

# Low-tech by design: using retro tools for green game dev

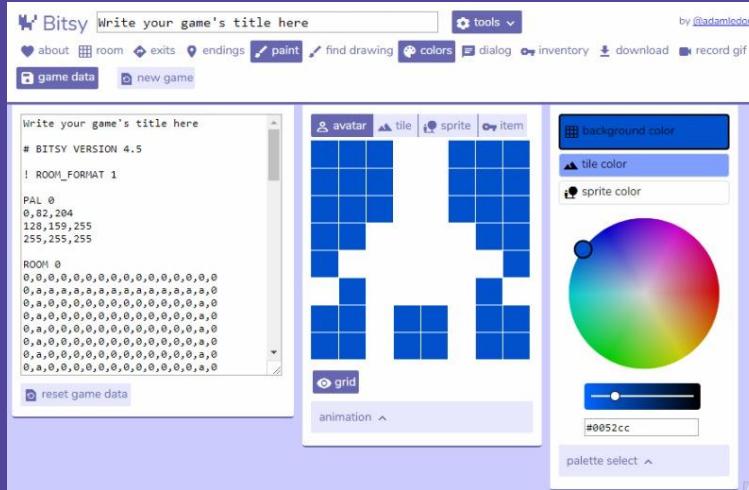
## *Graphic Adventure Creator* as a 1986 Twine ?

Charlotte Courtois  
ReAnimate 2024 - Montréal

# Two opposite approaches to activist game making : decolonial and eco-feminist methodologies

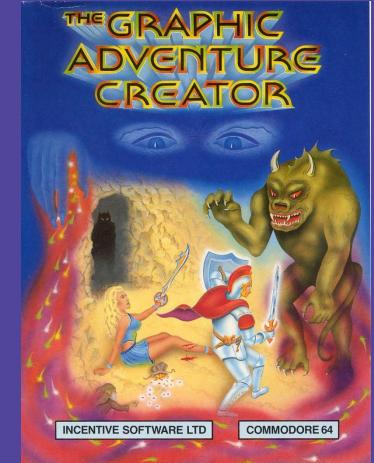
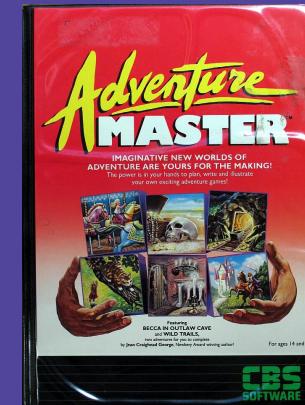
## “The Master’s Tools Will Never Dismantle the Master’s House”

LORDE Audre, “The Master’s Tools Will  
Never Dismantle the Master’s House”, in *Sister  
Outsider*, Penguin Books, 2007 [1984], 187p

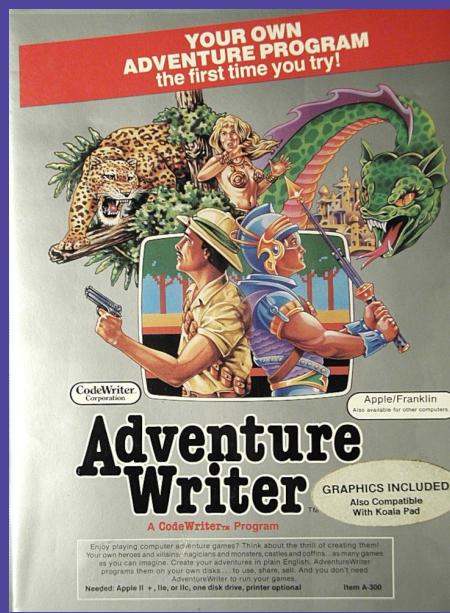


## Ecofeminist «reclaim» :

- reappropriation of a place and of a content
- recycling of what's already there
- low-tech



# Plenty of game development tools: the C64 (and microcomputing) as a hobbyist game development platform



# A hobbyist history based on hobbyist work

- Archive websites  
(general or specialised)
- Inventory, playtest for classification, quantitative and qualitative data
- Game development in consequence of the data
- Discovery of anomalies



Gamebase64, since 2000, <http://gamebase64.com/>  
Girls of '64, since 1997, <http://girls.c64.org/>

