MEDIA ROOM IMPROVISATION
Description

A. Fischell, Ph.D.
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How do you make something out of nothing? Form out of chaos?
Specific pictures out of inspirations and desires" Stock out of
nuts?

What IS a "media room," really?

During our too, too brief time together in Montreu: (was it only
last summer?), Dr. Laurel and I worked out a scheme for fleshing
out ideas (and for getting ideas about flesh, but that is another
story) by borrowing from the techniques of the theatre.

In a theatrical improvisation, actors make up and simultaneously
enact characters, situations, and events. In most cases, an
improvisation begins with some sort of description of the
environment, the kinds of characters who may inhabit it, and
perhaps some recent events. Sometimes, however, an improvisation
is more like "free fall" (as Dr. Sarnoff and I discussed during a
parachuting outing in upstate New York). No specific scenario is
given; the actors actually "discover" the situation and the
identities of characters "on the fly." The process is similar to
the sculptor's discovery of the form hidden in a piece of marble
as he chips away.

Drs. Hulteen, Laurel, and I would like to apply this method of
discovery to the idea of the media room, and we would like to
invite your participation. The only limits on your ideas and
fantasies will be those mentioned in Dr. Hulteen's description:
nothing else is "given." On Wednesday, July 6th, we will
collectively take the first step in creating the media room using
this method. I want to point out the efficacy of this approach
given the current constraints on space and actual physical
resources: if we can simply do it in our heads, so much the
better. Of course, these constraints are temporar.: as Dr. Kay
has observed, things often change.

Please study the attached description and join us at 7:00 p.m. on
July 6th for the first Media Room Improvisation. I look forward
to seeing you there.

Sincerely,

Dr. Arthur T. Fischell, Ph.D.

Media Room Description

Eric A. Hulteen
6/10/83

The media room itself is not so much a room in the traditional
sense as a space or an environment. It has the capability
to receive/understand/input all forms of human motor activity.
Which is to say that it can sense any change that you can
affect in the environment but that it can't read your
thoughts. The room also has the capability to generate/output
information to all of the human sense organs. It can
provide things for you to see, hear, smell, feel, and taste.

The media room can deal with more than one person at a time.
However, if there is more than one person the room will not
bifurcate such that each person gets their own unique
environment. Multiple occupants will share the same 'infor-
mation space.

<u>Media Room Event</u>
<u>Revised Proposal</u>

Created 8/15/83
Last revised 8/17/83

Laurel and Hulteen
Fischell-Turing Productions

<u>Review of Original Proposal</u>

Our initial proposal involved a production of an existing script,
THE VELDT by Ray Bradbury, in the media room. The script was
chosen because it features a futuristic children's playroom which
is quite similar to the media room we are developing here at ASR.
The production was to provide motivation and direction for
"bringing up" certain aspects of the media room and especially to
give us the occasion to work with video and animation on the
walls of the space. We were also interested in using the project
to attract the attention of Bradbury, in hopes of persuading him
to collaborate with us on other interactive projects.

The primary shortcoming of the original project was the lack of
opportunities for real-time interaction due to the presence of a
"closed" dramatic script. While the design and realization of
the media and environment were directly in line with our common
research goals, the dirth of interactivity made those efforts
less generalizable to other projects. The temptation to revise
the script in order to create a more interactive environment was
strong, and would have resulted in complicated negotiations with
Bradbury's agent. It would also have involved a great deal of
script-writing, with a high cost in time and energy. Finally,
the purely theatrical aspects of the production were largely
"extracurricular" and difficult to justify in terms of person-
hours required to do the job.

An alternative project we will propose can meet some of the same
goals as the <u>Veldt</u> production:

> 1. Provide a focused activity to stimulate and
>   integrate development of the media room
>   environment and media design and production.

> 2. Provide a demonstration of the technical
>   and interactive capabilities of the media room
>   that will stimulate creative collaboration with
>   theatrical and performance artists.

> 3. Create an occasion for group collaboration
>   and celebration.

Our new, improved project will also meet some specific research
goals more directly and will provide more generative results.

