

Simulation of an Interactive Fantasy System:
Some Fanciful Scenarios

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A DARK CARNIVAL

Orientation

What follows is a pastiche of conversations and descriptions drawn from an imaginary run of the IF Simulation (SEE "Research Proposal: Simulation of an Interactive Fantasy System"). Through the conceit of dialogue, this paper is intended to give the reader a sense of what the simulation might really be like, and to address some of the questions and issues that are sure to arise during the course of the project. I have used the world created in Ray Bradbury's book, SOMETHING WICKED THIS WAY COMES, as the context for the imaginary events described here. Readers who are not familiar with the story may obtain a synopsis from me, or may borrow the book.

Pre-Production

ATARI: What does the town look like where the action takes place?

BRADBURY: Well, there are five versions of the story itself that will give you a sense of the locations and landscape-- the original version of THE DARK CARNIVAL, the screenplay based on that version, my novel, SOMETHING WICKED THIS WAY COMES, the recent screenplay I wrote for Disney, and of course the film itself. The effects people at Disney did a great job of building the town and designing the landscapes used in long shots. The actual "look" is a collage of a hundred places, all with a certain feeling in common, sprinkled across northern Illinois, some places in Ohio...

A: Sounds like plenty of resources. If we can obtain some of the Disney footage it would be great, but it also sounds like we know where to shoot if we decide to do it ourselves. What about the carnival?

B: There's always a danger in making things too concrete.

Again, Disney did a great job of obscuring things, bending the light, focusing on the mysterious-- they did a wonderful job with the train, for instance. It's a typical midwestern traveling show, but "through a glass darkly"-- the tents are black, the facades and posters are ominous-- and of course you can smell it and feel the pricking of your thumbs--

A: That's interesting-- how would you describe that smell?

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A: ...so the action would probably begin in that upstairs bedroom, with the sound of the approaching train, and the light blinking on in Tom Nightshade's window-- does that sound right?

B: Yes, I think we could begin there. So You <the Interactor> might open the window and talk to Tom, or get frightened and snuggle down into the shadows--

A: Or call Dad--

B: Or climb down the trellis and run off through the wisteria, toward the railroad tracks...

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B: How can we be sure You will make it to the Carnival at all?

A: I'm not sure we need to. Maybe You try it six or seven times and then You just can't stand it any more-- You have to go and see--

B: Yes, and we can probe your imagination with the incidents we create in the story. Is the sound of the train not enough? The smell? A certain whisper in the air? Or perhaps a leaflet blown in the window--

A: That's right. As the Playwright, you can do that-- keep creating incidents that stimulate curiosity until You can't stand it any more--

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A: Yes, we can use eye tracking to cue magical transformations. When You look away from that block of ice, for instance, the movement of your eyes can immediately trigger the new image, so that when You look again, the Dust Witch is there, inside the ice...

B: Wonderful. Couldn't we use distorted video to create the

hall of mirrors in real time?

A: Sure-- and work the transformations with computer graphics...

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B: We hope that something different will happen for each person who enters the fantasy world-- and each person's experience will be a different length, too. Suppose somebody wants to just stay in there until we run them out. How does the user know when he's done?

A: Well, we eventually want our Playwright program to know enough about the nature of endings in drama to be able to invent one. This means that the program (you, in this case!) has to be able to identify the central action of the story -- the spine of the plot. Of course that spine may be different for every trip through the fantasy world.

B: Yes, I can imagine that. Say in one version that our user gets to the carnival and, through a series of incidents, becomes convinced that he must reveal Dark's identity to the whole town. The story must move so that he is finally able to do it.

A: Or not, definitely not.

B: Yes, that would be an ending, too... but it wouldn't be as much fun. But how will your program know that that's what that particular user is focusing on?

A: Well, how will YOU know?

B: (Chortling.) I see what you're getting at. Well, I'll watch what he does and listen to what he says and try to infer his intentions...