Super liste des jeux pornos		Edition		Affichage		Inventaire		Format		Diverses		Outils		Extensions		Aide		
		Version	Date	Nom	Genre	Langue des jeux	Type	Support	Editeur	Support	Editeur	Version	Type	Support	Editeur	Support	Editeur	
A1/AJ   J1   Liste de (super ?) jeux pornos sur PC dans les années 80s/90s																		
1	Vocal	Jeu	Ouv	Satellite	Organe	Date sortie	Prix	Langue des jeux	Support	Editeur	Support	Editeur	Version	Type	Support	Editeur	Support	Editeur
2	Mass et note amoureu	Jeffard Software	Exchange, Allemagne	1988	element	Communics 84												
3	Sexually Sensitive Software																	
4	Gothicsoft	Mornbase Joe	element	2007	anglais	Communics 84												
5	Baba Mommie 2 - Mommie Airlines back	Mornbase Joe	element	2002	anglais	Communics 84												
6	Big Mommie	Mornbase Joe	element	2002	anglais	Communics 84												
7	Schuppen Saison	Mornbase Joe	element	2002	anglais	Communics 84												
8	Sex of Virtures	Mornbase Joe	element	2002	anglais	Communics 84												
9	Sex Date (Female Version)	Online Content	Online Content	Ja-Bonjour, Ultra-Max	1985	1/500	anglais	Communics 84										
10	Sex Date (Male Version)	Online Content	Online Content		???	anglais	Communics 84											
11	Ace of Hearts	Interaction	Interaction	Interaction	1984													
12	Animated Strip Show	Haghefeldt	Haghefeldt	Appleseed	1984	4.00\$	anglais	Communics	Ultra-Appleseed									
13	Strip Show	Artecos	Artecos	Naples, Florida Ultra-Disk	1984	0.95\$	anglais	Communics	Ultra-Disk									
14	Attack of the instant probe	Only Disk	Only Disk	Only Disk	1984	anglais	Communics											
15	Pornobabes II: The Sexily Software	Haven, Ballie Ultra-Jets (Postume)	1984	anglais	Communics 84													
16	Blue Angel 69	Magic Bytes	Magic Bytes	Allemagne	1985	9.95\$	anglais, allemand	Communics 84	64 Amiga									
17	Quattro Model	Jack The Rapper and Mr John (Shel Night)	Allemagne	1992	element	Communics 84												

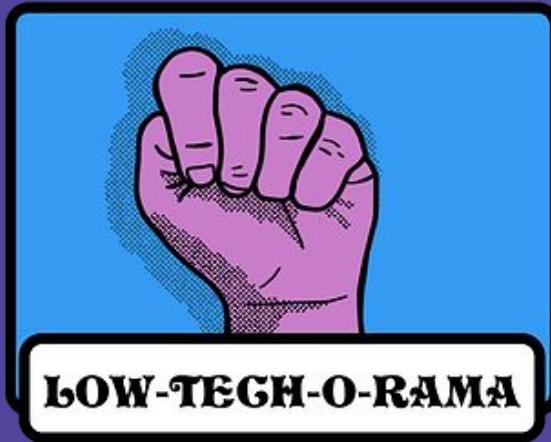
Girls of '64, since 1997, <http://girls.c64.org/>



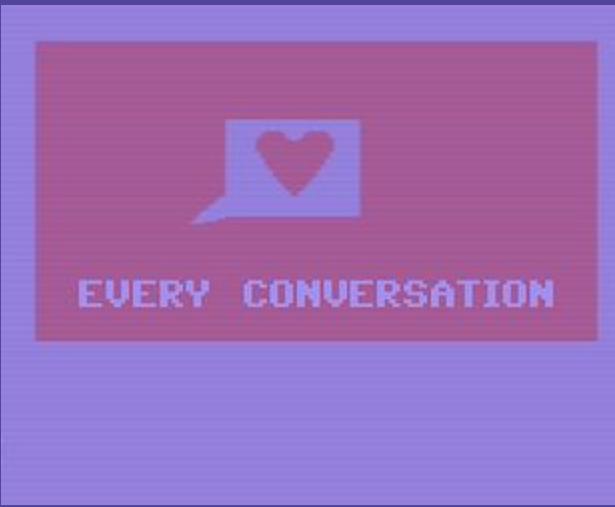
Games about gender,  
sexuality and ecology



Did you just  
teleport  
into my bed ?

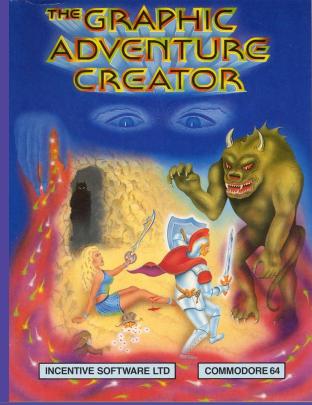


EVERY CONVERSATION



# Praxis of microcomputer development with *Graphic Adventure Creator*

- *Graphic Adventure Creator*, Incentive Software, 1986
  - text adventure games
  - for a hobbyist / amateur audience
  - possibility to add visuals
- Developed by Sean Ellis in assembly language
  - goal to make game development accessible
- Guides in magazines

