Lecture 14: Inform 7 Wrap-Up

CM 148
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Assignment 4 Details

• A door
• A container with something that makes sense to put in

"story"
Release your game online, make it playable in the browser
[both of these will end the game in different ways, require RESTART between tests]

Test win with "look / x alarm / x clock / wait / x batman /

Test lose with "look / x alarm / x clock / wait / x batman / pull alarm / wait / wait / wait / wait".

[combining sub tests]

Test clock with “look / x clock / wait / x clock”.

Test clock with “look / x clock / wait / x clock”.

Test alarm with “x alarm / pull alarm”.

Debugging: SHOWME and TREE

Classroom
There are many rows of seats that stretch wide across the room, with a long table up in front. The exit is in the front of the room.

Through the open door, you notice a cool breeze rustling the trees outside.

There is a clock on the wall.

You can also see a fire alarm here.

>SHOWME
Classroom - room
  propped-open door - open door
  yourself - person
  clock
  fire alarm

>exit

Forest
There are many trees. The classroom is west of here.

The dim classroom interior can be seen through the open door.

>SHOWME
Forest - room
  propped-open door - open door
  yourself - person

>TREE
compass (582351)
  the north
  the northeast
  the northwest
  the south
  the southeast
  the southwest
  the east
  the west
  the up
  the down
  the inside
  the outside
  (darkness object) (582383)
  (Inform Parser) (582415)
  (Inform Library) (582447)
  (property_numberspaceforcer) (582479)
  (ValuePropertyHolder_42) (582543)
  (ValuePropertyHolder_46) (582575)
  Classroom (583567)
    a clock
    a fire alarm
  Forest (583695)
    a propped-open door
    yourself
  Batman (583727)
Releasing your game

• Use the “Release” button
• Put two images in the projectname.materials/folder
  – Cover.jpg
  – Small Cover.jpg
• Include this line in your source code:

  Release along with cover art, the source text, an interpreter, and a website.
Aaron Reed’s book

http://inform7.textories.com/sand-dancer/
What IF does well

• Stories about
  – Props and settings
  – Investigation and exploration
    • Aarseth’s ergodic stories from his book *Cybertext*—*Perspectives on Ergodic Literature*
    • “In ergodic literature, nontrivial effort is required to allow the reader to traverse the text.”
  – Mechanics and systems
What’s harder with IF

• Stories about action and reflex
  – IF, unlike movies, plays, and real time videogames, don’t unfold in real time

• Stories about precise spatial relationships
  – Imagine IF Tetris, with “the L-shaped block is 18 pixels left and 29 pixels above the bottom row, which has a gap only two units wide.
Purpose of Room Descriptions: Story Functions

• Tell the reader what kind of story this is: genre/tone/focus.
• Establish details of the setting that lets the reader imagine themselves.
• Explain details of geography and environment that will become relevant to the story.
Purpose of room descriptions: game-related functions

• Clearly define how the room connects to its neighboring rooms and in what compass direction.

• Draw attention to parts of the environment that are worthy of further exploration while leaving out unimportant details.

• Describe any spatial relations that are important to navigating or understanding the story world.
(summary of) Concept Document for Aaron Reed’s *Sand Dancer*

- Starting event: car crash in the desert, dramatic and tense scene
- One obvious place to explore: an abandoned tower
  - Exploring triggers memories, uncovers “emotional baggage”
- Learn about yourself, who you are, what your backstory is
- Learn that you have a decision to make, that your character knows, but which hasn’t been revealed to the human player yet
- Find a radio, hear a voice that gives you two possible goals
- Discover objects and actions that could get you towards one of those goals
- Meet characters who make you choose between different talents, which help you in different ways towards the goals
- Make a final choice that provides the conclusion to the story
Sand-Dancer Examples

The description of Base of the Tower is "Behind [the concrete building] [a steel girder] rises from [the sand][if lit by flashlight]; you shine your flashlight up towards the tower looming above you[otherwise if lit by headlights], one of three legs of [the huge electrical tower] looming like some gargantuan spider into blackness above you[otherwise]; far above you [a red warning light] blinks on and off[end if]. [A tumbleweed] drifts lazily against the rusted metal among [scrawny weeds] and [trash]. The desert stretches in all directions except back south towards the [if lit brightly]glow of the [end if]building." A red warning light is scenery in Base of the Tower.

A steel girder, some scrawny weeds, and some bits of trash are scenery in Base of the Tower.

The description of bits of trash is "Worthless and forgotten, drifting against snags like non-biodegradable snow."

A tumbleweed and a rusty tin can are in Base of the Tower. The tumbleweed is scenery.
The gnarled old oak tree is scenery in the Orchard.