The First Fischell-Turing Production: Overview
(In collaboration with Arthur Fischell and Alan Turing)

The central goal of the F.T. Project is to see how a first-
person, interactive fantasy system implemented in the media room
might work. We envision meeting that goal by creating (in the
fine tradition of the Architecture Machine Group) a simulation of
a single-user interaction with such a system. The project
represents a convergence of the theories and techniques being
developed in the media room project (Hulteen and others) and in
the interactive story project (Marion, Laurel, et. al.). The
actual event will have the flavor of a planned improvisation,
using operational technical elements where they exist and human
improvisation for portions of the system that are still in the
conceptual hacking stage.

The project will utilize a structure which is based on the
interactive story idea, with a playwriting expert system (PLAY-
RIGHT) which enables first-person participation of the user
(INTERACTOR) in the development of the story or plot, and which
orchestrates system-controlled events and characters so as to
move that collectively generated story forward in a dramatically
interesting way. The media room environment may be seen as the
interface for the interactive story experience.

The operational elements of the system will include some
interactive devices, video, graphics, and animation, sound, and
some other environmental effects. We will employ portions of the
design (if not the actual code) of Meehan's story generation
program, Tale-Spin, as well as the design of the PLAY-RIGHT and
other elements of the interactive fantasy version of that system
(SEE attached system diagram and "Explanation of I.F. System"
below).

Again, our purpose is to study the design of a system, major
portions of which have yet to be implemented, by simulating its
operation. The exercise will be improvisational in the sense
that humans will enact roles that will, hopefully, later be
automated -- much like "enacting" a machine which has some
working parts, with humans filling in for the parts that are yet
to be built. Such human participation is necessary simply
because machines are not available that can perform these tasks,
and yet we need to see how the system works before we can build
those machines. One of our jobs will be to observe how well
humans perform at a task which we hope to program computers to do
later. We suspect that a person may not, for example, be able to

perform the PLAY-RIGHT task in real time. By identifying the
nature of both the difficulties and successes that our human
PLAY-RIGHT encounters, we can use the information gathered to
continue design of the I.F. system.

The F.T. project will address the research goals mentioned in the
first section of this paper, and it will also allow us to:

1. Involve theatrical or perfomance artists
    (like Ray Bradbury or Chris Hardman) in the
    position of the PLAY-RIGHT, whose actions and
    heuristics may later be modeled in the creation
    of the expert system.

2. Incorporate and make extensive use of many
    interactive devices and strategies.

3. Create visual, auditory, and other sensory
    materials (relevant to our chosen subject
    domain) and design techniques for accessing
    and integrating those materials in real time.

4. Refine the design of an interactive fantasy
    system, which may be implemented with a variety
    of interfaces, including the media room.