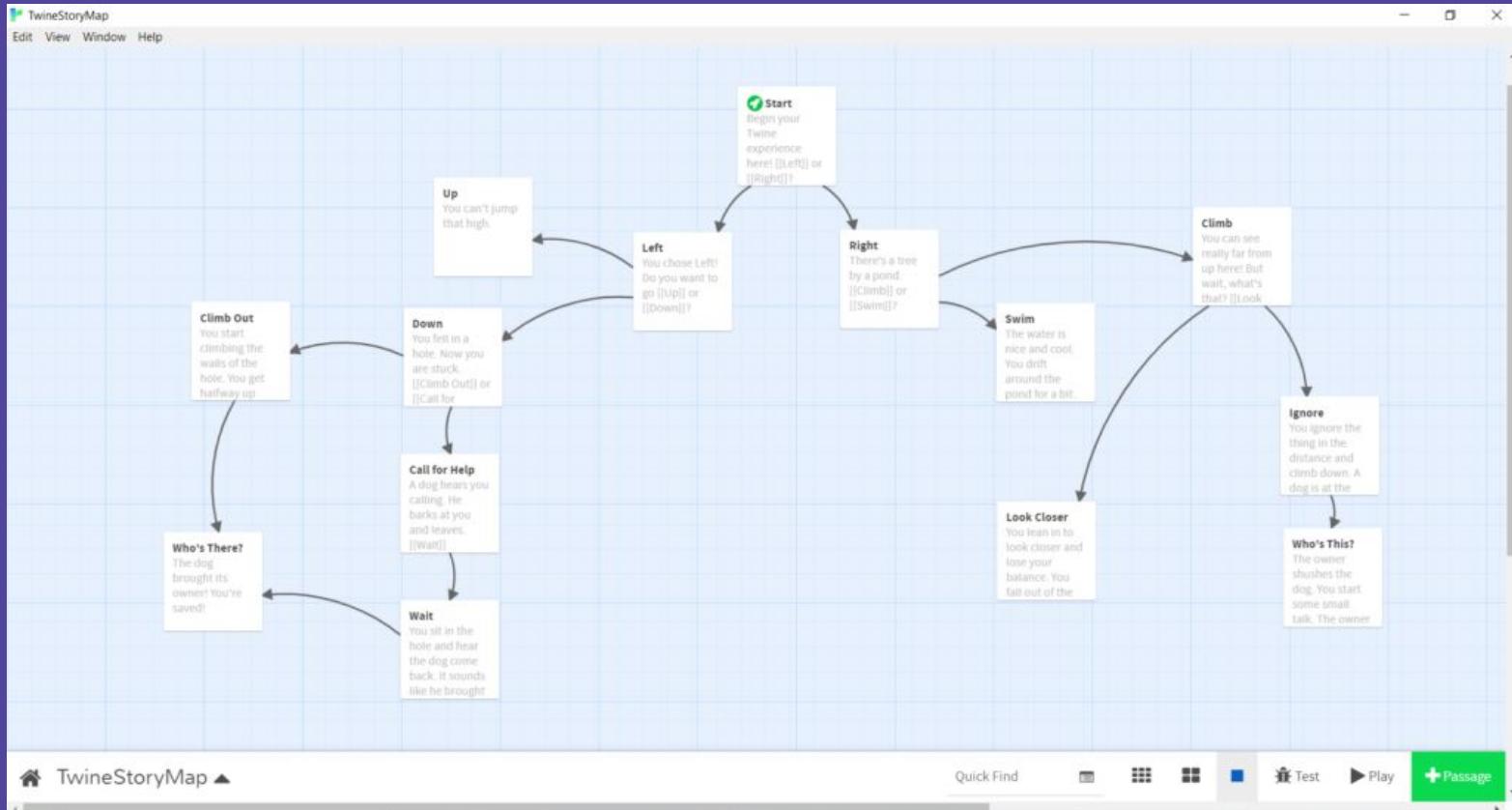


# Praxis of microcomputer *Graphic Adventure Creator*

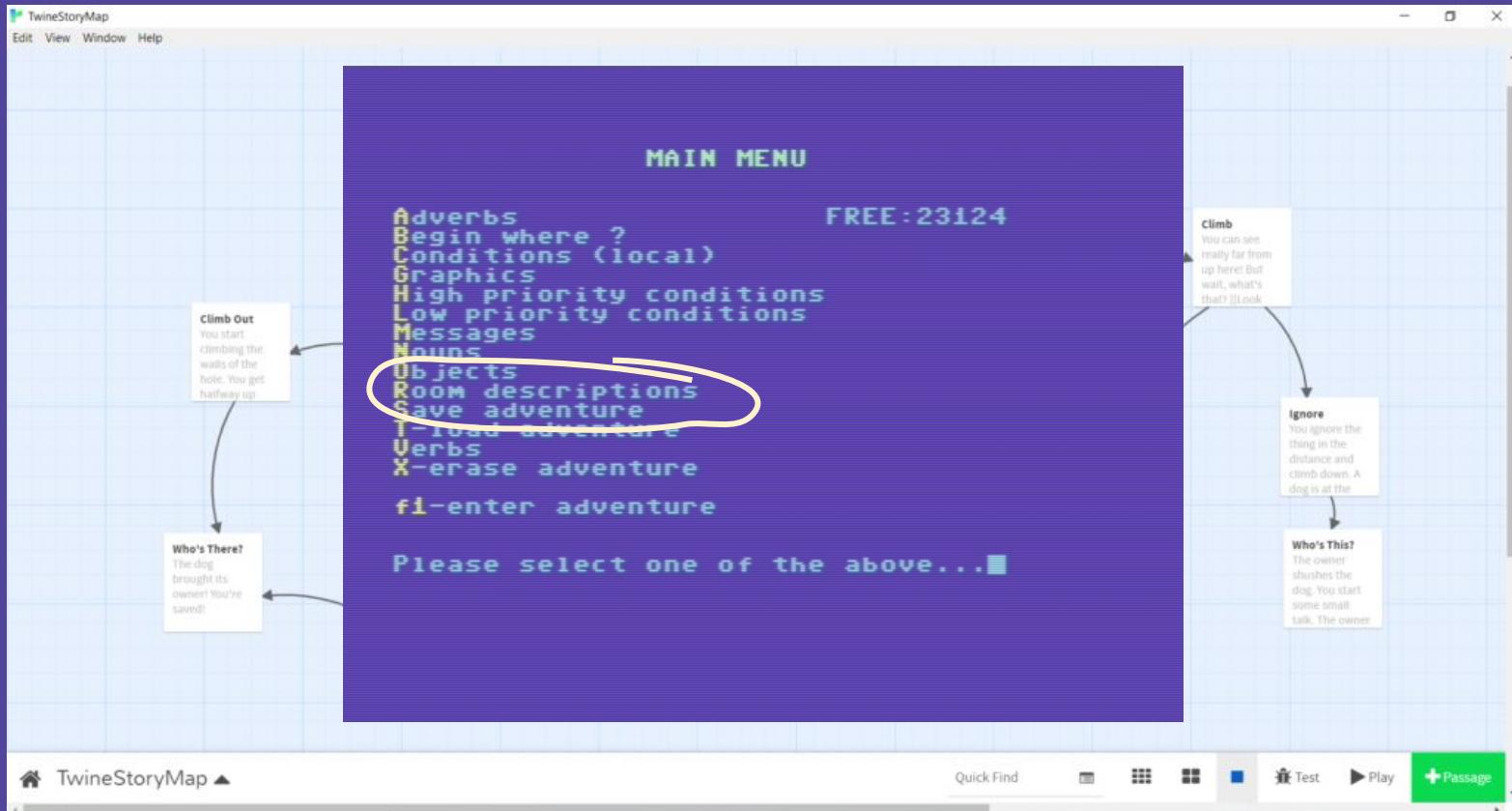
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# A parallel with *Twine*: rooms and passages

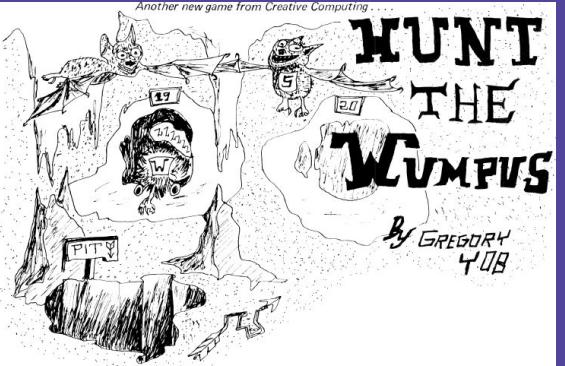


# A parallel with *Twine*: rooms and passages



# Spatial approach to text adventures

- Rooms are the building block of adventure games
  - a room is the spatial unit, but it doesn't have to be an actual room
  - players type the direction they want to go from one room to the next (can be N, S, E, W, up, down, left, right...)
- Genre built for exploration, object picking, doors unlocking...
  - not a very dynamic gameplay



## The Genesis of Wumpus

Two years ago I happened on People's Computer Company (PCC) and saw some of their computer games — such as Hurkle, Snark, and Mugwump. My reaction was: "EUCH!!" Each of these games was based on a 10 x 10 grid in Cartesian space, and none of them was too good for me. I started to think about the idea of a game having to be a hide and seek computer game without that (exp. deleted) grid!! In fact, why not a topological computer game — Imagine a set of points connected in some way and the player moves from the set via the interconnections.

That afternoon in desperation I began "Hunt the Wumpus" and, and Wumpus was born. He's a bit

vague in physical detail as most dedicated Wumpus hunters know, but appearances are part of the game. (If you like,

send me a picture of your version of a Wumpus. Perhaps friends will see our humor with the game in the April issue of Creative Computing.) The grid I chose was the vertices of a dodecahedron — simply because it's my favorite Platonic solid and once, ages ago, I made a kite shaped like one. The edges became the connecting tunnels between the caves which were set at 45° points for the grids.

My basic idea at this time was for the player to approach

the Wumpus, back off, and come up to him by going around the dodecahedron. To my knowledge, this has never

happened — most players adopt other strategies rather

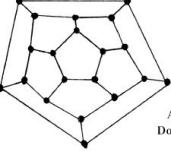
than this cold-blooded approach.

Anyways — how to get the Wumpus? How about an arrow which could turn corners as it goes from room to room. Let the hunter tell the arrow where to go and let it fly. The shortest round trip without reversals is 5 caves — and that's what I picked. Arrows!

