Design:
Pervasive Game Design Strategies
Mobile and Ubiquitous Games
ICS 163
Donald J. Patterson

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
Pervasive Game Design Strategies

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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

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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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• 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
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- National Training Center, Fort Irwin, CA
- 15 towns
- 350 Non-Player characters
- Combat training before going to Afghanistan
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• 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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• 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
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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- 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 Telling Stories
  • Games of **Progression** vs Games of **Emergence**
    • Games of Progression have a strong narrative
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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