

What do you Think when you Play

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March 2015

Why we Play Games?

Preparing to Life?



Picture by Andrew Pescod

[<https://www.flickr.com/photos/andrewpescod/272080926/>]

The background of the slide is a vibrant watercolor painting. It features a central white rectangular area where the text is located. Surrounding this white area are soft, blended washes of color, including pale yellows, light blues, and hints of pink and orange. The edges of the white rectangle are slightly irregular, giving it a hand-drawn feel. The overall aesthetic is artistic and serene.

Life as a Game and Game Theory

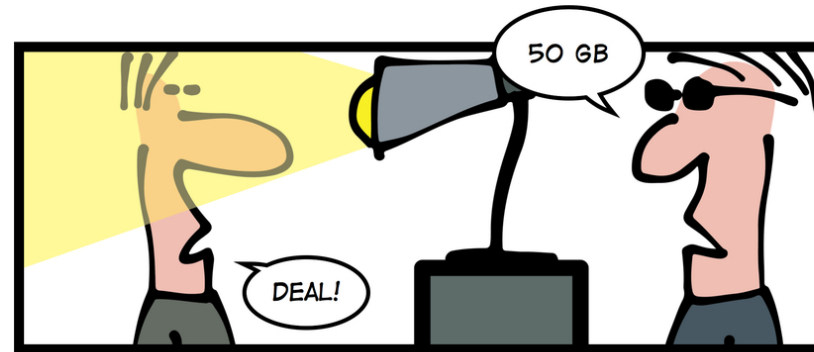
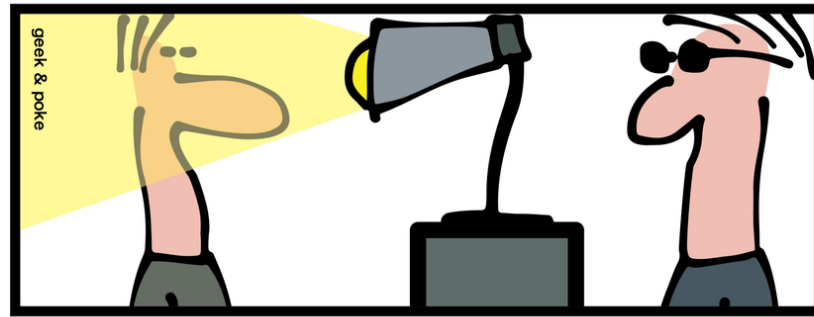
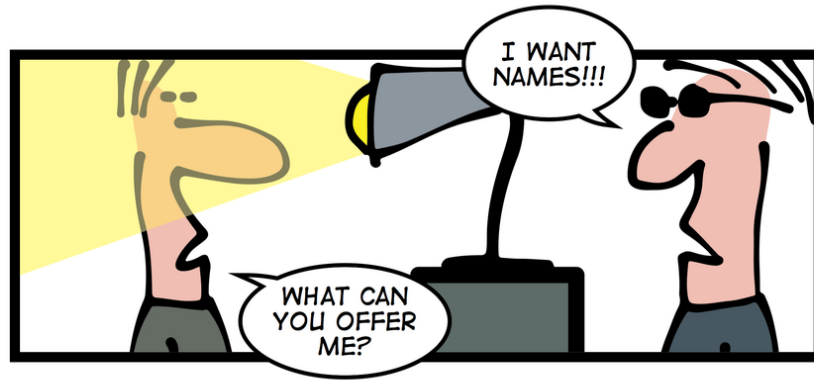
PRISONER'S DILEMMA

C = cooperate **D** = defect
(don't cooperate)

YEARS IN PRISON		C	D
C	-1, -1	-10, 0	
D	0, -10	-5, -5	

Uncertainty, strategy and
trade-off are part of the Life
and part of the Game

PRISONER'S DILEMMA



OR: HOW TO GET MORE SPACE

Game, Imagination and Creativity

Secret Door

Secret Door

■ Why a good book is a secret door

Mac Barnett

June 2014

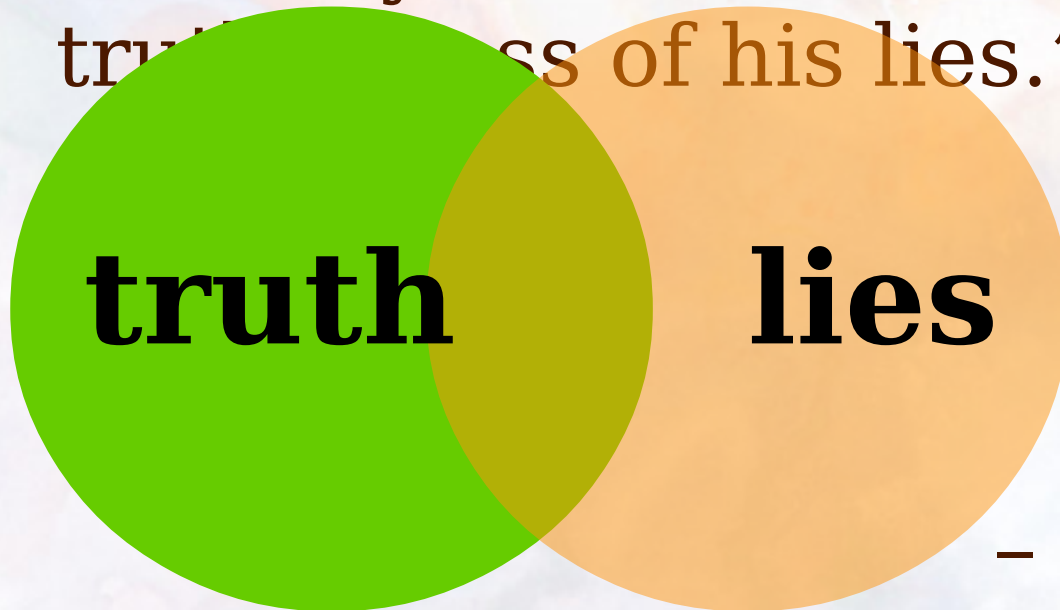
TED Talks

http://www.ted.com/talks/mac_barnett_why_a_good_book_is_a_secret_door

Secret Door

- “We all know that Art is not truth. Art is a lie that makes us realize truth at least the truth that is given us to understand. The artist must know the manner whereby to convince others of the truthfulness of his lies.”

– Pablo Picasso



– Mac
Barnett

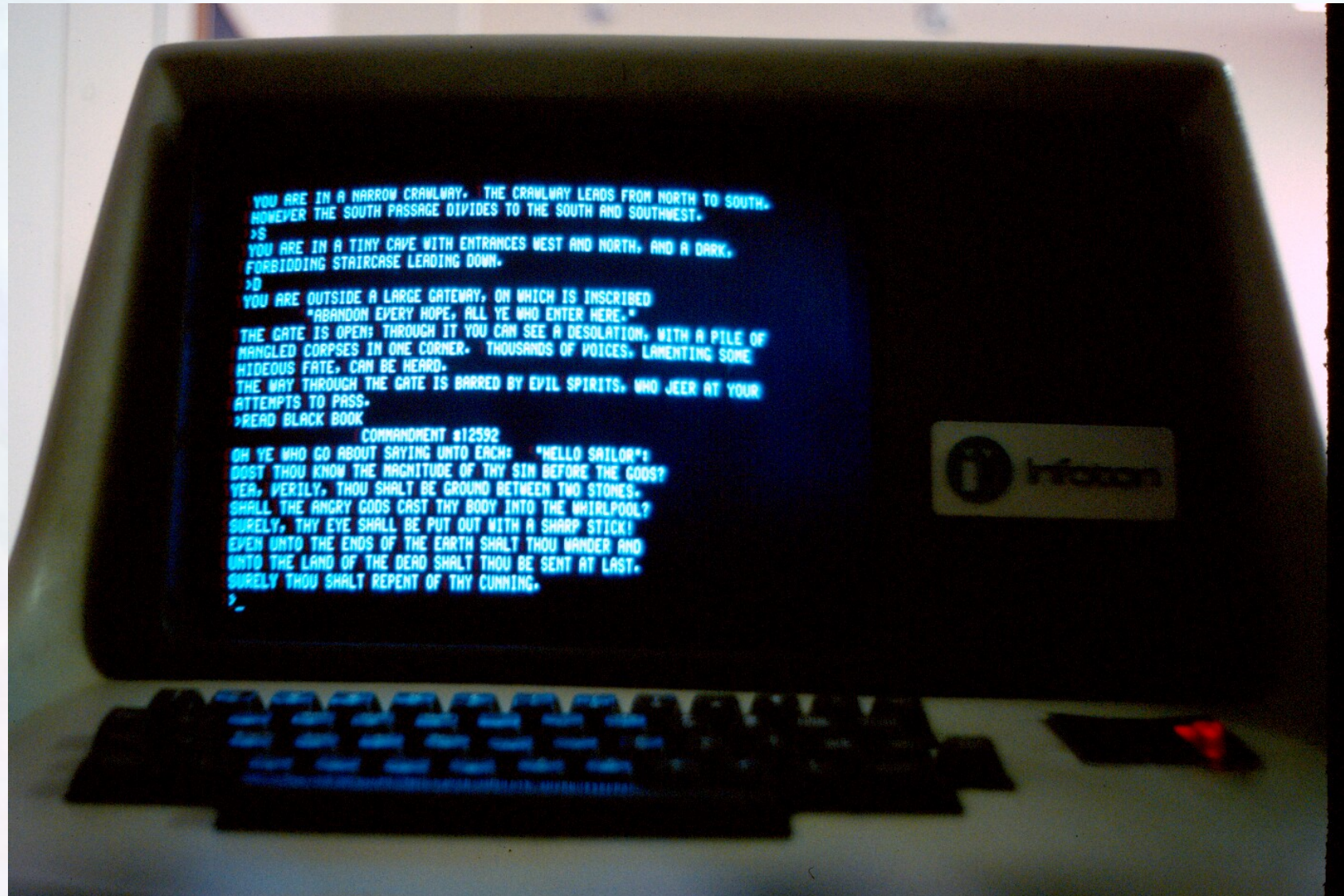
The background of the image is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered over this background, serving as a backdrop for the text.

Things happen in your mind
More with Less

PDP 10



Zork - PDP 10



Picture by Tor Lillqvist

[<https://www.flickr.com/photos/tm1/370427667/>]

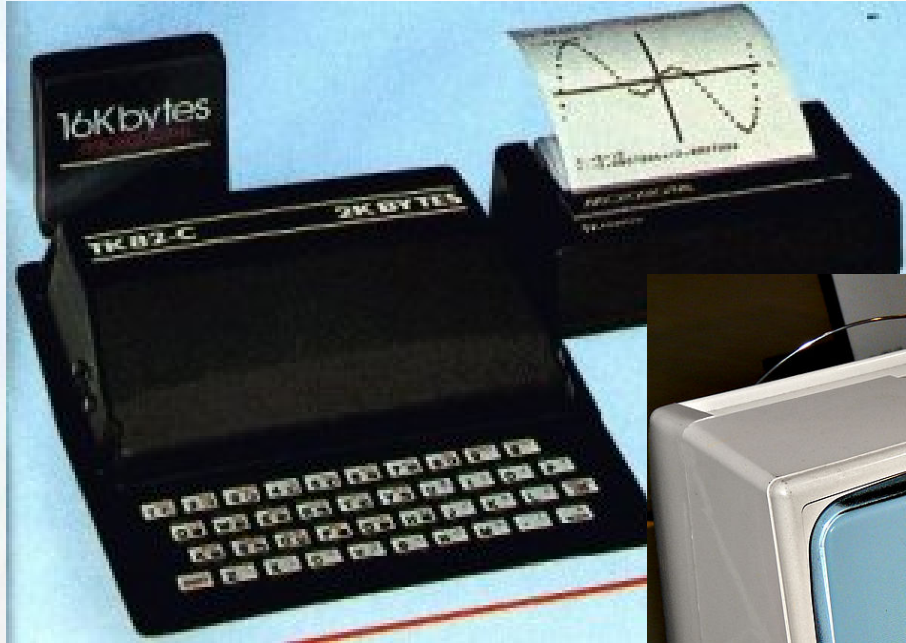
Zork – PDP 10

- “Robin Williams was said to be so addicted that he would call Marc Blank in the middle of the night, begging for hints”

Down From the Top of Its Game - The Story of Infocom, Inc.

Hector Briceno, Wesley Chao, Andrew Glenn, Stanley Hu, Ashwin Krishnamurthy, Bruce Tsuchida
December 15, 2000

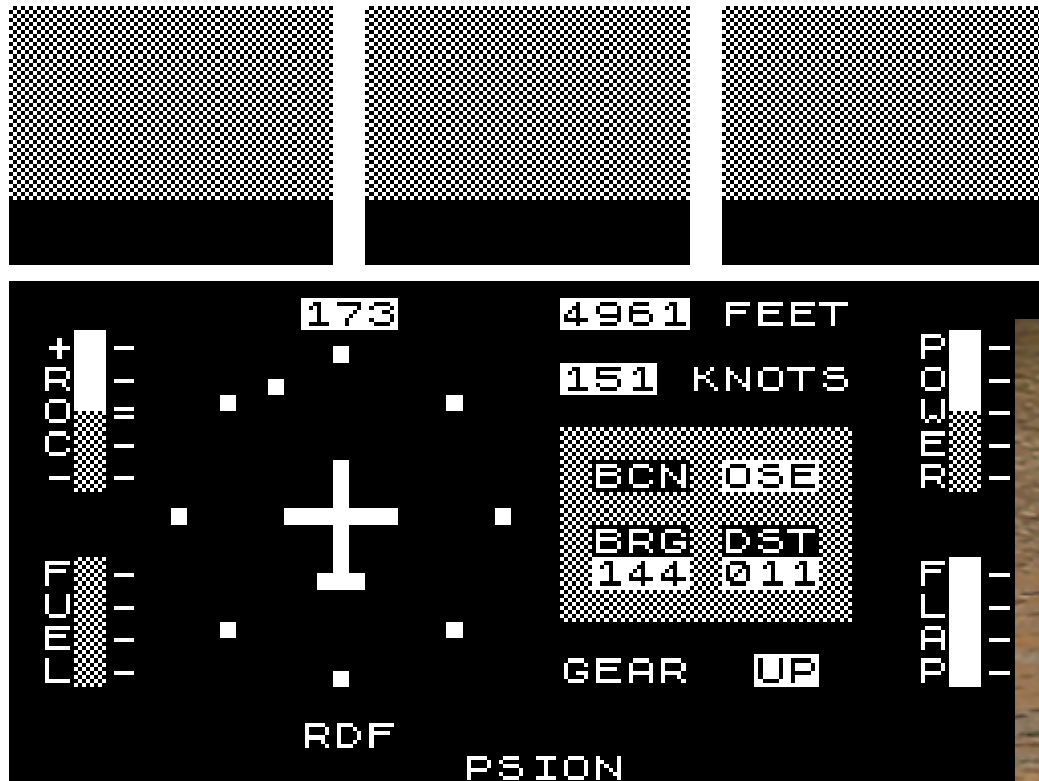
Things happen in your mind More with Less



Sinclair_ZX81_Setup by Mike Cattell

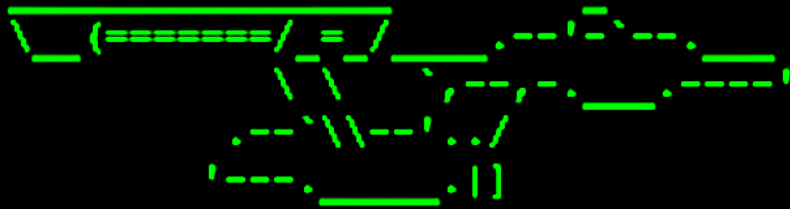
[http://en.wikipedia.org/wiki/File:Sinclair_ZX81_Setup_PhotoManippped.jpg]

Flight Simulator - ZX-81



Youtube: <https://www.youtube.com/watch?v=cvY4roVg7YQ>

Star Trek



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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COMMAND?
QUADRANT 8-6

```

*      *
      *
      *      E      *      *
1      2      3      4      5      6      7      8

```

```
SECTOR
YEARS
STARDATE
CONDITION
SHIELDS
SHIELD ENERGY
AVAIL ENERGY
PH TORPS
KLINGONS
BASES
COURSE NOT SET
```

666-30007664
6660934-1
666270000
66 64
N. S

Dancing Demon

<https://www.youtube.com/watch?v=FQizYzw27FY>



Tetris

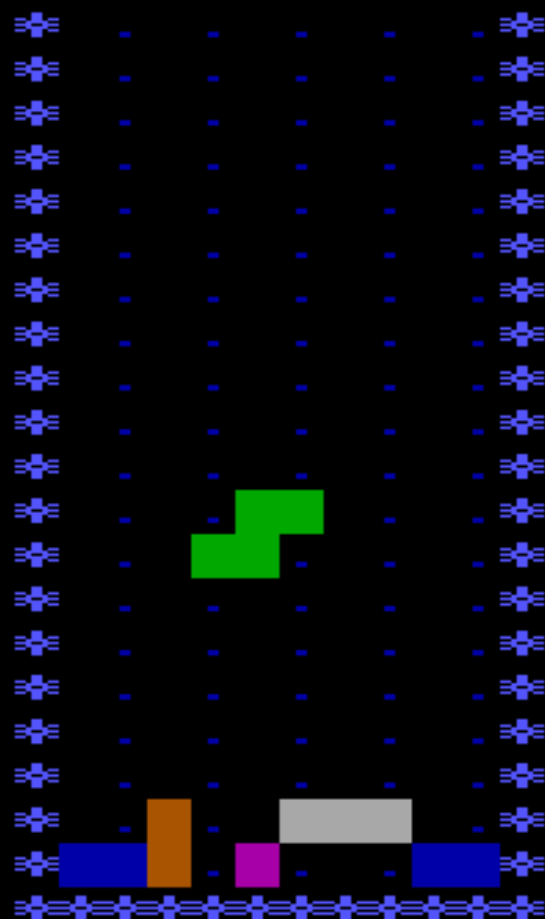
Your level: 0
Full lines: 1

SCORE 60

HELP

7:Left
9:Right
8:Rotate
1:Draw next
6:Speed up
4:Drop
SPACE:Drop

Next:



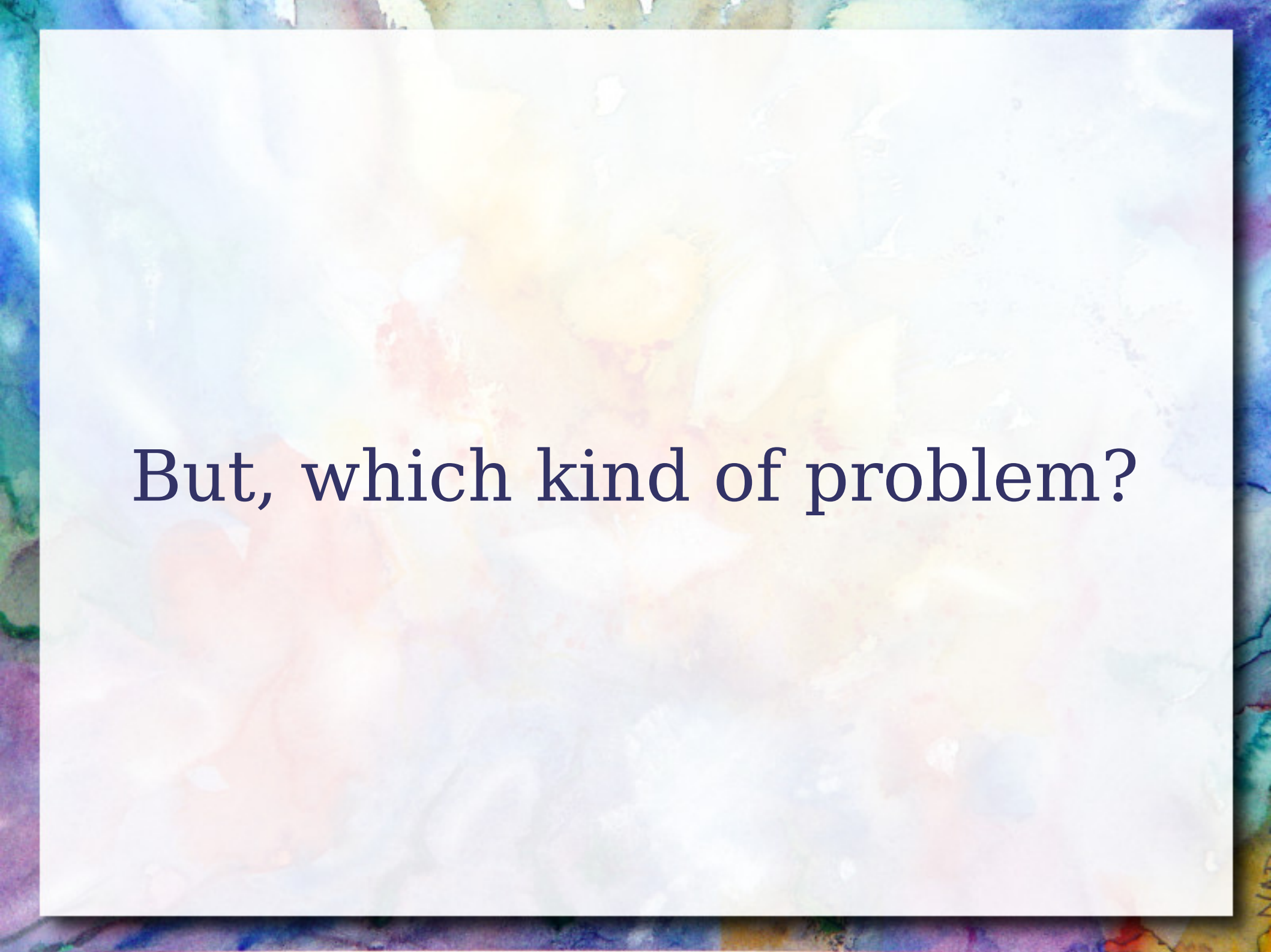
STATISTICS

	—	1
	—	0
	—	1
	—	1
	—	0
	—	2
	—	1
Σ :		6

Play TETRIS !

The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the slide, serving as a backdrop for the text.

Every game is a Problem
Solving



But, which kind of problem?