Hmmmm . . . How does one sense the Wumpus? It's dark in yonder cave, and light would wake him up. If one got one cave away, the wumpus's distinct smell would serve as a warning. So far, so good . . . but Wumpus is still too easy, so let's find some appropriate hazards for the caves.

Bottleneck pits were easy. Any imaginary cave would have a few of those around the place. Superbats were harder to come by. It took me a day or two to get that idea. The Superbats are a sort of rapid transit system gone a little batty (sorry about that one). They take you a random distance to a random cave and drop you there. If that's a pit or a Wumpus, well, you're in Fatal's traps.

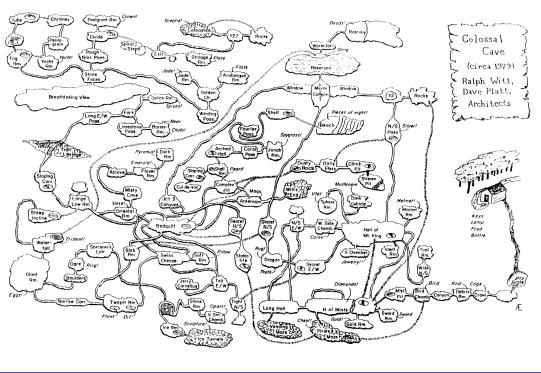
Around this time, I saw that Map-makings would be a regular activity of Wumpus-hunters. I numbered the caves and made the scheme fixed in the hopes a practised player might notice this and make himself a permanent map of the caverns. (Another unrealized hope — as an exercise, make yourself such a map on a Squashed Dodecahedron).



A Squashed  
Dodecahedron

To start the game fairly, Wumpus, Hazards, and Hunter are located on different points at the start of the game. Each game starts with random choices of location, but the hunter may restart with the same set-up if he chooses. This allows re-plays if the hunter, say, fell into a pit on the first move.

Wumpus was nearly done in my mind . . . (hint to a game-writer: Have a clear notion of your game before you



## Adventure (Crowther and Woods, 1976-79) map

"YOU ARE STANDING AT THE END OF A ROAD BEFORE A SMALL BRICK BUILDING.

AROUND YOU IS A FOREST. A SMALL STREAM FLOWS OUT OF THE BUILDING AND DOWN A GULLY."

## *Hunt the Wumpus* (Yob, 1974) guide and map

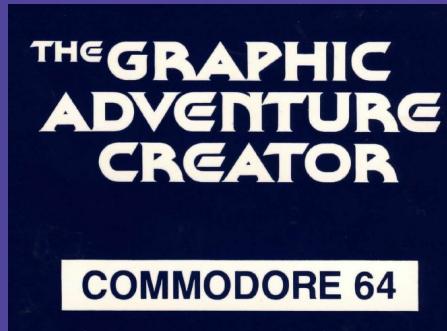
GAC Stats: 256 units of data (8 bits or 1 octet)

- 256 rooms
  - 256 characters
- 256 verbs (possible synonyms)
- 256 nouns
- 256 messages
- ...
- Documentation available
  - official manuals
  - non-official manuals
  - magazine creation guides
  - interview with creator

# THE GAC ADVENTURE WRITERS HANDBOOK

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How to write a good Adventure	1
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Science Research & Publications

2016-08-19

Interview with Sean Ellis re: Graphic Adventure Creator

**THE GRAPHIC ADVENTURE CREATOR**

# THE GRAPHIC ADVENTURE CREATOR

The Graphic Adventure Creator (GAC to it's friends) is a piece of software that allows you to make illustrated text adventures.

**Programming with the Balrog**

This part of the site covers the stuff The Balrog wrote about GAC in Amstrad Action, the information comes from [Programming with the Balrog](#) and [GAC Programming Clinic](#). Some things have changed to fit the ZX Spectrum (and to protect the innocent).

**Your Sinclair**

This part contains the hint and tips for GAC that appeared in [Your Sinclair](#).

**Manual**

This part contains the original GAC manual.

[hitch-hiker@earthling.net](mailto:hitch-hiker@earthling.net)

# Toolkit to make a GAC game

- A rom of GAC
  - csdb.dk
- Your favorite C64 emulator
  - I use Vice
- Your favorite spreadsheet
  - with a function counting your characters
- A sheet of paper

Picture by Ian Andrew

s to be rescued.

The aliens on each level come progressively more intelligent and will deplete our power if they touch you. Don't touch me, you nasty lot! The landscape of each level also becomes increasingly more difficult and arduous to negotiate.

The game is far more complex than simply finding your way through a maze. Various pathways are blocked by gates. The gates can be opened or closed by passing sensors. If a particular gate is closed and you pass over its associated sensor then it will open. If a gate is open and you pass its sensor then it will close. It is this element of the game which makes it far more than simply solving a

maze.

Sensor is a fast moving predictive game, requiring reactions and quick thinking. It costs £8.95 for the cassette, £12.95 disk.

