

Monkey Island II intro

Video Game Design

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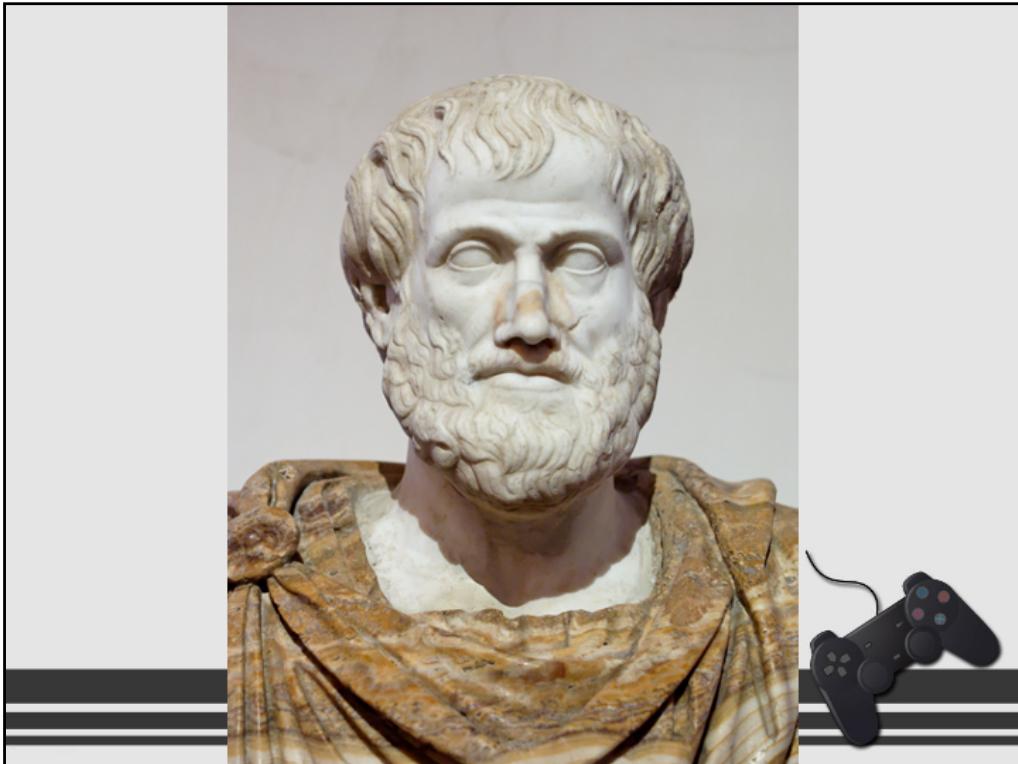
Narrative



Working with Dramatic Elements

- Chapter 4





Aristotle – Six Elements of Drama

- 1.) Thought – themes/ideas
- 2.) Action/Plot – events of the story
- 3.) Characters
- 4.) Language – dialog of characters, enunciation of actors
- 5.) Music – music, dialog, rhythm
- 6.) Spectacle – scenery, costumes, special effects

Exposition/Premise

- Establishes the action of the game within a setting or metaphor
- Introduced in the exposition of the story (exposition sets up time and place, characters and relationships, the prevailing status quo, etc.)



Characters

- Agents through whose actions story is told
- Protagonist
- Antagonist
- Major/Minor
- Round – well-defined traits/realistic
- Flat – shallow personality
- Dynamic – personality changes
- Static – consistent personality
- Stock – recognizable stereotype
- Foil – contrasting character paired with another



Story

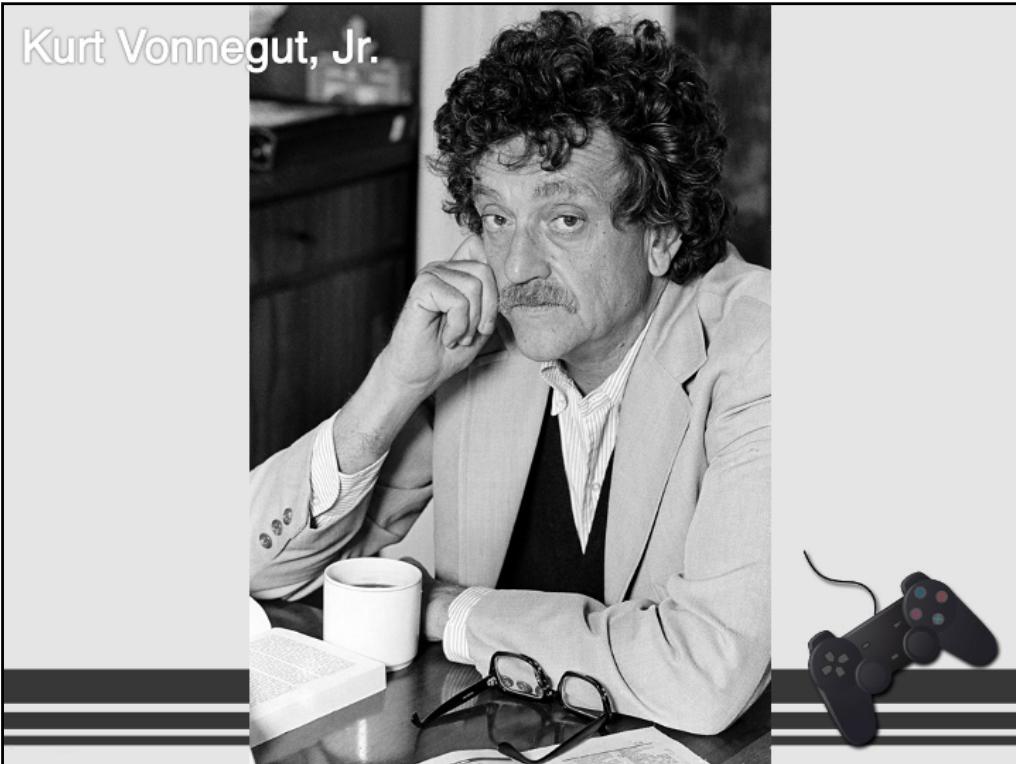
- Traditional storytelling involves linear narratives
- Move from one point of the story to the next as determined by the author





Also might mention “Point of Attack” as beginning

Picture is sidbury hill (I think)

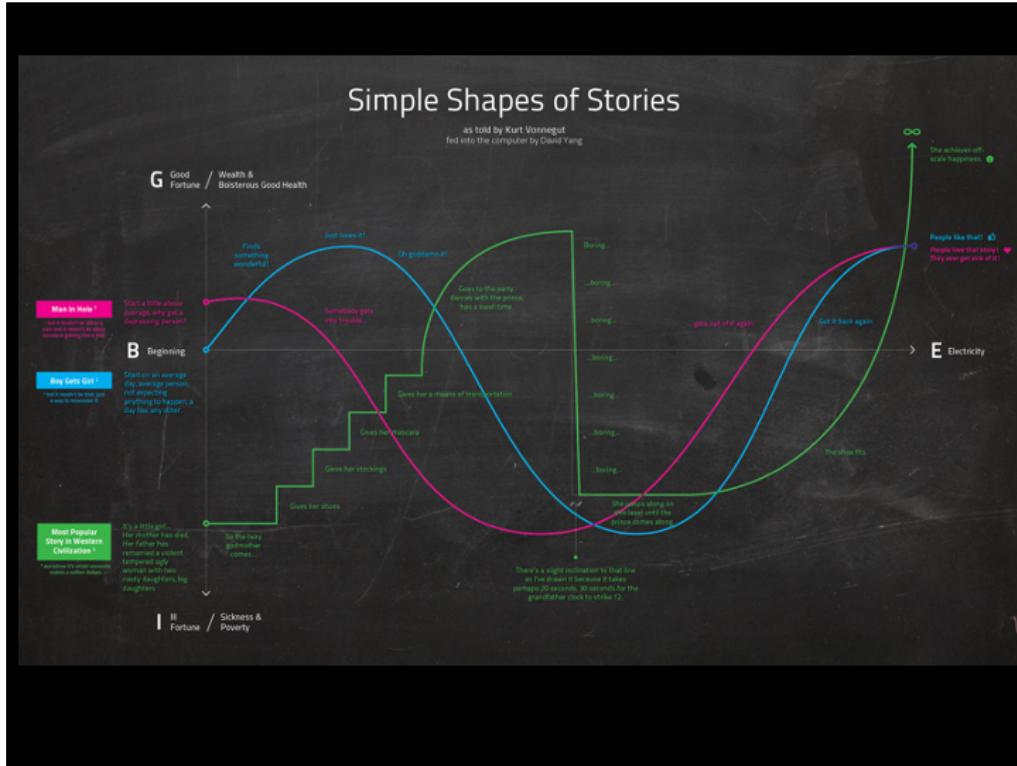


Kurt Vonnegut (Slaughterhouse V)

