For LOVE or MONEY

STAKES ARE HIGH - LIVE OR DIE

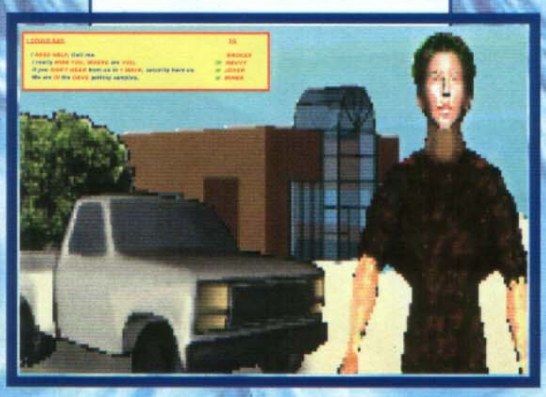
SECURITY BLOCKADE OF THE DAM

NAVVY

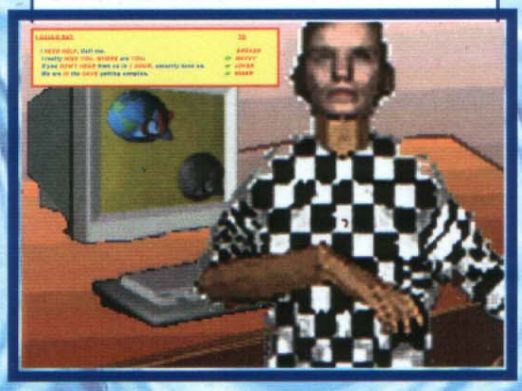
BROKER

GEEK-GIRL

BROKER STEALS FOOD



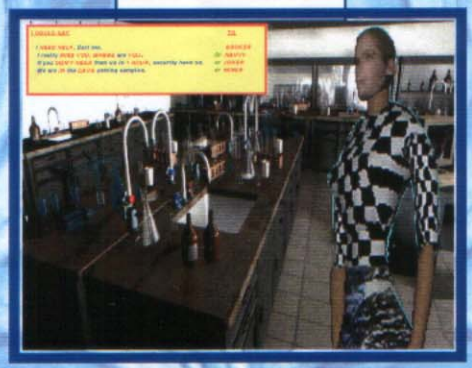
GEEK-GIRL HACKS THE SCAM



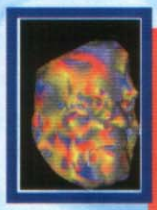
THE VALLEY OF THE SHADOW OF DEATH

NESSY HELPS OUT

LAB BREAK IN



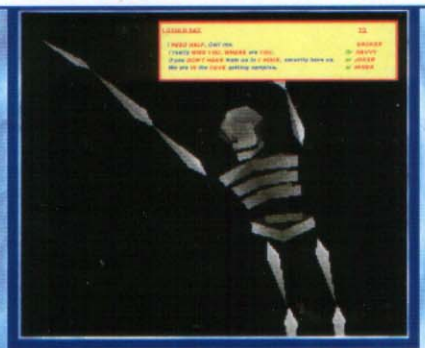
PROMPTED DIALOGUE NAVIGATION



I COULD SAY	TO
I NEED HELP, Call me.	BROKER
I really MISS YOU, WHERE are YOU.	Or NAVVY
If you DON'T HEAR from us in 1 HOUR, security have us.	or JOKER
We are IN the CAVE getting samples.	or MINER

NAVVY SMELLS TROUBLE

SKELETONS IN THE CUPBOARD



MULTI-MEDIA PROJECT DEVELOPMENT

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FOR LOVE OR MONEY - (STAKES ARE HIGH ~ LIVE OR DIE)

FOR LOVE OR MONEY

1. INTRODUCTION

INTERACTIVE TV Television Drama where users can interact with "virtual actors" by taking the part of an actor and speaking its dialogue is here now. Multi user 3D chat sites are several years old. The first "story engine" and Hyper-Video authoring software are now in use.
We will use and integrate these existing technologies. This is the new face of entertainment.

SOFT SCAN DIGITAL has been researching this field for 3 years.
JOHN KIRK is its principal and represents it on Standards Australia's MPEG4 committee.

"FOR LOVE OR MONEY" uses this medium to explore the crises of the new millennium through the lives of marginalised people battling in a collapsing society. It is a Celtic dreaming. It's characters embody this heritage, transported with these toilers of a penal colony which would become a nation.

ORIGINATION This project is originated on mini DV combined with 3D digital real-time animation. It will be distributed on CDROM.
Because the script is computer generated "on the fly" conventional treatments and flow charts don't strictly apply.

2. PROJECT CONTENT

2.A STORY SYNOPSIS

It is Sydney, 2010, where the major conflicts of the breaking millennium, the scramble for resources and the fight to survive in a collapsing environment, when every act and commodity is measured for profitability, when you don't count. Most are unemployed. An advertising whizz Is laid off and his personal and economic world collapses. Computers worldwide crash. Feral street scavengers caught robbing his house, become allies in his survival. They go foraging street-side rubbish and score an old junk computer. They hack it to uncover a conspiracy of corporate backhanders for public contracts. Corporate neglect leads to polluted water. An epidemic erupts citywide. Water is scarce and sewers overflow. Emergency powers are invoked. They decide to gather data on pollution from the watershed. And to do some industrial sabotage to bring media attention. And they must run the security blockade to enter the catchment. The group divides, one to crack the dam data files and the other to get water samples underground at Jenolan . Hiding in old mine tunnels they encounter weird forces, "elders", ghost ancestors who are the guardians of nature, who help them. Playing tag with security they return to suburbia where a media circus ensues and the villains exposed.

2.B CHARACTERS

- **PROTAGONISTS - Broker, Joker, Geek-girl and Green**
- **ANTAGONISTS - Fastbucks and Brown Nose, The Slime and Tommy-Knocker**
- **HELPERS - Nessy, Miner and Navvy**
  - **GEEKGIRL - Drop out IT grad . Lives between the street and cyber-space.**
  - **GREENS - Active greenie, half feral.**
  - **BROKER - Advertising genius. Fired in downsizing/ e-commerce.**
  - **JOKER - Young 3rd Generation unemployed urban feral.**
  - **FASTBUCKS - Got THE contract for maintenance of water quality assurance.**
  - **BROWN NOSE Corporate manager of Water Corp.**
  - **THE SLIME - Sewer "rats" - Water invaders and polluters**
  - **TOMMY - TommyKnocker- Cornish sprite who sabotages mine props**
  - **NESSY - Water Spirit - knows water creatures and ecology. Anything wet connects to IT, body fluids or fish.**
  - **⇒ NAVVY - Ghost - Advisor - Built railway tracks linking mines in the valley.**
  - **⇒ MINER - Ghost - Fights Tommy-Knocker. Knows the geology, mine layouts.**

FOR LOVE OR MONEY

2.C PLOT POINTS

1. LOOSES JOB - class shift downwards
2. NO MONEY - and no credit, no food
3. Y2what? SHUTDOWN - technology sucks- I'm dry.
4. HOMELESS - economically rationalised
5. FORCED TO STEAL - commonwealth employment
6. STREET GANG - brothers and sisters in arms.
7. EXECUTIVE HABITS - corporate sloppiness
8. TIP RATS SCAVENGING - getting resources
9. CAN'T DRINK THE WATER - they decide to solve the problem.
10. DATABASE - - corporate conspiracy found
11. CIVIL EMERGENCY - declared.
12. CONSPIRING - to run and security blockade.
13. ALIENS - Intestinal terrorists.
14. PREPARATION - Planning eco-terrorism.
15. CALL FOR HELP -to Nature Guardians
16. RUNNING BLOCKADE -to the watershed for evidence.
17. GATHERING EVIDENCE - dodging the mind police to get the goods
18. SECURITY SEARCHES - duck n dive but a moving target.
19. AVOIDING DECTECTION - in the mine and dam tunnels.
20. ESCAPE BACK to suburbia
21. WHISTLE BLOWING

2.D TREATMENT

1. LOOSES JOB

Broker attends the Launch for the Water Corp campaign. He receives praise for his advert.. Confiding in his friend he tells how he needs to do better as his marriage has just broken up. He needs to buy another house. He learns he has lost his job

2. NO MONEY

He returns home to catch a gang stripping his house. Joker, the gang leader, jibes him as affording it. He explains he's now jobless. Joker and gang leave him a few basics and split with the loot.

