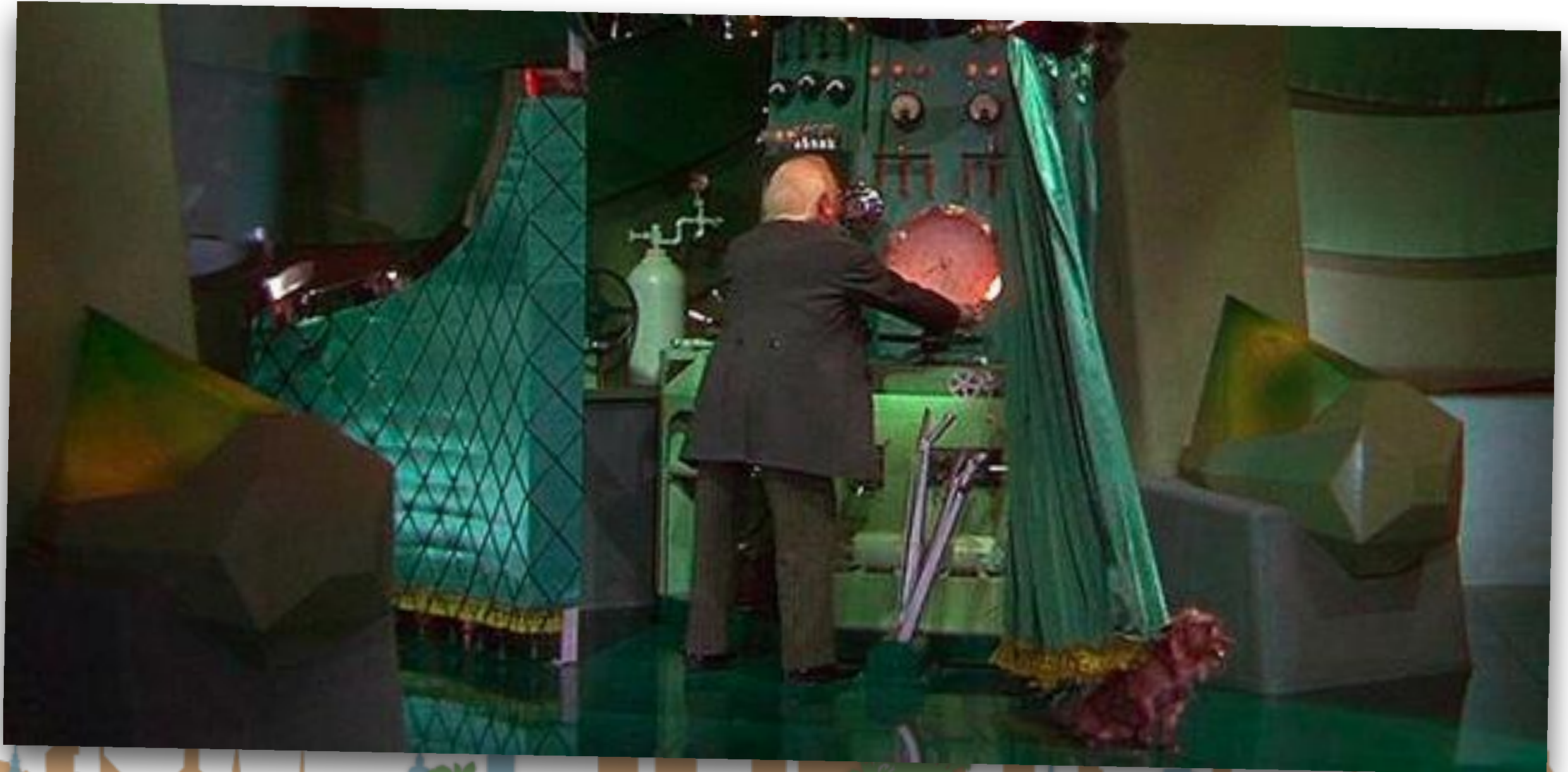
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# Pervasive Game Design Strategies