5. Further sharpen our image of the media room
    by exploring an interesting sample "application."

potential		poetics		style

play-right

state-of-the-world model

characters

interface
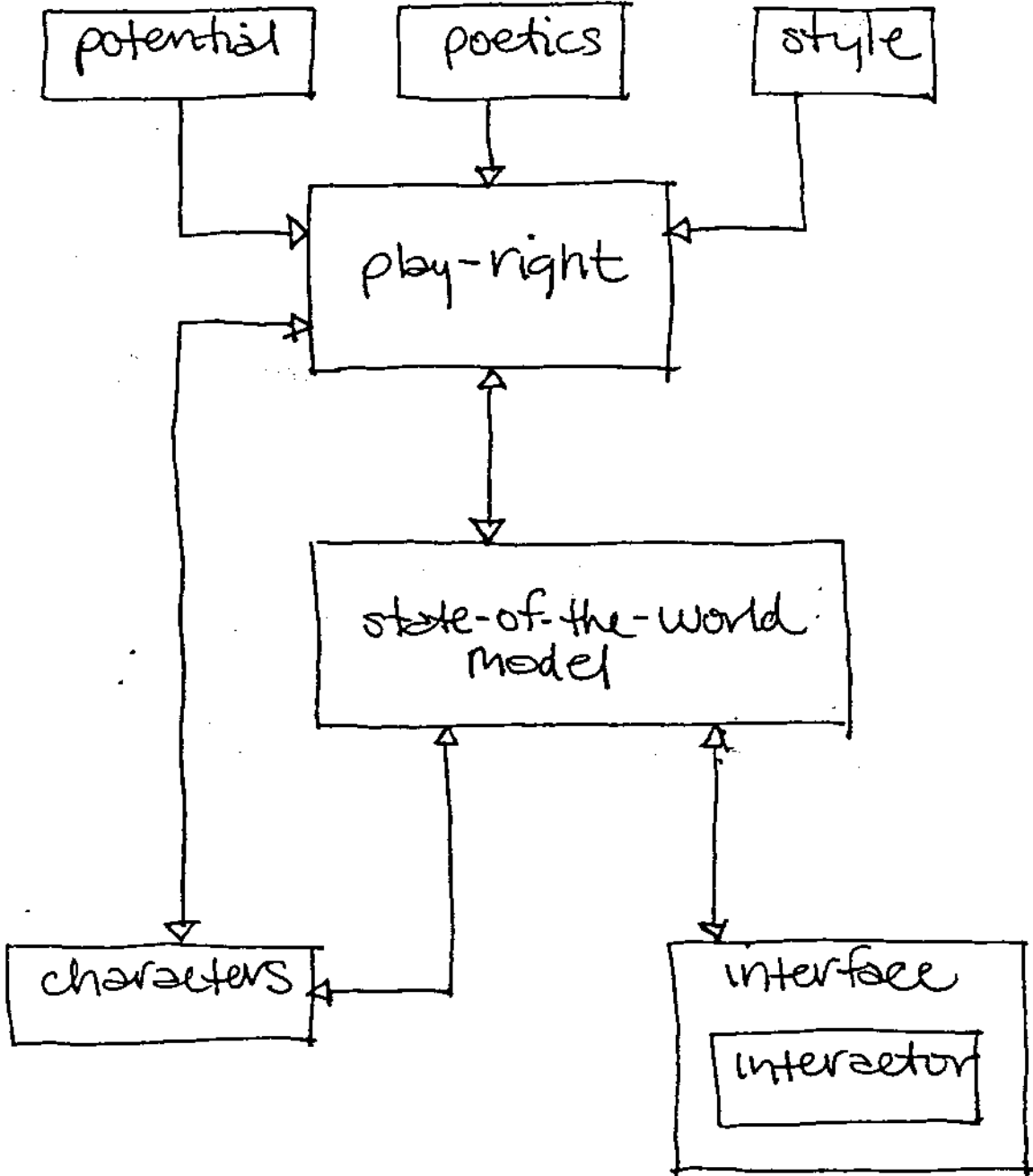
interactor

Proposed Structure of Interactive Fantasy System.

Explanation of the Interactive Fantasy (I.F.) System

(Refer to diagram, "Proposed Structure of Interactive Fantasy System.")

PLAY-RIGHT: Plans and orchestrates plot development. Material resources include the Potential, the Characters, and the Play-right's model of the Interactor. Formal (heuristic) resources include the Poetics and rules pertaining to Style (or genre).

STATE-OF-THE-WORLD MODEL: A passive element of the system which contains a computer model of the dramatic environment, including the history of the world as well as the current state of affairs, which is read from and written to by the Play-right, the Characters, and the Interface.

CHARACTERS: Computational personalities that know their own nature and can make choices and perform actions in the context of the State-of-the-World Model. They are also capable of accepting new orders (psychotherapy or enlightenment) from the Play-right as the plot develops. In effect, their traits and predispositions are continually formulated by the Play-right.

INTERFACE: Implemented in the media room for this project. The Interface is an active system which consults the State-of-the-World Model and provides a dynamic, sensory representation of the action. Conversely, it reads the interactor's outputs and transmits them to the State-of-the-World Model for inclusion in the current environment.

POETICS: The dramatic rules and heuristics utilized by the Play-right in the construction of the plot. These include notions of dramatic form and structure, causal relations among the elements of the drama, methods for creating various types of incidents (suffering, discovery, and reversal), and means for creating and maintaining lines of dramatic probability.