3. INFECTION -

A Bug Strikes. He goes to the ATM to withdraw money and pay his mortgage. The ATM closes down. He goes to the gas station, no pumps are working. News of shutdowns of services as computer bugs close down most services.

4. HOMELESS

He receives an eviction notice. That night he dreams and enters his advert. Water spirits taunt him as he drags bodies from cesspools. Is he going crazy ?

He finds on his floor a matchbook dropped by the theives. It's from Charlies Pool Room. This leads him to the thieves.

5. FORCED TO STEAL

The fridge is empty, He gets desperate and steals from the super market to eat.

6. STREET PEOPLE

At Charlies pool room he spots Joker playing with a spunk.
His interrogation of Joker is distracted by this woman who is interested in his work.
They have a common interest in computers and get technical.
Geek-Girl offers him a place to stay which he reluctantly accepts.

FOR LOVE OR MONEY

7. EXECUTIVE HABITS
Fastbucks at his mountain home. On his mobile phone he orders the trashing of some computers while he enters the loo for *THE* poo.

8. TIP SCAVENGING
Geek Girl and Broker go looking for furnishings at the TIP.
They go to Greens house-bus to get advice.
His vegetables are wilting and dying. Geek girl finds an old computer.

9. CANT DRINK THE WATER.
Broker dashes to the loo. He's squirting at both ends. Television news announces that all water must be boiled.

10. DATABASE
Geek girl examines the data on the junk computer. It shows between contractors and public corporation. Is this a conspiracy. She pulls the loose thread.

11. CIVIL EMERGENCY declared.
The stakes are raised. Can they handle state powers, army, police security, curfews &roadblocks.

12. CONSPIRING
They decide to run the curfew and security blockade of the watershed. They need to restore the water supply and catch the crooks. They need to gather bio-data for a case about faecal pollution. They also must hack the dam's testing lab computer for evidence of a cover up.

13. ALIENS INVADE
The group find computer modeling of the sewer system. Little green men surf the pipes. Toilet cleaner advert comes alive. They talk food & trans-species mating.

14. PREPARATION -
Our heroes pour over maps of the water system and catchment, they hack Sydney Water virtual map and find tunnels .

15. CALL FOR HELP to Nature Guardians.The valley watershed is ringed my a labyrinth of old coal mining tunnels. Ancient miners were alchemists. This culture spread with them as colonial mining brought miners to this valley. Broker re-enters his dream. He is rescued from drowning by the water spirit and meets its friends, an old miner and a labourer. They tell how they helped each other battle bad fortune in the past and offer to help.

16. RUNNING BLOCKADE and Curfew to watershed. To avoid roadblocks they take the bush route the water. They enter the catchment through the dam tunnels.

17. GATHERING EVIDENCE. Broker and Geek-Girl stay to hack the dam lab computer. The others push on to Jenolan Caves, the home of the water spirit. Here the water samples are pure.

18. SECURITY SEARCH. Entry into the dam is detected. Ground forces and helicopters search for the intruders.

19. AVOIDING DECTECTION they hide in the dam and mine tunnels and underground caves en route whilst getting samples and interviewing isolated and sympathetic field workers.

20. ESCAPE BACK to suburbia.

21. WHISTLE BLOWING. They put the evidence on line. It is their insurance and assurance that the mainstream media will publish the story. A media circus ensues and the culprits taken to task.

FOR LOVE OR MONEY

2.E LOCATIONS

LOCATION	MEANING- STORY FUNCTION
A. OFFICE 1. The Broker's work 2. Water Corp	Marketing sustenance for profit
B. CRASH PAD 3. Broker's Room 4. Joker's Room 5. Geek-Girl's room	Home security and debt for him, profit for corporates A sleeping place, free when possible Her line to the web, information exercises, and surprises
C. SUPERMARKET	Where money is exchanged for food or a place for free eats
D. STREETS 1. Charlie's Pool Room 2. Suburban Shopping	Networking spot for the natives Wasteland where people leave used goodies.
E. TIP 1. Greens' bus 2. Water Corp.	Mining valuable objects for exchange
F. COMPUTER ROOM	Survivalist storeroom and place to plot survival for all. Control point for supply of water and profit.
G. TUNNELS 1. Dam 2. Old Mines	Drowning of history, dreamings and graves. Supplier of water to industry and suburbia. Coal Tunnels/ Blue Mountains mines (Miners worked here) Dam Tunnels / Control of Sydney water supply
H. CATCHMENT 1. Jenolan Caves.	The Underworld/ Ghosts/ The Undead Trains/Access vehicles to that realm
I. RIVERS	Place of transformation and rebirth

F PROPS

PROP	MEANING - STORY FUNCTION
TV	Where roles and desires are made.
FISH	Fertility
SERPENTS/ DRAGONS	Sea Serpent- Reproduction, Prophesy
LIGHTENING/ FIRE	Purification/ Destruction of Evil .
CUP/ BOWL	Nourishment/ Energy- Replenishment.
OBJECT SET IN STONE	Only moveable using special powers.
COMPUTER (MENTAL)	Doorway to the OtherWorld Simulation

FOR LOVE OR MONEY

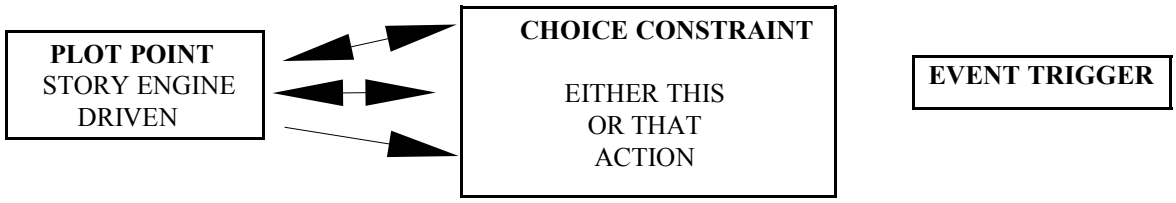
NAVIGATION

Navigation is for ships captains. Drama works through dialogue and action. This project does not use navigation. The "SCRIPT ENGINE" -see below- handles this. (There WILL be an alternative text hyper-linking provided)

The architecture of user interactions described in the schematic chart (over-page) has several elements namely:-

- **PLOT POINT MODULES -Within these interaction is by dialogue with actors and plots development and character action determined by the script engine "ERASMATRON"**
- **CHOICE CONSTRAINTS - The script engine outputs a narrow set of choices of action for the character.**
- **PLOT EVENT TRIGGERS - To exit to the next "scene" the character performs his/her chosen action which is detected by collision detection or a "word set" which matches a predetermined pattern .**

KEY TO GENERAL NAVIGATION SCHEMATIC



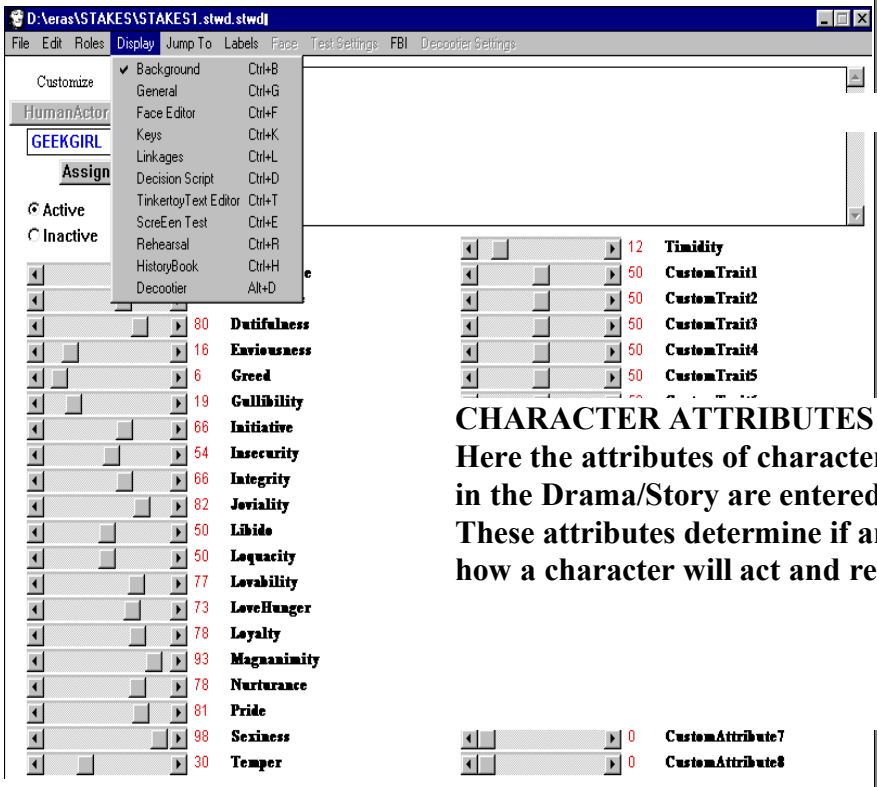
A FULL SCHEMATICS OF THE WHOLE PLOT FOLLOWS

STORYTRON

This is the script engine. it replaces conventional navigation and runs automatically making decisions on how and when the plot changes and character actions occur. The user takes tha part of one character and makes verbal or keyboard input in natural language (English).