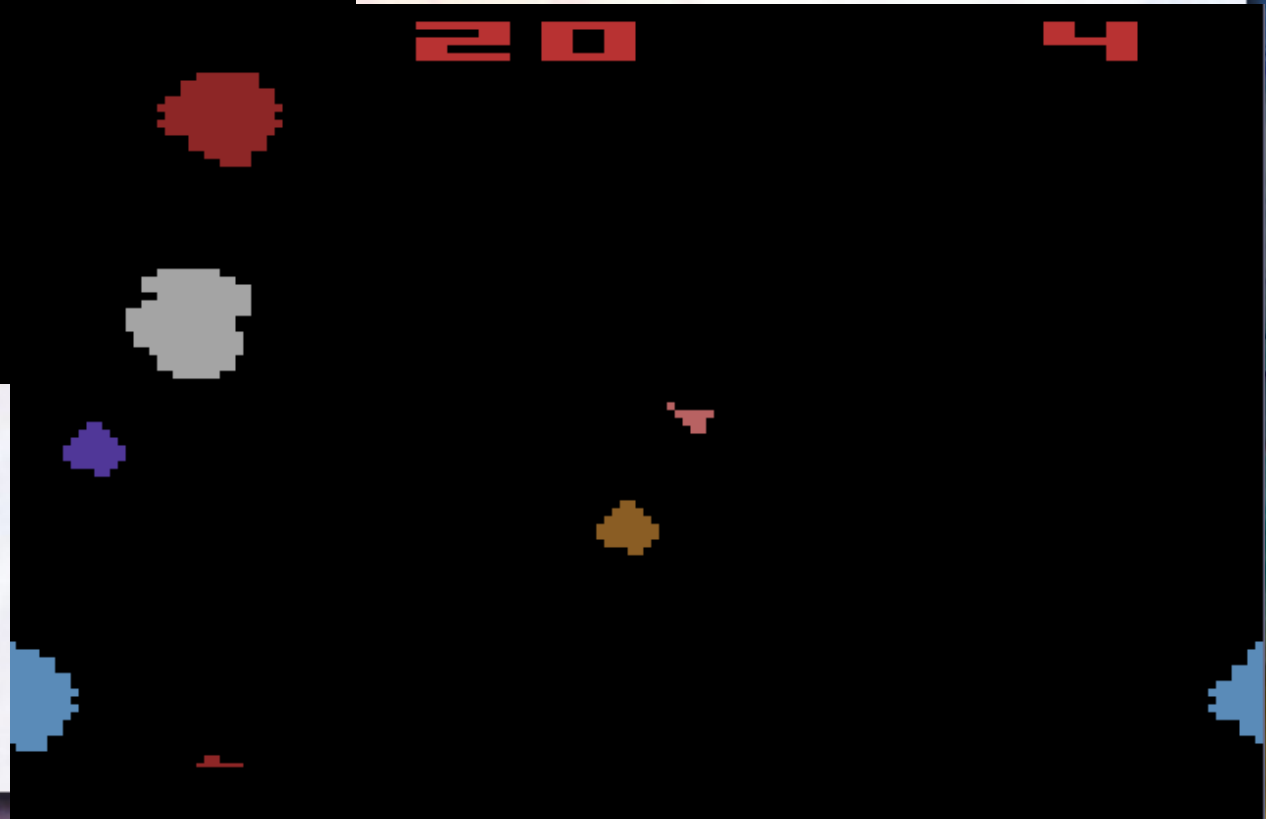
The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the page, serving as a backdrop for the text.

Mostly Action Games

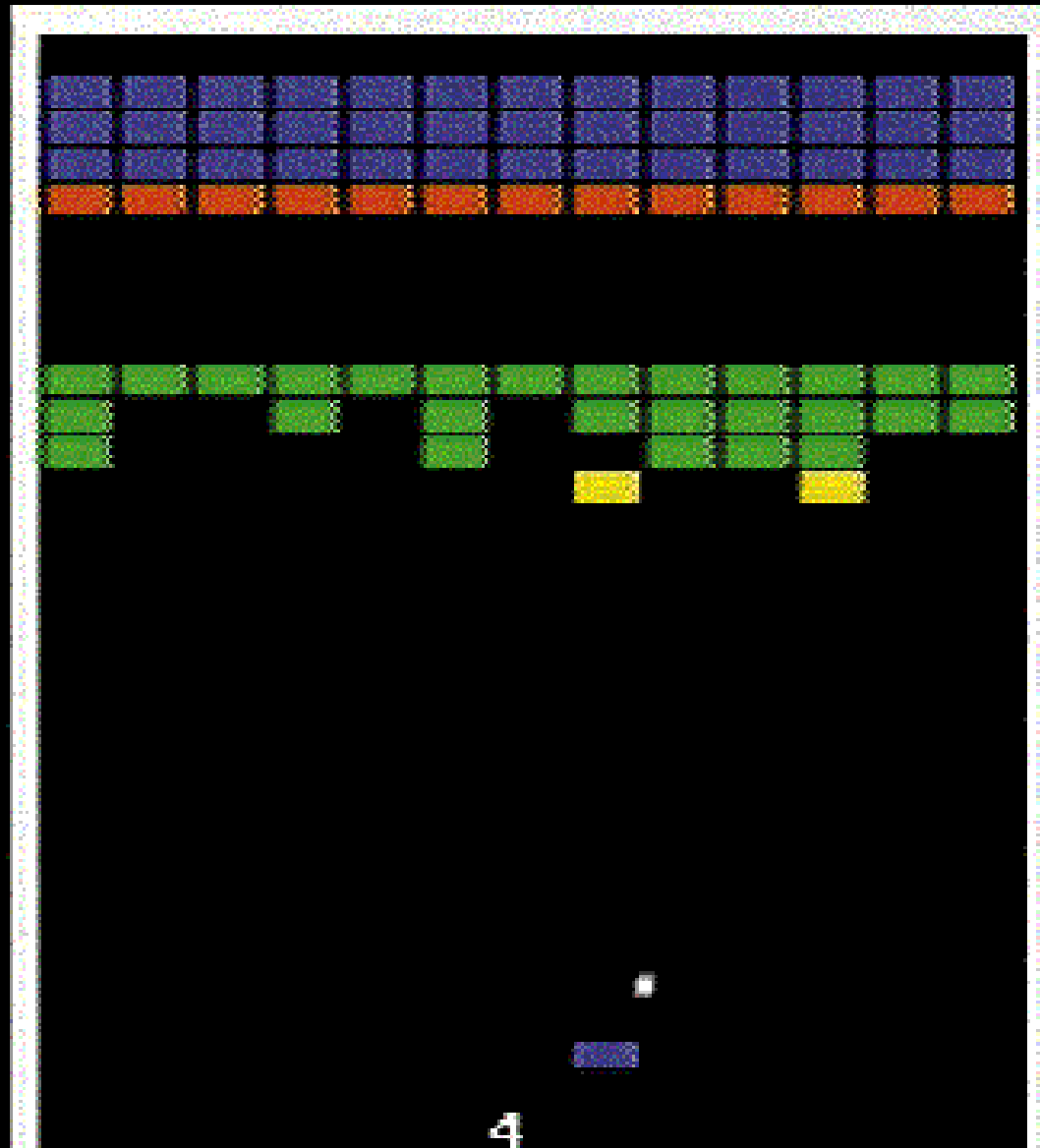
Space Invaders



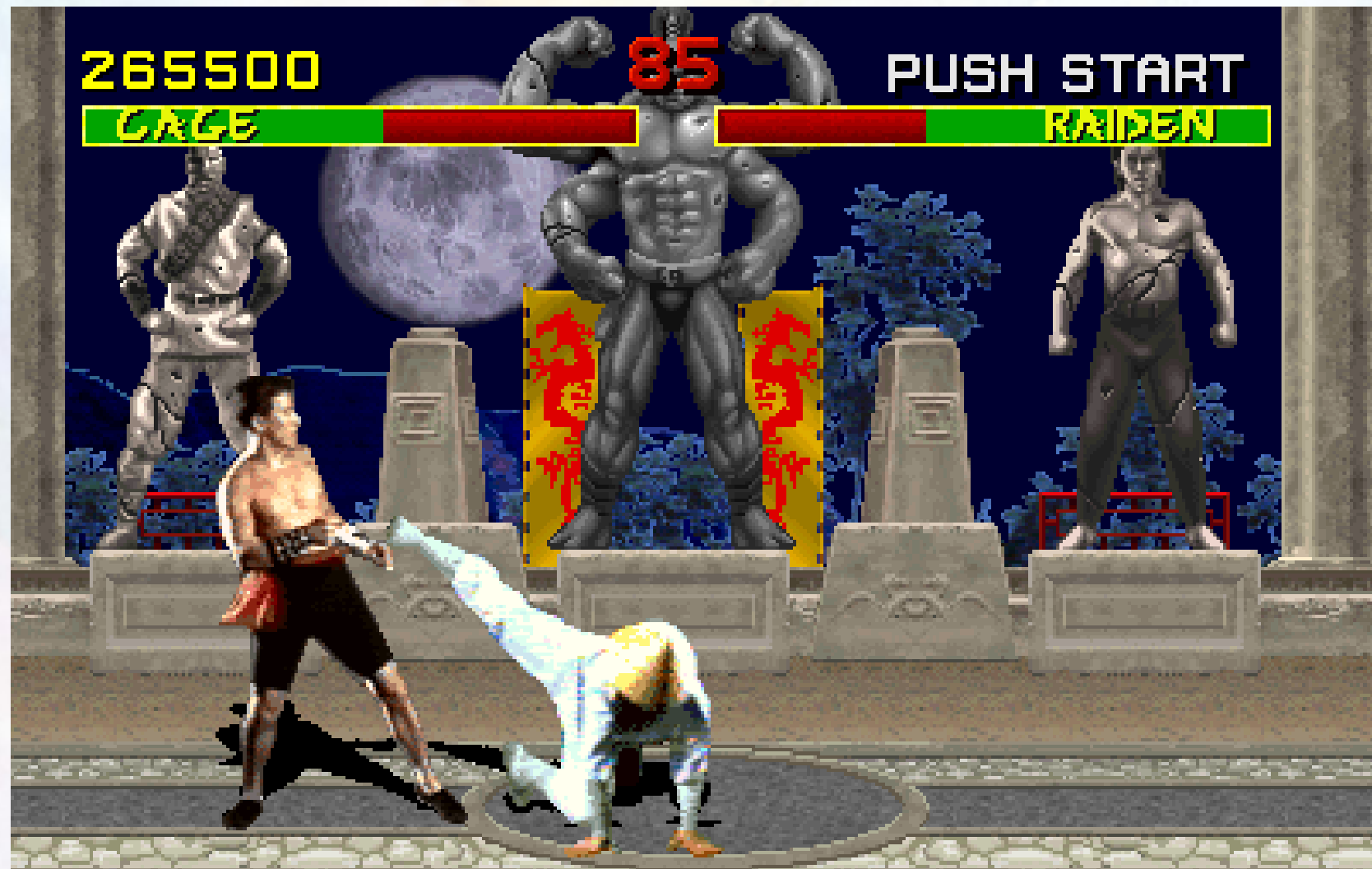
Asteroids



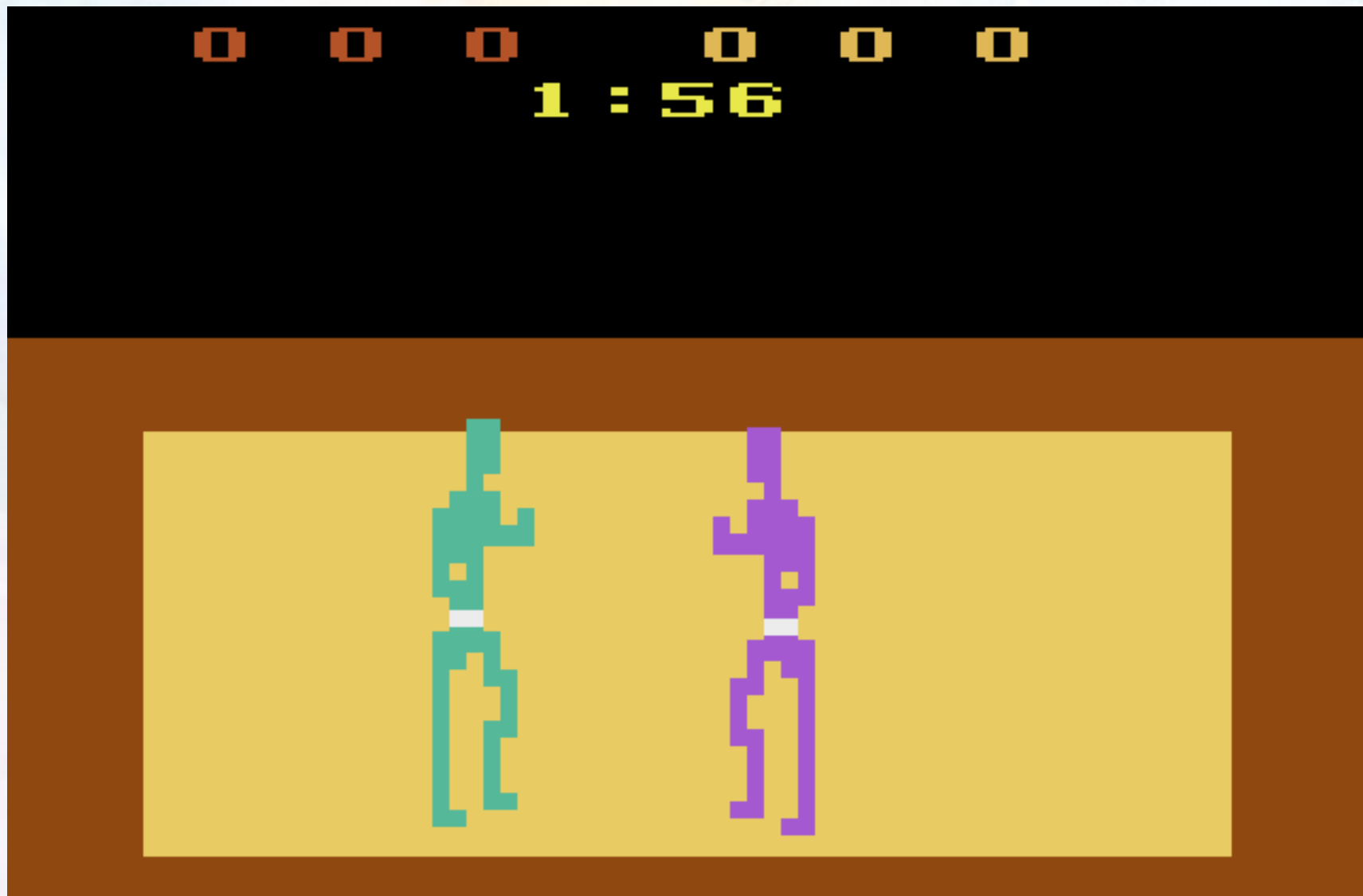
Paredão / Break Out



Mortal Combat



Karate



Pimball



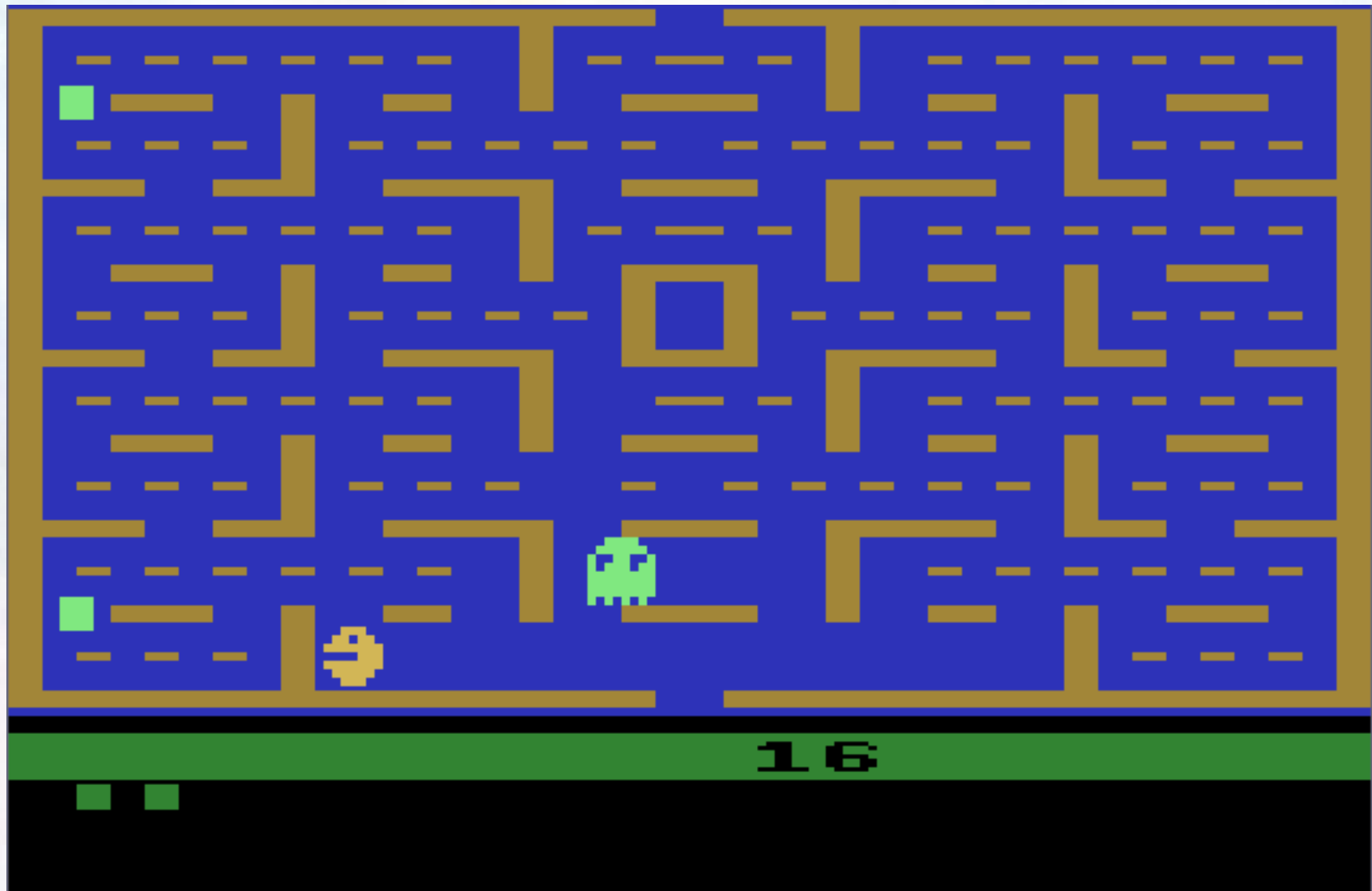
Jogos de Corrida / Enduro



Keystone Kapers



Pac-man



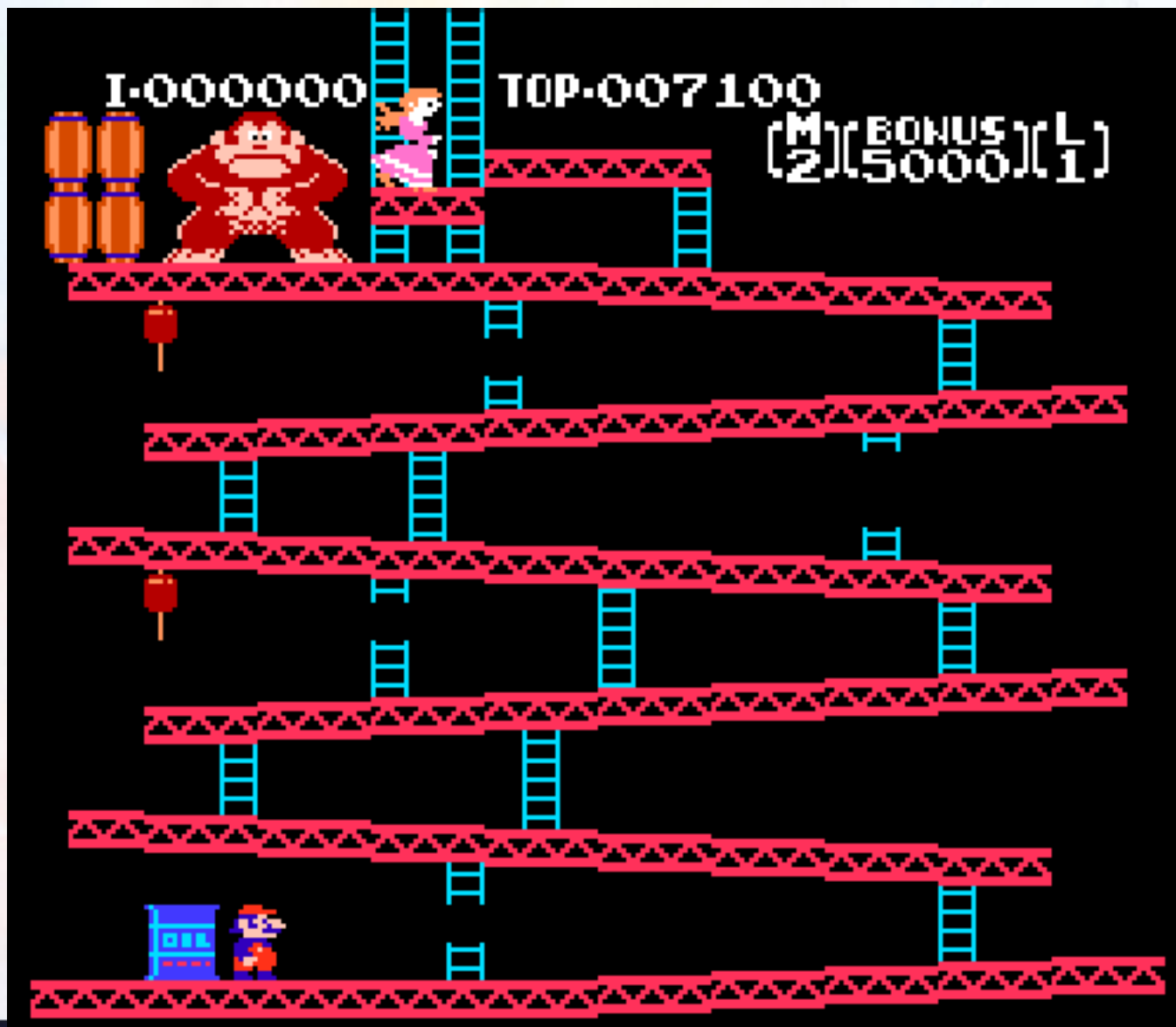
Pitfall!