• Anything can be scenery, does not bar it from playing a part in the game
• Will be immobile
• Will NOT be described independently of its room.
Good practices for room descriptions

• Room descriptions shouldn’t include portable things. If the player picks something up and moves it elsewhere, and you’ve enshrined its presence into a room description, your story world is now inconsistent.

• Maintaining a coherent story world is one of many small things that earns respect from your player and encourages them to keep playing, rather than give up in frustration.
Section - Base of the Tower

The description of Base of the Tower is "Behind [the concrete building] [a steel girder] rises from [the sand] [if lit by flashlight]; you shine your flashlight up towards the tower looming above you [otherwise if lit by headlights], one of three legs of [the huge electrical tower] looming like some gargantuan spider into blackness above you [otherwise]; far above you [a red warning light] blinks on and off [end if]. [A tumbleweed] drifts lazily against the rusted metal among [scrawny weeds] and [trash]. The desert stretches in all directions except back south towards the [if lit brightly] glow of the [end if] building." A red warning light is scenery in Base of the Tower.

A steel girder, some scrawny weeds, and some bits of trash are scenery in Base of the Tower.

The description of bits of trash is "Worthless and forgotten, drifting against snags like non-biodegradable snow."
Describing the character

Part - Mechanics

Chapter - Beginning the Story

The player carries a pack of cigarettes and a lighter. The player wears a denim jacket.
Use of custom *things* and *rules*

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*Chapter - Memories*

A memory is a kind of thing. A memory can be retrieved or buried. A memory is usually buried.

Suggestion relates various things to one memory.

The verb to suggest (he suggests, they suggest, he suggested, it is suggested, he is suggesting) implies the suggestion relation.

The last day of high school is a memory. It is suggested by the tumbleweed.
Fancy descriptions with custom Definitions and conditionals

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**Chapter - Lights**

Definition: a room is within range of headlights if it is Middle of Nowhere or it is Backtracking or it is Crumbling Concrete or it is Base of the Tower.

Definition: a room is lit brightly if it is regionally in Tower Vicinity and emergency lights are switched on.

Definition: a room is lit by headlights if it is not lit brightly and it is within range of headlights and headlights are switched on.

Definition: a room is lit by flashlight if it is not lit brightly and it is not lit by headlights and flashlight is enclosed by it and flashlight is switched on.
# Commands and Actions

## Common Command Verbs and Resulting Actions

<table>
<thead>
<tr>
<th>Player Command</th>
<th>Inform Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTACK [something]</td>
<td>attacking something</td>
</tr>
<tr>
<td>CLIMB [something]</td>
<td>climbing something</td>
</tr>
<tr>
<td>CLOSE [something]</td>
<td>closing something</td>
</tr>
<tr>
<td>DRINK [something]</td>
<td>drinking something</td>
</tr>
<tr>
<td>DROP [things preferably held]</td>
<td>dropping something</td>
</tr>
<tr>
<td>EAT [something preferably held]</td>
<td>eating something</td>
</tr>
<tr>
<td>ENTER [something]</td>
<td>entering something</td>
</tr>
<tr>
<td>EXAMINE/X [something]</td>
<td>examining something</td>
</tr>
<tr>
<td>EXIT</td>
<td>exiting</td>
</tr>
<tr>
<td>GET IN/INTO/ON/ONTO [something]</td>
<td>entering something</td>
</tr>
<tr>
<td>GET OFF [something]</td>
<td>getting off something</td>
</tr>
<tr>
<td>GET OUT/OFF/UP</td>
<td>exiting</td>
</tr>
<tr>
<td>GET [things]</td>
<td>taking something</td>
</tr>
<tr>
<td>GO INTO/IN/INSIDE/THROUGH [something]</td>
<td>entering something</td>
</tr>
<tr>
<td>GO [direction]</td>
<td>going something</td>
</tr>
<tr>
<td>GO [something]</td>
<td>entering something</td>
</tr>
<tr>
<td>INVENTORY/I</td>
<td>taking inventory</td>
</tr>
<tr>
<td>JUMP</td>
<td>jumping</td>
</tr>
</tbody>
</table>
Instead rule

• Override normal behavior and do something different

Instead of taking the tumbleweed: say "Let it blow on. Wherever it's going is bound to be better than here."