## . Gold ointment

We are pleased to announce the recent appointment of Terry Howells as Product Manager for a range of Orderbund products launched this year. Terry has over five years experience in the computer industry and

120

Graham Gooch's Test Cricket for the Commodore 128 is the most sophisticated yet of the Graham Gooch range, and has to be the most comprehensive (and ideologically

own teams, and the scoreboard displays the following additional speech; nine built-in squads with non-graphics; two player modes; more control over bowler; practice mode; replays; and extra score messages.

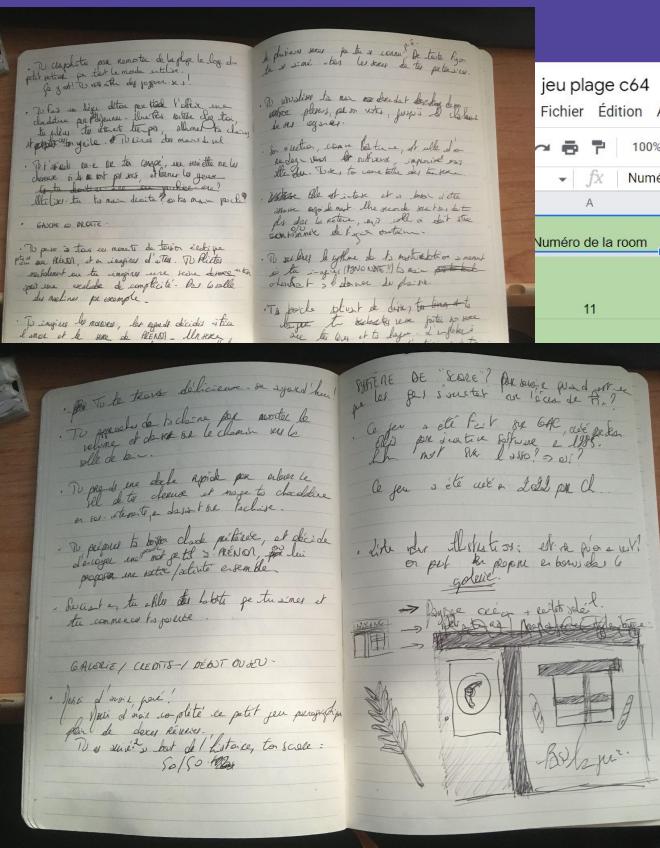
Test squads include England, Australia, Indies, New Zealand, Pakistan and Sri Lanka. Africa is, of course, cotted), plus a World Cup current worldwide cricket talent, and an All-Time made up of past and present cricketing greats like Grace and Don Bradman. The attention to detail is that, instead of having one a uniform shade of black and coloured areas are depicted on such.

Two players can play simultaneously in mode, with joystick over the batsman and Gameplay has been

150 Years

"Sir Isaac Pitman, great-great-grandfather of Pitman, feels right at home with computers."

# Game development process



jeu plage c64					
Fichier Édition Affichage Insertion Format Données Outils Extensions Aide Dernière modification le 8 avril					
A	B	C	D	E	F
Numéro de la room	Texte	Nombre de caractères	Connections	Illustration	Commentaire
11	Une fois entièrement submergée.e, tu fais un large mouvement de brasse pour avancer sous l'eau. Avec un deuxième tu te laisses porter vers l'avant et attends le plus longtemps possible avant de refaire surface.	208			
	Quand tu ressors, un peu essoufflé.e, tu es légèrement aveuglé.e par la lumière du soleil. En continuant à nager tu vois une petite crique séparée de la première plage par de larges rochers. Tu te dis que tu seras plus tranquille vers là-bas.	242			
	Une fois à l'abri de regards potentiels, tu penses à ton corps immergé dans l'eau fraîche, et prends connaissance de sa forme. Tes tétons dépassent quand tu fais la planche.	173	pas de connexion		
	To caresses ton corps en tout en battant légèrement des pieds pour rester à la surface. Tu commences à être sexuellement excité.e. Qui est la première personne qui te vient à l'esprit ?	185			ICI ! Condition: si on marque quoi que ce soit qui soit pas Continuer ou Stop, on a la room Désolée !!! Oui !!! Et si on tape continuer ou stop, on a le message: tu dois taper un prénom
	Désolée, ce programme ne peut pas garder en mémoire le prénom que tu viens de taper... Ça devra rester secret. Disons que nous allons référer à ce prénom par... "Cette personne". Cette personne étant évidemment une adulte consentante.e. D'accord ? // Intéressant, je vais garder ça pour moi. Disons que nous allons référer à ce prénom par... "Cette personne". Cette personne étant évidemment une adulte consentante.e. D'accord ?	430	oui non (152)1		Genre si on tape pas particulier quoi
	Tu imagines PRENOM qui arrive le long de la plage, ne portant qu'un maillot de bain et un t-shirt en lin d'un orange profond et terreux, légèrement transparent et un peu ample.	176			Est-ce que je souligne ? Couleur du texte du t shirt en orange !