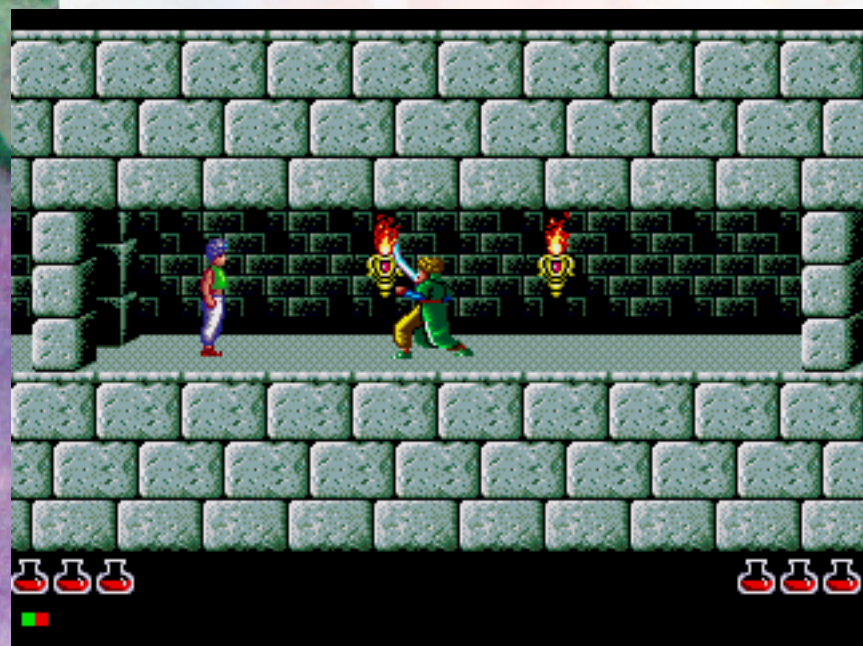
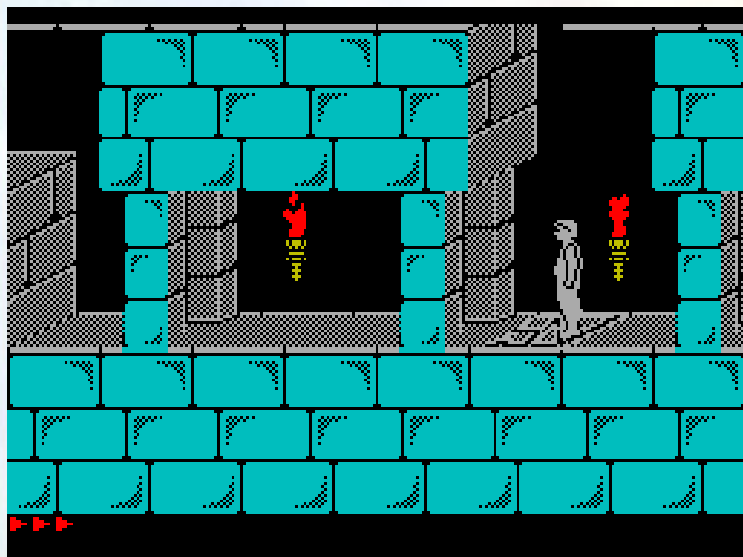
River Raid



Donkey Kong



Príncipe da Pérsia

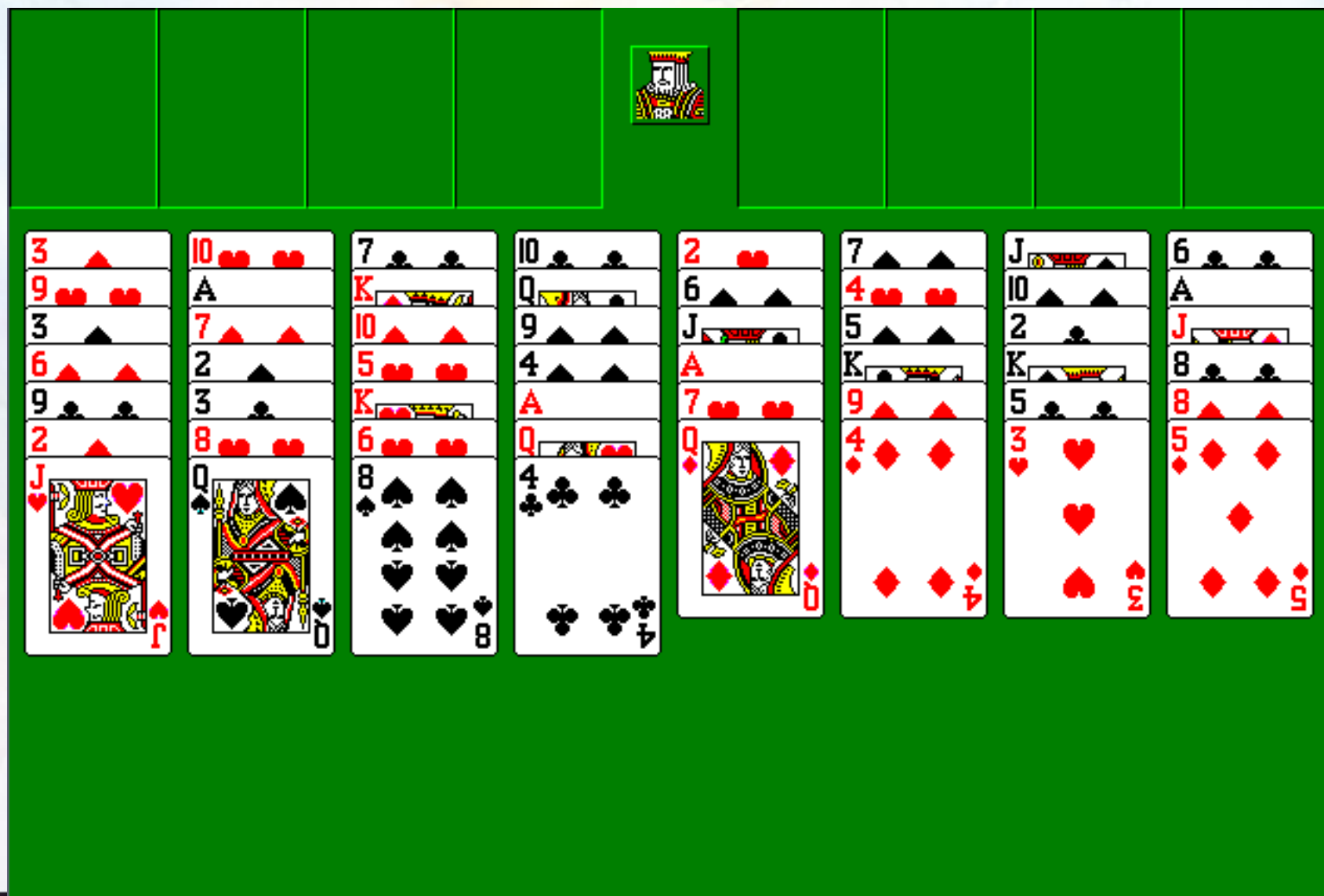


Wolfenstein 3D / DOOM / Quake



Simple Logic Games

Card Games



Tetris

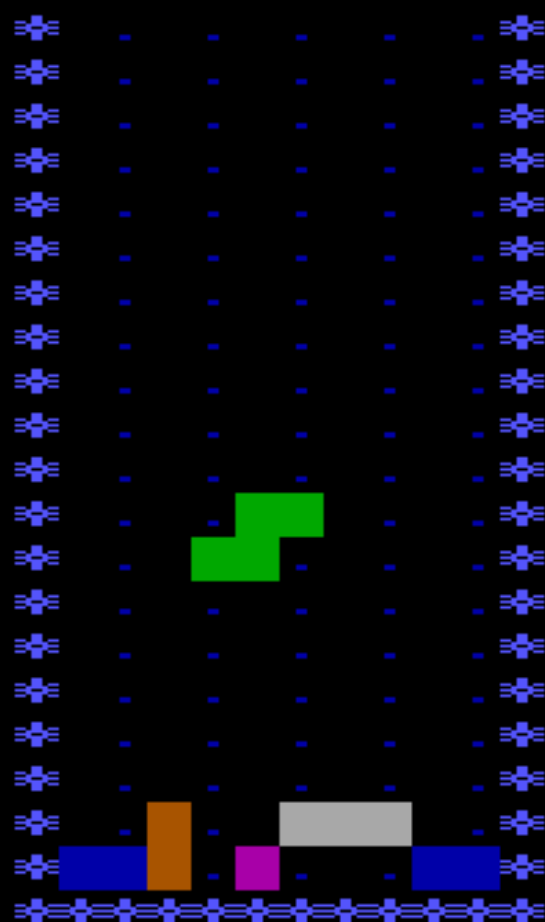
Your level: 0
Full lines: 1

SCORE 60

H E L P

7:Left
9:Right
8:Rotate
1:Draw next
6:Speed up
4:Drop
SPACE:Drop

Next:



STATISTICS

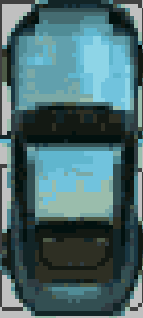
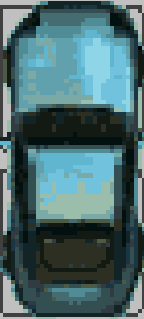
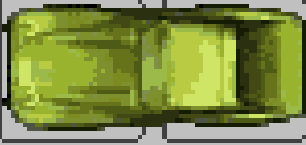
	—	1
	—	0
	—	1
	—	1
	—	0
	—	2
	—	1
Σ :		6

Play TETRIS !

Puzzle Games

Rush Hour

EXIT

Level 1 Beginner

▼

Rush Hour

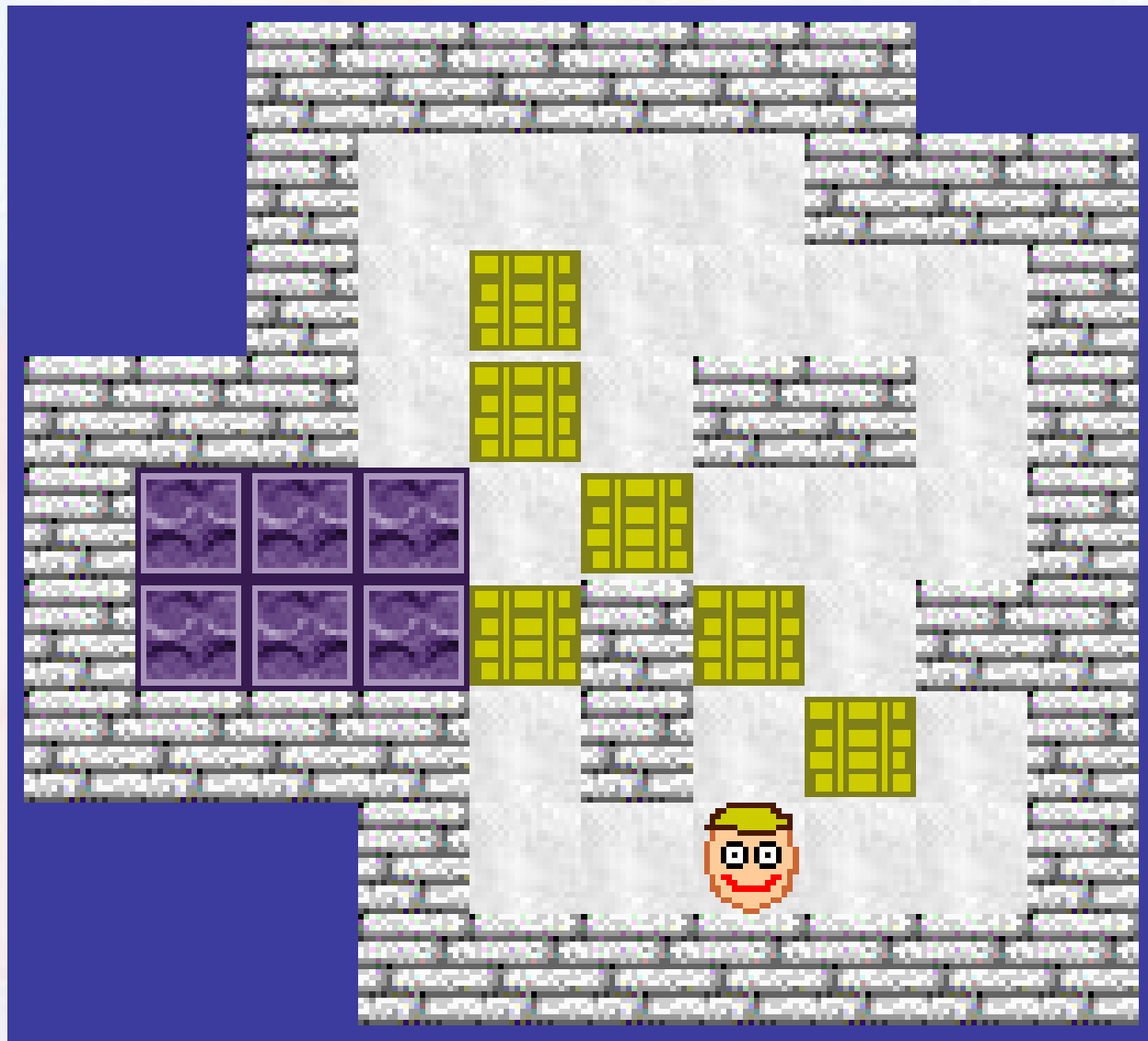


www.G5.dk

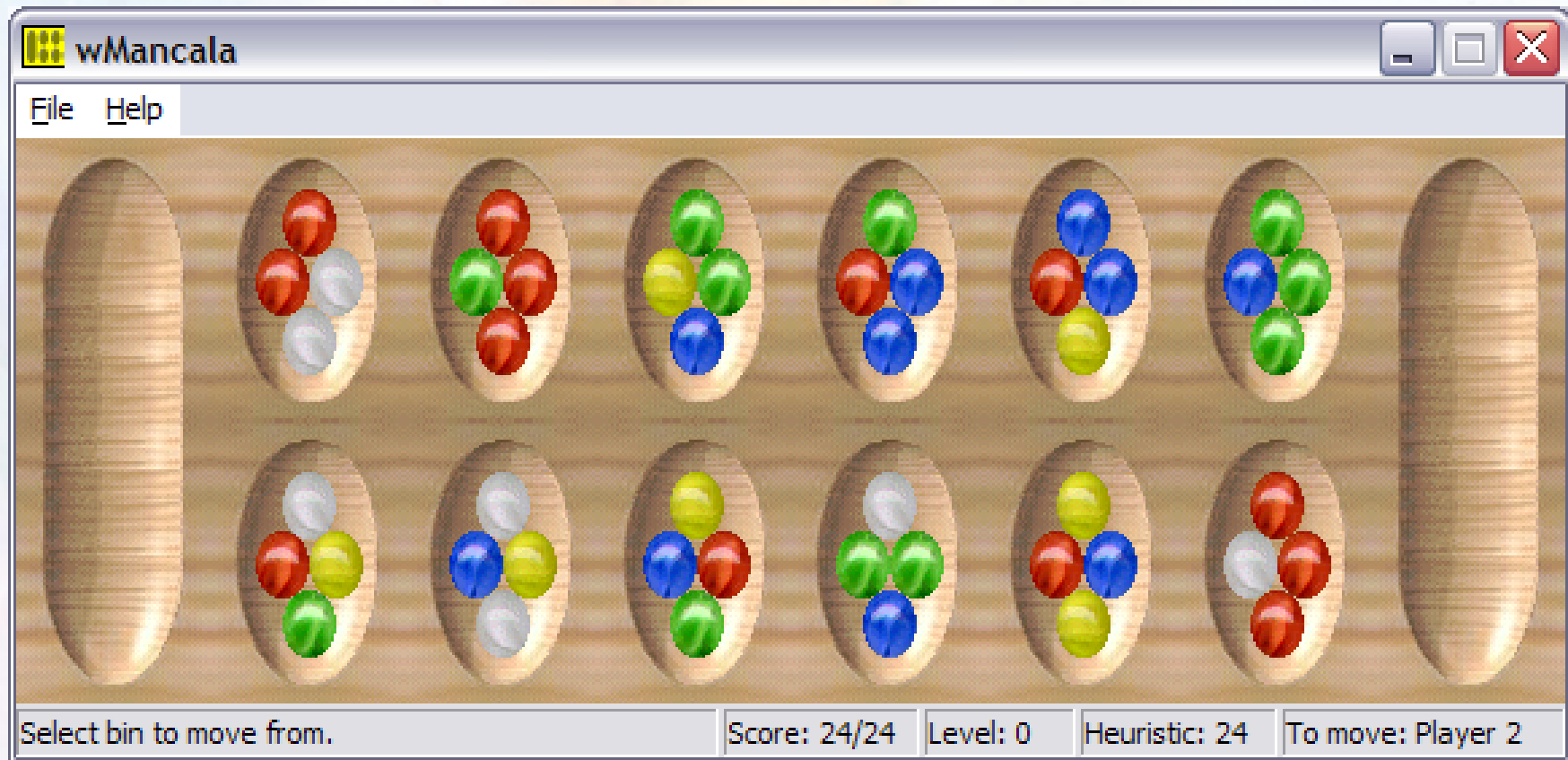
Help the red beetle to EXIT.

About

Sokoban

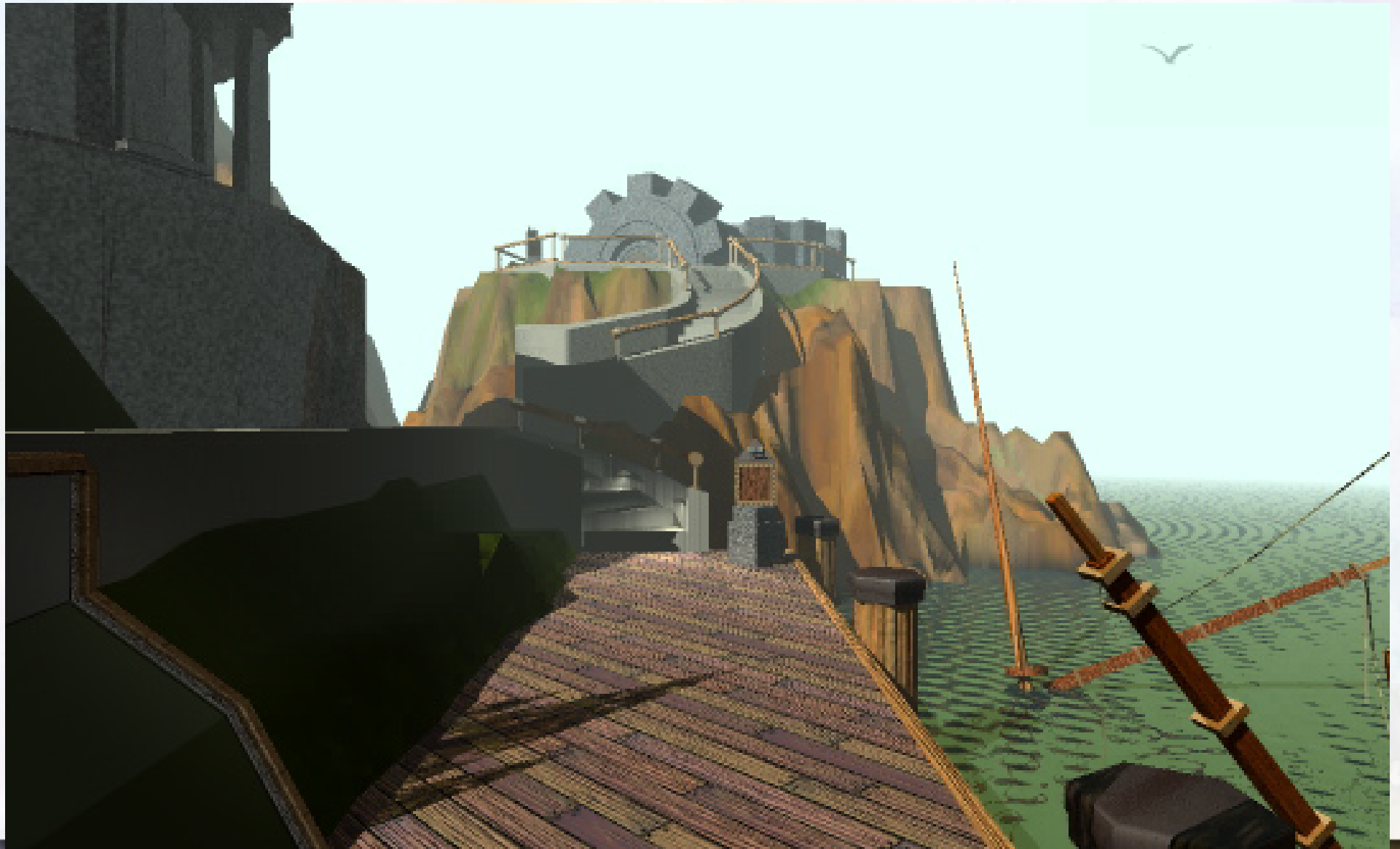


Mancala / Kalaha



Adventure Games

Myst



Out of Order



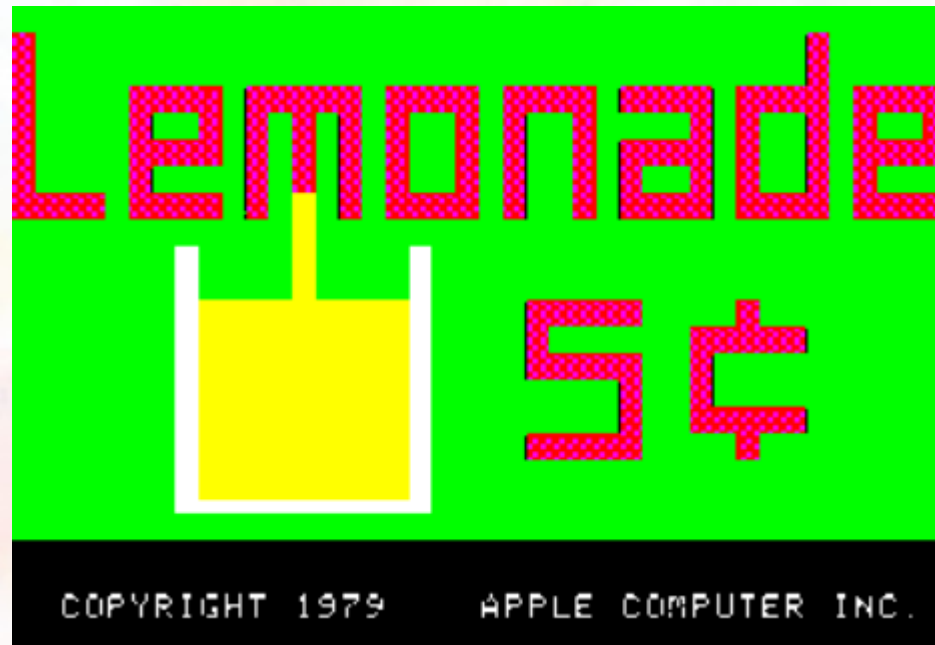


Carmen Sandiego



Decision Making and Business Games

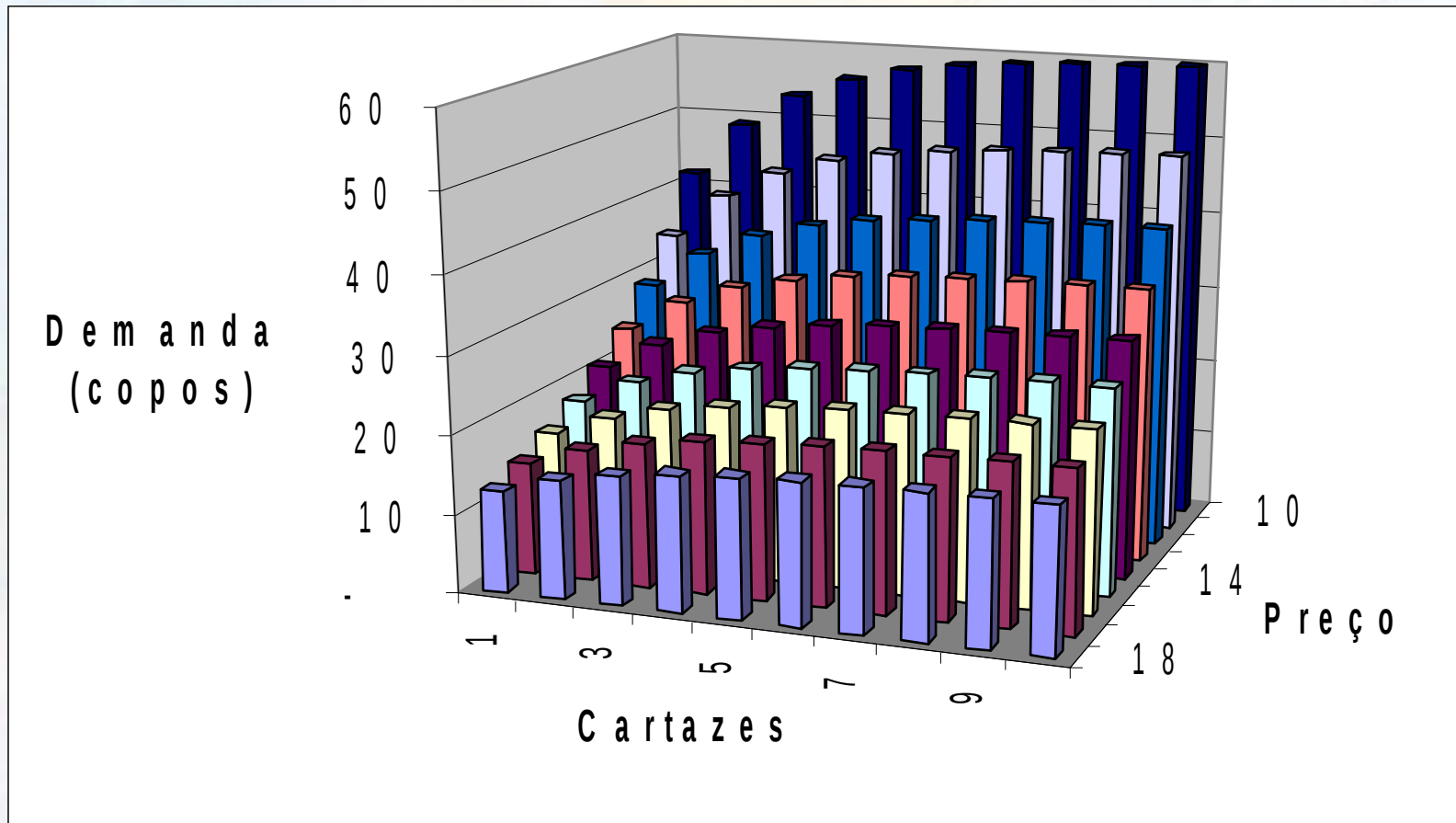
Limonade



Limonade



Model behind Lemonade

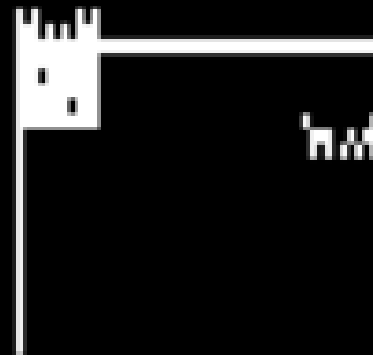


(Simone Santanchè, 2002)