• Instead of exposing the mechanical detail of your story (you can’t take the tumbleweed) you provide insight into the environment and attitude of the main character, as well as a plausible reason for the character not to do something.
Before rules

• Might want to tweak the story world to make it easier for the player to succeed
  – E.g. not dealing with locks unless and opening doors unless that’s an important part of the story

Before entering truck when truck is closed: try opening the truck. Before exiting when player is in truck and truck is closed: try opening the truck.
Redirecting actions

- TOUCH SAGUARO and TAKE SAGUARO will produce the same effect here

Instead of touching the Saguaro: say "Yeah, you did that once as a kid, on accident. Not happening again." Instead of taking the Saguaro: try touching the Saguaro.
Default rulebooks for actions

• Before
  – Exception
    • Wait, in this case, before you do this, do that!
    • Then... go on

• Instead
  – Exception
    • Don’t do that in this case, instead do this other thing
    • Then... stop

• Check
  – Default
    • Let’s check to make sure it’s okay
    • Then go on unless the phrase contains “instead”

• Carry out
  – Default
    • Okay, let’s carry out the results
    • Then go on

• After
  – Exception
    • In this case, this is what happened after
    • Then stop

• Report
  – Default
    • Otherwise, report on what normally happens
    • Then go on
ACTIONS testing command

> actions
Actions listing on.

> 

• Will now display every sub-action and rule!
Puzzles

• Sand Dancer has two main goals
  – Fix truck and go home
    • Needs duct tape
      – Needs courage talent (acquired from rabbit spirit animal) to get duct tape from scary hole
  – Spend the night and wait until morning to figure things out
    • Needs emergency blanket

• Also includes a puzzle to get to the roof
  – Needs one of two talents
    • With courage: make leap to bottom rung of ladder
    • With strength: push barrel underneath ladder to gain access
Roof puzzle: using courage or strength

The Control Center is up from Roof. Control Center is regionally in Office Interior. A huge metal barrel is a fixed in place supporter in Roof.

Instead of going up in Roof when player does not hold courage and huge metal barrel is not placed correctly: say "The metal rungs have rusted away and crumbled; the lowest are well above your head. You don't have the courage to make the jump."

Instead of pushing the not placed correctly huge metal barrel when player holds strength: now huge metal barrel is placed correctly; say "Heaving, you push against the barrel, and with a horrible grating noise, it slides across the roof till it rests underneath the metal rungs."

Report going up from Roof when player holds courage: say "[FIRST TIME] You gather your courage and leap off the edge of the roof. Your hands grasp the metal of the bottommost rung, scraping and sliding, but holding. [ONLY] You pull yourself up the rungs into the control center. Hey, it wasn't that hard after all."

The huge metal barrel can be placed correctly. It is not placed correctly.

The description of the huge metal barrel is "[A HUGE METAL BARREL] stands upright and intact nearby, [IF PLACED CORRECTLY] directly underneath the bottom rungs [OTHERWISE] large enough you could climb up on top of it [END IF]."

Instead of pushing the placed correctly huge metal barrel: say "Push it any more and it'll fall off the roof. Keep it here and you can get to the rungs."

Instead of entering or climbing the placed correctly huge metal barrel: try going up. Instead of entering or climbing the huge metal barrel: say "Yeah, you could get on top of it, but while it's over here you couldn't reach a whole lot."
Creating new actions

- Tell Inform the number and sorts of nouns it can be used with
- Tell Inform what command forms the player can use to invoke it
- Define the behavior using the action default rulebooks
Default rulebooks for actions (again)

- **Before**
  - Exception
    - Wait, in this case, before you do this, do that!
    - Then... go on
  - Instead
    - Exception
      - Don’t do that in this case, instead do this other thing
      - Then... stop

- **Instead**
  - Exception
    - Wait, in this case, before you do this, do that!
    - Then... go on

- **Check**
  - Default
    - Let’s check to make sure it’s okay
    - Then go on unless the phrase contains “instead”

- **Carry out**
  - Default
    - Okay, let’s carry out the results
    - Then go on

- **After**
  - Exception
    - In this case, this is what happened after
    - Then stop

- **Report**
  - Default
    - Otherwise, report on what normally happens
    - Then go on
Sand Dancer new Smoking action

Chapter - Smoking

Smoking is an action applying to one thing.

Understand "smoke [SOMETHING]" as smoking. Understand "light up [SOMETHING]" as smoking.

Check smoking when noun is not pack of cigarettes: instead say "Sounds like something your high school buddies would try."

Check smoking when lighter is not held: instead say "You pat your pockets, but can't seem to find your lighter."

Before smoking when lighter is not held and lighter is visible: say "(first taking the lighter)"; try silently taking lighter. Before smoking when pack of cigarettes is not held and pack of cigarettes is visible: say "(first taking the cigarettes)"; try silently taking pack of cigarettes.

First report smoking: say "You pull out a cigarette and flick it into life. Thoughts tumble through your head."