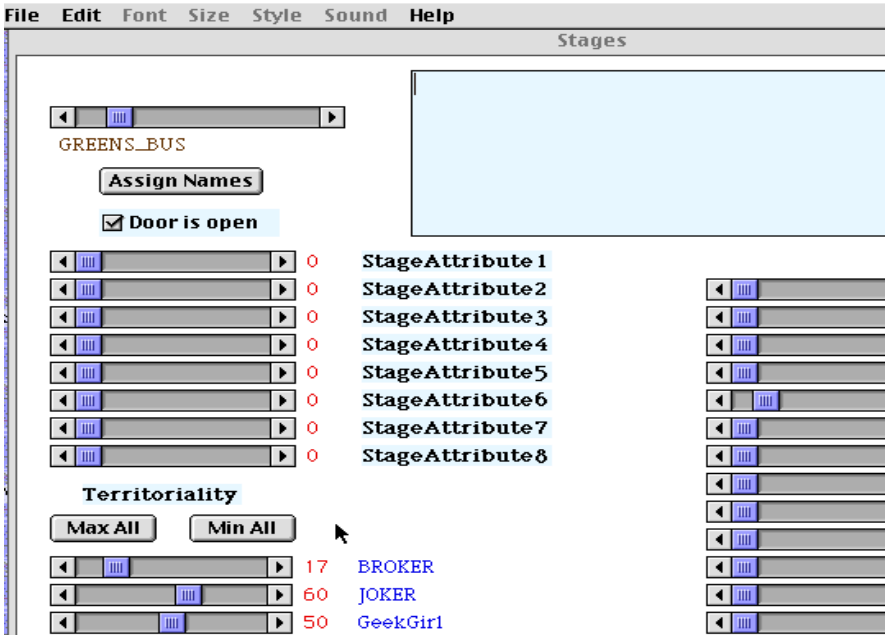
Variables are entered for:-

- **CHARACTER ATTRIBUTES**
- **SETS**
- **VERBS (Character actions)**
- **THINGS Props (Tools or Talismans)**
- **TEXT EDITOR**

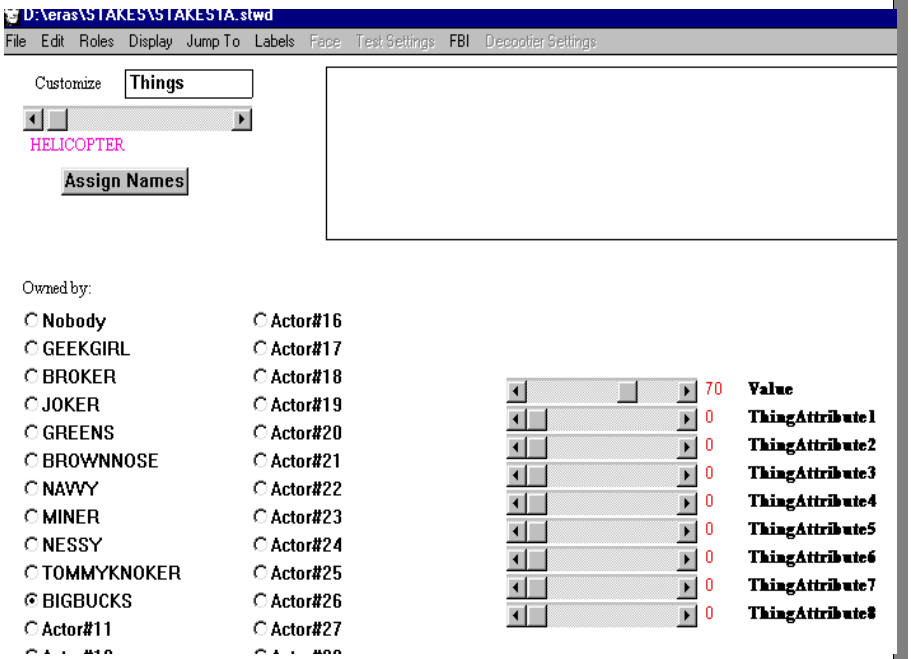


CHARACTER ATTRIBUTES
Here the attributes of characters in the Drama/Story are entered. These attributes determine if and how a character will act and react

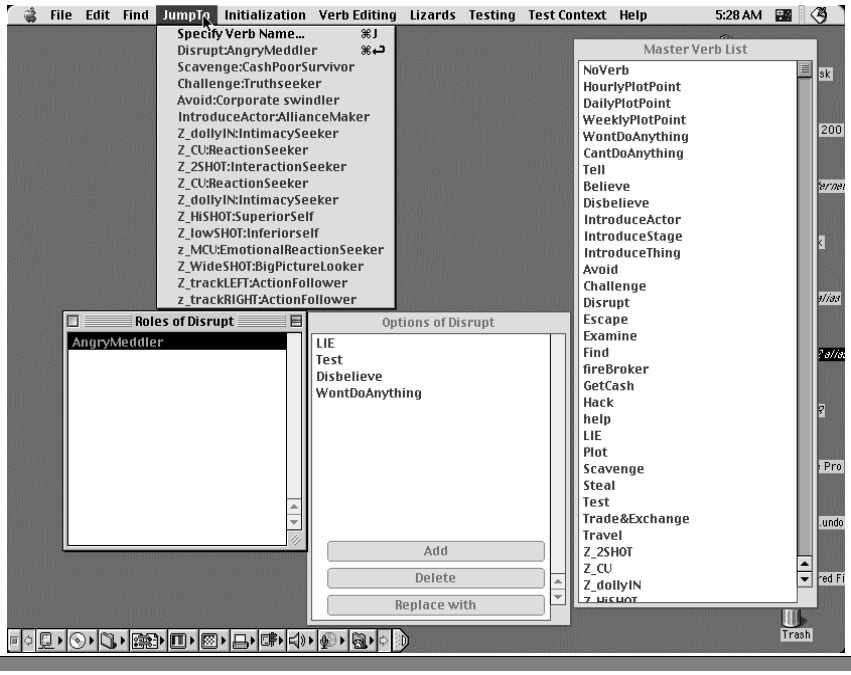
STAGES
Stages are the sets where the Characters act.
Each stage is owned by a particular character and the variable is its importance to them.



PROPS
THINGS are the props that characters use.
Each thing is owned by a particular character and the variable is its importance to them.