Liste des messages ▾    Liste des verbes ▾    Conditions ▾    Liste des illustrations ▾    brouillon 1 ▾

# Jeu Apple II impasse des châtaigniers

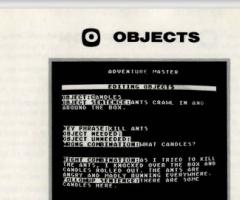
Fichier Édition Affichage Insertion Format Données Outils Extensions Aide Dernière modification hier à 14:44

100% € % .0 .00 123 Par défaut ... 10 B I S A

C12

fx

	A	B	C	D	E	
1	Nom de la room	Numéro de la room	Description	Nombre de char	GO TO	Objets
2	Intro	Intro	Tu arrives 11 impasse des châtaigniers avec ta voiture. Le vieux portail en bois est fermé, tu descends pour l'ouvrir et bloquer chaque battant dans la butée de course. Tu te gares dans le jardin.	197		
3	Jardin		Dans le jardin, les rosiers de ta grand-mère sont en fleurs. Le chêne et le châtaignier s'élèvent à une dizaine de mètres. Apparemment les acquéreurs veulent les couper. <b>Devant</b> se trouve l'entrée principale de la maison.	220		Châtaignier, chêne,
4	Entrée ext		Sur la sonnette à côté de la porte en bois est collée une étiquette avec le nom de tes grands-parents. Une cigale en terre cuite est accrochée sur un poteau à côté de la porte, les clés sont 2 cachées à l'intérieur.	212		clés de maison
5	Couloir		Tu es dans le couloir étroit, au centre de la maison. Au Ouest se trouve la chambre de tes grands-parents, au N chambre des enfants, à l'Est le salon et à l'Ouest la porte d'entrée. // Au mur est accroché un des tableaux peints grand-père. C'est un sous-bois en monochromes de br br un style presque abstrait. Ta tante et ton père se rappell vu le peindre, il avait apparemment recopié le paysage 3 revue de forestier.			
6	Salon		Tu es dans le salon, au nord se trouve la cuisine, au sud l'accès au jardin par une porte-fenêtre. La cheminée est comme la télé qui se trouve à côté. Tu revois ton grand assis sur le minuscule tabouret en bois, arrangeant le feu remettant des bûches qu'il venait de couper dehors. // A la télé se trouve encore la VHS favorite de tes cousins 4 Aventures de Saturnin.			
7			Tu es dans la cuisine, au sud se trouve le salon. Tu peu presque sentir l'odeur de la quiche de ta grand-mère et salade de tomates (cornues des Andes) du jardin. // Su ont posé une paule en céramique qui nous sort de ce			



Key Phrase — Required  
The Key Phrase is a condition that you must require a player to meet in order to gain access to the Object. In our example, the Key Phrase is "Kill Ants". A player would not be granted access to the candles and he typed in that phrase in that room.

After you type in the Key Phrase, you have the option of putting further conditions upon the use of the Object. **Object Needed** refers to another object that must be in the player's possession before use of the Object. This will result in access to the Object being denied until the player has obtained that object. It must not be in their possession before they can use the Object. An example of this would be if the Key Phrase was "Kill Ants" and the Object was "Candles". To use the Object, the player would need to have first typed in "Kill Ants" to be granted access to the candles and see the phrase "What Candles?" on the screen. This message works as a clue, letting a player know that he must first do something (like kill Ants) before being allowed to take the Object.

## Wrong Combination — Required

When putting an Object in a room it is important to let the player know when his conditions and/or when he has not. **Wrong Combination** is a phrase that you can type in to let a player know when his conditions have not been met in your room. For example, you can type in "No ants here". If the player has killed all the ants, he would not be granted access to the candles. In our example, a player would type in "Take Candle" without having first typed in "Kill Ants" would be denied access to the candles and see the phrase "What Candles?" on the screen. This message works as a clue, letting a player know that he must first do something (like kill Ants) before being allowed to take the Object.