Dress Rehearsal

B: (Inside the Media Room) The bedroom looks great. I especially like the moonlight splashed across the floor over here, and the cloud shadows--

A: (Naimark) It's amazing what you can do with scrim--

B: Now I'm walking over to the window-- I want to open it and look out-- what do I do?

A: (Hulteen) Go for it--

(BRADBURY approaches the window and reaches toward it. Sound of window opening. The wall he is facing dissolves to the view outside the window. He turns back to see that the room is still represented on the remaining walls. He backs away from the window a few steps-- we hear it close, and the wall restores an interior view.)

B: Okay, I'm going down the trellis to the yard.

(He "opens" the window again.)

B: What do I do now?

A: (Laurel) Jump!

(Bradbury takes another step. The screen becomes a blur. Sound of feet hitting the grass. Bradbury turns. Behind him is the wall of the house and the trellis; before him is the yard. Night sounds grow louder, and there is a scent of wisteria. Bradbury stands sniffing. There is the sound of an approaching train in the distance, coming from the left.)

B: Here it comes. I want to run, but I'll hit the wall.

A: This is a tricky one. Sweep your arm in the direction you want to go, and try to indicate the speed you want to travel with the movement. Like throwing a ball, or commanding a battallion to move "onward."

B: (Gestures rapidly and forcibly with his left hand. The yard whirs by, then the woods, until there is simply a blur). Yiiii! How do I stop?

A: (Marion) Gesture!

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B: (Viewing animation sequence of the Dust Witch searching for the kids). No, she is much more... diffuse... much less explicit than that. What you're showing me looks like a Halloween cliché.

A: What does she look like, then?

B: She's a color-- Disney got it pretty well, I think-- a sort of ghastly green aura that moves around-- leaving silver trails where her fingers touch the roof, the trees-- seeking-- And when we do glimpse her, she's incredibly old-- receding from life as a mummy does, receding from the senses--

A: So what we need is more like ambient light and visual textures to communicate her presence-- and we can use computer graphics to paint the trails.

B: Yes, I think so-- and the sound of the fingers scraping, and of the air in the balloon-- breathing, almost-- but dry, dead sounds...

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(The whole crew stands inside the "control room" built for the Playwright.)

A: These displays indicate what's going on with eye tracking, body tracking, pointing and gesturing. The body tracking display is the best-developed; if we find out that any of the others is inadequate, we will default to video feedback. You'll be able to hear what the speech recognizer understood with these earphones.

B: What if the recognizer doesn't understand something?

A: It often won't-- but then, people often don't, either, in regular conversation. Let's try it. If we can't get enough information to make good guesses from context, we can default to live audio for the simulation. The idea, though, is to work within our technical constraints whenever we can. That's why we hope you'll be able to use these displays instead of an actual picture of the user moving about the room.

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B: Okay. My job, as I understand it, is to weave the story around the person walking around in the world we've created. What are my tools?

A: Well of course your most valuable tools are your imagination and your skill as a storyteller. You know what a good plot is like, and you know how to motivate characters by throwing incidents and contexts at them. The "user" of our fantasy could be thought of as just one of those characters, wandering around in your imagination-- self-motivated to the extent that he is alive for you--

B: -- yes, and characters often surprise me as I'm writing stories--

A: -- and yet you manipulate them through the settings and plots you weave; you poke at them to see what will develop.

B: Yes. And of course sometimes there are specific incidents

that I know I want to include. They are in a certain sense inevitable...

A: That's what we've tried to capture in some of the fixed sequences we've created-- jumping out of the window, running toward the train, moving through the hall of mirrors, or hiding from Mr. Dark in the Library.

B: Those are all pretty big chunks of action, though. Aren't we losing flexibility?

A: Yes and no. You are losing some flexibility in the internal structure of those incidents. But you gain some ease and scope in changing plot direction. In that sense, these big chunks increase overall flexibility in the plot. And you have some little pieces, too...

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B: But we can't simply try to make our "user" just like Will-- that wouldn't be any fun.