Shape of Stories <http://www.youtube.com/watch?v=oP3c1h8v2ZQ>

Shape of Stories





Tropes (or conventions) arise from acceptance or preference for certain story shapes

Story Generation

- Vladimir Propp – Russian Fairytales
- Improv



Propp's fairytales have a well defined structure which can be used as a generative language

Improv has rules that facilitate real time and reasonably cohesive story

Story in Games

- Players are interactive participants who can (possibly) change the outcome of the game
- Games are often nonlinear (or desired to be)
- Difficult to integrate traditional storylines into games



Story in Games

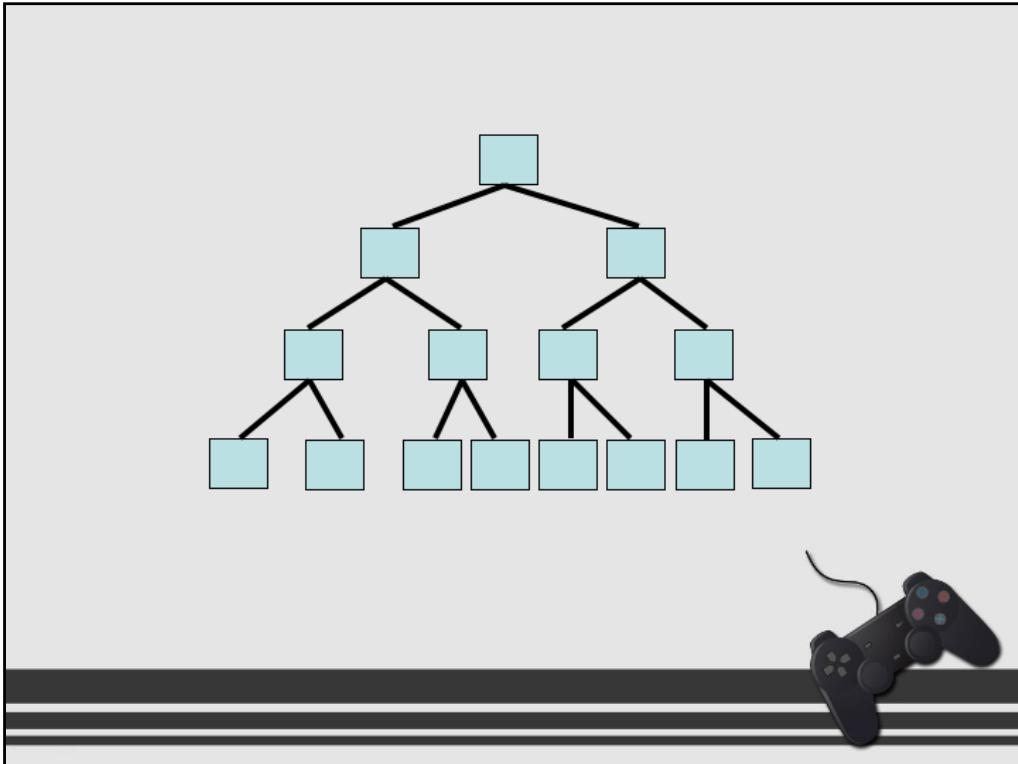
- In most games:
 - Story limited to backstory
 - Insert story chapters into the beginning of each game level
 - Gameplay does not affect story, other than failure means player won't see next part of story.
 - Essentially linear story arc



Branching Storyline

- Allow player to make critical choices
- Story is represented by a tree, decisions at branches determine path through story
- Role Playing (pen and paper)
- Choose your own adventure books
(Sugarcane Island, Lone Wolf)





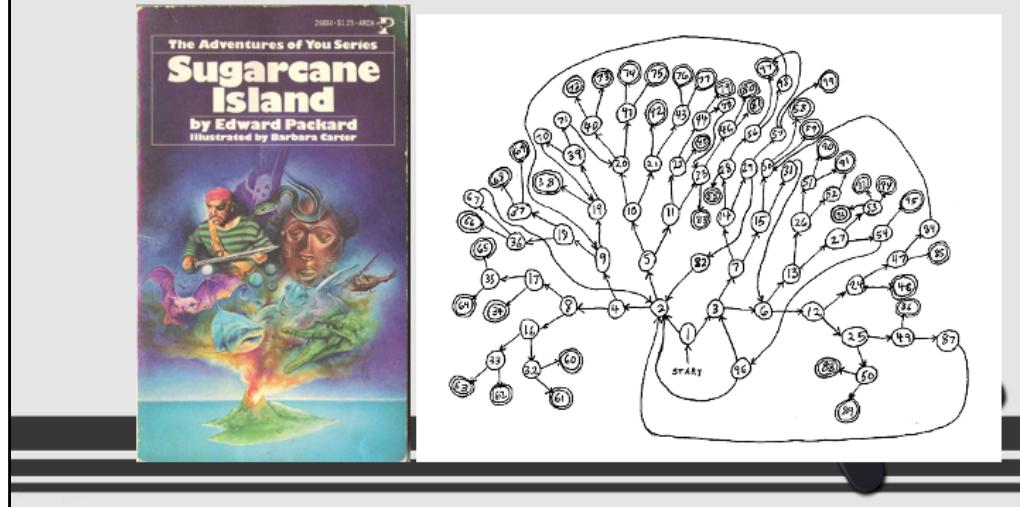
Tree

Intractable development (combinatorial explosion)

Author must anticipate what participant will want to do and avoid presenting affordances that suggest things that cannot be done