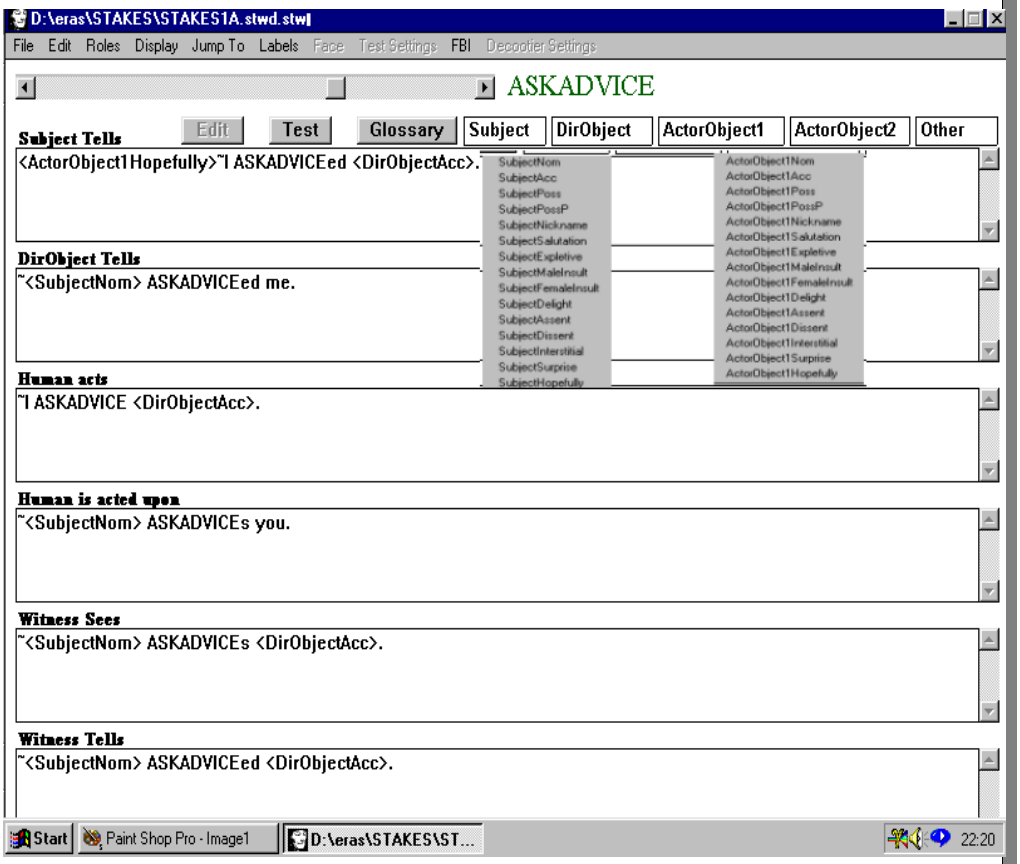


VERBS
Verbs are what characters do. They are interrelated and some have priority of importance in terms of whether they will be acted on



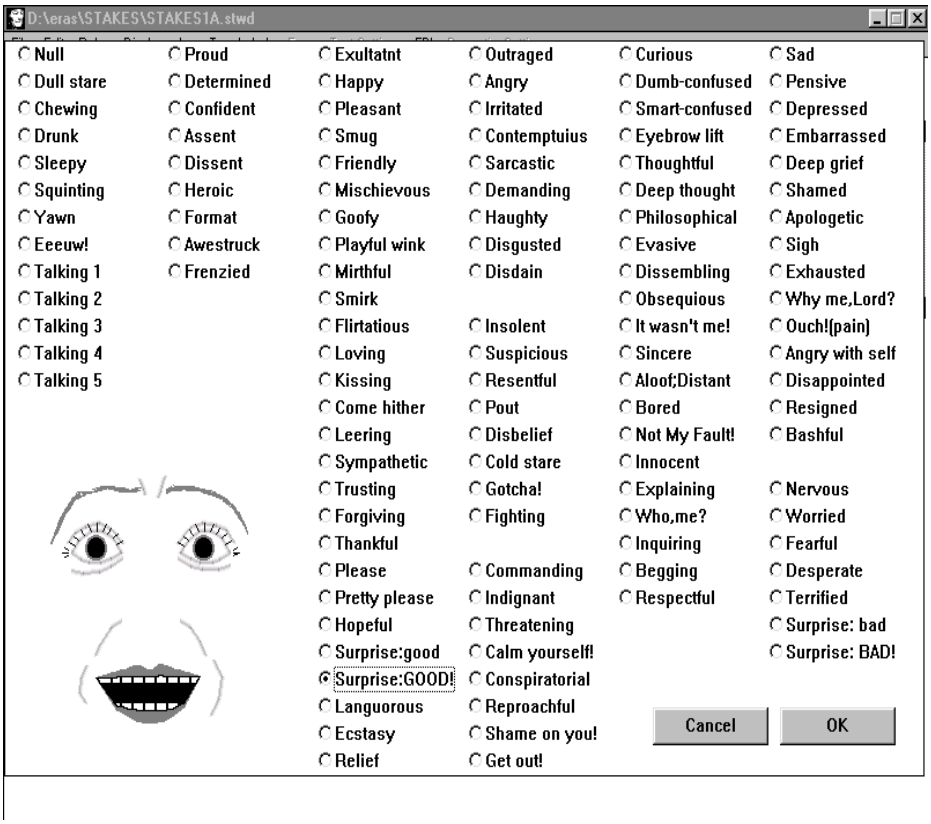
TEXT EDITOR

This is where character relationships and action are "programmed" for a particular verb.



EXPRESSIONS

This wasthe display output. The graphical front end is now separated from the "Story Engine" and through XML can call X3D/VRML 3D realtime animated displays including stages on which the action takes place



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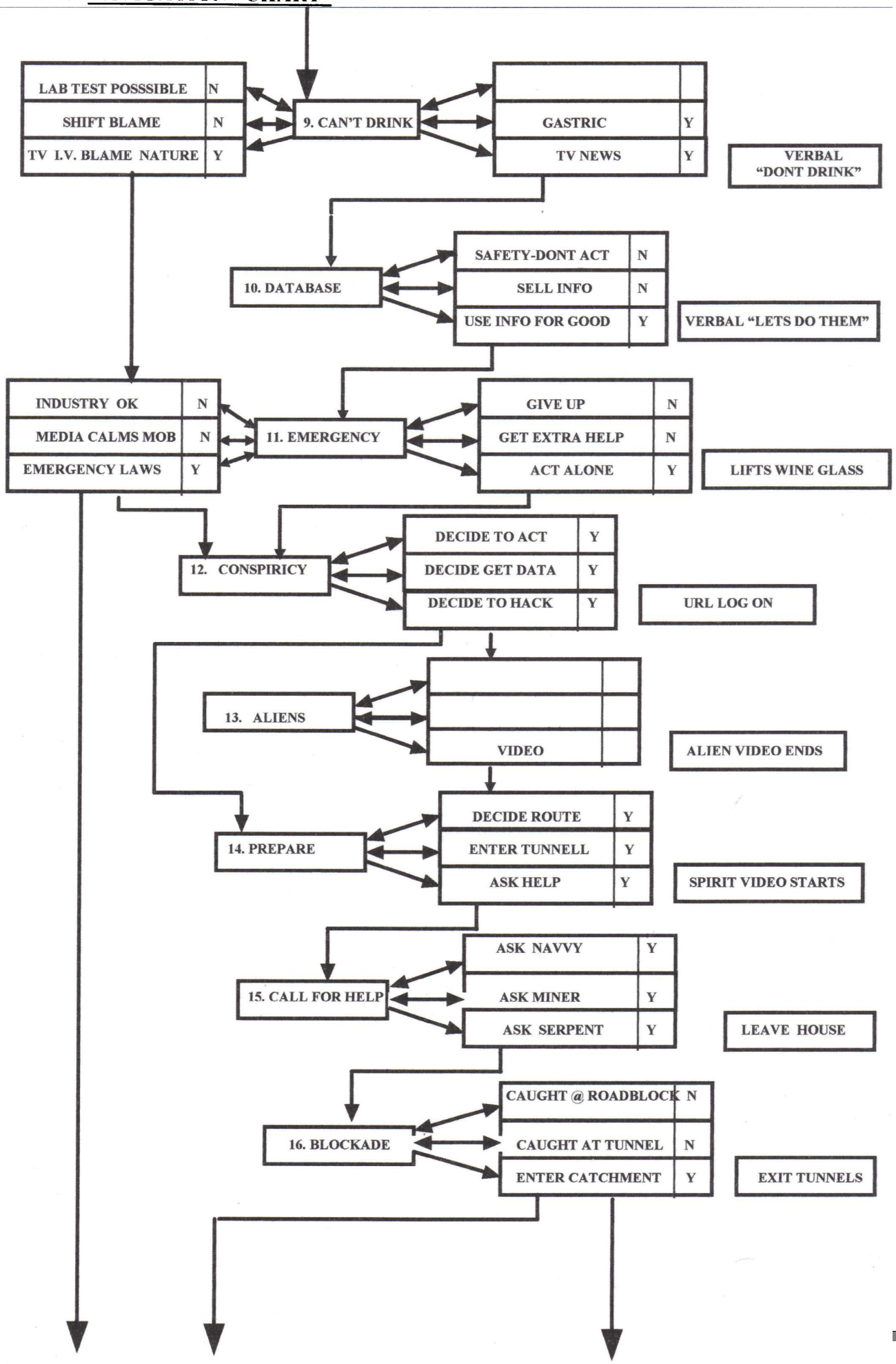
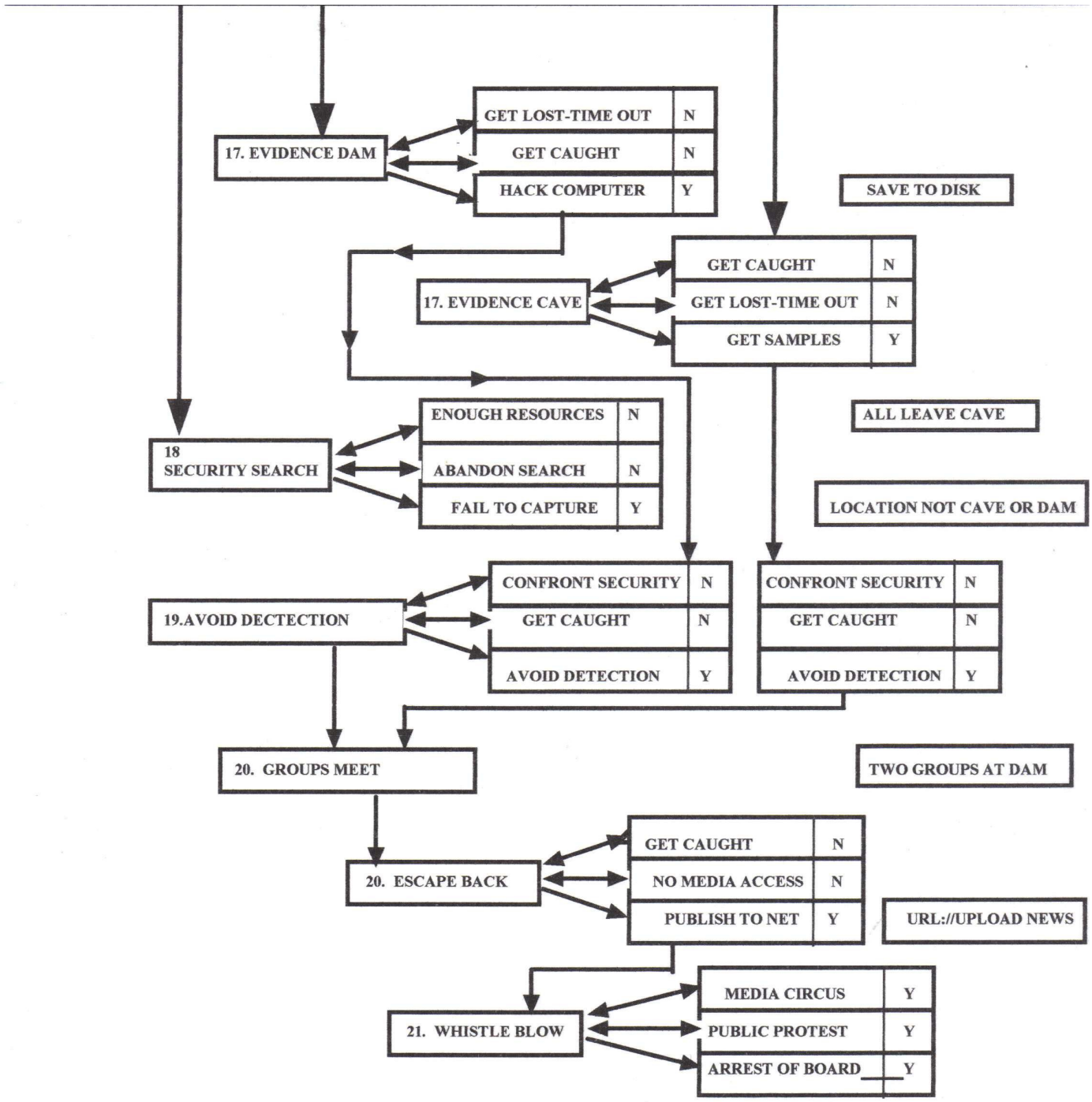
3. "NAVIGATION" CHART"