Santa Paravia

SIR LEO OF SANTA PARAVIA (HIT ANY KEY TO CONTINUE.)

YEAR
1400



Santa Paravia

SIR FIUMIUS OF FIUMACCIO

RATS ATE 12% OF YOUR GRAIN RESERVES!

GOOD WEATHER FINE HARVEST
 (15277 STERES)

GRAIN RESERVE	(STERES)	174660
GRAIN DEMAND	(STERES)	150000
GRAIN PRICE	(1000 ST)	42.68
LAND PRICE	(HECTARE)	53500
LAND OWNED	(HECTARE)	53500
LAND PERMIT	(7500+HA)	NO
TREASURY	(FLORINS)	195

YOU MUST RELEASE BETWEEN 20% AND 80% OF
YOUR RESERVES.

```
PLEASE TYPE : "Z" FOR THE MINIMUM
              "X" FOR THE MAXIMUM
              "D" FOR THE DEMAND
              OR A NUMBER BETWEEN
                3493 AND 13969
```

YOUR CHOICE :

Santa Paravia online -

<http://www.santaparavia.com>

Santa Paravia & Fiumaccio

File Edit View Action Buy Sell Works Justice Taxes Help

Steres Steres 1000 St. Hectare Gold Florins

1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land (Enter 0 to continue)
? 2

How much grain do you wish to sell? 30000

Grain	Grain	Price of	Price of	Treasury
Reserve	Demand	Grain	Land	
12980	12325	48	1,8	2358
Steres	Steres	1000 St.	Hectare	Gold

Santa Paravia & Fiumaccio

File Edit View Action Buy Sell Works Justice Taxes Help

Year 1402
Sir Asdrubal of Santa Paravia

Treasury	1.584 florins
Land	11.500 hectares
Reserve	2.980 steres
Demand	12.325 steres
Grain Price	48 fl./K st.
Land Price	1,8 fl./hectare
Customs	688 florins
Sales Tax	216 florins
Wealth Tax	82 florins
Justice Fines	100 florins
Total	1.086 florins

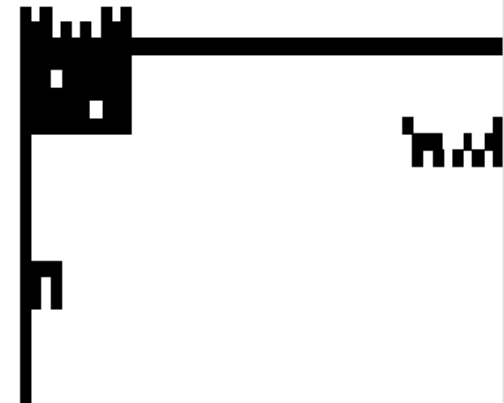
1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land
? 3

How many hectares do you want to buy? 1000

Grain	Grain	Price of	Price of	Treasury
Reserve	Demand	Grain	Land	
12980	12325	48	1,8	558
Steres	Steres	1000 St.	Hectare	Gold

1.Buy Grain 2.Sell Grain 3.Buy Land 4.Sell Land
? 0

How much grain will you release for consumption? 10



Text

Mercante

<http://www.ic.unicamp.br/~santanche/teaching/alg/alg-mercante.html>



Why someone develops Games?



Faith:
Make
people
Happy \o/



When games don't help?

Two Sides of the Question Waste of Time





Condor - Madrigal



The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the slide, serving as a backdrop for the text.

When games help?

Global Game Jam 2014



Global Game Jam 2014



Global Game Jam 2014



Global Game Jam 2014



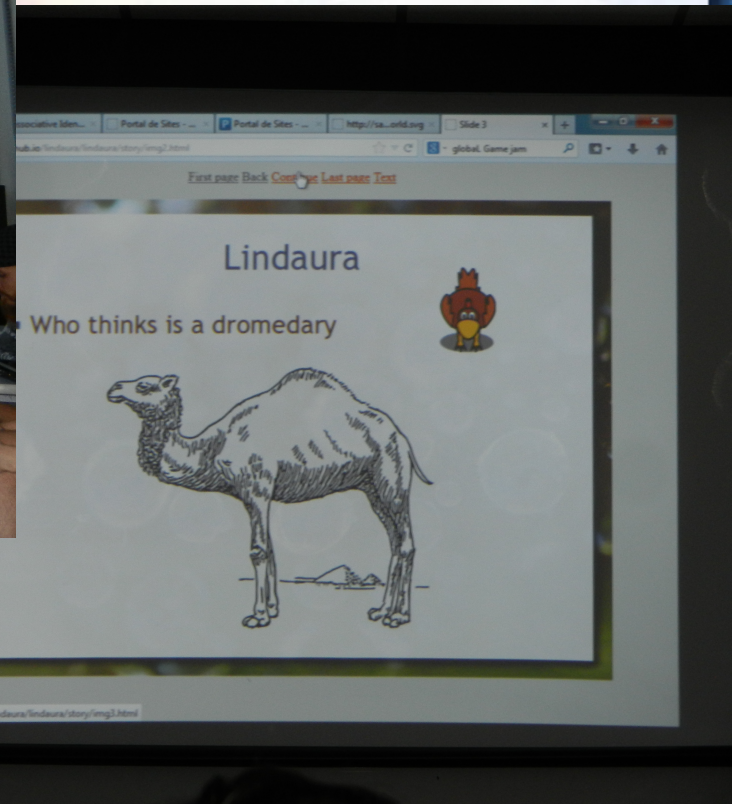
Global Game Jam 2014



Global Game Jam 2014



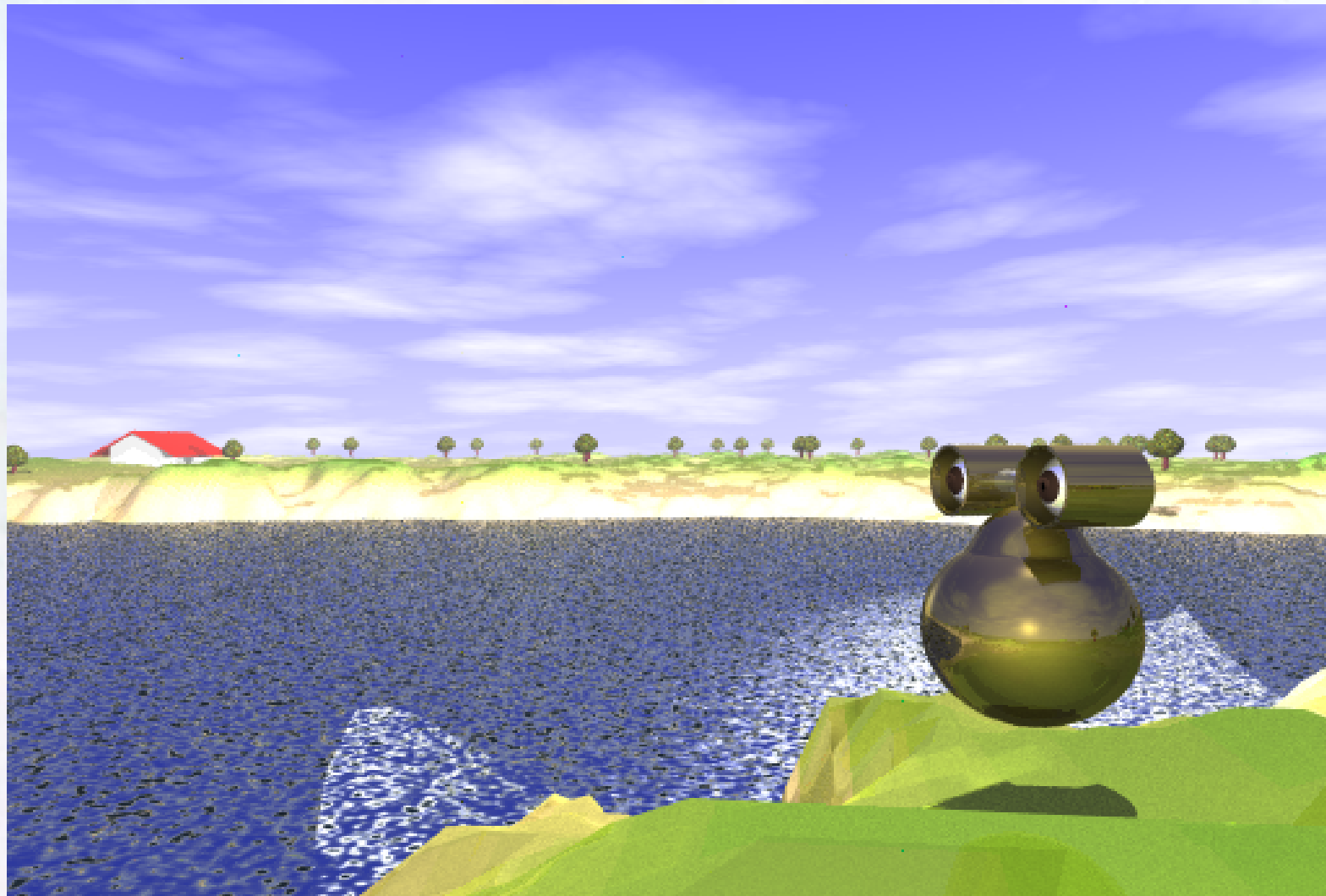
Global Game Jam 2014



Global Game Jam 2014



Work Together Amigoles



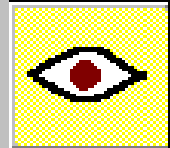
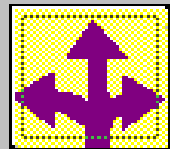
Energia

Própria

10

Robô

4



Para onde você quer ir?

Mapa

Margem inferior do lago

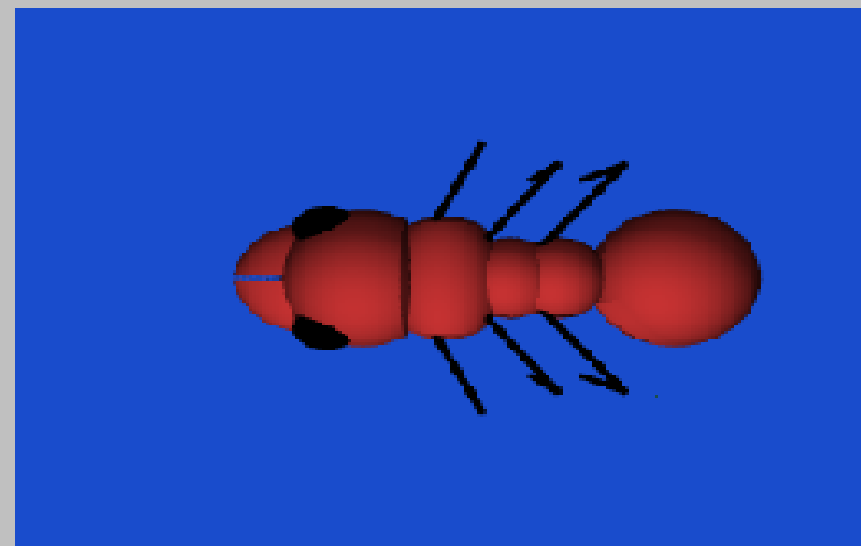
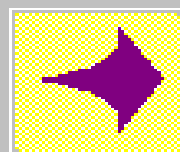
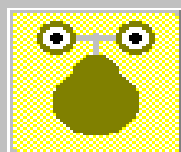
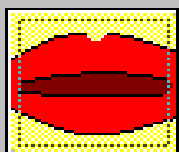
Trilha em direção ao campo - parte 2

Lado direito do lago



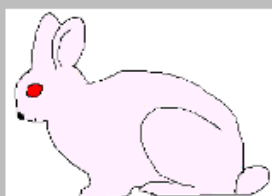
Você encontrou aqui:

Formiga



Pergunta: Você viu por aí alguém com um mapa?

A formiga disse:
Tenho trabalhado muito, mas
consegui ver alguém com um
pedaço do mapa,
o seu predador é o falcão.



Nome

Classe

Habitat

Número de patas

Predador

- ☐ Anda
- ☐ Arrasta
- ☒ Pula
- ☐ Nada
- ☐ Voa

- ☒ Herbívoro
- ☐ Carnívoro
- ☐ Onívoro

Banca do Quincas

<http://logames.sourceforge.net/>

Projeto Jogos & Objetos de Aprendizagem



SOURCEFORGE.NET®

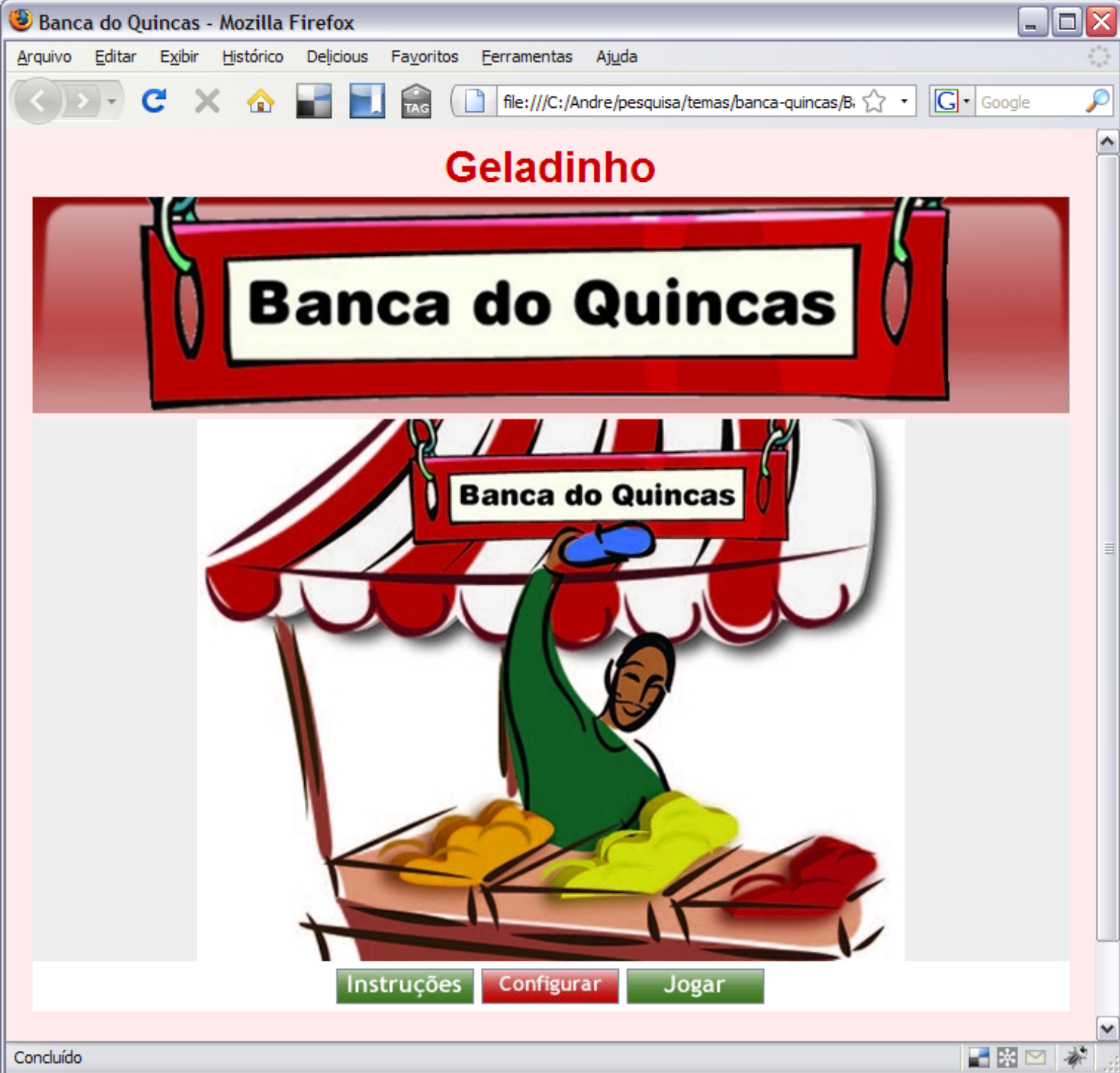
Lançamento - Jogo Banca do Quincas

Este é um jogo de simulação onde você deve administrar uma banca que vende produtos. Seu objetivo no jogo é tentar obter a maior renda possível com a venda de seus produtos. Para isso você terá que usar seus conhecimentos de matemática, mais um pouco de intuição.

O desafio é conseguir avaliar a quantidade certa de produtos a ser fabricada para a venda, como também um preço que atraia seus clientes. Preste atenção na variação do tempo, porque ela afeta os seus negócios.

- [Jogue on-line](#)
- [Faça o download do Jogo](#)
- [Licença de uso e créditos](#)
- [Equipe e contato](#)

Este jogo é também um objeto de aprendizagem e foi um dos vencedores do [Concurso RIVED 2008](#). Ele faz parte de um projeto de pesquisa mais amplo que envolve a construção de jogos dentro de objetos de aprendizagem. Leia o [nosso artigo publicado no Simpósio Brasileiro de Informática na Educação](#) e participe do [nosso projeto open-source](#).



