

End-user

Interactive Storytelling
Lecture slides
September 18, 2008
Copyright © 2008 Jonni Smed
<http://www.iki.fi/smed>

Affordance

- interface design: opportunities for action made available by an object or interface
- interface “cries out” for the action to be taken

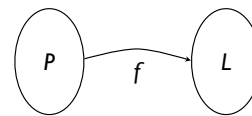
(Mateas, 2002)

Choice problem

- how to choose from a large amount of possible actions?

(Szilas, 2004)

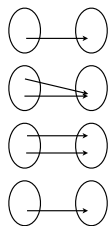
Interface mapping function



- *P*: physically possible actions
 - perceived affordances
- *L*: logically (in the story) possible actions
 - real affordances

Interface mapping function (cont'd)

- total
 - non-surjective: filtering interface
 - non-injective: redundant interface
 - bijective: direct interface
- partial
 - free interface: free interface



Anticipation of an action

- author's activity: plan the user's inferences
- stability: *P* and *L* should remain stable
- surprise: counters stability
 - new possibility should remain in the selection
 - addition in slow pace
- duration of interaction
 - freeze or fill in the time
 - semi-autonomy
 - ellipsis

User-centred actions

- ethical consistency
- motivational consistency
- relevance (history)
- cognitive load (opens/closes narrative processes)
- conflict (exhibits or pushes towards a conflict)

(Szilas *et al.*, 2007)

Robin Laws: Seven player types

1. power gamer: new abilities and equipment
2. butt-kicker: fight!
3. tactician: thinking ahead
4. specialist: sticks with his favourite character
5. method actor: want to test his personal traits
6. storyteller: plot threads
7. casual gamer: in the background

Author

A contract with the author

- there is a *reason* why the author is leading you through the story
 - how does that work in an interactive story?
- (Perlin, 2005)

Narrative paradox and authoring

- the author cannot expect the user to make the right decision at the right moment or in the right place
- author's role is to write interesting characters and rely on their ability to interact with one another
- author must be extremely attentive to the user's inner state

(Louchart & Aylett, 2005)

Second person insight

- the ability to think in terms how the expression will be perceived by the audience

(Crawford, 2005)

Authoring tools and methods

- Improv: scripts
- Hap/ABL: hierarchy of goals
- FSMs/hierarchical FSMs
- Motion Factory: graphical editors
- Softimage
- Virtools: flow charts
- BEcool: oriented graphs

(Szilas, 2007)

What does an author want?

- testing
 - debugging
 - parameter tweaking
 - replaying
- feedback from the users
- artistic control
 - but what is actually the author's role in interactive storytelling?

Systems

General scheme of an IS software

1. reasoning (decision-making, planning)
2. behaviour
3. animation (triggered by behaviour)

(Szilas, 2007)

Four-level story engine

1. story engine (flow of the story)
 - narrative function the next scene should fulfil; gets story acts
2. scene action engine (play scene using a narrative function)
3. character conversation engine (sends stage directions)
4. actor avatar engine

(Spierling *et al.*, 2002)

Four-level story engine (cont'd)

- axis: predefined – autonomous
 1. strict – dynamically chosen scene
 2. predefined scripts – generated scripts
 3. dialogue – intelligent agent
 4. stored animations – adapted animations

Reviewed systems

- CrossTalk
- Façade
- FAtiMa
- Interactive Drama Engine
- Makebelieve
- SAGA
- Storytron
- Virtual Storyteller
- VIBES

CrossTalk

- interaction triangle: three screens
 - virtual exhibition hostess
 - changeable virtual exhibition visitors
 - touch screen for the user's choices
- (Klesen *et al.*, 2003)

Narrative structure vs. story content

1. scene flow definition
2. scene content creation
 - author's scripts
 - automatic dialogue generation

SceneManager

- scene
 - pieces of user-edited dialogue
 - coherent and closed unit wrt. message, agent characterization or punchline
- compound scene = linked atomic scenes
- scene group = set of equivalent atomic scenes
- scene flow: narrative structure linking the scenes

SceneManager (cont'd)

- scene node
 - prescribed
 - customically created
- scene transition
 - interrupt
 - conditional
 - probabilistic

SceneManager (cont'd)

- user input
 - request and wait
 - time-out events
 - interrupt (seamless interaction)
 - concurrent event handling (affect long-term behaviour)

Dialogue strategies: plan operators

- context: goal and precondition
- dialogue content
- characters: role & personality
- role & meta-role (trick for immersion)