## Right Combination — Required

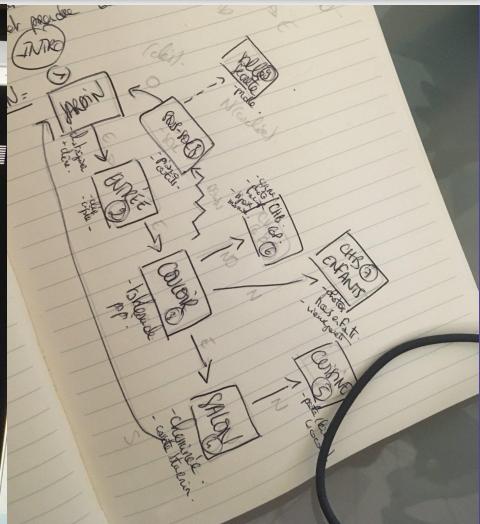
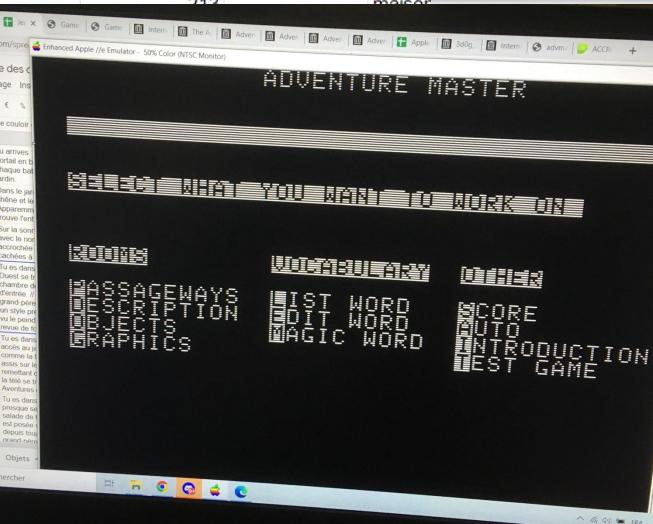
The Right Combination is a phrase that you type in to let the player know that your conditions have been met and that he may take the object. The phrase in our example tells a player that candles rolled out of the box as he tried to kill the ants. It also goes on to mention that the ants are now very angry; an illustration of how to kill them. You can add more information and flavor to your adventure.

**Important:** The Right Combination for an item needs to be typed in only once by a player during a game. For example, if a player decides to "Drop Candles" in Room 7 after taking them, he won't have to kill any more ants in order to take them back.

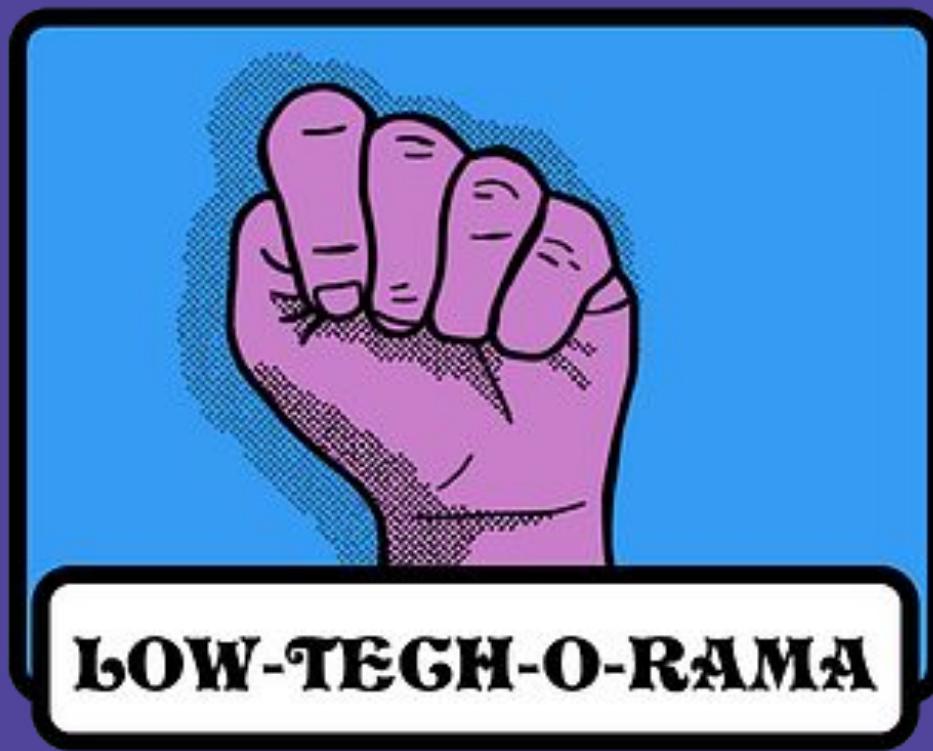
## Followup Sentence — Required

The Followup Sentence is a short piece of the room description. When a player uses an Object, the Followup Sentence for the Object goes with it. From there on, whenever a player leaves an object, the Followup Sentence will be added to that room's Description. If we take our candles with us to Room 12 and leave them there, the Followup Sentence will be added to the room's description. If we add to the description of Room 12 and appear every time we enter it or look around. Followup Sentences do not appear when Objects are in a player's possession.

Once you finish using the Objects feature in a particular room, press **Esc** to leave. You must then press either **Shift** to save the information to the disk or **Alt** to abort the information after which you will automatically return to the Main Menu.



Let's take a look !



**Table 1: Game image elements, aggregate statistics**

	Min	Max	Mean	Median	Un baiser d'eau salée	Did you just...
nouns	1	134	57.6	55.5	0	20
verbs	1	160	71.3	68.5	7	43
adverbs	0	43	4.3	2.0	0	0
messages	17	248	114.4	115.0	15	70
rooms	2	149	50.2	46.5	62	21
objects	0	95	27.3	20.5	0	0
pictures	0	116	16.3	13.5	0	0

From AYCOCK John and Katie Biittner, “LeGACy Code: Studying How (Amateur) Game Developers Used Graphic Adventure Creator”, FDG '20: International Conference on the Foundations of Digital Games. 2020.