Sugarcane Island – Edward Packard

- From <http://www.gamebooks.org/canediff.htm>



Problems with Branching

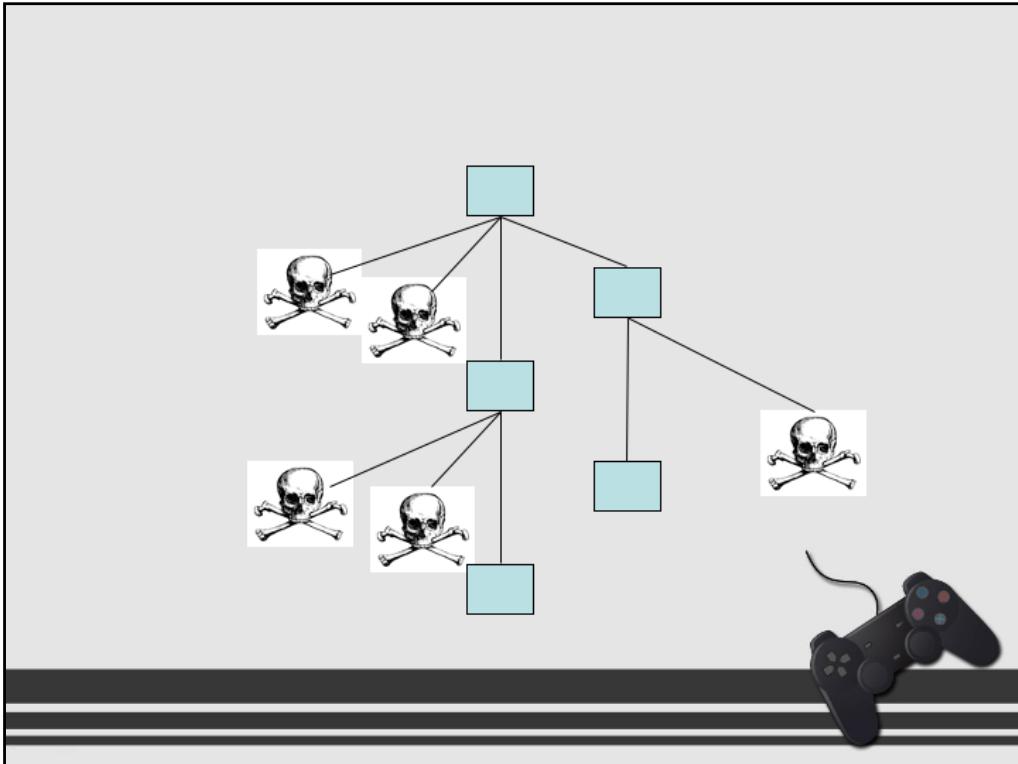
- Storylines limited in their scope
- Player choices may be severely restricted
- Cause game to feel simplistic and unchallenging
- Some paths may create uninteresting outcomes
- User doesn't experience everything that they paid for unless they replay multiple times
- **Development becomes intractable as complexity increases**



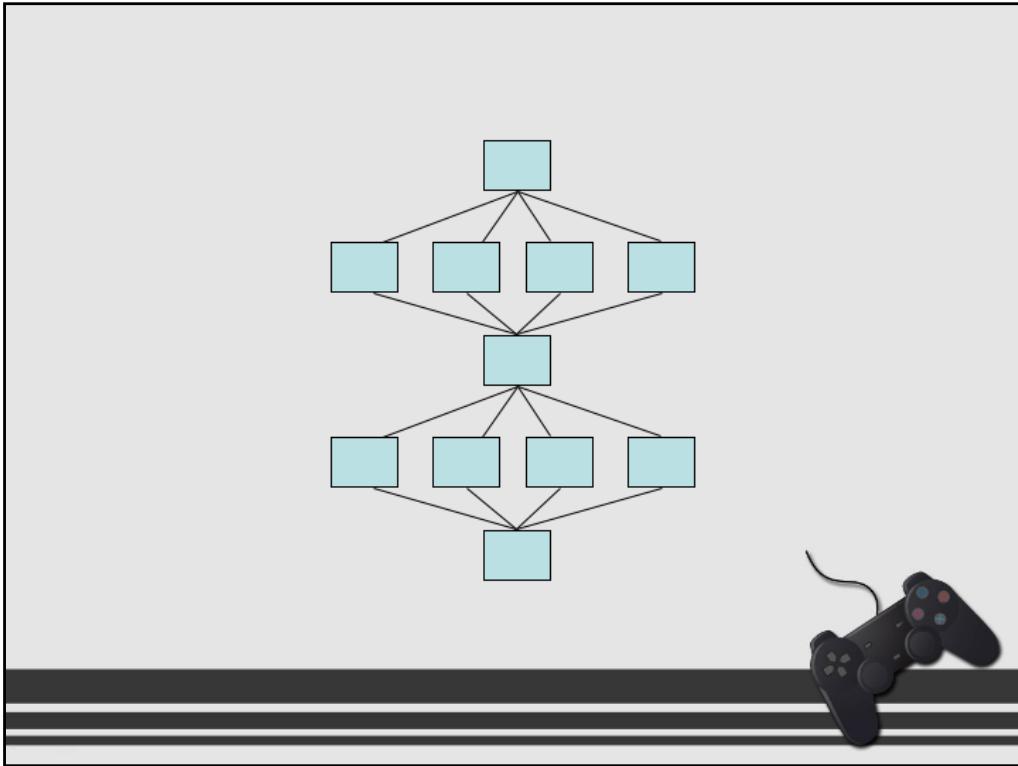
Band-Aids for Branching

- Death Trap
- Merge branches – story arc converges back to game designer's intended story arch
- Allow out of order path through story paths (similar to merge)
- Self-contained mini-stories/side quests (think story stack)
- Camouflage – use elements of fun or dramatic elements to hide when player cannot affect storyline; when choices can be made, less likely to stick out like sore thumb



