Early History

- '84: Fantasy Games
- '89-95: Landscape Visualization
- '90-93: Schmuck Quest Series
- '92-93: Anti-Viral Software
- '93-95: Compilers
- '93-96: Agar / Petri Dish Sims
- '96: Noble Ape
Fantasy Games

- Narrative
- Sustainability
- Game Dynamics
- Simulated World
- Early Graphics
Fantasy Games

Dungeons and characters

To play a fantasy game, you first need a dungeon and a character who is a menace to society.

What is a dungeon?
A dungeon is where your fantasy game takes place. It is usually called a dungeon, but there is no dungeon on Earth. A dungeon is a place where you can explore the unknown and meet strange creatures.

Dungeon levels
Once you have collected the treasure from your dungeon and escaped alive, you can have further adventures in your fantasy world by inventing more dungeons, which should get progressively more difficult. Your character must gain experience in the easier dungeons, though, before he can try his luck in the more dangerous ones.

Inventing a character
A character is the hero who enters your dungeon. Like everything else, he should fit logically into the setting. A Knight of Old wouldn’t get on an alien planet.

Every character in a fantasy game has attributes, such as strength, agility, aura (magical ability), and so on. These are decided before the game starts. In Dungeon of Doom, the computer gives you a score beside each attribute which shows how much of that quality your character has. You also get a few modification points which you can change your scores if you want more intelligence, or less strength, for example.

The attribute scores determine your character type. If you use your modification points to change them, then your character-type may change, too. (Making a character Magician for Dungeon of Doom is fully explained on pages 18-19.)

These pictures show some possible characters and their attributes for a typical dungeon setting. It is your job to make the best use of your character’s skills.
Fantasy Games

The Dungeon Generator

See special note for Vic users page 35.

10 GOSUB 610
20 paper 3:CLS
30 LET BG=2:LET FG=1:LET T=0:LET L=3:LET LW=W-3:GOSUB 280
40 paper 2:ink 0
50 PRINT tab(1,1);"LEVEL GENERATOR"
60 PRINT tab(1,2);"THIS IS LEVEL":;LE;
70 PRINT tab(1,3);"PRESS H FOR HELP"
80 LET BG=3:LET FG=2:LET T=5:LET L=15:LET LW=15:GOSUB 280
90 LET X=1:LET Y=1
100 LET I$=ink
110 IF I$="H" THEN GOSUB 360
120 IF I$="A" AND Y>1 THEN LET Y=Y-1
130 IF I$="Z" AND Y<15 THEN LET Y=Y+1
140 IF I$="N" AND X>1 THEN LET X=X-1
150 IF I$="M" AND X<15 THEN LET X=X+1
160 IF I$="/" AND I$="": THEN GOSUB 230
170 paper 3:ink 0
180 PRINT tab(X,Y+5);CHR$(OS);
190 PRINT tab(X,Y+5);CHR$(R(X,Y));
200 IF I$="S" AND IX>0 THEN GOSUB 450:GOTO 20
210 IF I$="F" THEN GOTO 100
220 STOP

There are lots of print and colour commands at the start of this listing, so use the general conversion charts opposite with great care.
Noble Ape

Designed to Bring Together All Prior Developed Software

Originally Created in Malaysia

Documented in “the Original Manuals”
Noble Ape: Simulations

Landscape

Weather

Cognitive

Biological
Landscape Simulation

2D binary division on random values

45 degree rotation for every other level

Rounding over the entire land

Future: Larger and potentially distributed landscapes

Both Landscape and Weather come from Planet Noble Ape (circa 2000)
Weather Overview

Pressurized water vapor in air

Higher pressure cloud formation and even higher pressure rainfall

Done at half the resolution of the landscape currently (could change in the future)

Based on processing time to calculate the weather
Future Weather

At the resolution of the landscape

Much larger

Noble Ape size + wind = windchill
  (Move to vegetation for shelter)

New weather phenomena
  (snow and cyclones etc)