POTENTIAL: Literally, all the materials of the story world, which are defined by a human author before the system is placed in motion. Only characters, objects, and events which are formulated from these materials can be included in the plot. Potential may be described to the system in various states of formulation: for example, it may include general descriptions of the traits of beings which may inhabit the world and/or formulations of specific characters, depending upon the desires of the author.

STYLE: This "box" may actually contain notions of form or genre (e.g., tragedy, comedy, or melodrama) as well as functional descriptions of styles (e.g., expressionism, realism, or neo-classicism). It is unlikely that these functions will be

differentiated from the operations of the Play-right in the F.T.
version of the system.

INTERACTOR: The (human) user of the system. He/she is allowed
to interact with the system through the Interface, which controls
access to all forms of human input and output. The Play-right
generates a predictive model of the Interactor for the purposes
of orchestrating the plot. Each Character also creates a unique
model of the Interactor as part of his/her knowledge about the
world.

What It Will Be Like

Successive Approximation: We envision several iterations of the
F.T. experience, allowing us both to tweak the system design and
to fill in obvious holes in areas like video and sound. Here is
a rough outline of steps in the "pre-production" phase of the
process:

    1.   Meet with interested parties to discuss the
         overall project, then zero in on technical
         and creative needs. The theatrically-oriented
         task assignments from the Veldt project can
         be largely eliminated, but we hope that the
         technical and creative commitments made by
         various researchers to the previous project
         can be carried over into this one.

    2.   Person associated with each area of responsibility
         creates a cost estimate, which we will roll up
         and present to Kristina for analysis and approval.
         This will include equipment, person-hours, media,
         and consulting (primarily the PLAY-RIGHT person).

    3.   Second group meeting with PLAY-RIGHT in attendance.
         Attempt to make a decision on the content of the
         story world. Based on both project goals and
         resource requirements, create a schedule for the
         entire project.

    4.   Design and development of story world, media, and
         environment.

Here is a proposed version of the "running" phase of the project:

    1.   Meet with PLAY-RIGHT person to discuss story and
         review media developed to date.

    2.   FIRST RUN: This will be the most improvisational
         session. It should allow us to create a version

of the story that we will use in future runs. It
will also serve to identify obvious flaws in the
system design and holes in the media which we can
repair. We should begin videotaping with this
session.

3. SUCCESSIVE RUNS: We envision a finite number of
successive runs, with the intention of creating
a version which is exemplary enough of our system
that we may combine the videotape and some comments
to create a viable concept presentation or "demo."
This demo will stand as documentation of the I.F.
project-in-progress and may also be used as an
example of the media room in operation (it may
also be used as an adjunct to Laurel's thesis).

4. Future use: At the conclusion of the last scheduled
run, the project may be torn down or run again with
different artists and/or story worlds. In any case,
such future uses should be considered new projects.

Unique Qualities of This Application: Beyond the technical
characteristics of the project are some more subjective or
artistic qualities which are equally valuable to our research.
One of the objectives of the Veldt project was to employ the
media room environment in an activity that was centered around
the arousal and purgation of emotions, as opposed to the rational
or objective representation of knowledge. The F.T. project,
operating as it will within a fantasy domain and employing
dramatic techniques, preserves this focus. Such "dramatic" usage
of the environment has as its outcome a kind of pleasurable
experience that is associated with drama, fantasy, and
imagination, as distinct from the pleasure that results from the
satisfaction of curiosity or the acquisition of knowledge.

Currently, it is productive to distinguish between these two
types of outcomes, especially on the levels of context and
functionality. The end cause of an interactive fantasy
experience is presently conceived as distinct from that of a
session with an encyclopedia, and it seems necessary to explore
the emotional and artistic dimensions of interactive media in a
context where the existence or relevance of those dimensions is
not a subject of debate. The interactive fantasy world provides
that context. Of course, as we continue to work on both ends of
the interactive spectrum, our understanding of the uses of
emotion and aesthetics in the representation of knowledge will
grow. As our thinking moves in that direction, it is not
unreasonable to propose that the I.F. system be used as an
interface to various knowledge domains. This is how a
convergence of these two currently distinct lines of inquiry may
occur.