VERBAL PROMPT BOX

I *COULD SAY* :- **TO**

I need HELP, Call me **BROKER**
I really miss you, where are you ***OR*** **NAVVY**
We are in the cave getting the samples ***Or*** **JOKER**
If you don't hear from us in 1 hour security have us. ***Or*** **MINER**

- **TWO TYPES OF NAVIGATION will be available- voice driven and hyper-linked text.**
- **KEY WORDS in the prompt box give correct words/phrases for voice recgonition AND are also useable as clickable hyperlinks for non-audio PCs.**

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4. INTERACTIVE MOVIE MEDIUM - DEFINING ELEMENTS

There are two types of element in this production :-

a) Pre scripted, recorded hyper-linked video sequences.

b) Non scripted, real time animation driven by dramatically user interaction with an artificially intelligent "narrative engine"

These are integrated within MPEG4 multimedia delivery standard.

The medium is interactive on-line narrative cinema where viewers become actors playing against intelligent virtual actors. Existing models of interactive cinema and computer gaming form a basis but we add SEMANTIC and NARRATIVE interaction . Its characters do not chose from predetermined paths but the story develops through a conflict of their values and the rubbing together of imaginations. Interaction is natural. It happens at each line of dialogue or action by the viewer who becomes one "actor" in the movie.

5. SCRIPT DEVELOPMENT- DIFFERENCES IN APPROACH

- **The story evolves as users interact with virtual actors in real-time, it not pre-written.**
- **What are "written" are the props, characters, locations and the rules of behaviour and**
- **interpretation and of story construction. Pre-recorded edited video story "sequences" represent character "Memories" and "Imaginings" and are hyper-linked within a video**
- **database driven by these rules.**
- **These "scene modules" are linked through "EVENT TRIGGERS".**
- **These are predetermined actions or events which have to occur before a character can**
- **exit a sequence. This constrains the narrative branching possibilities.**
- **In general conventional branching schematics of this interactive story don't apply. It is NOT navigated by clicking hyper-links but by *SEMANTIC RULES* embedded in the software. User dialogue is voice recognised and its sentences parsed to extract grammar and semantics. Like in conversation. An option of normal text hyper-linking will be included.**

6. PLOT GENERATION- DRIVEN BY NATURAL LANGUAGE RULES

For the first time it is possible to weave together location video and real-time animation orchestrated by rules which generate stories. Speech and gesture recognition feed parsing engines which identify Subject-Verb-Object relationships.

FORM - "WHO" (*SUBJECT*) did "WHAT" (*VERB*) with that "THING" (*OBJECT/PROP*) to that "OTHER PERSON" (*OBJECT*).

EXAMPLE - "Broker embraced Geek-girl with Joker's jacket at the pool room and her photo fell out of the pocket".

Sentences contain all elements of dramatic scripts :-

CHARACTER (subject)
ACTION (verb)
PROPS (object)
LOCATION
REACTION (verb)

Sentences can also make propositions about results of conflict. "GOOD will triumph over EVIL"

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7. PRODUCTION ELEMENTS

A. USER INTERFACE The payer/viewer inputs dialogue via a microphone. The viewer is either off "on screen" as an "actor" in the movie playing against "virtual actors". Verbal input is the major interface and a list of correct user responses will posted on an *ON SCREEN PROMPT SHEET*.

B. LIBRARY OF OBJECTS & EVENTS. These are :-

- **Actors, Props and sets are "virtual" ie. computer generated.**
- **Real-time Animations - At the CYCLE level elements are recombined into larger real-time streams. These streams are Multi-Channelled each channel handling one limb movement or facial expression part.**
- **Video sequences**
- **Dialogue. Character speech elements (Wav files) which drive real-time lip animation.**

These will be pre-built and stored and accessed (see 6) from CD-ROM
These elements can be recombined in any order by real-time compositing techniques. So any Character's action can play against any set which can include any props.
These techniques have been developed and tested, as described below.

8. CONTENT PRODUCTION METHOD

Role-play generation of program elements.

a) DIGITAL 3D ANIMATION

Professional actors and selected people from groups of homeless, environmental activists etc. work together in drama workshops to capture both vernacular gestures, dialogue, sampling and content related to the plot points.

b) **VIDEO CONTENT Use of role-playing drama techniques to explore the *ISSUES* and *PLOT POINTS* of the production in the context of the lives of the participants. They act out stories about particular incidents in their lives to illustrate these. These vignettes become the action and dialogue script for filming. These workshop performances are shot using lip sych capture for dialogue**

c) VIRTUAL SETS for each location will be modelled. 3D characters and props and video will be composited into these (using multiple alpha channels).

9. HISTORY OF THE PROJECT

During my residency at Open Channel, I explored the use of the role playing techniques of community theatre to enable prostitutes in Fairlea Women's prison to generate scripts on their working lives. A 60 minute drama pilot for community television was produced from this. Work began on role playing script generation using chroma key sets during 1981. By 1984 I got funding for and produced "Private Eye-Public Eye". Here characterisation, virtual sets and real costume and props drove the generation of script through improvisation. Normally production practice is the opposite, the script determines character typing, and choice of costume, props and location.