Adding tides and water currents based on weather
Biological Simulation

- Based on Quantum Mechanics
- Operators
  Area, Height, Water,
  Moving Sun, Total Sun,
  Salt (thanks to Bob Mottram)
- Biological elements are a combination of the operators
Biological Simulation Future

More “species”

Fractal resolution

Dark green = trees
Light green = grass
Purple = bushes
Yellow = beach
Red = rockpool
Blue = seaweed
Cognitive Simulation Overview

Originally 2d
Now 32 x 32 x 32 cells
Based on Agar/Petri-dish simulation
Bacterial growth could also be used for information transfer
Two competing ideas – space deltas (desire) and time deltas (fear)
Cognitive Simulation Future

Currently very under-utilized

Expand for Noble Apes and other species

Time/chemical effects
Small-scale After-hours
Open Source

Most things don’t happen quickly but they do happen

Long-term project planning

Continuous Bug Fixing

Ongoing Platform Maintenance

Constant Dialogue rather than a Walled Garden

Occasional Amazing Contributions
If You Haven't Seen Noble Ape in the Past Month,

It's Not the Same Simulation...
Bob Mottram

Roboticist

Well known in the professional and hobbyist robotics communities

Based in North Yorkshire, UK
Bob Mottram’s Changes

New naming convention:  
First name + Double Barreled Surname

Grooming / Parasites  
(random/growth/transmission)

Honor: Ascribed social status  
(grooming + fighting)

Physical Disputes between males of different families
Bob Mottram’s Changes

Preference for particular appearance (avoid similar names)

Gestation Periods (short currently)

Parenting

Mother carries the child or child follows the mother
Bob Mottram’s Changes

Noble Ape genome (combined factors for);

Bob Mottram’s Changes

Noble Ape Web Server

Twitter reporting

Culver Davis-Howard is in discussion
Eliza Hill-Mason is the most honorable female
#nobleape
Noble Ape Web Server Future

Interface to SecondLife(-like) client

Improved Web Browser Interface

Additive game content
ApeBook?
Experimental Social Graph

Form Long Lasting Friendships, Disputes and Pair Bonding

Social Behavior More Sophisticated

Jealousy and Tribalism emerging from Grooming or Squabbling

Goal Oriented Actions

Moving towards Friends and away from Enemies

Seeking out Specific Mates

Like Facebook, but for Noble Apes
Future Development

Narrative Engine
  (Early implementation from Bob Mottram)

Noble Warfare

Objective ApeScript?
Narrative Engine

If the Noble Apes Could Speak English, What Kinds of Things Would They Say?

Debugging

External Observers
Noble Warfare

Lack of a good open source Real Time Tactical Engine

Long history linking the artificial life community into games

Develop historical engines for various periods
Objective ApeScript

Multiple productive uses

Development feedback

Formally translate syntax to more OOP-centric format

Lua or Python?
Use by Apple and Intel

Apple

WWDC 2003
Released with CHUD Toolkit

Intel

Started in 2005
Idea

What’s the difference between a novel and a movie?

No one says to an author, “If only this was a movie!”

Movies – Commercial Game Development

Novels – Artificial Life Simulations
Biota Conferences

Heard about Biota 1

Wanted to attend Biota 2

Was invited to Biota 3

How important are the names?
What does Biota Now Mean?

New generations of developers

Historical legacy and archive

How do we move forward?
Biota Podcasts

Started in 2006

More than 100 hours of audio

Academically referenced

Podcasts are still not an ideal format

Talking to listeners in two decades time?
Artificial life community focus

Why not ISAL?

Never attended an ALIFE
(or any other artificial life conference)

Surviving the winter

Need for a vibrant virtual community
The Value Problem

What is the value of artificial life for an external observer?

Industry

Academia

Hobbyist
Complexity

Rich understanding of varied complexity

Vastly complex systems

Bring the discussion to us

New rich philosophy

New rich mathematics
Translation

Time is our ally

Journalism may be our ally

Historical figures probably not

It’s down to us!
Questions?

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