A: No, but we know what kinds of transactions with this world would be really interesting from a dramatic point of view. We can try to create incidents that will make it probable for the user to make certain kinds of choices-- to orchestrate the action so that those essential Will-like qualities are drawn out--

B: Yes-- curiosity, daring, an attraction to the Dark that is balanced by a real joy in living--

A: And so, as Will wandered around that little town in your imagination, as you were writing the story, what kinds of things did you do to give him the opportunity to express those qualities?

B: The conversations with Tom Nightshade are one example-- the complement that Tom provided in every choice that the boys made together.

A: And our "user" is more like Tom than Will?

B: Then the complement he needs is more like Will than Tom...

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A: We want to get at the "rules" you use to guide a plot in an interesting direction.

B: (Drawing himself up.) Well, I certainly wouldn't consider

myself a formula writer-- I'm not sure I use any "rules"--

A: That's precisely why we want to observe how you do this. When we design expert systems, we try to include not only the explicit knowledge of an expert but the "rules" by which he makes good guesses-- his hunches and intuitions, if you will. Sometimes they form patterns, and by observing them we-- and you-- may discover some of the heuristic "rules" you use in doing your work.

B: ...hmmm...

A: ...and so we want you to do your best to talk us through each decision you make, at least the first time through, so we can get a glimpse of those processes.

B: Well, I'll try.

A: We're also trying to get at categories of things that might live in your "toolbox" -- kinds of incidents, for instance. When is it time in a story for a surprise?

B: I see what you mean. Well, the boys get a surprise when Mr. Dark shows them his "living tattoo." It functions as immediate, sensory evidence that Dark is extraordinary and powerful and takes the action to a higher level of suspense.

A: And a "reversal" might be another category...

B: Yes, an incident that completely changes your expectations...

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B: I think I understand what you want me to do in constructing the story. But how does it become real for the "user?"

A: The "room" is going to respond in a number of ways, as you know. There are a limited number of slides and video sequences, as well as the computer graphics and lighting effects we looked at earlier. You also have the sound library and some capability to create new sounds as you need them. In addition, you have the "electronic personalities"-- the other characters-- who can be made to speak and act, within some technical constraints.

B: Yes, you showed me the Dust Witch and Mr. Dark "personalities." I can control general placement and gross movement with the joystick, and can have them speak dialogue. But it's entirely likely that other characters will need to make an appearance-- maybe even some who weren't in the original story.

A: We know that, and I'm afraid we aren't far enough along to be able to create them for you on the fly. We thought we'd try to have it both ways for the simulation, so that you could at least have the experience of creating a new character if you need one, and so that we could observe how you do it. In order to do that, we've plugged another human into our simulated machine. He's a professional actor, and you can talk to him through the microphone on your headset.

B: You know, this is beginning to remind me of Niven and Barnes' DREAM PARK...

A: Yes, DREAM PARK was a real inspiration for us, just as your own story THE VELDT was... These are pretty powerful ideas, and it shouldn't surprise us that a lot of us have had them...

B: (Peers over the top of his glasses.)

First Run of the Simulation

NOTE: Statements in parentheses () are descriptions of events. Statements in brackets <> represent unspoken thoughts. Statements in CAPS describe actions that occur between the "fleshed out" segments of the interaction. The USER is denoted as U, the INPUT to the Playwright in the control room as I, the PLAYWRIGHT as P, and the OUTPUT of the media room as O. These various views of the action are also successively indented, so that a single view may be followed sequentially.

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U: <It looks like I'm in a bedroom-- I'll assume it's mine. I wonder what's out the window.>

I: (Body tracking display indicates user moving toward "window" projected in north screen.)

P: She's moving toward the window. Get ready to open it. Wait for the gesture.

U: (Reaches toward window.)

I: (Polhemus display indicates gesture toward window; body tracking display shows another step north.)

P: Fire the window opening sequence.

O: (Window opens in video image on north wall.)

Sound of window opening. Night sounds become louder. Wisteria smell is dispersed.)

U: <Wow! A summer night... looks like a small town... >

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THE USER MOVES INTO THE YARD, HEARS THE PASSING TRAIN, AND DECIDES TO WANDER OFF TOWARD THE TRACKS.