Banca do Quincas - Mozilla Firefox

Arquivo

Editar

Exibir

Histórico

Delicious

Favoritos

Ferramentas

Ajuda

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✕

🏠

🖼️

📄

TAG

file:///C:/Andre/pesquisa/temas/banca-quincas/Bi

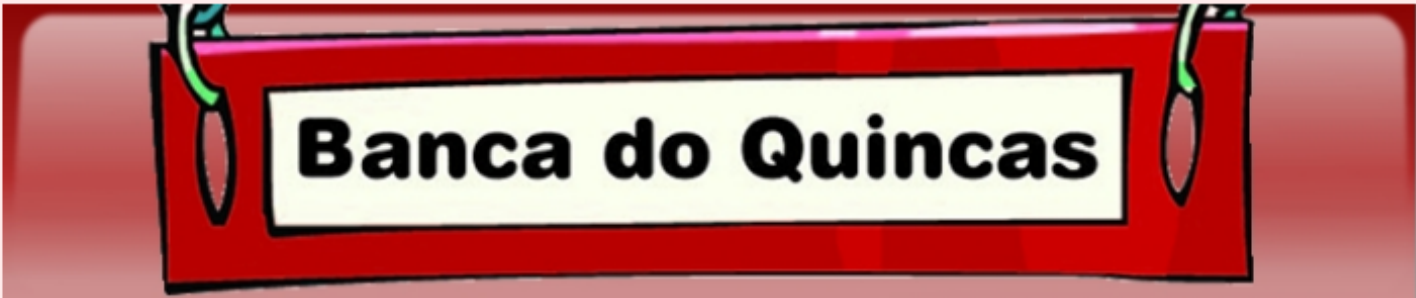
☆

🔍

Google

⬆

Geladinho



	A	B	C	D	E	
1	SALDO DINHEIRO INICIAL	10			CLIMA	PROI
2					ENSOLARADO	
3	SALDO DINHEIRO ATUAL	10			NUBLADO	
4					CHUVOSO	
5	PRODUTO VENDER	GELADINHO				
6						
7	MATERIA PRIMA	VALOR UNIT.	QUANT. MISTURA			
8	LIMÃO;LIMÕES;(uni)	0.2	1			
9	COLHER DE AÇUCAR;COLHERES D...	0.1	2		DETERMINAÇÃO...	
10	COPO DE ÁGUA;COPOS DE ÁGUA;(uni)	0.1	1			
11	SAQUINHO;SAQUINHOS;(uni)	0.2	1		PESSOAS PRO...	
12						
13	PREÇO MÁXIMO	2			UNIDADES PER...	
14						
15	QUANTIDADE MÁXIMA PESSOAS	20				
16						
17	xxxxxxxxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
18					PROBABILIDAD...	PROI
19	OPERAÇÃO				SAZONALIDADE	

Instruções

Configurar

Jogar

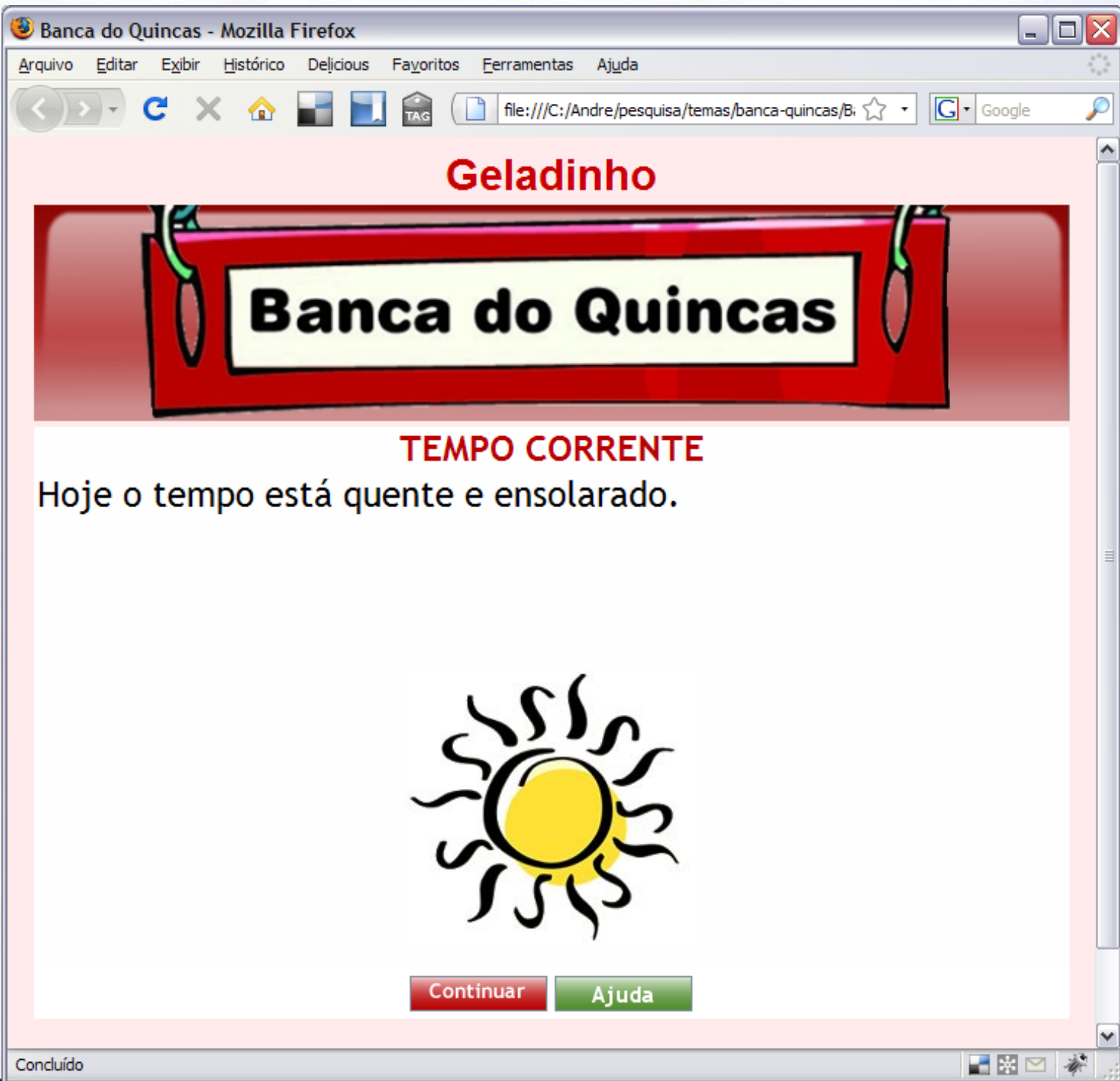
Concluído

🖼️

⚙️

✉️

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Banca do Quincas - Mozilla Firefox

Arquivo Editar Exibir Histórico Deliciosos Favoritos Ferramentas Ajuda

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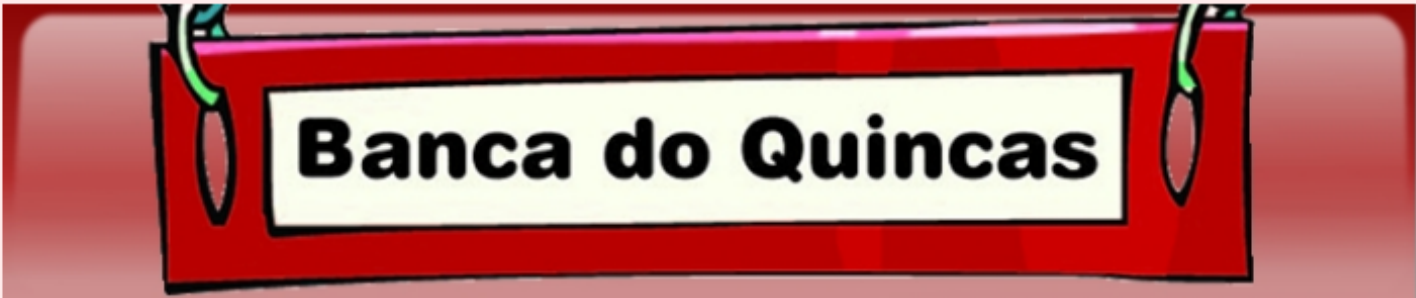
TAG

file:///C:/Andre/pesquisa/temas/banca-quincas/Bi

☆

🔍 Google

Geladinho



COMPRA DE INGREDIENTES



Saldo

Receita

Estoque

LIMÃO (uni): 0
COLHER DE AÇUCAR (gr): 0
COPO DE ÁGUA (uni): 0
SAQUINHO (uni): 0

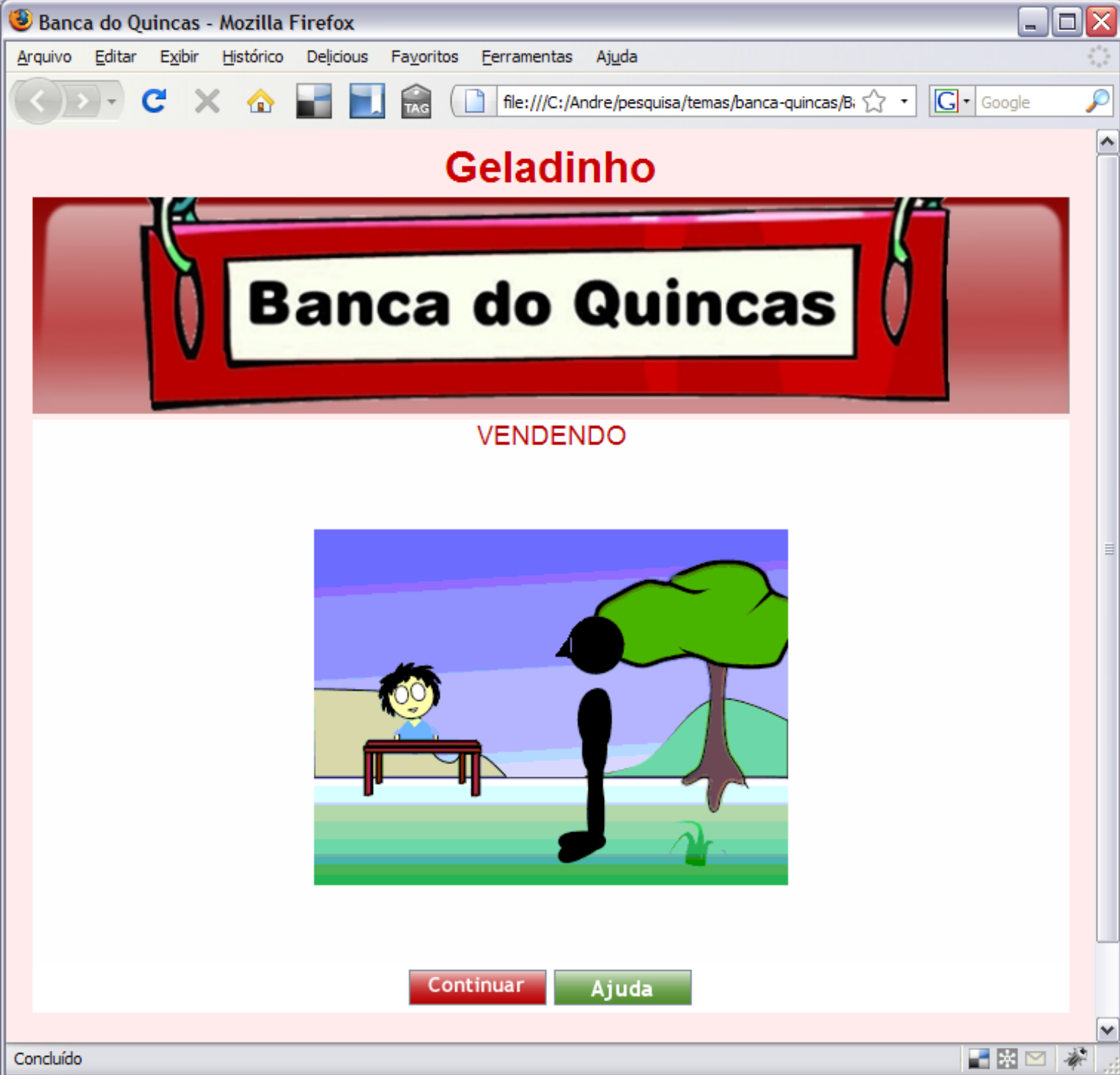
Itens	Preço	Quantidade a Comprar	Custo
LIMÃO (uni)0.2		5	1.00
COLHER DE AÇUCAR (gr)0.1		10	1.00
COPO DE ÁGUA (uni)0.1		5	0.50
SAQUINHO (uni)0.2		5	1.00
Total:			3.50

Calcular

Comprar

Ajuda

Concluído



Banca do Quincas - Mozilla Firefox

Arquivo Editar Exibir Histórico Deliciosos Favoritos Ferramentas Ajuda

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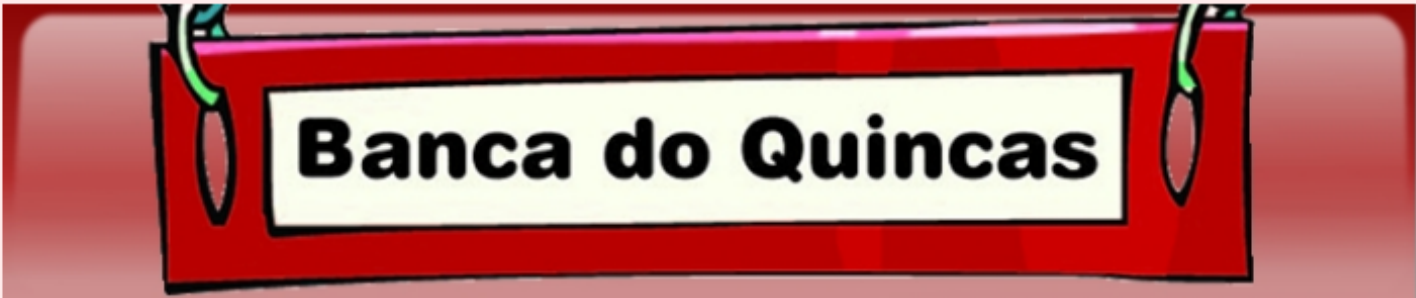
TAG

file:///C:/Andre/pesquisa/temas/banca-quincas/Bi

☆

🔍 Google

Geladinho



RESULTADO DA RODADA DE NÚMERO: 1

Você concluiu mais um dia de vendas.
Verifique abaixo os resultados obtidos e informações
úteis sobre seu desempenho nesta rodada.

Estoque Atual

LIMÃO (uni)0

COLHER DE AÇUCAR (gr)0

COPO DE ÁGUA (uni)0

SAQUINHO (uni)0

Resultado das Vendas

Pessoas procuraram:10

Unidades vendidas:5

Rendimento:R\$ 10.00

Saldo Financeiro:R\$ 16.50

Perdas

Unidades perdidas:0

Continuar

Ajuda

Concluído

Extremes and Flight Simulator



Build and Play

Can Play Games and Build
Games be part of the same
process?



What are the boundaries?

Faith

Games make people **Happy \o/**
and make people **Grow ***

Things I am looking for

- Creative thinking
- Tools for thinking
- Active engaging games

Games in Education



Why do we need to reproduce
classes?

Problem-based Learning

- “uma estratégia instrucional em que estudantes se confrontam com problemas contextualizados e pouco estruturados e empenham-se em encontrar soluções significativas.” (Rhem, 1998)

Meta-Modelo Abordagens

■ Diferentes abordagens derivam de um meta-modelo comum:

- Problem Based Learning (PBL)
- Project Based Learning
- Case Based Learning (CBL)
- WebQuest

Dissociation of Game Purpose and Learning Purpose

■ Practical Experience:

- Info2000 – Uma Aventura Espacial

Piaget

- Developmental psychologist
- Kids as active thinkers
 - Little scientists

Papert

■ "A criança deve programar o computador, não o inverso."

– Seymour Papert

■ "E ao ensinar o computador a 'pensar', a criança embarca numa exploração sobre a maneira como ela própria pensa. Pensar sobre modos de pensar faz a criança tornar-se um epistemólogo, uma experiência que poucos adultos tiveram."

– Seymour Papert

Papert e Computational Thinking

- "O computador não é usado somente como instrumento, mas essencialmente de maneira conceitual."
- Seymour Papert

Papert and LOGO

■ Online LOGO

- <http://www.calormen.com/jslogo/>

Computational Thinking

- “It represents a universally applicable attitude and skill set everyone, not just computer scientists, would be eager to learn and use.”
 - “Thinking like a computer scientist means more than being able to program a computer. It requires thinking at multiple levels of abstraction.”
- (Wing, 2006)

Tools for Thinking

I feel like a caveman who had a dream of drawing in a paper with a pencil.



The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and pink. A large, semi-transparent white rectangle is centered on the slide, serving as a backdrop for the text.

Components

We compose more than
software

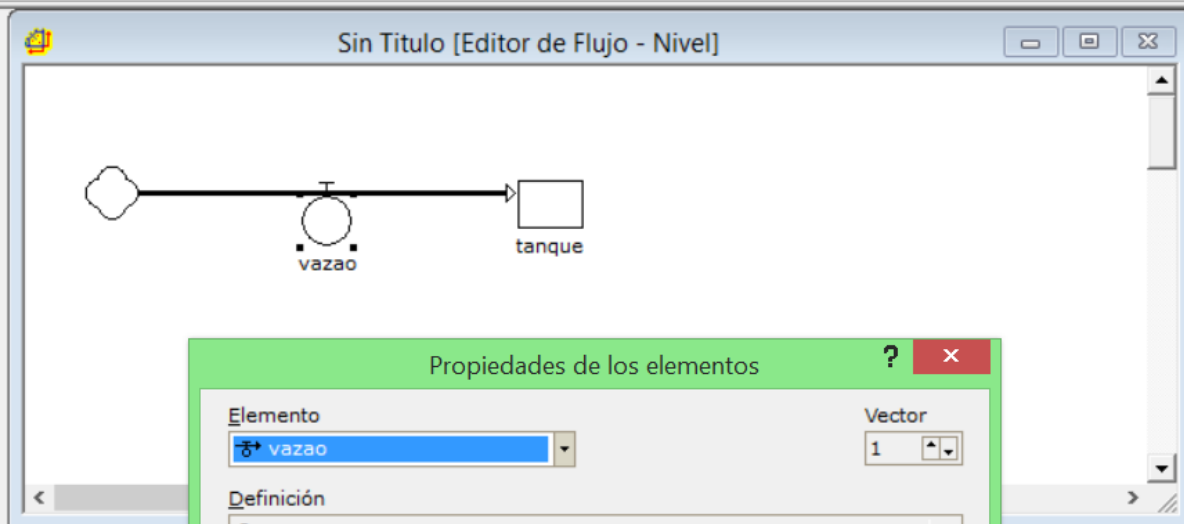
100 forms to tell the same thing

- Fluid Dynamics
- Math with robes

Proportions

- How to learn the interpretation of:
 - $Y = 2 * X$

Evolución



Propiedades de los elementos

Elemento: δ^+ vazao

Vector: 1

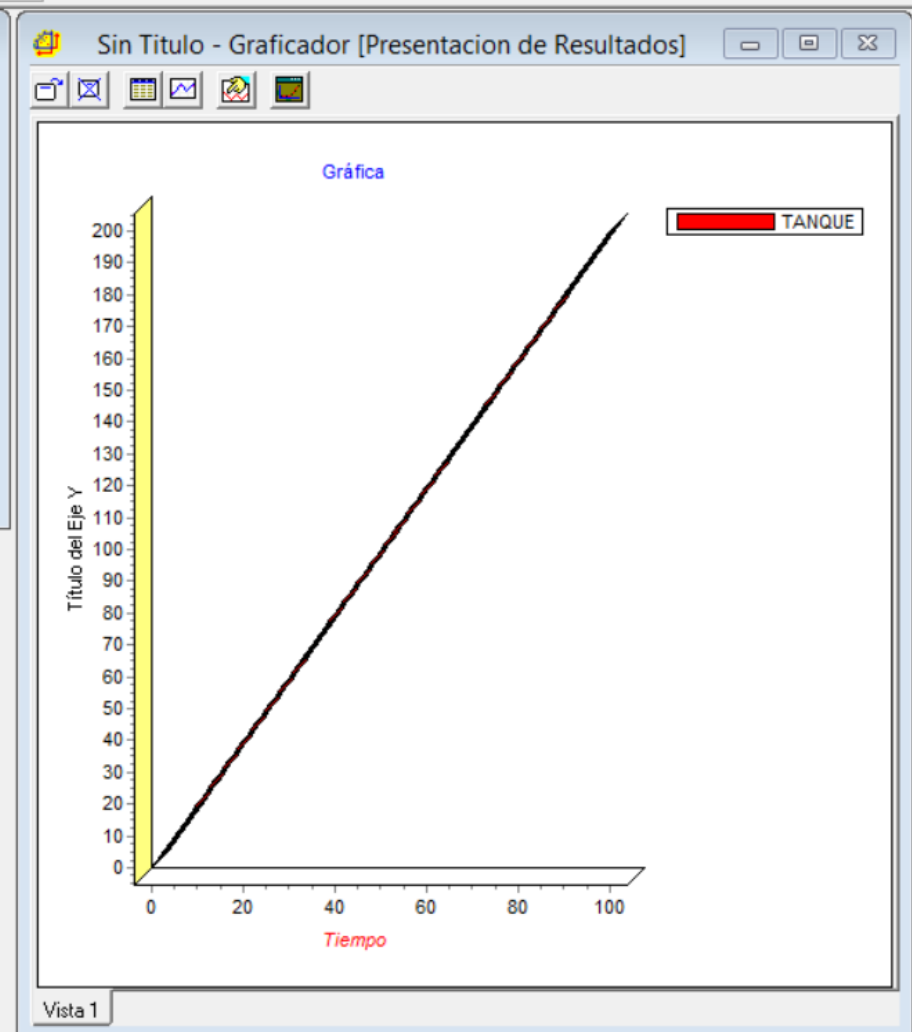
Definición: 2

Descripción:

Elementos relacionados:

Funciones: -, *, /, +

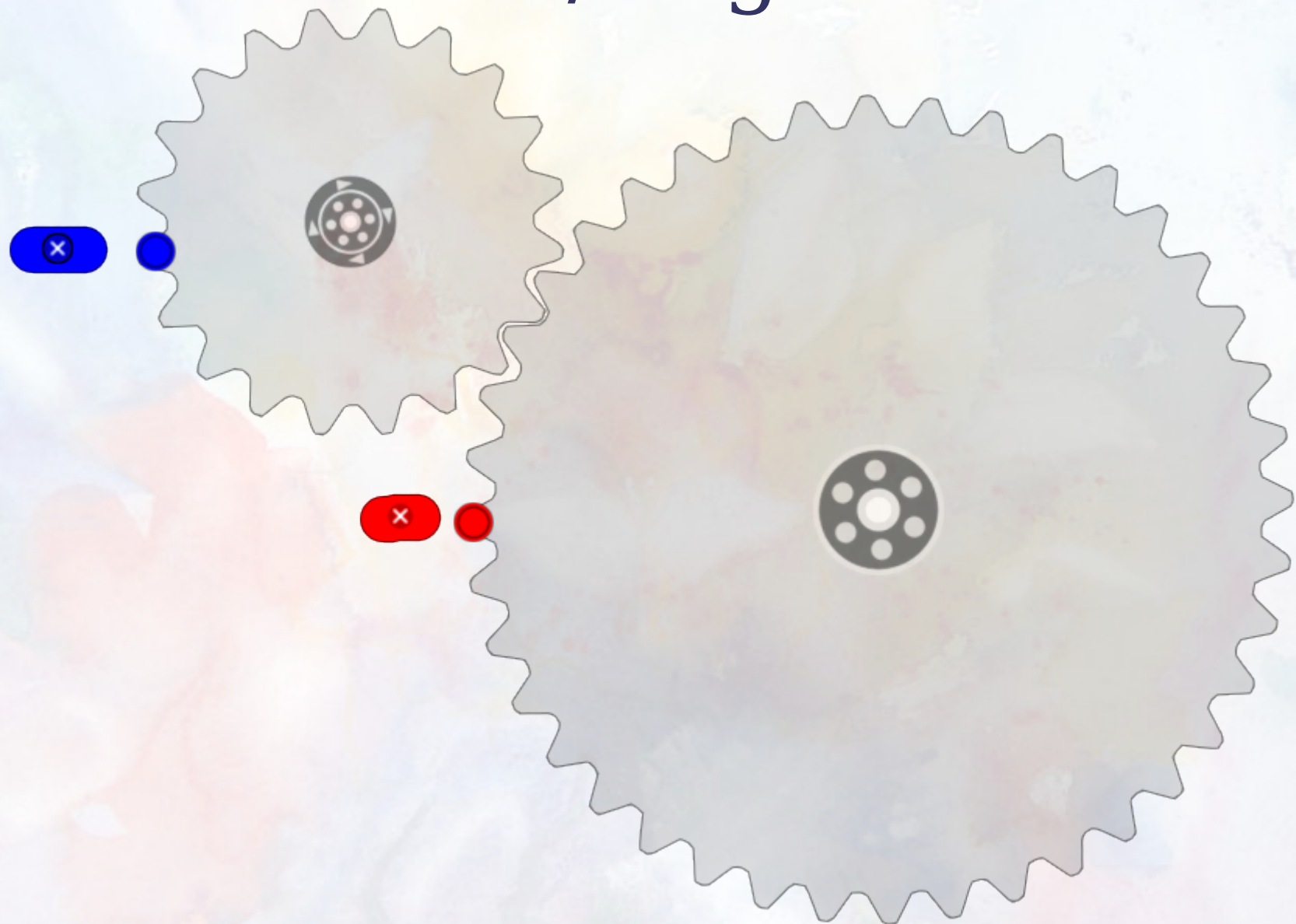
Aceptar Cancelar Establecer Tabla Ayuda



Fluid Experiment



Phun / Algodoo



Predator x Prey

Autômato Celular

- Máquina abstrata
- Espaço celular
- Tempo discreto
- Regras baseadas na vizinhança

Jogo da Vida

Game of Life

■ Inventado por John Horton Conway em 1970

■ Regras

- a) Menos de 2 vizinhos → morre
- b) Mais de 3 vizinhos → morre
- c) 2 ou 3 vizinhos → continua vivo
- d) 3 vizinhos → nasce

The background of the image is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered over this background, serving as a backdrop for the text.