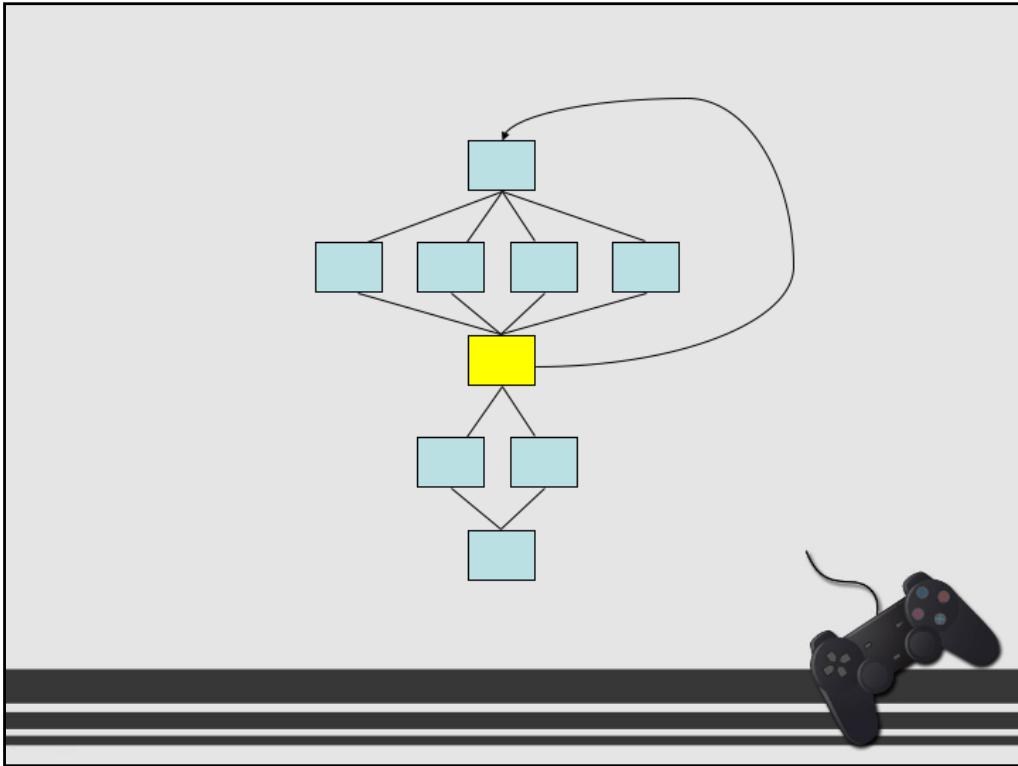


Dead end or death trap

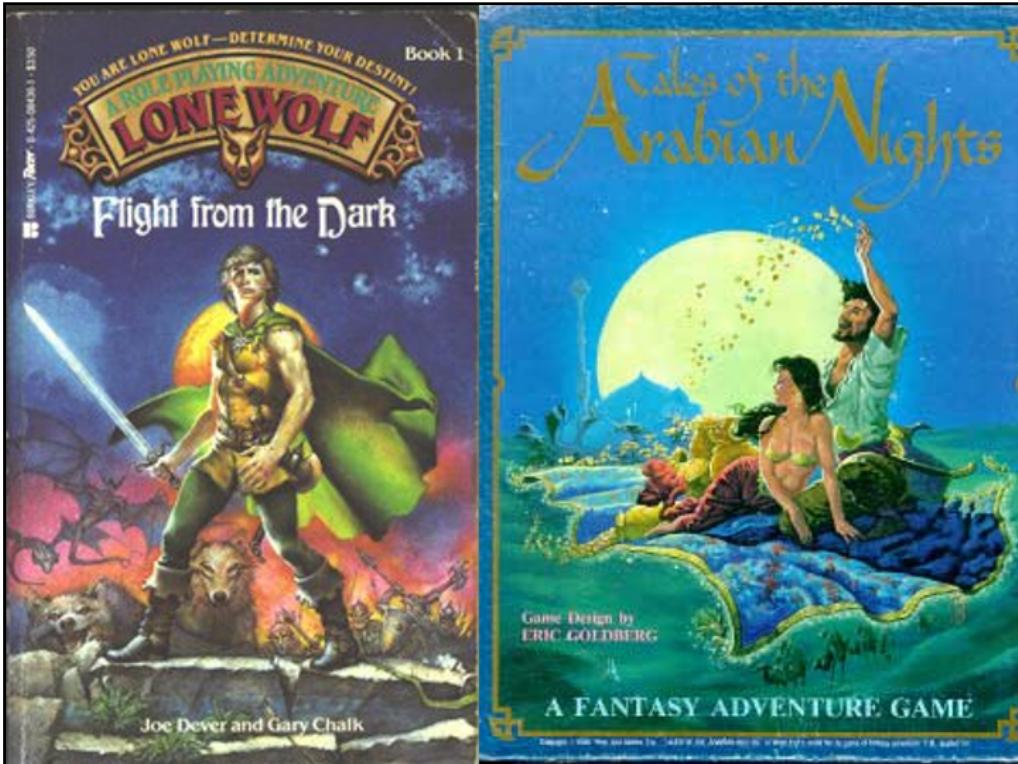


Hour glass, String of beads, branch merging, etc

Decisions are ultimately unimportant for overall story



Gatekeeper/ N Epic Quests: Thou shall not pass until you complete N quests



Lonewolf: GameBook with Solitaire RPG elements

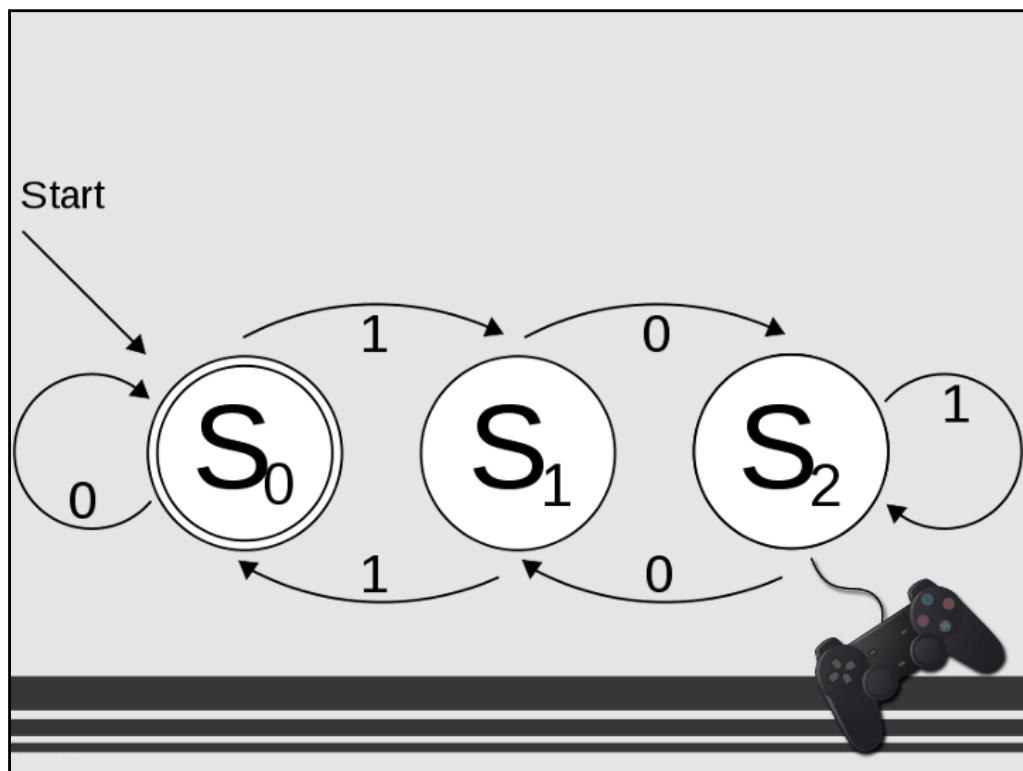
Tales of the Arabian Nights: tabletop RPG with solitaire mode (paragraph system)

Dice rolls to determine some outcomes (especially combat/spells)

Instructions specify player should restart from the beginning upon death

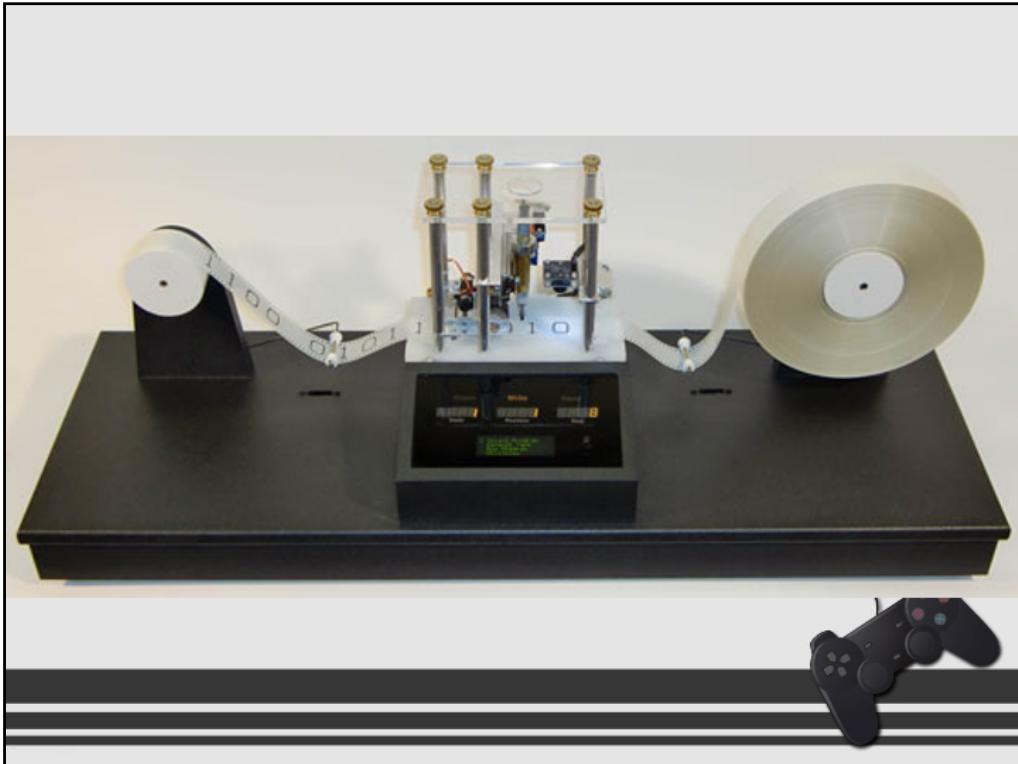
Player maintains an inventory as well as health/magic

Danger of perceived affordances breaking sensation of dramatic agency (when affordances cannot be acted upon)



Deterministic Finite Automata (DFA)

No memory



(Universal)Turing Machine

Does branching narrative require a memory of past events? Knowledge of an inventory of artifacts?