Report smoking: say "Well, you're still stuck here. [RUN PARAGRAPH ON]."

Report smoking: say "[IF LOCATION IS LIT BRIGHTLY] You've finally lit the place up a little [OTHERWISE IF LOCATION IS LIT BY HEADLIGHTS] It's dark outside the beam of your headlights [OTHERWISE IF LOCATION IS LIT BY FLASHLIGHT] It's pitch black outside the beam of your flashlight [OTHERWISE] It's darker than you can remember it ever being [END IF]. [RUN PARAGRAPH ON]."

Report smoking: if the player holds a talent, say "Some weird shit went down in the desert, but you do feel like you have more [LIST OF TALENTS HELD BY PLAYER]. [RUN PARAGRAPH ON]."

Report smoking: if there is an in progress plan, say "You've found [THE LIST OF HANDLED THINGS WHICH ARE REQUIRED BY A PLAN], but [IF THE NUMBER OF IN PROGRESS PLANS IS 2] you can't see how they're going to be helpful together [OTHERWISE] you still need something else if you plan on [A RANDOM IN PROGRESS PLAN] [END IF]. [RUN PARAGRAPH ON]."

Last report smoking: say "[PARAGRAPH BREAK] And you still haven't quit smoking. You crush the butt under your heel and wonder what to do next."

Everything else: rules from the rulebook
Section - Brooding

Brooding is an action applying to one thing. Understand "brood about/on/over [SOMETHING]" or "brood [SOMETHING]" or "think about [SOMETHING]" as brooding.

Check brooding when noun is not a memory: instead say "Eh. You couldn't really get into a good brood about that when it's this damn cold."

Carry out brooding: say "[DESCRIPTION OF NOUN][LINE BREAK]"; now the noun is retrieved. [We defined earlier that memories can be either buried (not yet brooded about) or retrieved.]

Instead of doing anything other than brooding to a memory, say "As if. All you can really do is BROOD ABOUT it."

Instead of thinking: say "Most of the thinking you do nowadays comes from either smoking or brooding." [Thinking is a standard action which we'll use to hint the player towards better options.]

Section - Memory Collection

The last day of high school is a memory. It is suggested by the weather-worn guidebook. The description is "You didn't expect it was going to be your last day. But that morning you got called in to the principal's office and fat bald Mr. Cox and pissy old Mrs. Burke were there, and they looked kind of like strong animals stalking weak animals, and you knew something bad was up.

Cox said I have here, Mr. Morales (a bad start since you hate that name) a test you took last week in Mrs. Burke's sophomore English class. Questions have been raised (he looked up at Mrs. Burke like he was trying to pass the buck) questions have been raised about the quality of your essay, and whether a student with your academic and behavioral record (he scratched his bloated nose meaningfully) could have plausibly produced such an essay, and you get the idea. They thought you cheated.

... The player carries a wallet. The wallet is closed and openable. In the wallet is a driver's license and a receipt from Big Jimmy's. The receipt suggests your shit job.

Your shit job is a memory with description "Juza straddles the 371 like a drunk at last call, smelly and without a plan for the future. Shiny cars whiz by at ninety once in a while, only stopping for gas or directions (hint: not this way). No one ever stops for the stalls selling food and jewelry and blankets and cheap t-shirts that cluster around the dirt turn-off onto the rez. At least, no one buying anything.
Helping the player participate

• Use words deliberately
  – Communicate in same language between player and story: when story uses a word but claims to not understand when the player tries to use it back

• Describe things consistently
  – Otherwise, it’s sloppy and confusing for the player

• Clearly advertise new or unusual verbs
  – Use the verb word in your descriptive text mentioning the item, can even capitalize the new verb

• Use standard actions whenever possible
  – PULL ROCK vs UNEARTH ROCK vs DIG ROCK

• Create synonyms deliberately
  – SNEAK A COOKIE → “That’s not something you can enter”
    • SNEAK already a synonym for GO rather than TAKE

• Introduce new nouns sparingly
  – Bracket Every Notable Thing [BENT]

• “Details are adrenaline, generalities are novocain”
The journey(s) of the player

• IF: strong connection between the player and the protagonist
  – *You* are the one who is deciding what to do
Gateways and Sandboxes

Figure 8.2 shows the rising/falling action diagram contrasted with the gateway/sandbox diagram. While similar, the two structures are not entirely analogous.