- **This process was developed through my research into a workable production tool.**
- **This production used actors electronically collaged into colour photos of locations and reacting to footage (cut-aways) of action.**
- **None of this is actually present in the studio hence - Early virtual sets and actors**
- **I am extending this using computer generated sets and actors .**

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10. MODEL OF CHARACTER/ THOUGHT/ ACTION

MIND -	**Thesaurus of all signifiers of meaning**
IMAGINATION-	**Combination of elements from mind form propositions realisable through action or not.**
MEMORY -	**Past inputs to mind in clusters of signifiers.**
PERCEPTION-	**Sensory data before interpretation**
INTERPRETATION-	**Filtering of sensory data through value constructs**
APPROACH/AVOIDANCE -	**Action strategies determined by interpretation.**
PROBLEM -	**Hinge of story. Interpretation of situation by character.**
PROPS-	**Objects which are used to do actions.**
TOOLS-	**Props used to achieve physical tasks**
TALISMANS-	**Props used to achieve cultural tasks**
MOMENTOES-	**Props used to represent past people, events, social positions.**

11. INTERACTIVE TV NARRATIVE OVERVIEW

In interactive stories early events affect later outcomes. These impact onto future EVENTS which are made up of video, animations, settings, use of props and character attitudes.

1.

A NARRATIVE ENGINE must track and shape all of these,, namely :-

A. Video events- CHARACTERS MEMORIES

B. Real-time animated events - CHARACTER COGNITION, INTERPRETATION and ACTION

The engine can:-

a) apply cultural rule to character interaction and correlate a cultural/semantic database.

b) abstract generalised values out from the specific actions of characters. determine from these the main conflict of the story.

It forms these actions into propositions about how the world works and checks how new events may challenge these propositions. ie. check the dramatic usefulness of an event.

c) apply some rules of story telling.

12. AUTHORING TOOLS - SOFTWARE

Most development stages for film, video, and multimedia go out the window. Documentary and computer game development may be more appropriate models.

Below are summaries of the main software authoring components used in producing the project. Namely:-

1. **VRML, JAVA, TVML & MPEG4 (Standards)**
2. **ERASMATRON (script engine) http://www.esasmatazz.com**
3. **IMPROV (New York University) http://www.mrl/nyu.edu/improv.html**
4. **HOTMEDIA (IBM) http://www.software.ibm.com/net.media/hotmedia**

a) VRML, JAVA, TVML AND MPEG4

Virtual Reality Modelling Language is the standard for sending and interconnecting 3D virtual worlds and animated characters via the internet.

TVML (Television Markup Language) is used to script camera angles, shot types, lighting layouts, sets, props and characters for interactive television. Java is a cross platform language.

MPEG4 is the scripting standard for multimedia delivery which binds these elements together.

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b) STORYTRON - STORY ENGINE

Storytron is a Natural Language scripting tool for interactive story authoring. We plan to work with the developer to customise this to link the above components to 3D characters and hyper-linked video. (Discussions are in train to port this to JAVA)

It is a system for authoring worlds inhabited by actors who can solve problems of their environment and create descriptive stories expressing their knowledge and memory of that world.

This involves :-

PERCEPTION
RECOGNITION
ACTION
DECISION MAKING

***AND* :-**

1. **"What if-ing" - problem solving through use of imagination eg. "What if we take the car?"**
2. **computing immediate and future implications of an act or event.**
3. **Telling stories which are relevant and true about actual experiences evidencing episodic memory and consciousness.**

WE can set and determine:-
1. behavioural tendencies
2. Preferred and avoided locations and activities
3. Uses for objects ie. props, tools, talismans.
All four software components relate to each other in terms of:-
WHO- Character
WHAT- props
WHERE - location
WHY - Character motivation or dramatic logic.
HOW - Action of character.
through the logic of story and rhetoric- though natural language systems.

c) IMPROV- REALTIME ANIMATION

IMPROV is an beta development tool which generates real-time procedural animation.
This animation - "WHO DOES WHAT WITH WHAT AND WHERE"- is in response to natural language inputs from a DIRECTOR. This can be the conventional "subject, verb, object" sentence structure eg. "Fred, bring me the bottle from the fridge"
And is generated from drop down menus or from parsing of speech recognition of spoken language.
Moreover IMPROV characters have "Character attributes" ie. they will act "in character" and these characters can be constructed much as an actor would "construct" his character.
The construction of verbal stories by a Player (as an actor acting opposite the "Virtual actor" or the "storyteller".) is what drives the ACTION, use of props, and the change of scene from one LOCATION to another INTERACTIVELY IN REAL TIME AS IT HAPPENS

d) HOTMEDIA- HYPERVIDEO AUTHORING

HOTMEDIA is an authoring tool which allows the definition and naming of bitmap shapes in AVI Movies. The tracking of these shapes is via motion tracking. This allows multi-channel compositing.
It also allows hyper-linking of shapes through their "names This means that :-

- **CHARACTERS**
- **PROPS**
- **LOCATIONS**
- **ACTIONS**

can be related "Hypertextually" through their names. This means we can conform and determine these links by RHETORICAL AND NARRATIVE STRUCTURES and probably FILMIC STRUCTURES as well.

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e) MPEG4- POST SYNCH DIALOGUE DRIVES LIP-SYCH.

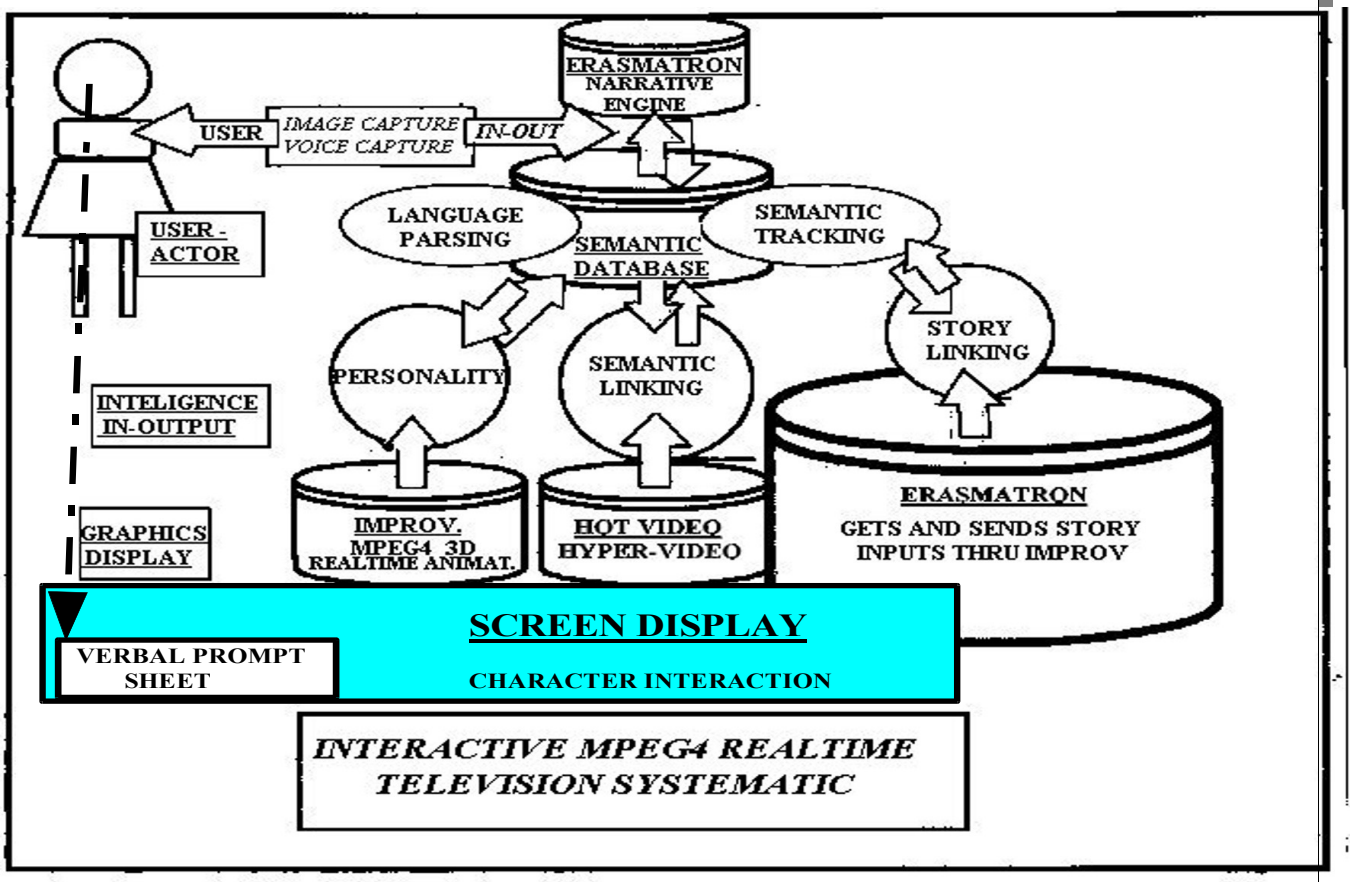
- **MPEG4_ is a standard which encapsulates streaming video, audio, 3D animation etc. for streaming through the Internet.**
  IMPROV, JAVA AND VRML. Are both incorporated in MPEG4.
- **TIME CODE triggering of Video, 3D animation and Audio streams for in and out points of sequences is co-ordinated by MPEG4.**
- **DIALOGUE ANIMATION Lip synch positions for video and 3D animation use mesh maps driven by character speech audio in MPEG4.**