Possibly make a distinction between branching narrative / story graphs and more advanced simulation (AI, drama managers, etc)

Lone Wolf is able to make more efficient use of paper by maintaining a memory



Deterministic or non-deterministic?

A deterministic story graph intention matches expectation for decision making (provided that choice is well-informed)

Non-deterministic choice: intention must be weighed against likelihood of positive or negative outcome

Lone Wolf creates a more game-like challenge through the use of non-deterministic branching.

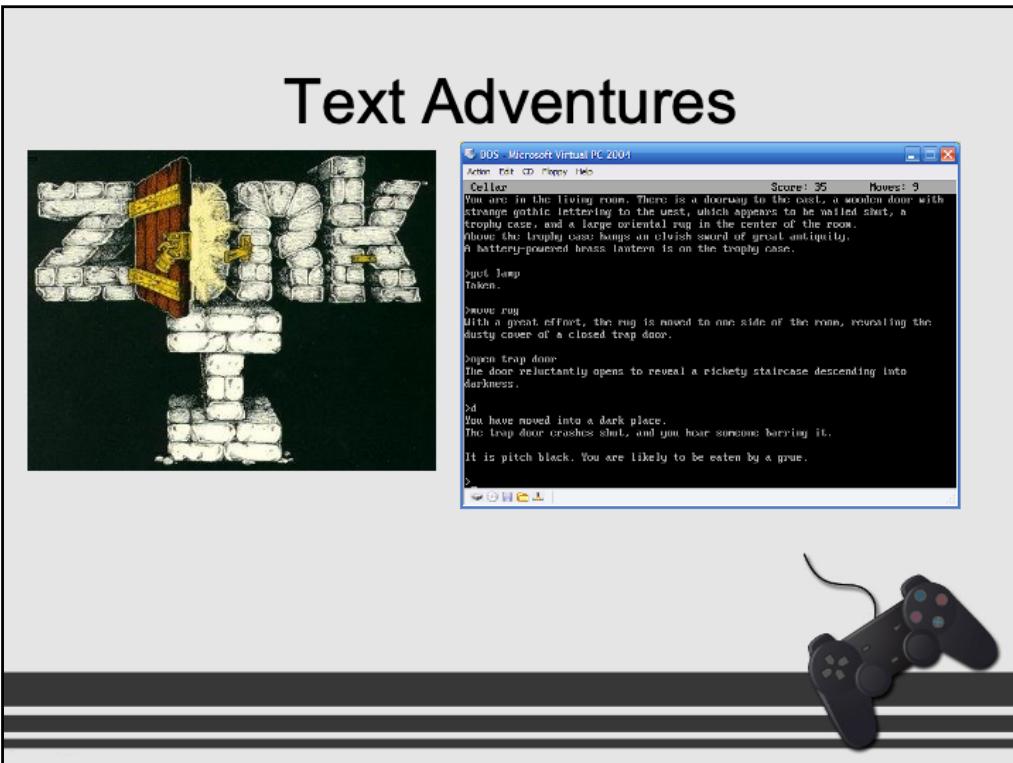
Dramatic agency is probably lost when forced to “replay” though

Interactive Fiction (IF): Text Adventures and Graphical Adventure Games

- Focus on story and puzzles
- Typically linear, but also examples of branching, branch merging, side quests
- Story progress is reward
- Negatives: out of place puzzles, bad puzzles used to delay progress (mazes), dead-end branches (“You have died. Would you like to restart, reload, or quit?”)



Text Adventures



Graphical Adventures



Monkey Island II Gameplay





Dragon's Lair

Unforgiving time constraint

Very few options/freedom

Almost completely uninformed. (memorization of safest path and learning timing)

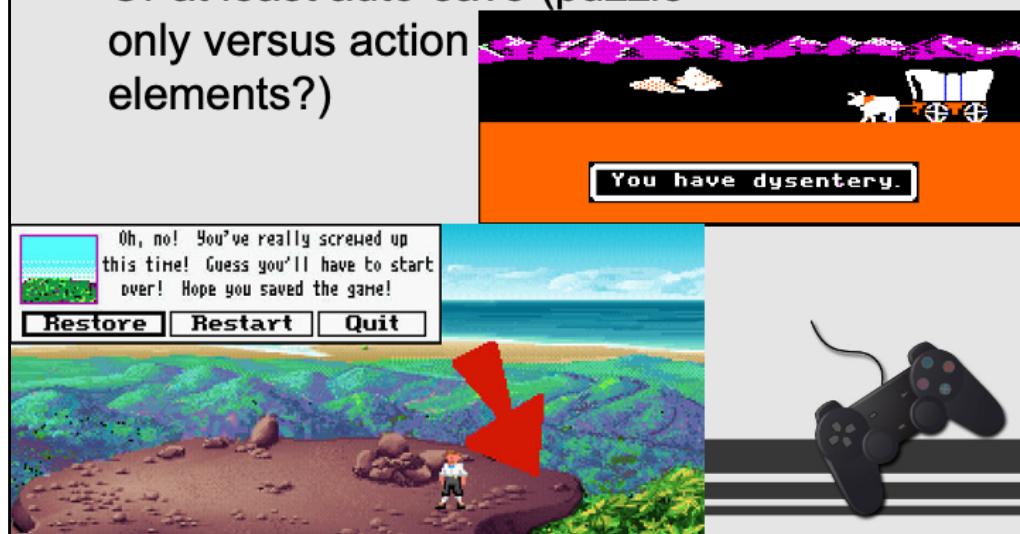
Adventure Games Constraints on Story Freedom: Good Adventure Don't...

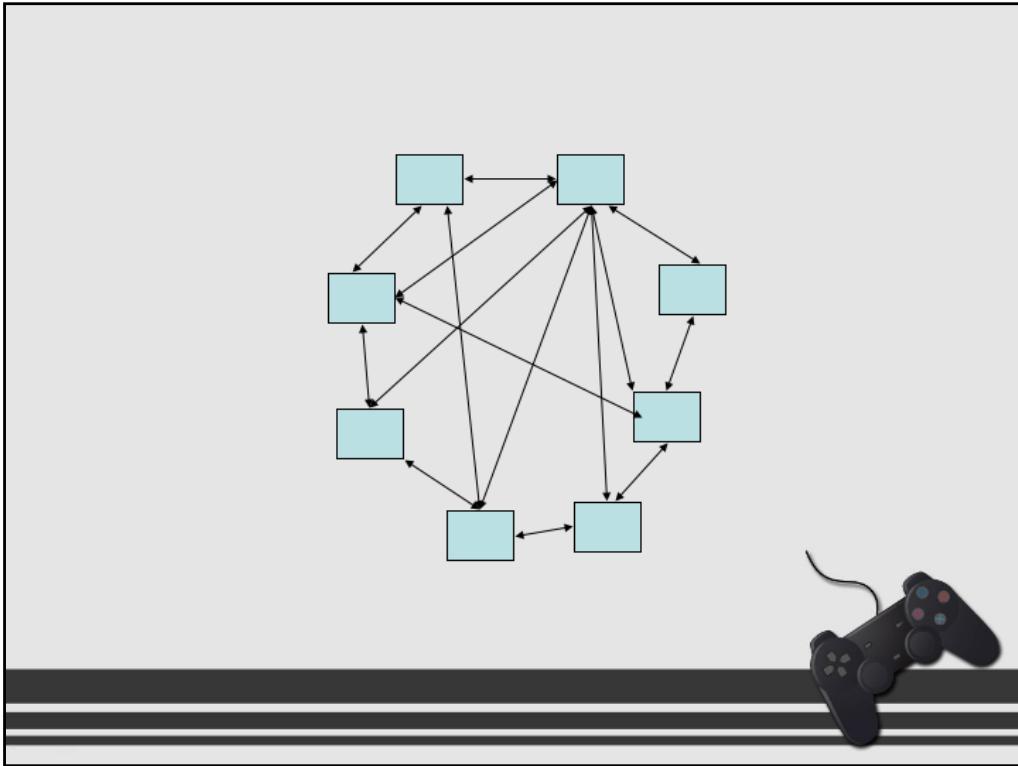
- ...allow the user to progress past a point of no return without critical item/information necessary to complete the game
- ...require brute force solving of puzzles (mazes, tower of hanoi, etc)



Don't kill the user

- Or at least auto-save (puzzle-only versus action elements?)