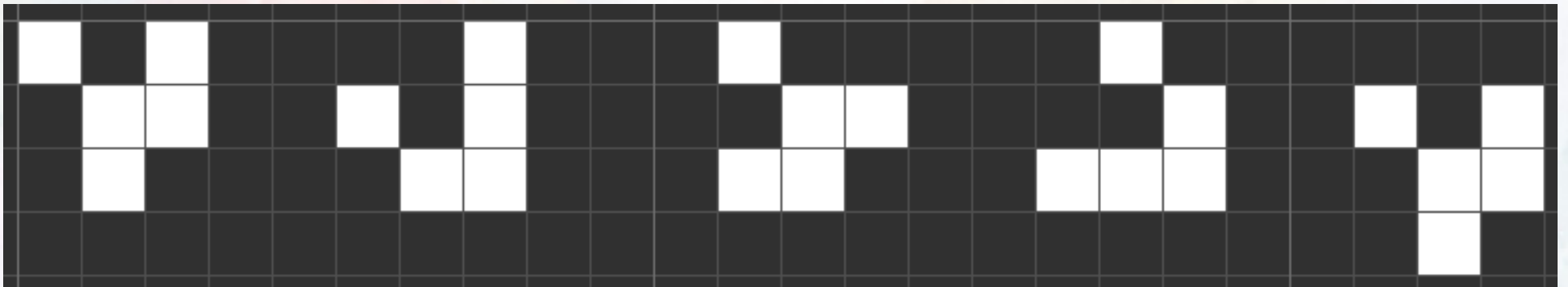
Golly

<http://golly.sourceforge.net>

Padrões Espaçonave

Glider

Richard K. Guy – 1970

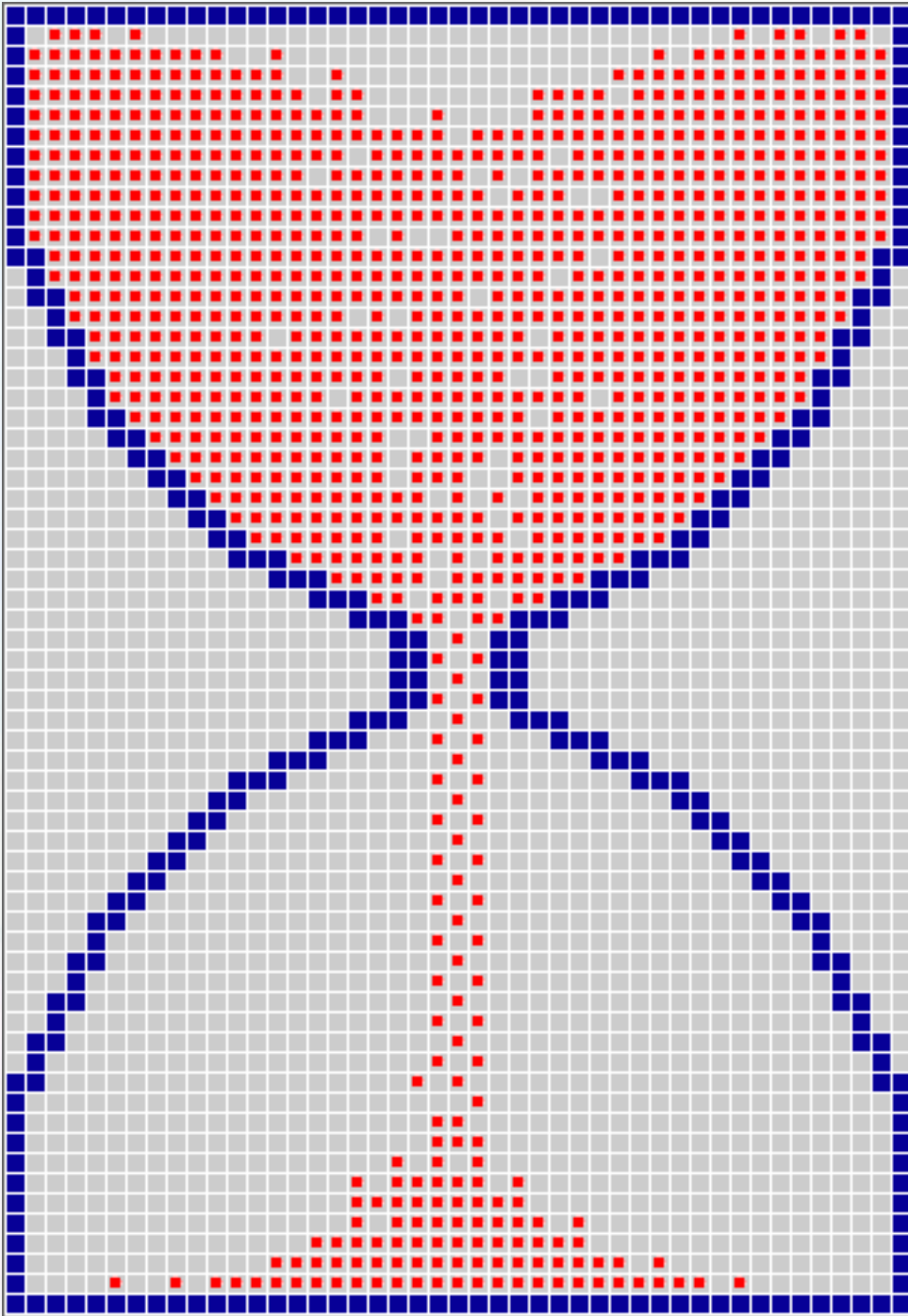


Worldmaker

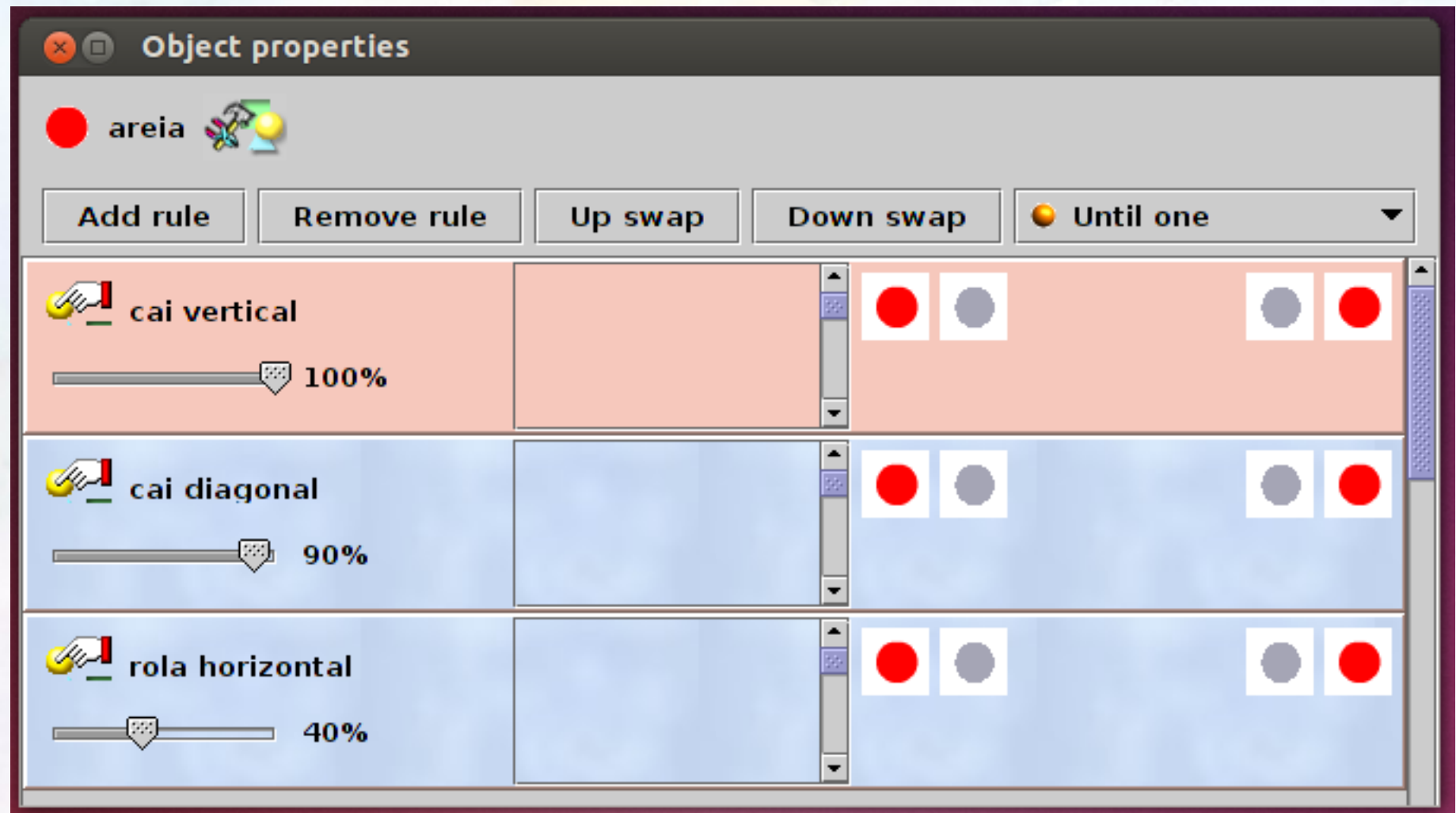
Centre for Information Technology
in Education (CITE)
University of Hong Kong

<http://worldmaker.cite.hku.hk>

Relógio de Areia Worldmaker



Relógio de Areia Worldmaker



Relógio de Areia Worldmaker

The image displays the 'Relógio de Areia Worldmaker' interface, which is used for configuring rules in a game. It features four overlapping windows, each representing a different rule configuration.

Top-Right Window:

- Condition:** Includes a red circle icon, a grey circle icon, a 3x3 grid of 'X' marks with a blue checkmark in the bottom-left, and an 'Ignore direction' button with a star icon.
- Parameter:** A button labeled 'Parameter'.
- Action:** Includes a 'Jump' button with a character icon, and 'Objects' and 'Direction' buttons with corresponding icons.
- Modify:** A button labeled 'Modify'.

Middle-Right Window:

- Condition:** Includes a red circle icon, a grey circle icon, a 3x3 grid of 'X' marks with a blue checkmark in the bottom-left, and an 'Ignore direction' button with a star icon.
- Parameter:** A button labeled 'Parameter'.
- Action:** Includes a 'Jump' button with a character icon, and 'Objects' and 'Direction' buttons with corresponding icons.
- Modify:** A button labeled 'Modify'.

Bottom-Right Window:

- Outcome:** Includes a grey circle icon, a red circle icon, and a 'Description:' text area.
- Parameter:** A button labeled 'Parameter'.
- Rule Name:** A text field containing 'rola horizontal' and a slider set to 40%.

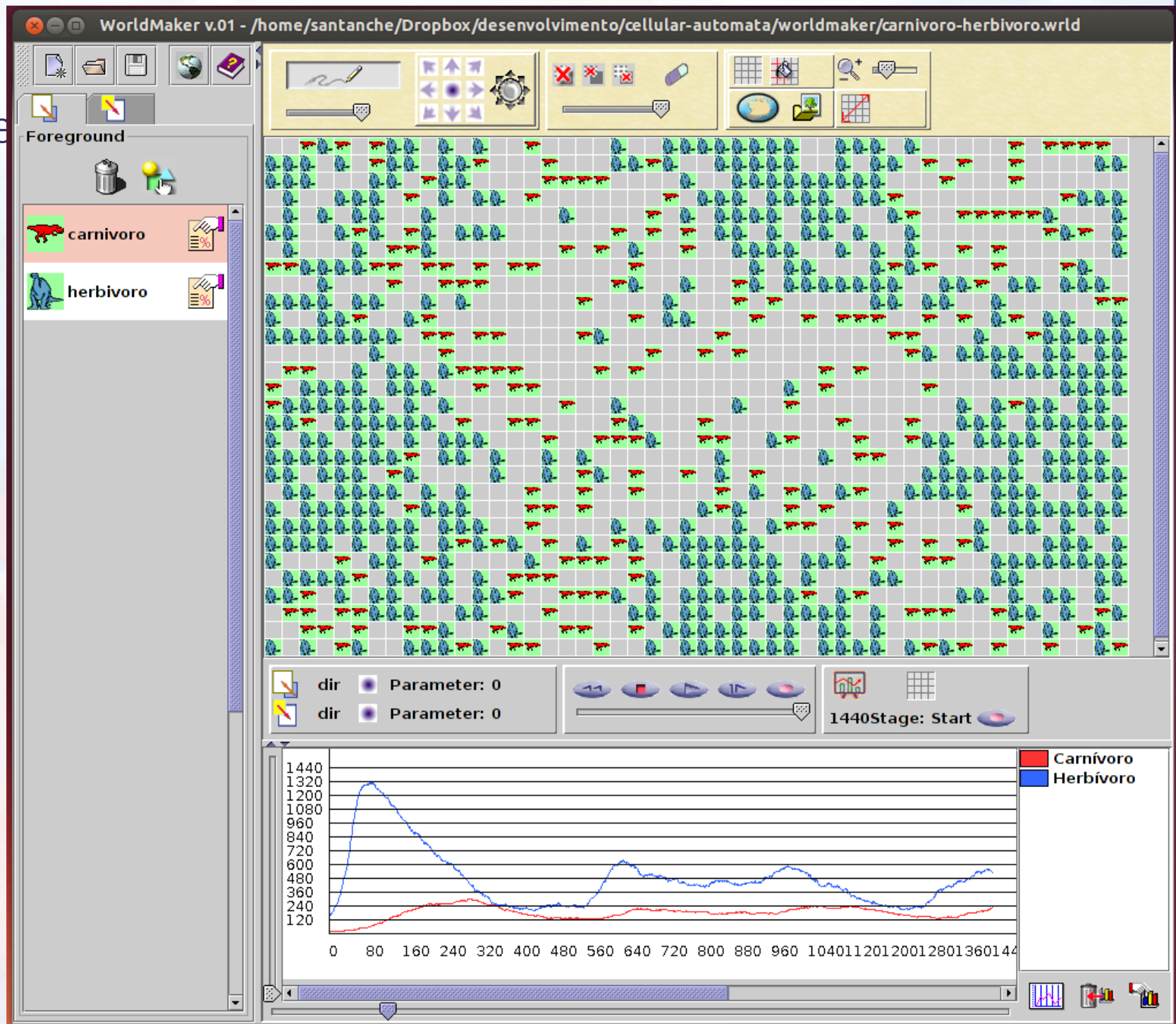
Bottom-Left Window:

- Outcome:** Includes a grey circle icon, a red circle icon, and a 'Description:' text area.
- Parameter:** A button labeled 'Parameter'.
- Rule Name:** A text field containing 'cai diagonal' and a slider set to 90%.

Bottom-Left Window (Partial):

- Outcome:** Includes a grey circle icon, a red circle icon, and a 'Description:' text area.
- Parameter:** A button labeled 'Parameter'.
- Rule Name:** A text field containing 'cai vertical' and a slider set to 100%.

Worldmaker r Predator X Prey



Worldmaker

Carnívoros × Herbívoros

Object properties

carnivoro herbivoro

Add rule

Remove rule

Up swap

Down swap

Until one

carnivoro move 30%	Carnívoro se move.		
carnivoro come herbívoro. 20%	Carnívoro come herbívoro.		
carnivoro multiplica 5%	Carnívoro se multiplica.		
carnivoro morre 2%	Carnívoro morre.		

Rule definition

Foreground

background

carnivoro
 herbivoro

Condition

☒ ☒ ☒
☒ ☒ ☒
☒ ☒ ☒
 Ignore direction

Modify

Parameter

Action

Objects

Direction

☒ carnivoro
☒ herbivoro

Modify

Outcome

Description:

Parameter

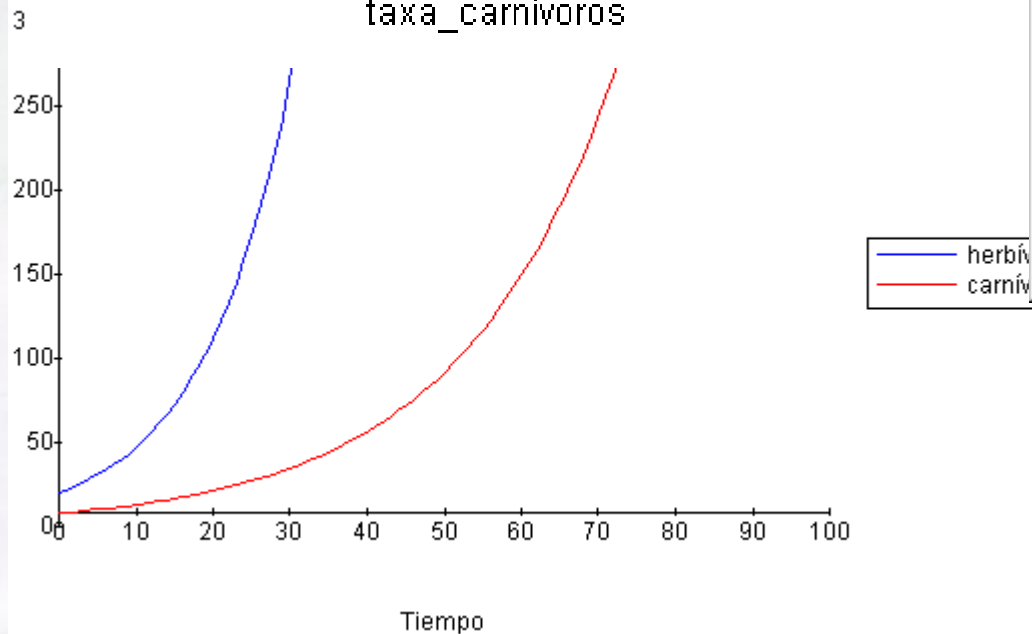
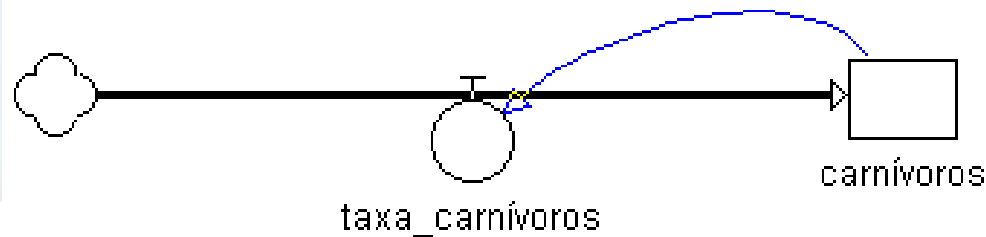
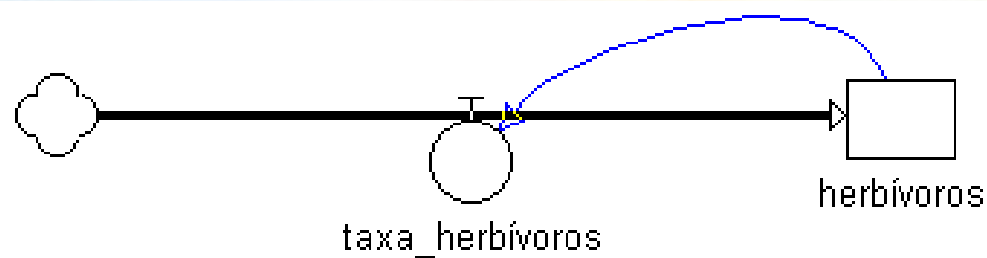
Rule Name:

carnivoro come herbívoro

20%

Finish

Predator x Prey - Evolución



Definición del Elemento

Elemento:

Definición:

Descripción:

Elementos Relacionados:
☐ herbívoros

Funciones:
+
-
*
/
SEN

The Incredible Machine

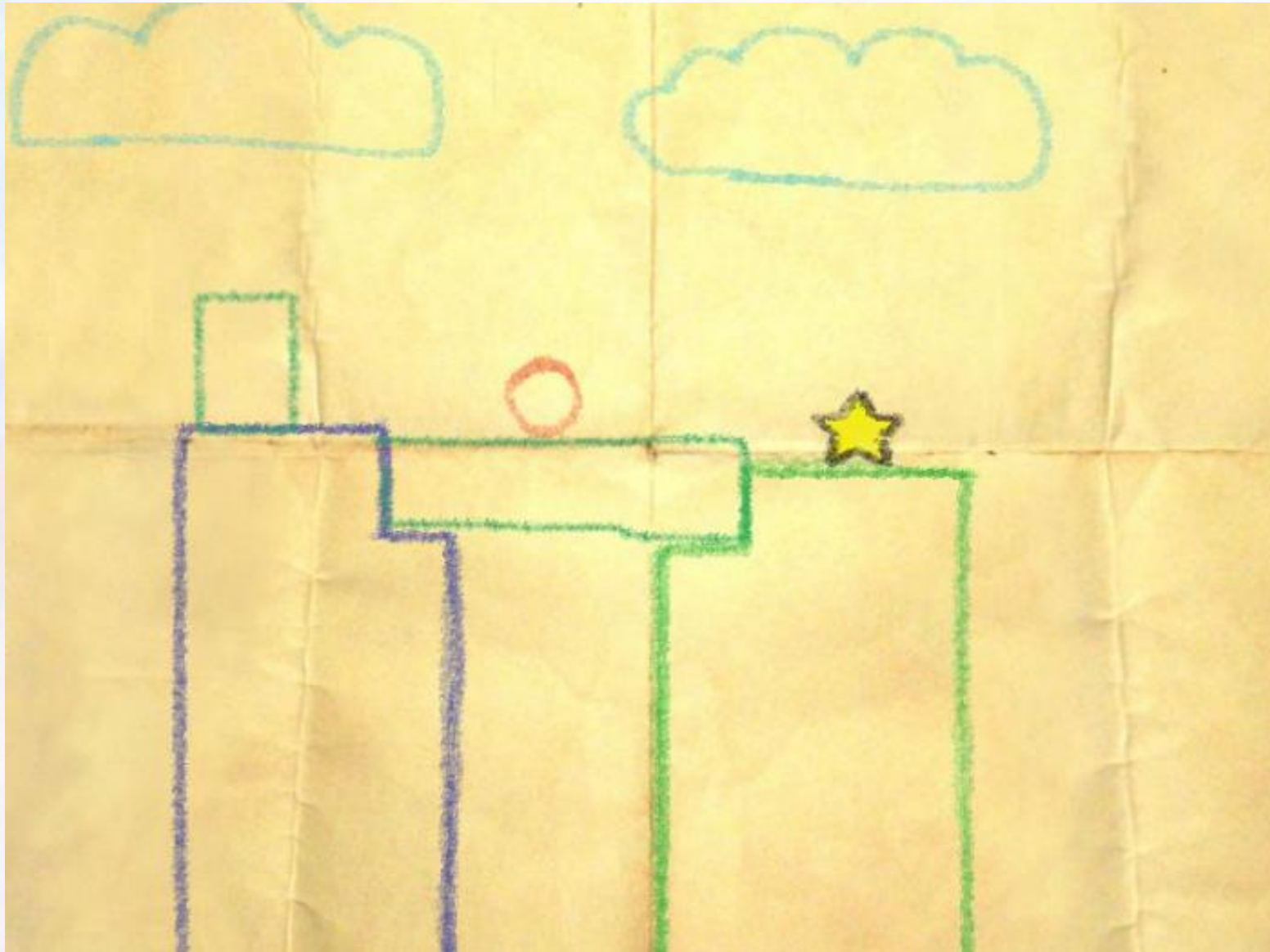


The Incredible Machine

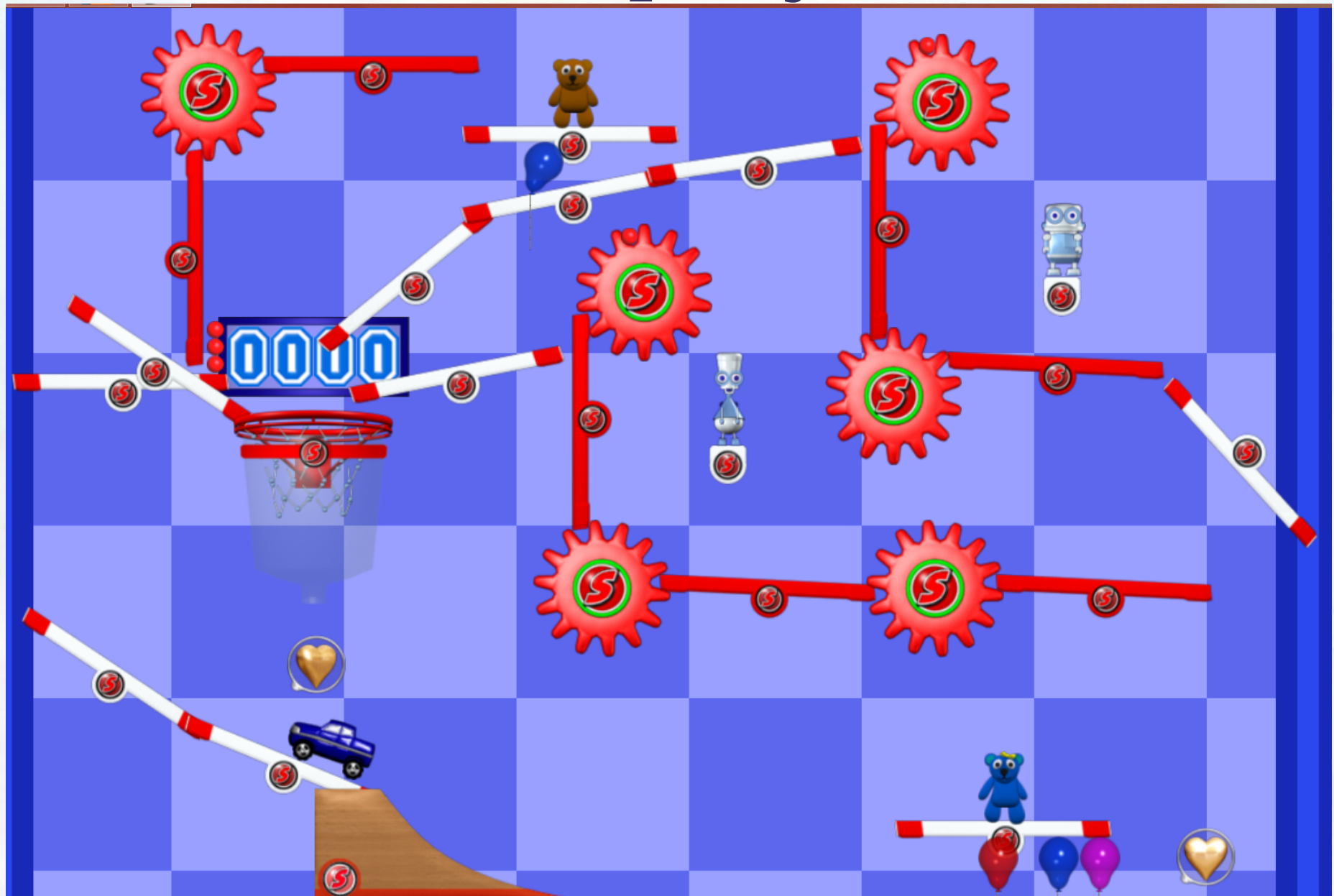


Crayon Physics

<http://www.crayonphysics.com>



SoupToys



The background of the image is a soft, abstract watercolor wash in shades of light blue, pale yellow, and hints of pink and green. The colors are blended together in a dreamy, ethereal style. A large, solid white rectangle is centered on the page, serving as a backdrop for the title text.

My Secret Door

Inspiration

GRAPHIC VENTURE #1 - VERSION 2.0

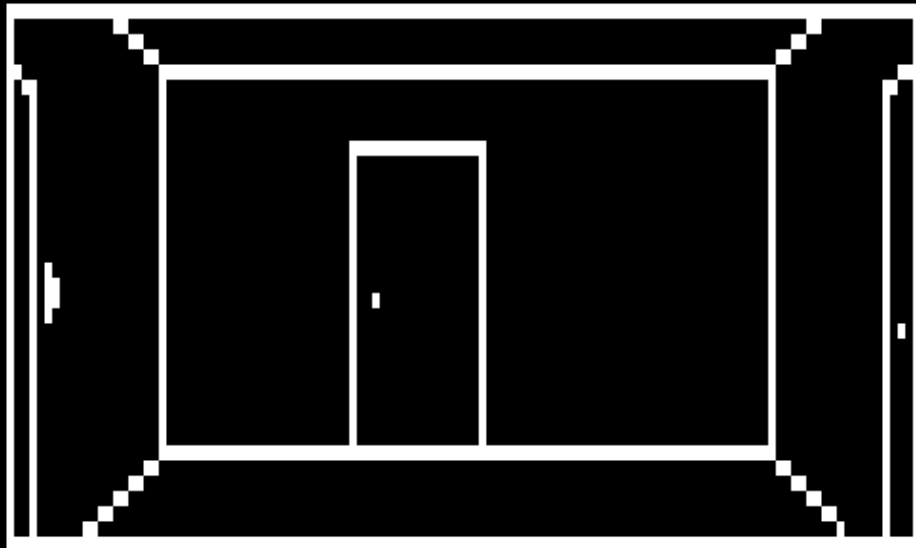
Toxic Dumpsite

COPYRIGHT (C) 1982 BY ROGER JONATHAN SCHRAG
2054 MANNING AVENUE, LOS ANGELES CA 90025

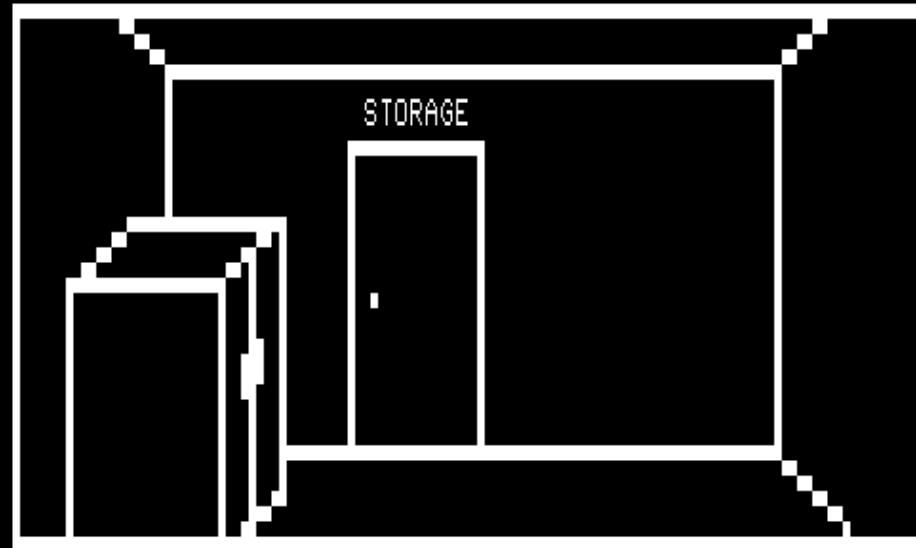
DEDICATED TO MORTON & LORRAINE SCHRAG

DUO-LOADER (C) 1981 BY RUSS WETMORE
MANUFACTURED UNDER LICENSE

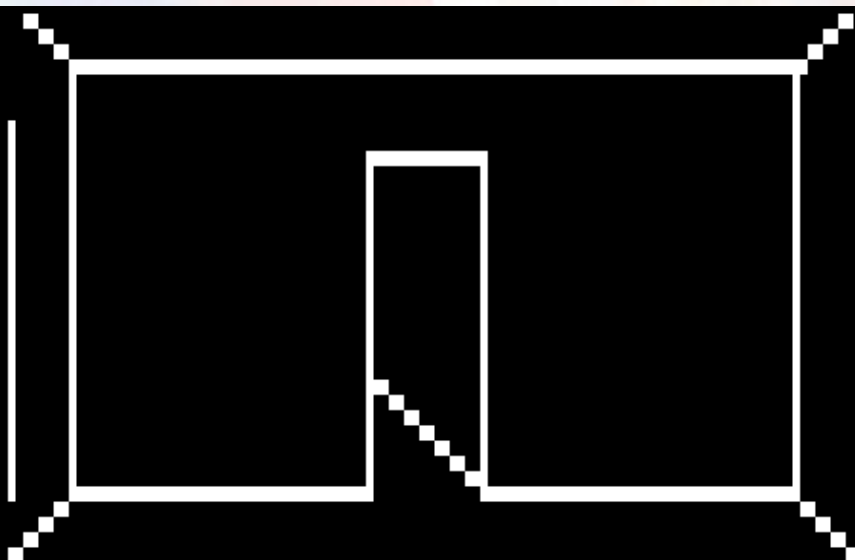
Press <ENTER>? 



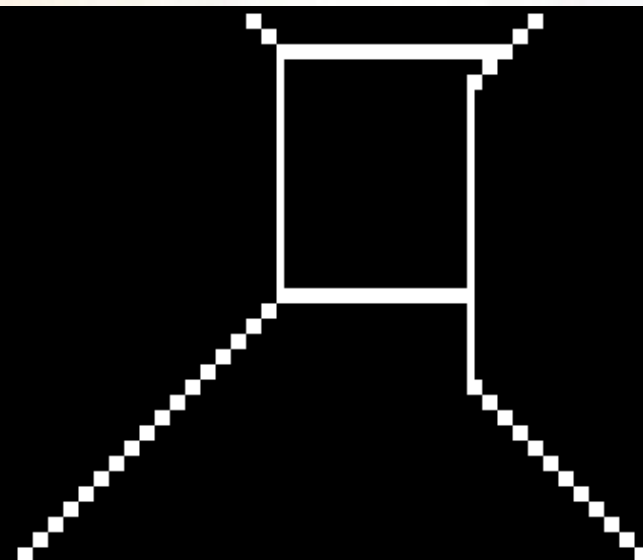
It says: 'CAUTION: Air vents closed'
 Your command? TURN RIGHT
 I see an obvious exit.
 Your command? █



I can't do that.
 Your command? TURN RIGHT
 I see an obvious exit.
 Your command?



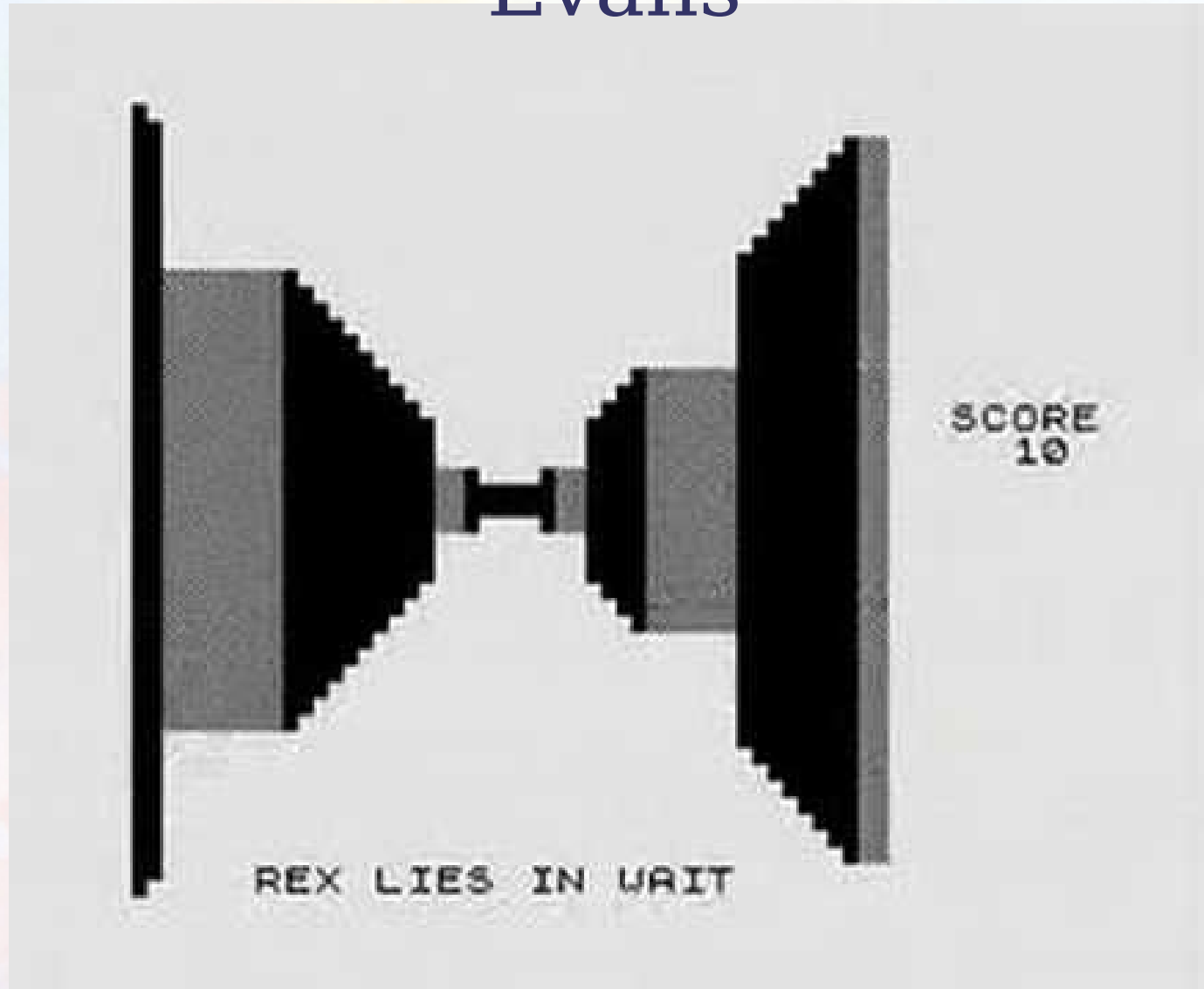
bomb blows!" A door slams and a lock clicks.
 Your command? TURN RIGHT
 I see an exit.
 Your command? █



I see nothing special.
 Your command? TURN RIGHT
 I see an exit.
 Your command?

Inspiration

3D Monster Maze - ZX-81 - Malcolm
Evans



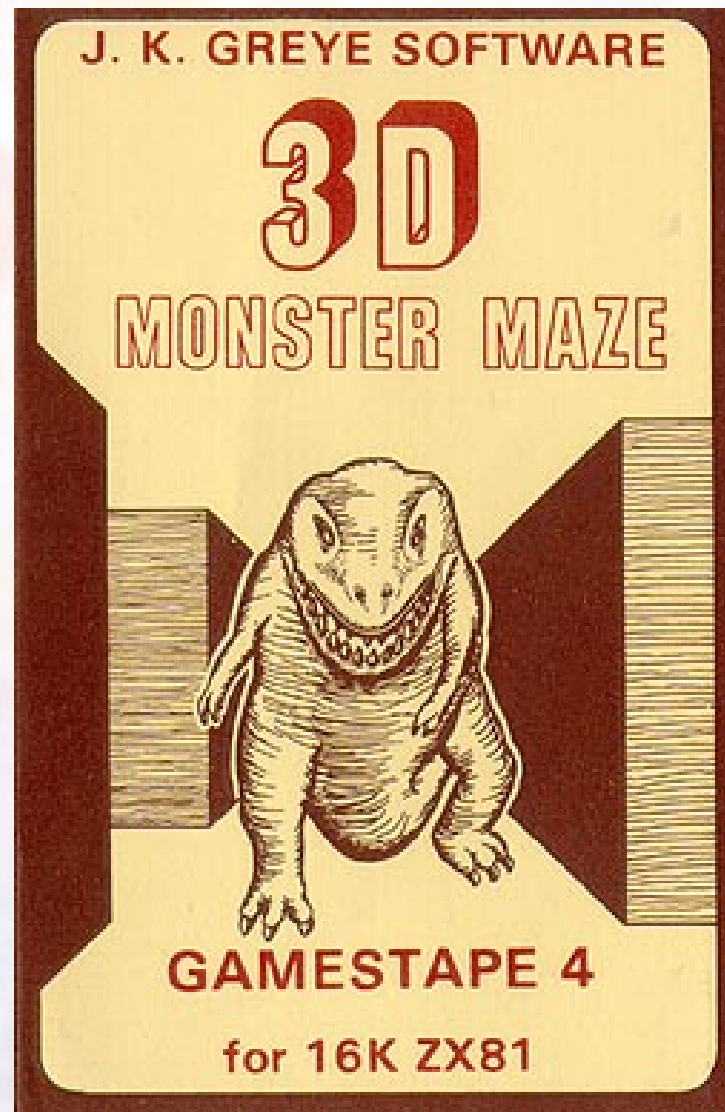
Inspiration

3D Monster Maze



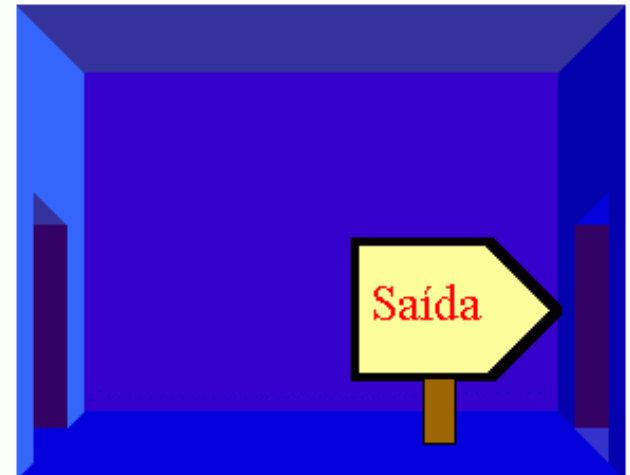
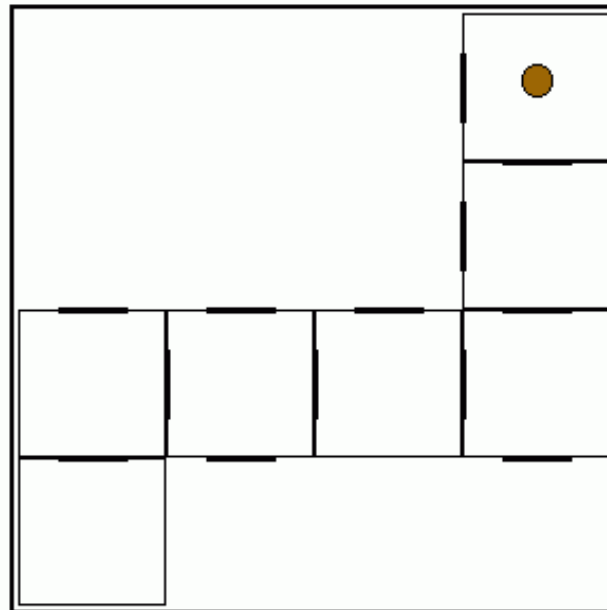
SCORE
50

3D Monster Maze Tape Cover!

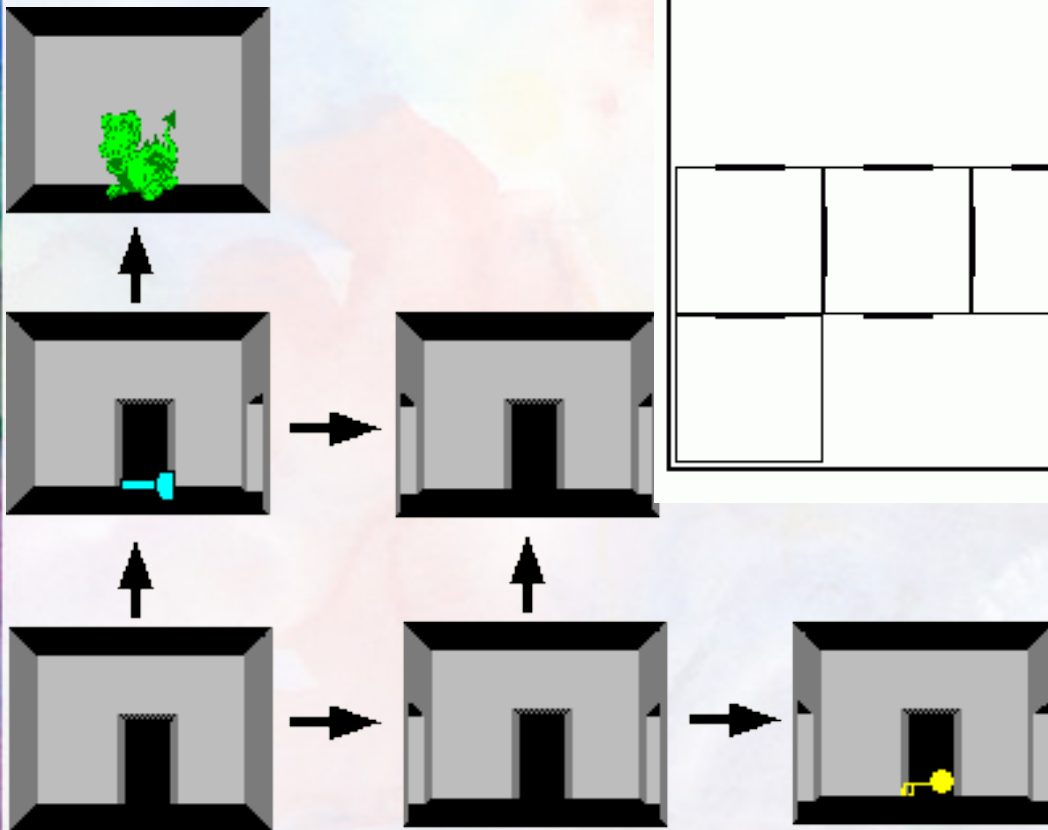


Castelo de Cristal

Aqui é a saída, mas a porta está trancada! Para que você possa sair, precisa encontrar 3 chaves.