f) VERBAL RESPONSE PROMPT SHEETS

In EASMATRON *verbs* drive the narrative engine.
And characters expect verbal responses. These are specific expressions. In order to elicit correct responses from the user a list of correct responses will posted on an *ON SCREEN PROMPT SHEET*.

- **TWO TYPES OF NAVIGATION will be available- voice driven and hyper-linked text.**
- **KEY WORDS in the prompt box give correct words/phrases for voice recgonition AND are also useable as clickable hyperlinks for non audio PCs.**

g) USER AND SOFTWARE INTERACTION



THE VARIOUS COMPONENTS ARE OUTLINED HERE

-

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15. RIGHTS

All material used will be original and copyright held by SOFT SCAN DIGITAL

16. COST FACTORS- DEVELOPMENT

All software to be used has been evaluated.
This runs on a Silicon Graphics 02 as well as Pentium PCs.
Authoring languages have been evaluated for their use in integration of authored file types. This has allowed us to identify how all production tools fit our needs and any further costs involved in writing code to complete the production.

17 . DISTRIBUTION- MARKET

News reports that Sony Records will shift distribution of its music catalogue to the Iternet and CD music sales will wind back. This and the on line delivery of television/movies and the emergence of SET TOP BOXES onto the market heralds a shift in the market. MPEG4, the standard for delivery, will be in pace by the end of 1999. MPEG4 objects (3D and VIDEO are scalable in resolution meaning a convergence of set- top boxes and HDTV for online and narrowcasting delivery.
INTERACTIVE TELEVISION will be part of this shift and a key promotional tool needing existing product. Research we did in the early 70's for Phillips-Blond-DeutscheGramaphone on video-cassette software showed that new distribution formats starve for material (in that case mainly film).
This means that new strategies to deliver media to this larger emergent market need to be in place.
Our product will have the advantage of being market ready in less than one year.
A dual strategy is a better one and we will have material compliant for use on both CDROM and on line delivery.

- **MUSHROOM FILM and 3V MEDIA have been approached for distribution of the product.**
- **INDACO Multimedia and Communications (Italy) have proposed a joint venture for distribution and promotion of the product.**
- **NKH (Japan) have expressed a similar interest.**
- **MUST 2000 and MILIA are marketing forum for this medium and we hope to solicit investment there in 1999-2000. These partnerships will be pursued contractually. See Appendicies for detail.**

We see interactive cinema selling partly to purchasers of computer games. In addition interactive TV drama opens a whole new market that is to be pioneered.

18. PRODUCTION SCHEDULE

WEEK	ACTIVITY
WEEK 1	Set up office, research, contract actor, programmers, artists.
WEEK 2	Interview, screen test. Production story-lining and art.
WEEK 3	Scripting and Interactive scripting starts.
WEEK 5	Photo rece shoot-location & set modelling.
WEEK 6	Script workshop- 1 warm up/ concept rough.
WEEK 6-18	Vactor and virtual set modelling.
WEEK 7	Drama/role-play Workshop - location shoot.
WEEK 8	Location shoot.
WEEK 10-11	Studio shoot including lip-sink capture.
WEEK 12	Edit scripting
WEEK 13	Video edit starts
WEEK 17-20	3D components integrated & Audio post prod.
WEEK 21	Beta testing & fine tune.
WEEK 22	Post prod. - single user fine tune.
WEEK 23	Network user trial.
WEEK 24	Pressing of CDROM and publicity.

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15. "PROOF OF CONCEPT" BUDGET

GENERAL

RESEARCH	2 Weeks @ $600/week	$ 1200
PRODUCER/ DIRECTOR	3 Weeks @ $1000/week	$ 3000
WRITER/ DRAMATURGE	2 Weeks @ $700 week	$ 1400
COMPUTER RENTAL	2X PC X 9 weeks	$ 1260
	SGI-O2 X 9 weeks	$ 1600
CONSUMABLES		$ 200
TRAVEL		$ 250
INSURANCE		$ 100
SUB TOTAL- GENERAL		$ 9010

LOCATION SHOOT

CAMERA HIREAGE	DVD X 1 weeks @ $530 ea/wk	$ 530
STEADYCAM JNR.HIRE	1 Weeks @ $ 150/week	$ 150
LIGHTING HIRE	1 Weeks @ $ 200/week	$ 200
CAMERA OPERATOR	1 x Weeks ~ $ 750/week	$ 750
SOUND OPERATOR	1 Weeks @ $ 450/week	$ 450
SUB TOTAL LOCATION SHOOT		$ 2080

STUDIO SHOOT

CAMERA HIREAGE	1.5X DVD X 4 weeks @ $350 ea/wk	$ 530
STEADYCAM JNR.HIRE	1 Weeks ~ $ 150/week	$ 150
DV VIDEOTAPE STOCK	8 hrs @ $25	$ 200
SET BUILDING		$ 500
PROPS/ COSTUME PURCHASE/ HIRE		$ 400
STUDIO LIGHTING HIRE	1 Weeks @ $ 400/week	$ 400
CAMERA OPERATOR	1 X 1.3 Weeks @ $ 800/week	$ 1040
SOUND OPERATOR	1 Weeks @ $ 700/week	$ 700
DRY SPACE HIRE	1.3 Weeks @ $1000/week	$ 1300
LIPSINK Lip Gesture Capture	1 day @ $1800/day	$ 1800
ACTORS	3 X 1 Weeks @ $800/ea/wk	$ 2400
SUB TOTAL - SHOOT		$ 8540

POST PRODUCTION

NON LINEAR VIDEO EDIT	12 hr @ $100/hr	$ 1200
Narrative engine development.	8 weeks @ $700/week	$ 5600
PROGRAMER JAVA,VRML, MPEG4	4 Weeks @ $7000/week	$ 2800
3D MODELER	6 Weeks @ $ 800/week	$ 4800
AUDIO POST Prod.	1 Week @ $800/week	$ 800
SUB TOTAL- POST PRODUCTION		$ 15200
TOTAL PRODUCTION EXP ENDITURE		**$ 34380**

DEFERMENTS/INVESTMENT

PRODUCER/ DIRECTOR	3 Weeks @ $1000/week	$ 3000
COMPUTER RENTAL	2X PC X 9 weeks	$ 1260
	SGI-O2 X 9 weeks	$ 1600
TOTAL INVESTMENT		$ 5860
PROD EXPENDITURE LESS INVESTMENT		**$2860**

We reserve the right to raise additional investment for the final product and expand the full production budget.
Purchase or rental of capture software will be decided on the basis of the most economical option.
If possible we use beta versions of software deferring purchase of run-time licenses or software till the project moves into full production.