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O: (Circus train rushing by on east screen. Engine roar doppler-shifts as the train seems to move southward. Train passes out of view; empty tracks illuminated in moonlight.)

U: A carnival!

I: (Speech synthesizer receives output from recognizer and produces phrase, "A carnivore!")

P: Must be "carnival"-- She's got it, but she's not moving. Let's try a strange glow in the southern sky.

O: (Red and yellow searchlight beams produced in computer graphics sweep the sky on the south screen.)

U: <What's going on over there?>

P: She's still not going for it. Give me some carnival music.

O: (Distant calliope music drifts in from the south.)

U: <Oh my God, they're setting it up-- in the middle of the night-- I've got to see this.>

I: Body tracking registers a few steps south; polhemus shows a moderately accelerating, sweeping gesture toward the south with user's left hand.)

P: Okay, she's running at a moderate pace. Let's go to the carnival.

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THE USER RUNS TO THE CARNIVAL SITE AND SEES THAT THE TENTS ARE

BEING SET UP. SHE NOTICES THE FORM OF A SMALL BOY IN THE SHADOWS.

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U: Who are you?

O: (Electronic character speaks: "It's me, Tom, silly. Your best friend, remember?")

U: <I'll play along with this, I guess. I want to get closer to the action.> Oh, hi. Hey, let's sneak over there and have a look around, okay?

I: (Speech synthesizer blurts, "Hi... sneak over... look around, ofay?")

P: Good. We've got a lot to process here-- let's have Tom take the lead and get them there slowly, from the west.

O: (Tom: "Sure, follow me." Tom moves slowly across the south wall as carnival tents grow closer on the east screen. Calliope music grows louder.)

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TOM AND THE USER HAVE MOVED UP TO A LARGE TENT REPRESENTED ON THE EAST SCREEN. THE USER SUGGESTS THAT THEY LOOK INSIDE. THEY DISCOVER THE CAROUSEL. JUST AS THEY APPROACH IT, MR. DARK APPEARS FROM BEHIND THEM, INTRODUCES HIMSELF, AND ANNOUNCES THAT THE CAROUSEL IS BROKEN. WHEN DARK HAS GONE, OF COURSE, THE USER DECIDES TO CLIMB ONTO THE CAROUSEL.

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O: (The carousel is shown on the east screen, while the other screens reveal interior surfaces of the tent. Tom is displayed on the north screen, near the carousel. The night sounds have resumed following Mr. Dark's exit.)

U: I wish we could ride it. <I wonder if there's any way to climb onto it.>

I: (Body tracking shows user approaching very near east screen. Speech synthesizer mumbles, "wish... ride....")

P: Let's get her on the carousel--

O: (Sound of feet hitting metal as user steps toward east screen. Images on other screens drop down an apparent two feet. Tom: "Hey, Mr. Dark said you're not supposed to be up there!")

U: (Walks southward "around" carousel.) These horses sure look scared. (Turns back to Tom.)

I: (Body tracking registers user's movement. Speech synthesizer says, "horses... look scared.")

P: Good, she's moving around it and she's beginning to get an ominous feeling. Adjust the images so she can't see Tom. Make it generally darker to increase the suspense.

O: (West wall is completely dark; other walls filled with views of the carousel from its edge. Footstep sounds continue in sync with user's steps. Night sounds stop abruptly.)

U: Tom?

I: (Synthesizer says, "Tom?" Galvanic skin response display shows a sharp jump. Body tracking shows that user has turned to face out toward the darkness and has taken a step "away" from the carousel.)

P: She's getting scared, and she's trying to get off. I didn't expect that. Start the carousel with a jolt.

O: (Loud mechanical sound of low frequency shakes the floor. Loud carousel music, with speed and volume gradually increasing. East wall continues to display carousel while streaks of color blur across the blackness on the other screens to indicate accelerating rotation. Image on east screen is gradually replaced with a blinding yellowish glow.)

U: TOM! MAKE IT STOP!!!