Open Environment (RPG)



Quest for Glory by Sierra – RPG like elements define your skills and personality to some degree



Role playing game by Looking Glass Studios (Warren Spector, Doug Church, Seamus Blackley, etc)

Epic quest with side quests



Side quests

Multiple ways to do same thing based on skills

Semi-Dynamic Narrative



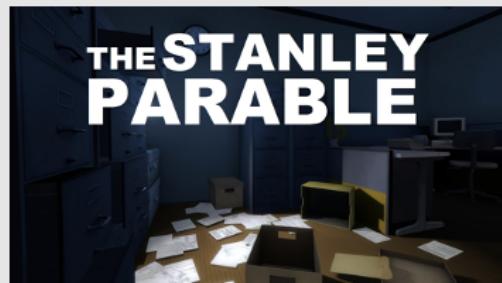
Jagged Alliance and Fire Emblem – examples of games that generate a narrative based on character combinations selected to your party

JA – some mercenaries hate each other. Others refuse to work for you unless you hire their buddy

Fire Emblem – every character seems to have personality. Participates in story if they survive

Use of narrative creates emotional attachment to characters

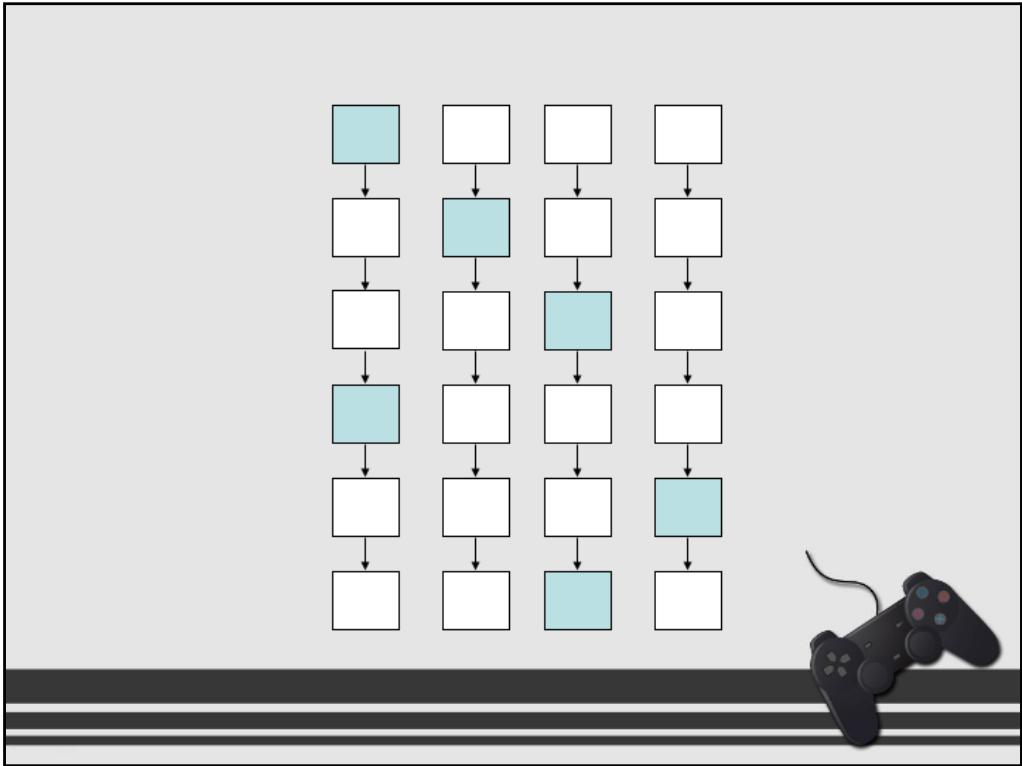
Interactive Narrator





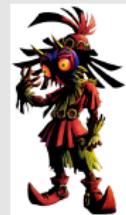
Parallel Narrative Threads

- peeping tom genre
- groundhog day scenario
- often a timeshift mechanism
- and then there are games like Colonel's Bequest (no easy time shifting mechanism)
- time may progress without pausing for user input



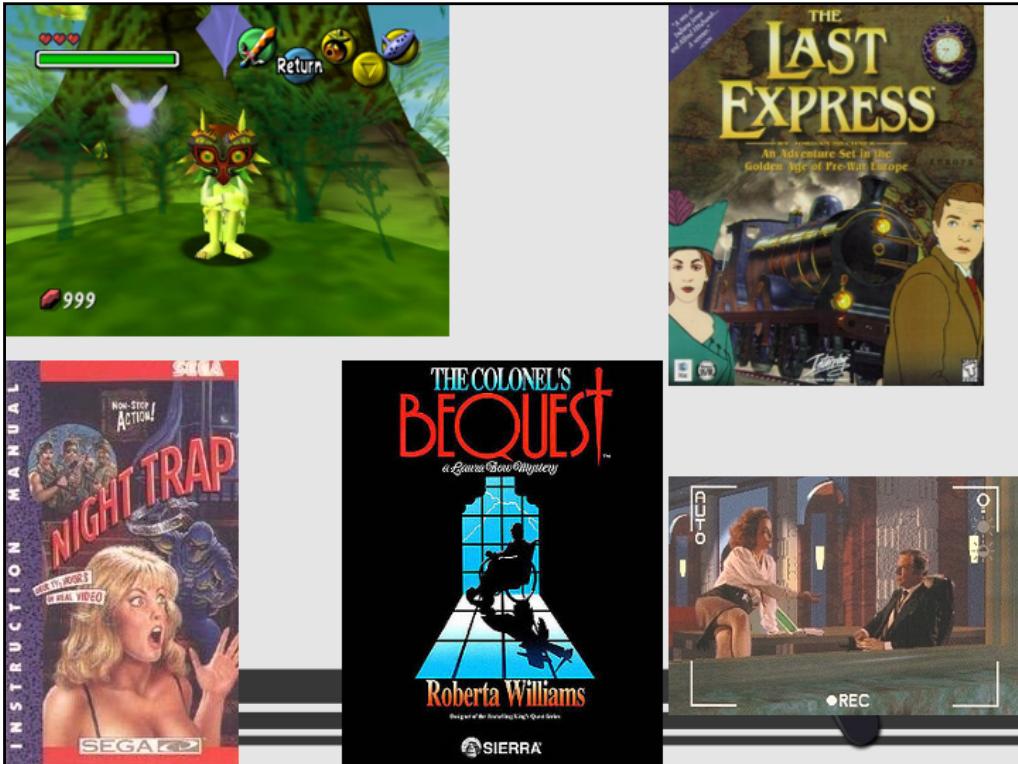


Intertwined Story Threads



- “Groundhog day”
- Legend of Zelda – Majora’s Mask
- Redoing things integrated as time travel
- Failure/dead end initiates restart
- Experience events from different perspectives
- Provide rich story possibilities without a lot of branches or autonomy in the characters





Night Trap – peeping tom

Voyeur – peeping tom

Legend of Zelda: Majora's Mask – groundhog day

The Last Express (Jordan Mechner) – some aspects of groundhog day

Colonel's bequest – more like a conventional adventure game (murder mystery). Sometimes hints like “you just missed a critical story element! You should probably reload!”

