Computer Games
Design, Production & Critique

Professor Tom Ellman
Lecture 6
God’s Design Problem

\[ \frac{-\hbar^2}{2m} \nabla^2 + V |\psi = i \hbar \frac{\partial}{\partial t} \psi \]

\[ G_{\alpha\beta} = \frac{8\pi G}{c^4} T_{\alpha\beta} \]

Mechanics  Moral Choice
Our Design Problem

Event₁: Script₁
...
Eventₙ: Scriptₙ

Mechanics

Drama
The TaleSpin Effect (James Meehan) 
(Telling Stories via Simulation)

Tale-Spin includes a simulation of the real world. Turn it on and watch all the people. - James Meehan

“Tom walked from the chair across a living room down a hall via some stairs down a hall down a hall through a valley across a meadow to the ground by the redwood tree.”

–TaleSpin Program

Noah Wardrip-Fruin, Expressive Processing
The Eliza Effect (Joseph Weizenbaum)
(Keywords Activate Reply Scripts)

Men are all alike. IN WHAT WAY
They’re always bugging us about something or other.

CAN YOU THINK OF A SPECIFIC EXAMPLE
Well, my boyfriend made me come here.

YOUR BOYFRIEND MADE YOU COME HERE
He says I am depressed much of the time.

I AM SORRY TO HEAR YOU ARE DEPRESSED
It’s true, I am unhappy.

DO YOU THINK COMING HERE WILL HELP
YOU TO NOT BE UNHAPPY
I need some help, that much seems certain.

WHAT WOULD IT MEAN TO YOU IF YOU GOT SOME HELP
Perhaps I could learn to get along with my mother.

TELL ME MORE ABOUT YOUR FAMILY.
My mother takes care of me.

WHO ELSE IN YOUR FAMILY TAKES CARE OF YOU
My father.

YOUR FATHER
You are like my father in some ways.

WHAT RESEMBLANCE DO YOU SEE
You are not very aggressive, but I think you don’t want me to notice that.

WHAT MAKES YOU THINK I AM NOT VERY AGGRESSIVE
You don’t argue with me.

WHY DO YOU THINK I DON’T ARGUE WITH YOU
You are afraid of me.

DOES IT PLEASE YOU TO BELIEVE I AM AFRAID OF YOU
My father is afraid of everybody.

WHAT ELSE COMES TO MIND WHEN YOU THINK OF YOUR FATHER
Bullies.

DOES THAT HAVE ANYTHING TO DO WITH THE FACT THAT YOUR BOYFRIEND MADE YOU COME HERE

(N Noah Wardrip-Fruin, Expressive Processing)
Gustav Freytag’s Pyramid
The Five Parts of Drama

Exposition
Rising Action
Climax
Falling Action
Denouement

(Wikipedia)
The Hero’s Journey

(Joseph Campbell)

Stephen Jacobs,
The Basics of Narrative

Departure

Return

Ordinary World

Call to Adventure

Refusal of the Call

Meets a Mentor

The First Threshold

Meets a Mentor

Threshold Demon

The Road of Trials

Initiation

Inmost Cave

Allies and Enemies

Supreme Ordeal

Death

Resurrection

The Road Back

Ordinary World

Call to Adventure

Refusal of the Call

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Inmost Cave

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Resurrection

The Road Back
Types of Narrative in Games

- Implicit Narrative: Arises from ordinary game play.
- Formal Narrative: Presented via non-game media.
- Interactive Narrative: Actions impact delivery of narrative.
- Interactive Story: Actions impact direction of story.

Richard Boon, *Writing for Games*
Interactivity Spectrum

• Fully Traditional Stories:
  – The player sees the same sequence of events every time.

• Interactive Traditional Stories:
  – The main plot can’t be changed, but secondary plot and other aspects of the game can change.

• Multiple-Ending Stories:
  – The player is prompted to make a choice near the end of the game that influences the main plot outcome.

• Branching Path Stories:
  – The player is prompted throughout the game to make choices significantly affecting the main plot.

• Open-Ended Stories:
  – Both prompted & unprompted player actions affect impact the main plot.

• Fully Player-Driven Stories:
  – The player operates in a sandbox in which player he/she can do most anything. He/she may effectively makes up his/her own story.

Joseph Lebowitz and Chris Klug, Interactive Storytelling for Video Games
Linear Story

Fixed sequence of events. The same for each play session.
Theoretically a rich form of interactive story, but difficult to manage because the number of branches is exponential in the length of the story.
Branch and Merge Story

Choices are available to the player at many points in the game. The effects of those choices bounded in time at the merge points.
Spine with Branches Story

Side quests sprouting from along the main quest may be undertaken by the player, or not. Side quests don’t impact the main quest.
Modular Story

Modules may be played in any order. Actions in playing one module don’t impact other modules.
Hierarchic Goal Structure

Win Game

Kill Dragon
- Sword
- Poison
- Arrow
- Find
- Use

Rescue Hostage
- Persuade
- Force
- Disguise
- Charm

And Node

Or Node
Extensional v. Intensional
Story Structure

• Extensional:
  – Story structure is coded explicitly as a tree or graph.

• Intensional:
  – Story structure is generated dynamically during game play by a Director or Drama Manager program.
  – E.g. Chris Crawford’s Erasmatron.
  – E.g., Mateus and Stern’s Façade game.