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TOM STOPS THE CAROUSEL. THE USER STUMBLES BACK TOWARD THE CENTER OF THE ROOM AND NOTICES THAT SHE IS MOVING SLOWLY IN RELATION TO THE IMAGES ON THE WALLS. HER VISION SEEMS BLURRED AND SOUNDS ARE LESS DISTINCT.

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O: (Tom: "Oh my God, Susan. You're... OLD!")

U: What do you mean? Why can't I hear you very well?

P: Let's give her some evidence. Use eye tracking output to place a "mirror" within her view.

O: (Tom follows the user to the "mirror." Tom: "Look!" Video image in the mirror frame is the face of an extremely old woman.)

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TOM AND THE USER ARE DISCOVERED BY MR. DARK. AFTER A CHASE THROUGH THE SHADOWS AND TRAILERS OF THE CARNIVAL THEY MANAGE TO RETURN TO THE CAROUSEL. TOM HAS SUGGESTED THAT RUNNING THE CAROUSEL BACKWARDS MIGHT REVERSE THE EFFECT. THE USER JUMPS ON AND TOM OPERATES THE CONTROLS.

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O: (The carousel image is once again stationery on the east screen, while colors course across the others to indicate counterclockwise rotation at a moderate rate. The music plays backwards.)

P: This is too easy. Let's have one last surprise. (Moves Mr. Dark into the scene next to Tom.)

O: (Dark: "I told you the carousel was BROKEN!" Dark grabs Tom and takes the controls. The carousel motion increases drastically.)

U: TOM!!! (Begins to move around the room.)

I: (Body tracking shows user moving around. GSR is going nuts.)

P: What's she doing? I can't make sense out of the body tracking display. Let's go to video-- okay, it looks like she's trying to find a way out. Let's turn up the gain.

O: (Tom: "HE'S GOT ME!!! GET OFF THE CAROUSEL!!!" Carousel continues to accelerate.)

U: (Runs around the room trying to find a way off the carousel.)

I: (Body tracking shows user moving rapidly around the room. Polhemus shows frantic gestures.)

P: Ignore the gestures. Surround her with the carousel for five seconds then use the body tracking to keep an open screen just out of reach.

O: (All screens show carousel with superimposed whirling colors. After five seconds, a blank screen begins to "anticipate" the user's movements. Tom's voice comes from the blank screen: "Jump! Susan, do you hear me? JUMP!")

U: <If I stay on here much longer I don't know what will happen. The only place to jump is into that void that keeps showing up over there, where Tom's voice is coming from.>

I: (Body tracking shows slower movement; frantic gestures are still indicated.)

P: She's getting tired. Let her catch the window.

O: (Motion on all screens slows gradually. Tom: "Jump! PLEASE jump!")

U: (Runs toward the blank screen.)

I: (Body tracking shows rapid approach to west screen.)

P: Now.

O: (Carousel is shown madly whirling on east screen. Other screens are now stationary images of the interior of the tent. Tom is near the controls on the south screen. Dark is running toward the user, superimposed over the east screen. Tom: "PUSH HIM! SUSAN! PUSH HIM!!!")

U: (Pauses for a moment then runs directly at the east screen. The image of Dark looms in the center, directly over a touch-sensitive display. User pushes on the screen.)

I: (East TSD registers user contact.)

P: All right, she's pushed him onto the carousel. That should do it. Now let's get them out of there.

O: (Tom: "Leave him! That will finish him! Let's get out of here!")

U: (Gestures toward the opening in the tent on the north screen.) That way!

P: Now it's time for a final twist. You don't mind, do you?

O: (The screens show the countryside landscape at a blurring pace, with the carnival receding in the west. Suddenly the motion stops and the user is once again in the interior of the bedroom, as before.)

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Postscript

It may concern the reader that this particular experience would probably scare the hell out of the user. The potential for the arousal of fear is high in this particular world (and in many of the worlds that might be created by Mr. Bradbury). We should imagine that a user will ultimately be able to choose from among several different worlds, some of which are more benign. By choosing this one, our user has expressed a taste for horror, and the system has responded appropriately.