Machinima

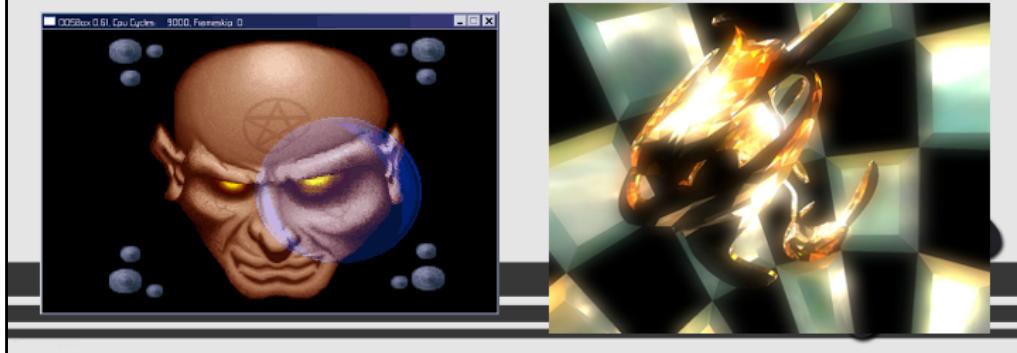


- Machine cinema/animation
- Movie rendered in real-time
- Emerging form of artistic expression
- not usually interactive (perspective can be)
- Both creation and viewing is source of entertainment
- Similar to animatronics (Disney Pirates of the Caribbean)



Machinima: “Demo Scene”

- Early ‘80s hacker/cracker scene
- Highly optimized real-time art/graphics/, music/audio/algorithms/programming showcases



Future Crew – Second Reality



Machinima: entertainment as creation

- Hard Drivin' "ghost" (1989)
(http://www.gamasutra.com/view/feature/1489/hard_drivin_hard_bargainin_.php?page=1)



Machinima: entertainment as creation

- Stunts and Stunt Island
- The Movies



Embodiment of Self in Ghost Racer

- RalliSport Challenge Ghost of Deceased Father
- Agency of interaction with ghost recording?
- Can games provide spiritual experiences?
- YouTube Comment from 00WARTHERTHAPY00
<https://www.youtube.com/watch?v=vK91LAiMOiO>
- “Player Two” Video:
<https://vimeo.com/162531355>



Spiritual defined as a sense of a deep connection with the universe

Player Two



Is this different than finding a forgotten home video of a lost relative? What about an artifact such as an old watch or a well-used tool?

Would you call the ghost of the father “interactive”? In other words, is there an interaction between son and father?

<http://www.nydailynews.com/entertainment/movies/short-film-son-playing-video-game-dead-dad-released-article-1.2611178>

Machinima: entertainment as creation

- FPSs (Quake, Half-Life, Halo, etc.)



Machinima Cut scenes

- Real-time or in-engine cut scenes
- Half-Life 2



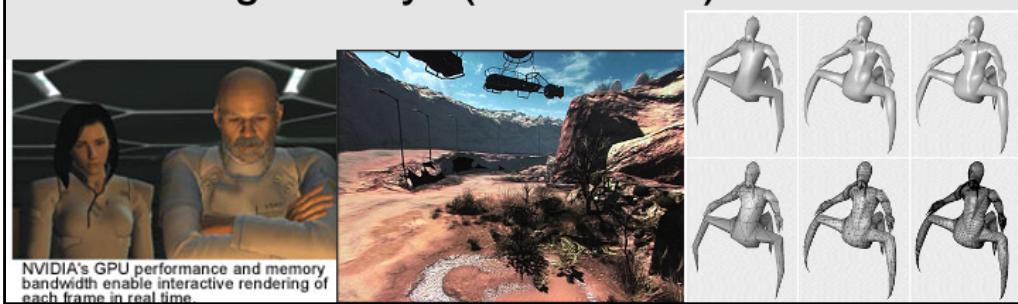
Machinima: Headed to Hollywood?

- Popularity of 3D graphic movies: e.g. Pixar
- Hollywood already targeting different displays (conventional screen, IMAX, stereoscopic)
- “Performance Capture”
mo-cap, 3D scanning
and Light-field rendering



Machinima: Hollywood?

- 3D graphic movies can be rendered real-time with drops in detail - Nvidia RT tech demo of Square's Final Fantasy movie -
http://www.nvidia.es/object/final_fantasy.html
- Virtual texturing (see id/Carmack's Rage)
- Virtual geometry? (tessellation)



Machinima: Hollywood

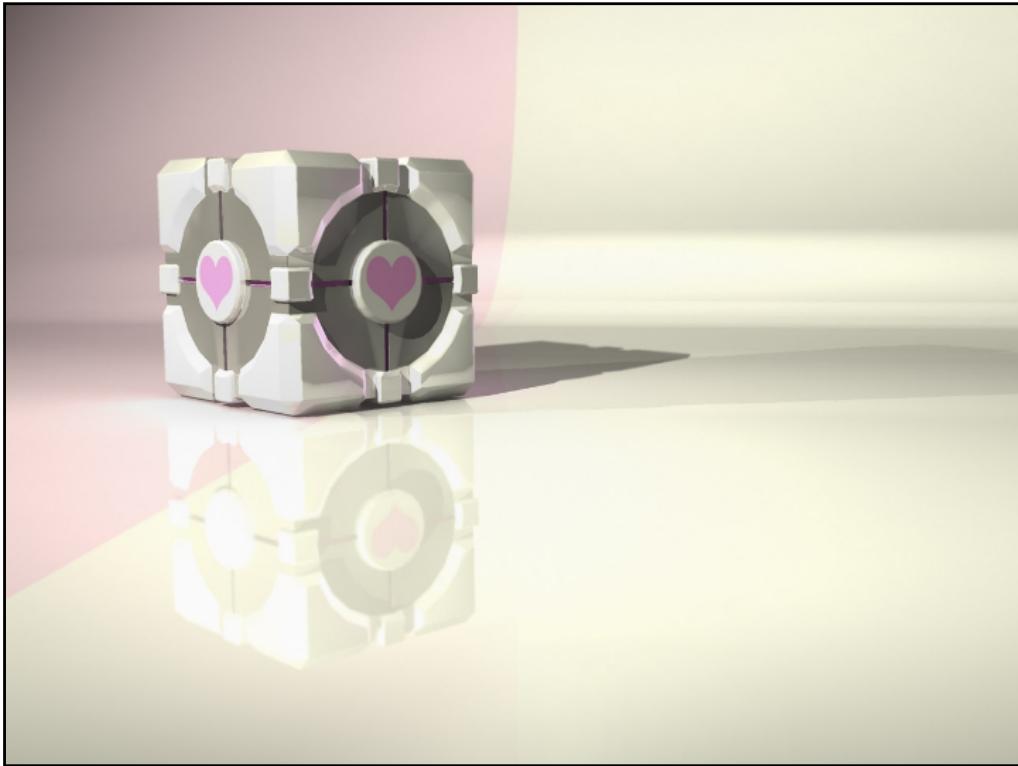
- “Value added” entertainment
- Consider an interactive DVD with real-time rendering
 - Watch original cut
 - Or control the camera
 - Explore the world as story progresses
- Will it happen? (DVDs were touted as doing similar things with multiple camera angles)



Branching Narrative and Machinima: Limited

- Nice concepts, but very limited
- What gamers really want?
- Full interaction in a dynamic, immersive fantasy world including interaction with intelligent beings





Weighted Companion Cube from Portal(1/2)

One-sided interactions with others. You talk, but they don't think, or speak intelligently (crawford)

One of biggest limitations of branching narrative is lack of meaningful (or realistic) interactions with intelligent beings