Gateway/Sandbox can apply to games more broadly
- Elver scrolls IV: Mostly all sandbox
- Final Fantasy XIII: Mostly all gateways
  - Sometimes called “on rails”
Do, Don’t Show

• Let players decide and perform a course of actions themselves

• Don’t have to let the player succeed...
  – Describing how they fail to carry out their desired course of actions can say a lot
  – Examples
    • That scene with the wings in Photopia
    • Jeremy Freese’s Violet (the dissertation writing game)
Sand-dancer’s design document calls for three endings (Figure 8.4), based on whether Knock barters with his final spirit animal for honor, spirit, or freedom. We haven’t written the story’s climax yet, but let’s say that after Knock trades with Sand-dancer for the chosen talent, the lizard vanishes, and the game ends when the player makes his first movement back towards ground level. In all of our endings, we’ll further personalize them by referencing the player’s other two chosen talents.

**Figure 8.4**
A flow chart of Sand-dancer’s basic story structure.
Player characters (PCs) and Non-player characters (NPCs)

• Roles of NPCs
  – Sources of knowledge
  – Enemies
  – Gateways
  – As plot devices (save the princess!)
  – Conversational partners
  – Extras to add color (a store clerk, a passing knight, a space hobo)
Sand Dancer characters

Part - Characters

A spirit animal is a kind of person. The rabbit, the Coyote, and Sand-dancer are male spirit animals.

A normal animal is a kind of animal. A desert hare and a brown lizard are normal animals.

Chapter - Normal Animals

The brown lizard is in Middle of Nowhere. "[IF PLAYER IS IN PICKUP TRUCK]Through the windshield, you see a little lizard clinging frantically to the [SAGUARO][OTHERWISE]A brown-colored lizard clings to the cactus[END IF]." Understand "brown-colored/colored/sand-dancer/dancer" or "sand dancer" as brown lizard. The description is "[ONE OR]He looks pretty pissed that you crashed into his cactus. What did grandma used to call those little dudes? You can't remember any more[OR]Oh yeah, you remember, she called them sand-dancers. This little sand-dancer still looks pissed[OR]The little sand-dancer lizard stares at you with one slitted eye[STOPPING]."

Instead of giving anything to the lizard: say "You dangle [THE NOUN] in front of it, but it just flicks its tongue in and out a little faster, staying put." Instead of attacking or taking or pushing or touching the lizard: say "You reach out to grab it, but in a flash it scurries around to the other side of the cactus and disappears."; now lizard is off-stage. Instead of kissing the lizard: say "Someone in elementary school dared you to do that once and you beat him up."

Chapter - Trading with the Spirit Animals

A spirit animal has a number called price. The price of the rabbit is 1. The price of the Coyote is 2. The price of Sand-dancer is 3.

Trading is an action applying to two things. Understand "trade [SOMETHING PREFERABLY HELD] for [SOMETHING]" as trading.

The trading action has a person called the trader. Rule for setting action variables for trading: now the trader is a random visible spirit animal.

Check trading when the trader is not a spirit animal: instead say "There's no one here to trade with."

Chapter - The Coyote

The description of the Coyote is "You can barely see him in the darkness, can't tell whether he's old or how old, what color his [DUSTY HOODIE] is, and with those [SUNGLASSES] you can't even tell whether he's smirking at you or just twitching his mouth. There's a weird smell coming off him, sweat and dirt and a little wet dog and something deeper, earth, desert, rain, all mixed with [CIGARETTE] smoke."

The Coyote holds a thing called a cigarette. He wears some sunglasses and a dusty hoodie.
Three systems of conversation

• ASK/TELL – built in to Inform
  – Simple to understand
  – Usually stateless (and therefore easy to create and test)
  – Can feel artificial
• Extend w/ conversation suggestions
  – (framework by Eric Eve)
• Extend w/ threaded conversation
  – Quips, direct follow-ups, and talking back (*Galatea*)
  – (framework by Emily Short)
• Keyword interface
  – Highlights words in dialog, lets players write them to expand those ideas (closer to expanding text in Twine)
  – (framework by Aaron Reed)
Playtesting w/ outside people

• Everybody thinks differently, what’s obvious to you may not be obvious to your players
• Can be fun!
  – Testers expect a work in progress
  – Will come up with great ideas for commands and alternate solutions for puzzles
  – Give you insight about how your story comes across to people not intimately familiar with it
Useful ways to get feedback

• Ask for notes on any problems, report back to you later
• Have testers save a transcript of their play session and send it to you with additional comments
  – See move by move exactly how they played and what happened
  – Use SCRIPT command to begin saving output to an external file
• Testers are really useful for working out conceptual problems
  – Look at transcript to see
    • What’s clear or what’s missing from descriptions
    • Where people need to be nudged forward – “SIGNPOSTING”
    • Which parts of your story are moving too quickly or slowly