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19. FULL PRODUCTION BUDGET

GENERAL

RESEARCH	3 Weeks @ $600/week	$ 1800
PRODUCTION MANAGEMENT	5 Weeks @ $700/week	$ 5300
PRODUCER/DIRECTOR	6 Weeks @ $1000/week	$ 6000
WRITER/ DRAMATURGE	3 Weeks @ $700/week	$ 1600
COMPUTER RENTAL	2 X pent. PC. X 24 wks	$ 2400
	SGI 02- 12 wks	$ 2400
CONSUMABLES		$ 300
TRAVEL		$ 500
INSURANCE		$ 250
RENT	12 weeks @ $350	$ 4200
OVERHEADS-POWER/ PHONE		$ 300
SUB TOTAL- GENERAL		$ 25050

LOCATION SHOOT

CAMERA HIREAGE	DVCAM X 2 weeks @ $530 ea/wk	$ 700
STEADYCAM JNR.HIRE	2 Weeks @ $ 150/week	$ 300
LIGHTING HIRE	1 Weeks @ $ 200/week	$ 200
CAMERA OPERATOR	2 Weeks ~ $ 750/week	$ 1500
SOUND OPERATOR	1 Week @ $ 600/week	$ 600
SUB TOTAL LOCATION SHOOT		$ 4150

STUDIO SHOOT

CAMERA HIREAGE	1.5X DVCAM X 3 weeks @ $350 ea/wk	$ 1575
STEADYCAM JNR.HIRE	3 Weeks ~ $ 150/week	$ 450
DV VIDEOTAPE STOCK	8hrs @ $25	$ 250
SET BUILDING		$ 1000
PROPS/ COSTUME PURCHASE/ HIRE		$ 800
STUDIO LIGHTING HIRE	2 Weeks @ $ 300/week	$ 600
CAMERA OPERATOR	1.3X 2.5 Weeks @ $ 800/week	$ 2600
SOUND OPERATOR	2 Weeks @ $ 600/week	$ 1200
PROPS/ WARDROBE person	2 Weeks @ $ 600/week	$ 1200
DRY SPACE HIRE	2.3 Weeks @ $1000/week	$ 2300
LIPSINK lip gesture capture	3 Days @ $1800/day	$ 5400
ACTORS	3X 3 Weeks @ $800/ea/wk	$ 7300
SUB TOTAL - SHOOT		$ 24675

POST PRODUCTION

NON LINEAR VIDEO EDIT	30 hr @ $80/hr	$ 2400
Narrative engine scripting	24 weeks @ $700/week	$ 16800
PROGRAMER JAVA,VRML, MPEG4	12 Weeks @ $700/week	$ 9600
3D MODELER	12 Weeks @ $ 700/week	$ 9600
Audio Post prod	3 weeks @ $ 800/week	$ 2400
SUB TOTAL- POST PRODUCTION		$ 40,800
TOTAL PRODUCTION EXPENDITURE		**$ 94.675**

DEFERMENTS/INVESTMENT

COMPUTER RENTAL	2 X pent. PC. X 24 wks	$ 2400
	SGI 02- 12 wks	$ 2400
PRODUCER/DIRECTOR	6 Weeks @ $1000/week	$ 6000
	TOTAL INVESTMENT	$ 10800

……..

PROD. EXPENDITURE LESS INVESTMENT $838757

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21. ADDENDA.

a) HOW SCRIPTS ARE HOW SCRIPTS ARE GENERATED - KEY CONCEPTS

(i) STORY VARIABLES - These define Actors, their moods and inclinations, their physical and spoken action and the objects they use and own and places where the action takes place.

VARIABLE	STORY FUNCTION……..
MOOD	Anger, Arousal, Joy, Fear
RELATIONSHIPS	Affection, Trust, Submission, Commitment, etc.
OPTIONS	No action, Act in role.
ROLE	Short term dramatic role.
INCLINATION	Probability that actor will assume specific role.
STAGE	a SET where action happens. Actor can be locked out
THINGS	Objects owned and used by actors
VERBS	Actions of characters eg "ConfrontsWithAnger"
DIALOGUE	Character dialogue. These categories:- Subject Tells Human Acts Human Acted on Witness Sees

ii) VALUE - is produced by interaction/use - of objects/signs within a context (sign/value system).
- is ascribed to objects/characters/actions.

iii) BROAD VALUE OPPOSTIONS5 AND PLOT GENERATION

(A) These VALUES are only deduced by observing INSTANCES of the value carried by a CHARACTER ACTION done with a PROP.

(B) SPECIFIC VALUE OPPOSITIONS are listed in ITEM 7.BELOW

ELEMENT- (object/char./prop etc.)			FUNCTIONAL OPPOSITION
LAND	SPIRIT HOME	VS	COMMODITY/RESOURCE
ANIMAL	SPIRIT ANCESTOR	VS	FOOD/PET/WORKHORSE
PEOPLE	KIN/FRIENDS	VS	CONSUMER/WORKER
MONEY	INVESTMENT	VS	DIVESTMENT
	WEALTH	VS	WORTH
SOCIAL	COLLECTIVE	VS	INDIVIDUAL
	COLLOBORATION	VS	COMPETITION
	MASTER	VS	SERVANT
PROMISE		VS	CONTRACT
TIME	SEASONAL	VS	CLOCK
RESOURCE	DEPLETION	VS	CONSERVATION

FOR LOVE OR MONEY - ADDENDA.

-

b) VOLITIONAL FUNCTIONS

FEAR and DESIRE express the WHY or motivational aspect of fulfilling LACK

These can be expressed as propositions.

SUBJECT	FUNCTION	OBJECT
ie. John	WANTS to marry	Mary
	WANTS to know	
	WANTS to avoid	
	WANTS to acquire	

This can be extended to:- "IF John wants to marry Mary AND he has no money AND Mary is marrying for money THEN he can do OPTION a, b, etc.

c) STORY STRUCTURE

Broadly speaking tales have these identifiable stages:

- **INTRODUCTION OF CHARACTER AND SETTING**
- **EXPLANATION OF EXISTING STATE OF EVENTS**
- **INITIATION OF AN EVENT which CHANGES STATE**
- **EMOTIONAL RESPONSE- STATEMENT OF GOAL BY CHARACTER**
- **COMPLICATION OF ACTIONS- RESULT of EVENT (3)**
- **RESULT of COMPLICATION**
- **REACTION to RESULT (outcome)**

Simplified this can take this form:- CHARACTER "A" did an ACTION to "B" with a PROP "W" at LOCATION "X" and re-ACTION "Y" resulted.

More Elements

- **CHANGE (ie. in state of character)**
- **CHOICE (intentional action- volition)**
- **CONFRONTATION (characters act in opposition- opposed values/ goals)**

d) FILM STRUCTURE

In its simplest form we see the CHARACTER/ in ACTION more or less front on, then we cut to what he is looking at - a PROP or another CHARACTER/ IN ACTION (Cut Away).

(i) SHOT STRUCTURE

In a wide or mid shot we see many things (signs) within the frame. Every picture tells a story. These things form a short proposition or discourse. It will contain CHARACTER, ACTION, PROPS, and elements of SETTING.

(ii) CULTURAL VALUES

Each of these things will have a cultural signification (meaning)

(iii) RHETORIC & SEQUENCE ORDER

This is the placing of shots in an order in time. Use of flash back, flash forward. These associate actions, memories, and propositions.

(iv)VALUE ASSOCIATIONS (within the frame)

When an object/symbol touches/overlaps another object/symbol an associative link is made. This is a proposition- RHETORIC

e) STORY GENERATION - Tools and Character Mind

The nearest model for this project is the Interactive Movie

This project has three components :-

i) A hyper-linked video. For our use we regard this as "Remembered Past Experience of the Characters".

ii). Real-time voice and gesture driven animation. We use this as "Present Cognition and Action of the Characters". In interactive scripting, normally a viewer is presented with choices at each plot decision point.

In this production the semantic rules and viewer response "as an actor" determine plot generation.

FOR LOVE OR MONEY - ADDENDA.

PROPS AND LOCATIONS

- **Locations - are expressions of character values or are strange and present dramatic problems -another characters values.**
- **Props are - tools used by characters so are expressions of character values. As such they are driven by character rules and attributes - of character MIND.**

CHARACTER MIND and story generation.

Character motivation is activated by a database of :-

i) Culturally determined rules eg. "IF you spit at me THEN ….."

ii) The act of "spitting" must carry the meaning of "insult" and the other character's reaction

iii) is to this. If-Then is conditional Cause-Effect.

iv) Semantic properties of an object/prop eg." You broke My dead mum's cup."

Props are expressions of a characters values and "breaking" the prop must have meaning in terms of the characters memory, emotional attachment to it.

Rules through which each character and props and locations and THE STORY interrelate.

In conventional interactive viewers make choices at plot point branching nodes.

In this project:-Interaction happens at each line of dialogue, or action.

The viewer becomes both an actor and character in the movie.

The script evolves in real time as a result of what you say and do. So the script is not pre-written. Plot development is driven by the parameters in the underlying semantic engine.