- The Magician's Curtain



# Pervasive Game Design Strategies

- The Magician's Curtain
  - Goal: The illusion of a coherent game world
  - Player's must play along and not
    - "look behind the curtain"
    - hacking the game is always possible
  - "This is not a game" (TINAG) aesthetic
    - Used in Alternate reality games
    - A design approach that denies "gameness"
    - A player's stance that helps to reinforce the curtain



# Pervasive Game Design Strategies

- The Magician's Curtain
  - Seamless Life/Game Merger
    - Extreme form of magician's curtain
    - The boundaries of the game world are unclear
    - Real world is used as part of the game
      - "The Game"
      - Placing game ads in real places
    - Interaction with outsiders is required
    - Player's can't leave the game
    - Careful use of ludic markers



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# Pervasive Game Design Strategies

- Runtime Game Mastering
  - Being in charge of a game while it's running
  - Most games are not automatic
    - Too difficult to predict all player actions
    - Responding to player actions requires finesse
- Jobs:
  - **monitor** game progress
  - **influence** the state of the game
  - **decide** how to respond



# Pervasive Game Design Strategies

- A Game Master in a pervasive game:
  - might have to be multiple people (temporal expansion)
    - requires communication
    - shifts
    - information pass-down strategy



# Pervasive Game Design Strategies

- Gods and Power Users
  - God Mode
    - Game Master has no role in the game
    - Access to all information
    - Invisible to players
  - Power User Mode
    - Game Master has a character in the game
      - with special abilities, **diegetic** roles
- Hybrid
  - Switching between the two modes



Vourteque

LadyRyu



# Pervasive Game Design Strategies

- Active Game Management
  - New content created on the fly
  - Sustains a responsive game world
  - Dynamic difficulty levels
  - Steer the game
  - Human backup in the case of technology failure



# Pervasive Game Design Strategies

- Keeping track of the game
  - Technology is tempting and helpful
    - Surveillance
      - Cameras, sensors, microphones
    - Log files
  - Humans can interpret
    - Controllers/ Moles
  - Self-reporting
  - Monitoring online forums



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# Pervasive Game Design Strategies

- Games Telling Stories
- Games of **Progression** vs Games of **Emergence**
  - Games of Progression have a strong narrative
    - This motivates the players
    - The narrative is the reward
    - Not as interesting the second time
  - Games of Emergence have a rich rule base
    - That cause multiple plays to be fun



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  - Games of Emergence have a rich rule base
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- Which kind of game is PacManhattan?



# Pervasive Game Design Strategies

- Replayable Games of Progression
  - Create **different points of view**
    - Play the game as one team then a different team
- Foster **social play**
  - The story is important but the interaction between people is what is fun
- Include way **too much content**
  - So multiple replays still offer new discoveries



# Pervasive Game Design Strategies

- Games Telling Stories
  - Distributed Narrative
    - Small story fragments
    - Different teams have to piece them together
    - Make the story matter
    - Connect with traditional media
    - Clues are not necessary
      - Collective action thwarts story design sometimes
    - Think outside the box





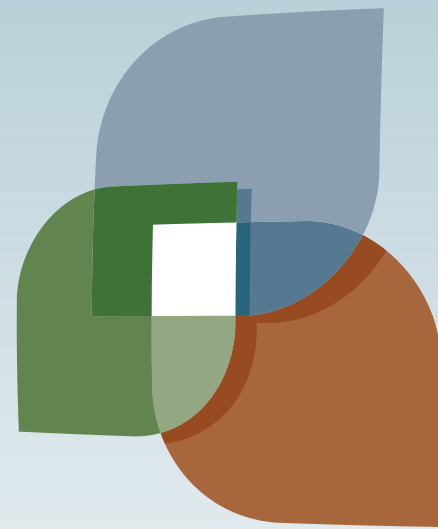
# Pervasive Game Design Strategies

- Games Telling Stories
  - Collective Story
    - There are two stories
      - The **designed** narrative
      - The story of how the game unfolded
        - The **collective** narrative
        - Design for this as well
          - debrief sessions
          - photo albums
          - post-game websites



# Ingress Redux





L U C I