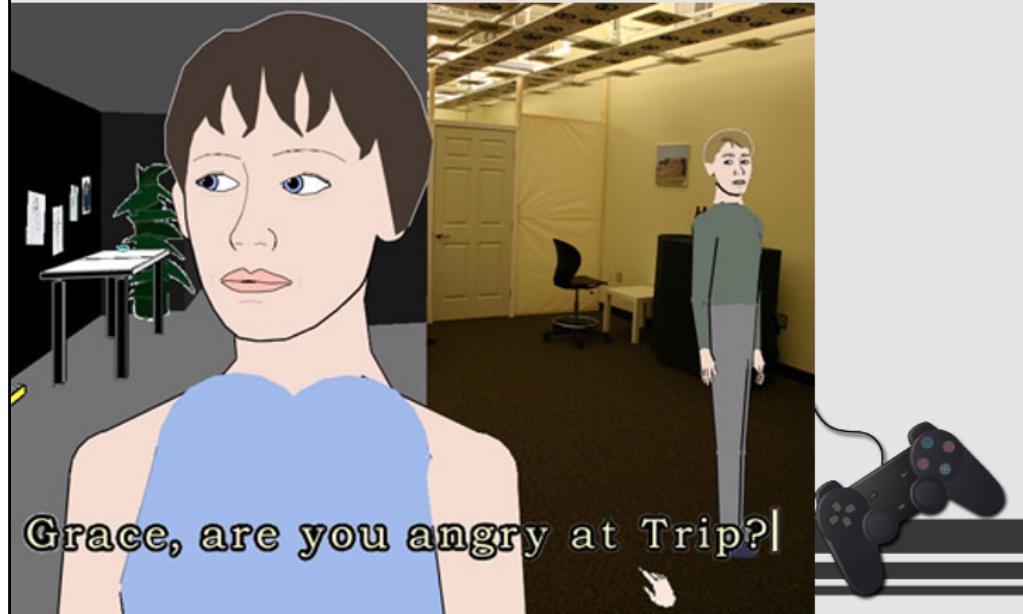
What's missing from story graphs? A computational model of the narrative domain suggested by the works dramatic probabilities (Wardrip-Fruin)

Otherwise, authors must limit opportunities for interaction or abandon suggestions of dramatic probabilities



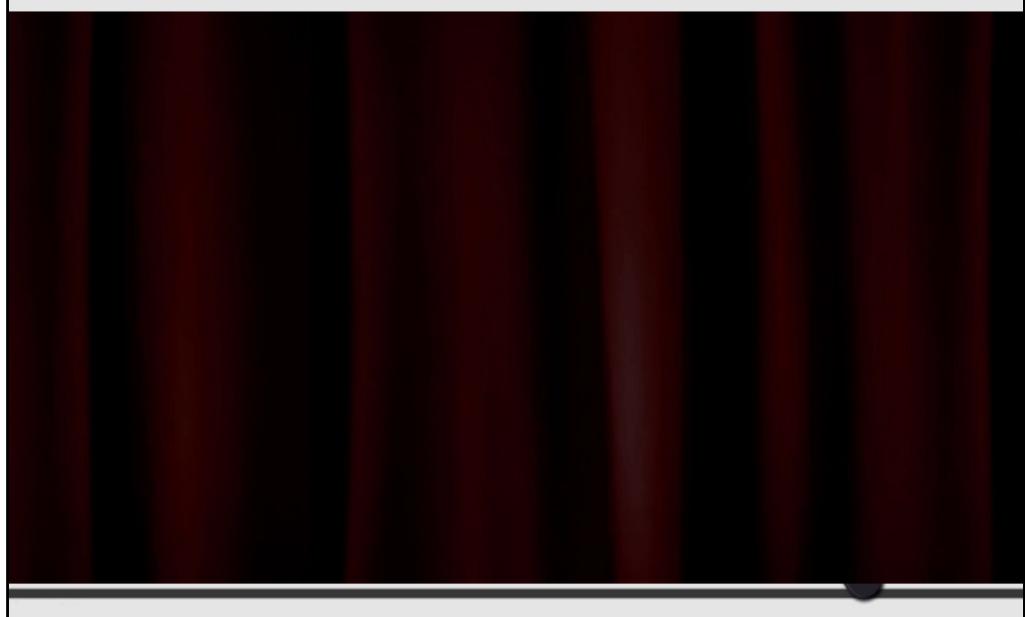
Dramatic Agency – Holy Grail the Holodeck

Façade



Grace, are you angry at Trip?

Façade



Façade

- Created by: Michael Mateas (GaTech) and Andrew Stern (game industry experience)
- **Façade is:**
 - “is an artificial intelligence-based art/research experiment in electronic narrative”
 - “an attempt to move beyond traditional branching or hyper-linked narrative to create a fully-realized, one-act interactive drama”
 - “engineered a novel architecture for supporting emotional, interactive character behavior and drama-managed plot”
 - “characters actively perform the story without waiting for you to click on a link or enter a command”



Façade

- involved three major research efforts:
 - “designing ways to **deconstruct a dramatic narrative** into a **hierarchy** of story and behavior pieces”
 - “engineering an **AI system** to reconstruct a real-time dramatic performance from those pieces that integrates the player's moment-by-moment interactions”
 - “understanding how to write an engaging, compelling story within this new organizational framework”



Façade

- “ABL (**A Behavior Language**), a special purpose programming language (technically, a reactive planning language), designed specifically for authoring personality rich, emotive autonomous characters.”
- “A drama manager that dynamically sequences units of story (**dramatic beats**) in response to the history of the player’s interaction.”
- “A custom **rule language** for authoring robust **natural language understanding** rules.”
- “A **discourse management framework** for keeping track of multiple conversational threads and deciding which response is appropriate in the current context.”



Façade

- Problems:
- A lot of complicated work
- Consistency still difficult
- Still potentially have dead-end/uninteresting branch problem
- Must convince player to replay game to truly enjoy the richness
- Confuse user as to whether prior knowledge applies to replays (did Trip cheat or not?)
- Debugging difficulty (so many possibilities)



Storytron

- Chris Crawford – (founder CGDC, developed “Balance of Power”)
- Interactive Storytelling technology – Storytron
- Released demonstration of authoring tool and demo story
- **(Failed effort)**



Storytron

- Claimed to allow for “lots of both story and interactivity”
- Utilizes custom scripting/character language (Deikto)



Scripting Concepts

- Verbs – actions that can be executed/responded to
- Roles – actor allowed to respond/execute
- Options – choice of reactions to verbs
- Inclinations – weighting towards particular options (reaction to events)



Scripting Concepts

- Plans – verbs that actor plans to execute in the future
- Events – memory/history of events actor is aware of
- Stages – locations where story takes place
- Props – objects actors can interact with

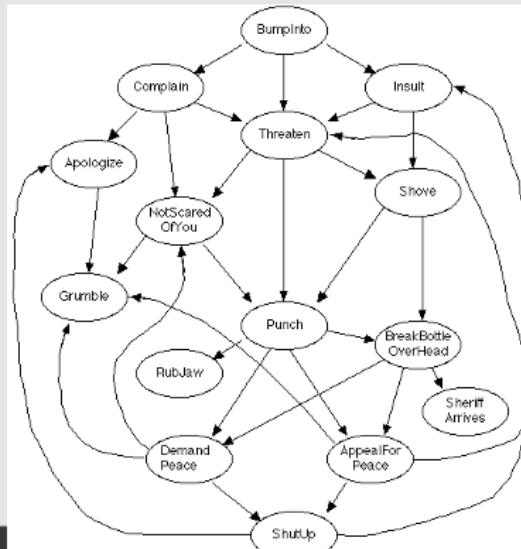


Verbweb

- Verbs that can succeed in story



Verbweb



Swat

- Storyworld Authoring Tool (Swat)
- Tool for creating interactive stories



Storytron Business Model

- Provide tools for free
- Host/distribute storyworlds for free
- Commission authors based on storyworld popularity