Aperte <ENTER>



Origens

Casa Mágica

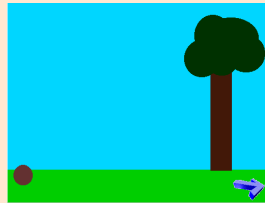
- Ambiente de autoria educacional
- Propicia a colaboração entre professores e alunos em projetos
- Abordagem baseada em componentes
- Projetado para autores não especialistas

Pieces of the House Application

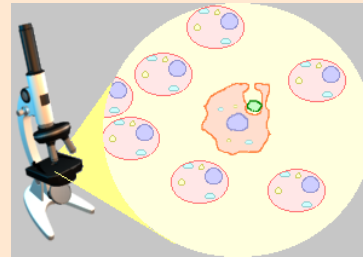


composition of

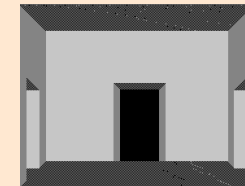
Place



Place



Place



Component

composition of



Component



Component



Casa Mágica 1

- Project started in 1994.
- In 1997 new version rewritten from scratch adopting Java.
- In 2002 it was integrated with Anima.
- Won: Concurso Nacional de Software Tecnológico e Educacional 1994, MEC

Casa Mágica

- Authoring
- Components
- Narrative
 - places

Authoring - Authorware

Multimedia Authoring Using
Authorware

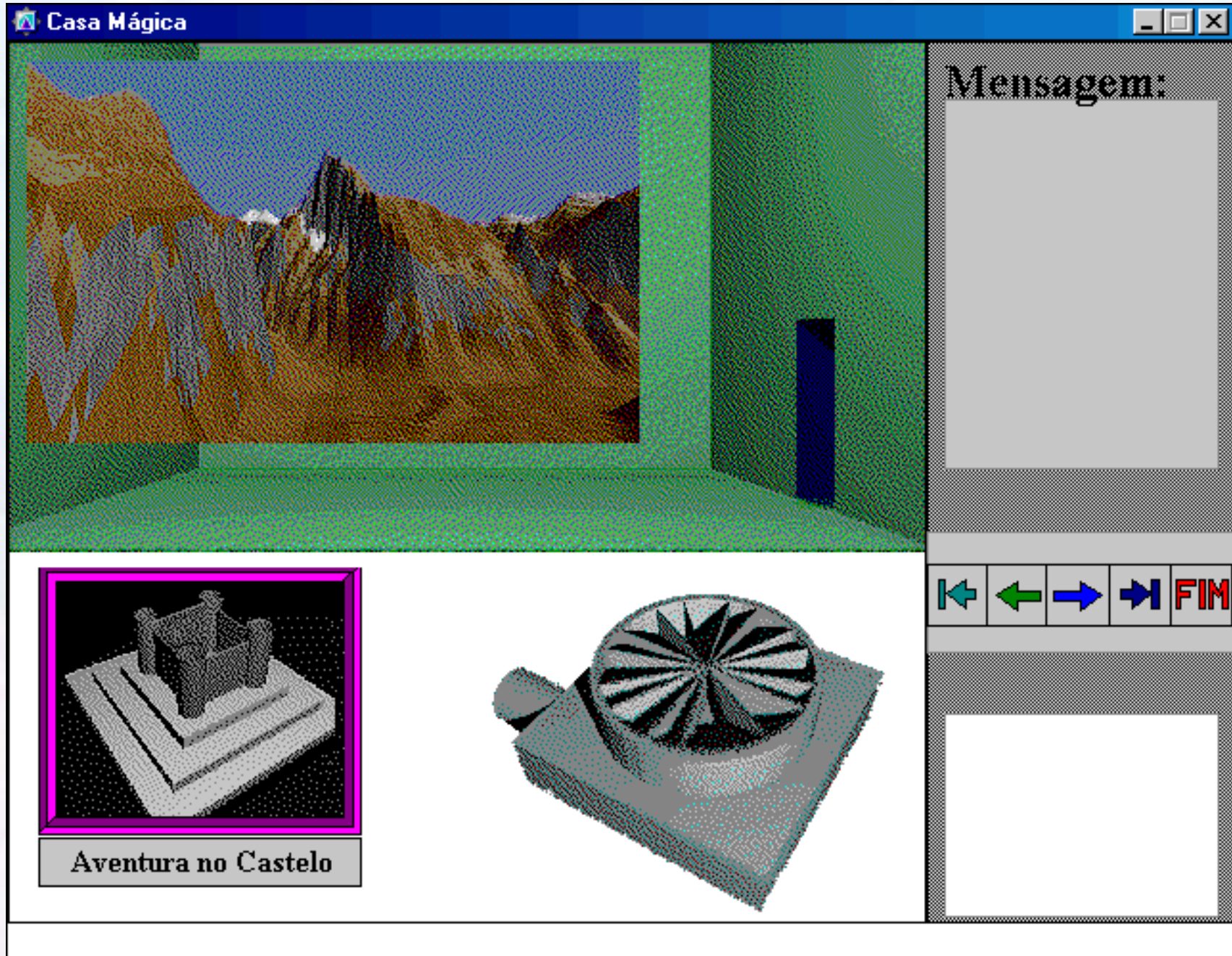
by Edward Chow

<http://cs.uccs.edu/~ccs525/awn/awn.htm>

The screenshot displays the Authorware software interface. The main window, titled 'welcome.a3w', shows a flowchart for 'Level 1' with steps: File History, Introduction, Menu Buttons (perpetuals), and a list of sections: Introduction section, What's New section, Exploration section, Order Information section, and Exit. A secondary window, 'Introduction section', shows a flowchart for 'Level 2' with steps: border, windows movie, Wait, erase border and movie, Learn More Narr, and display box. A table titled '23 items' lists various resources with columns for Link, Icon, Title, Date, and Link. A camera graphic is also visible, featuring a 'POSITIVE FILM' label and a 'ASA/ISO' speed dial.

Link	Icon	Title	Date	Link
		CALC CODE - WIN	5/9/95	CALC CODE
		Calc Graphic	5/9/95	Calc Graphi
		COLOR WIN	5/9/95	COLOR WI
		Cookie Pic	3/1/95	Effect pic 1
		...	...	...

Casa Mágica 1



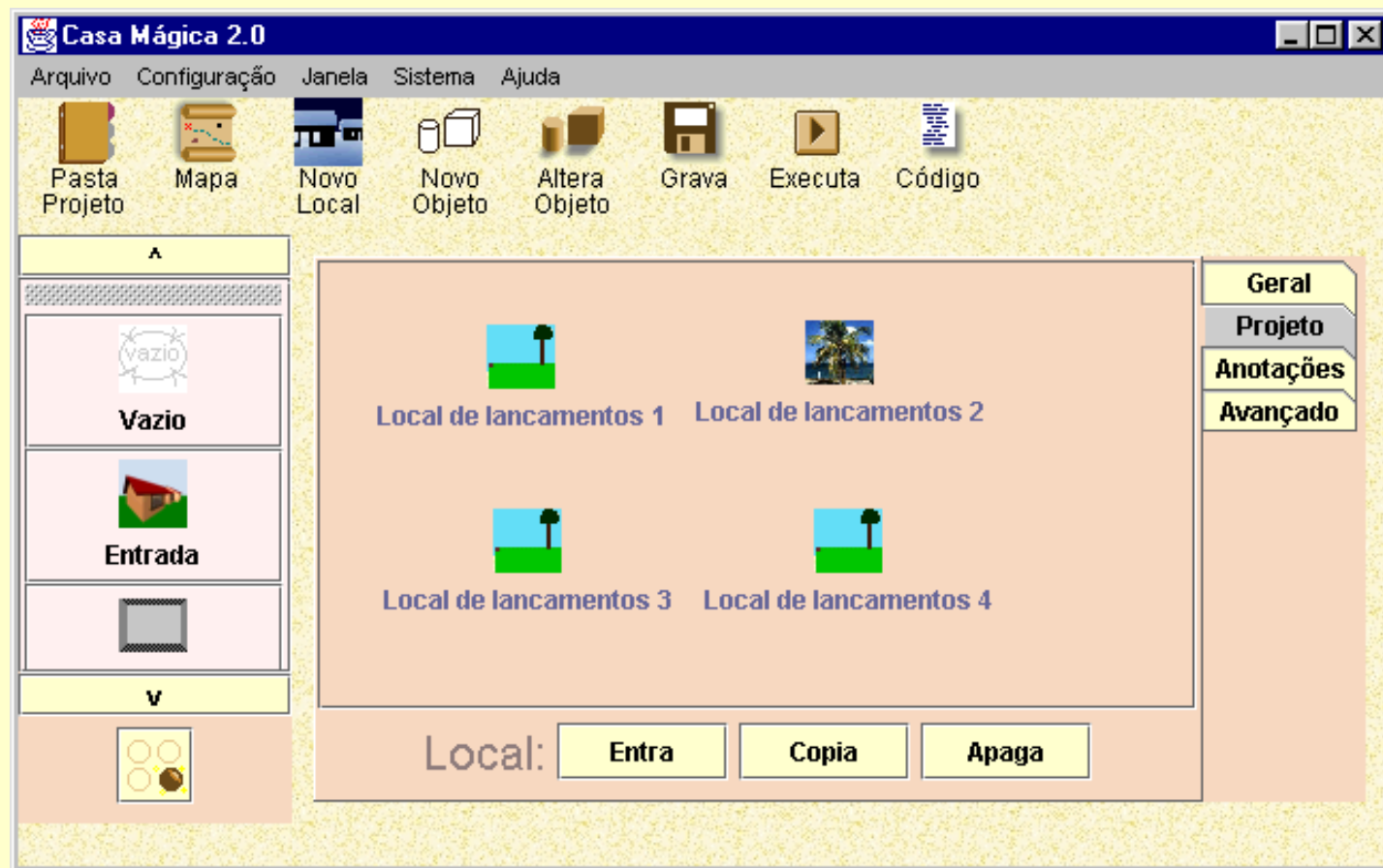
Magic House 2

Casa Mágica 2.0



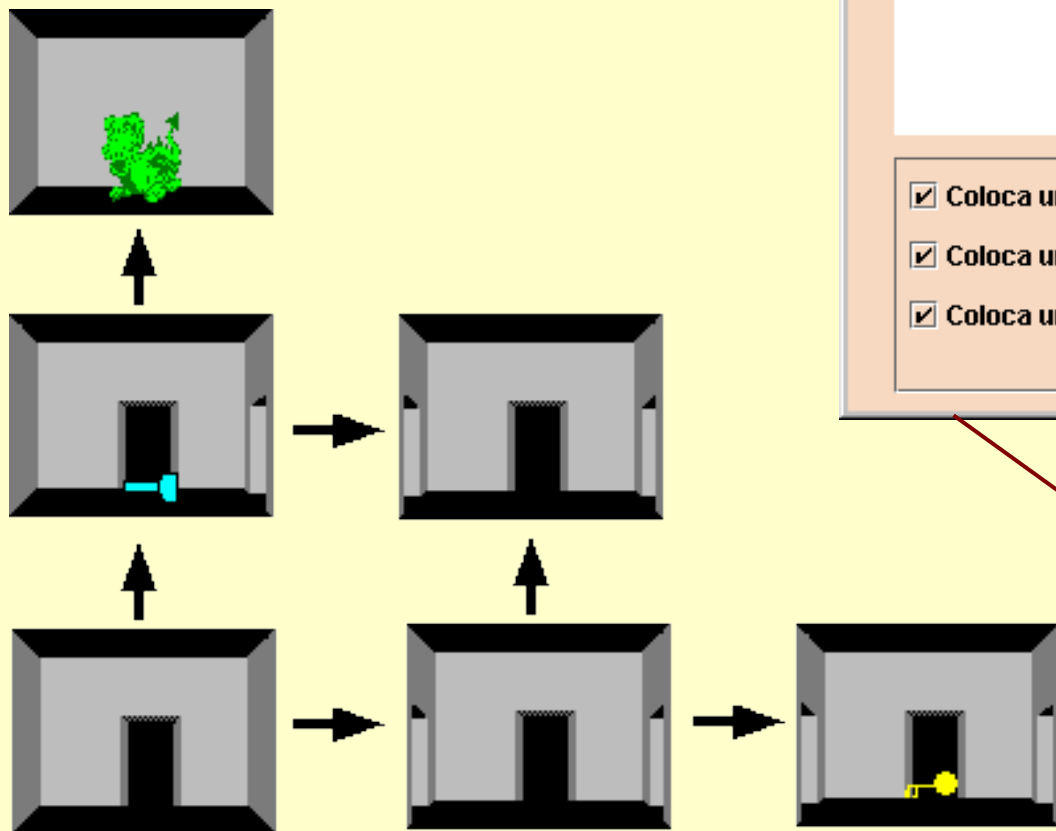
Casa Mágica

Constitui-se em um ambiente para construção de aplicações educacionais que combina os recursos de uma ferramenta de autoria com recursos que permitem a construção e exploração de modelos de estudo.



Casa Mágica

Locais de um
Mundo
interligados por
Passagens



Construção de Unidade Nova

Sala

Descrição
Sala de Entrada

Identificação
SalaEntrada

Escolha um tipo
Sala desenhada a mão
Sala com efeito trimensional

☒ Coloca uma porta a esquerda
☒ Coloca uma porta frontal
☒ Coloca uma porta a direita

Ok Cancela

Assistente para
construção de
Locais

Visor

Casa Mágica



Escolhendo a Metáfora de Trabalho



■ A construção dos ‘locais’, na segunda versão do sistema Casa Mágica, inicia-se com a escolha de uma metáfora sobre a qual o modelo será concebido:

- Facilita a concepção da idéia
- Traduz um direcionamento em que o trabalho será desenvolvido

Assistentes

Utilizando os assistentes, o autor monta os blocos básicos de organização do cenário.

Sala

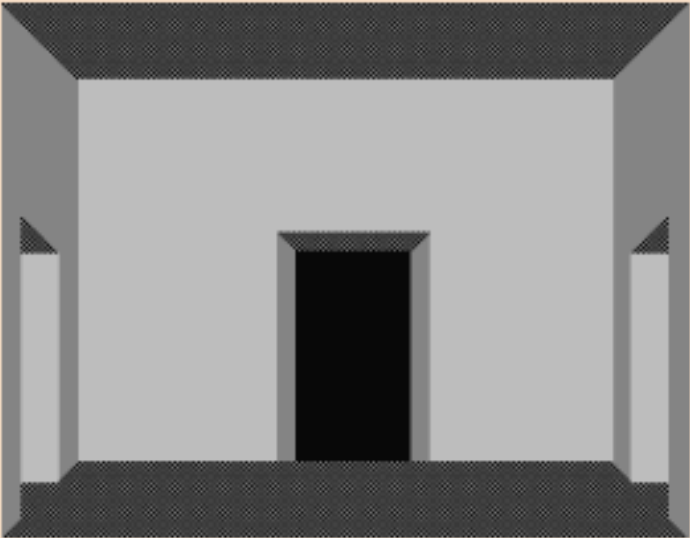
Descrição

Escolha um tipo

Sala desenhada a mão

Sala com efeito trimensional

☒ Coloca uma porta a esquerda
☒ Coloca uma porta frontal
☒ Coloca uma porta a direita



☒ Ok
☐ Cancela

Assistentes

Página

Descrição

Capítulo 1: Bactérias

Escolha um tipo

Página de um caderno

Papel reciclado com tarja azul

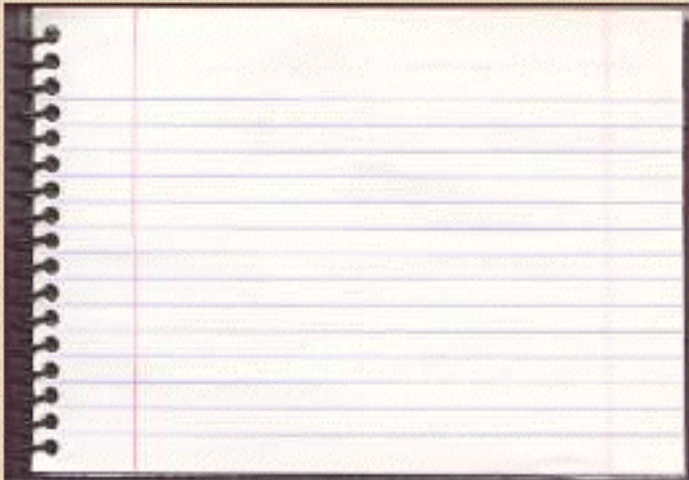
Papel reciclado com tarja azul clara

Casa Mágica

☒ Imagem preenche a area

☒ Liga com pagina anterior

☒ Liga com proxima pagina

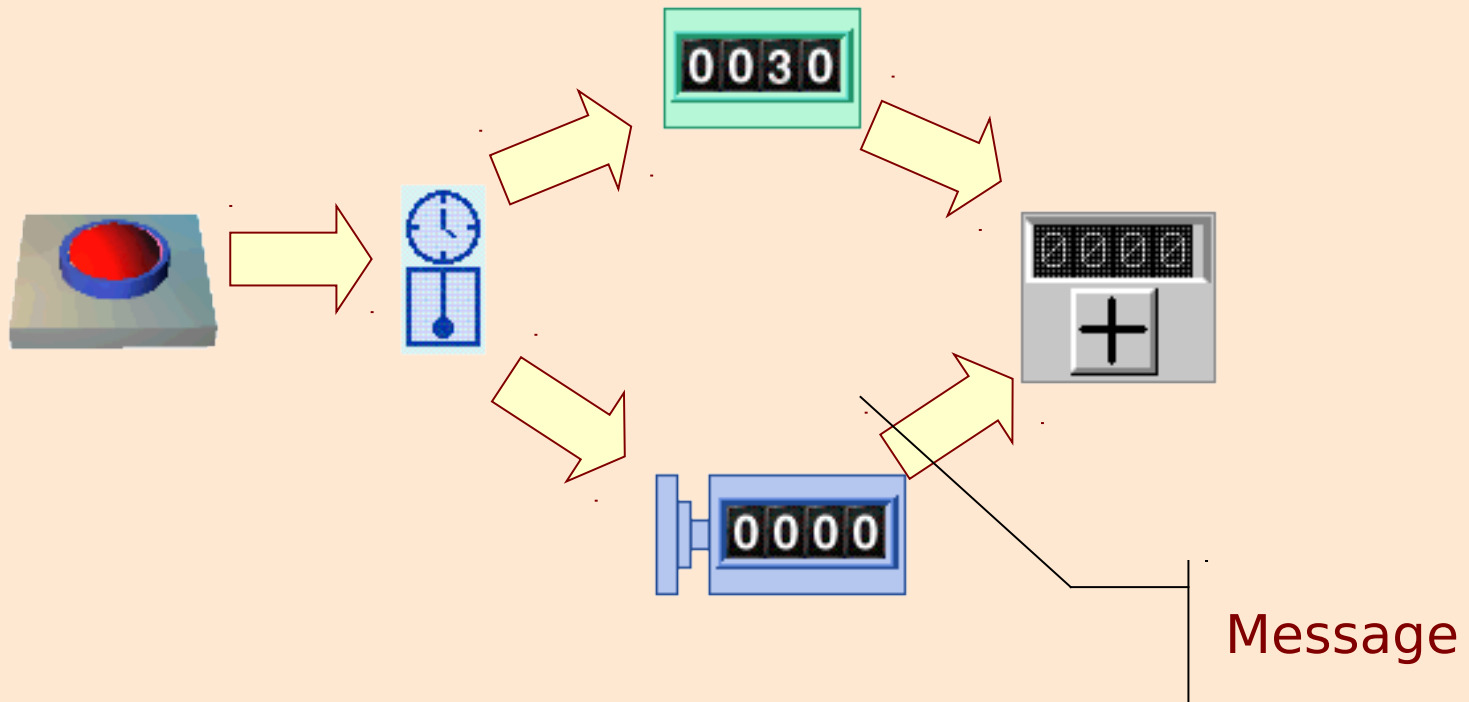


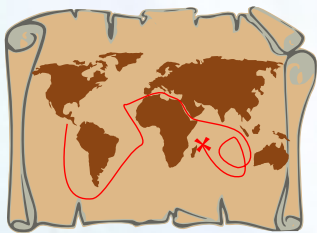
 Ok

 Cancela

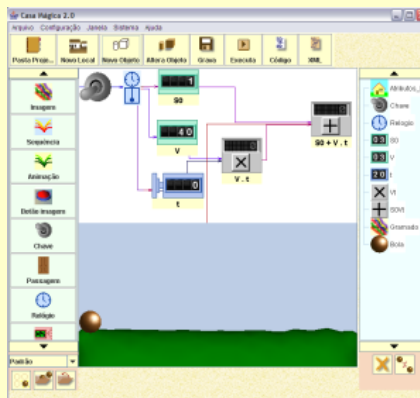
Composition

- Based on combination of linked components that interchange messages.

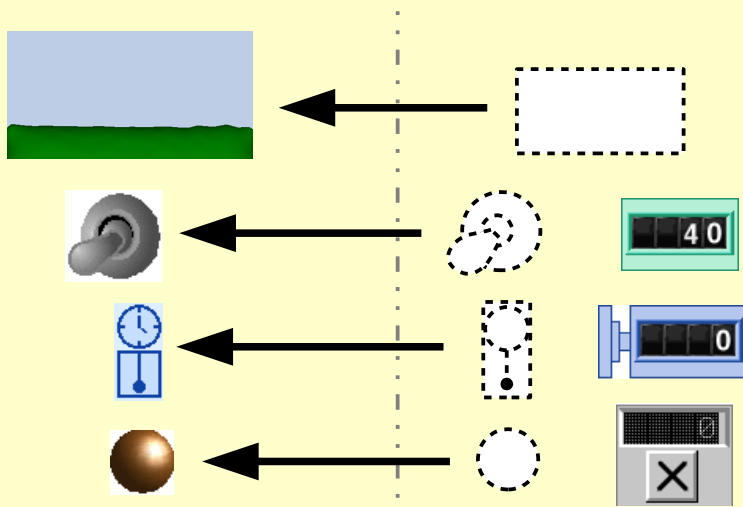




Casa Mágica

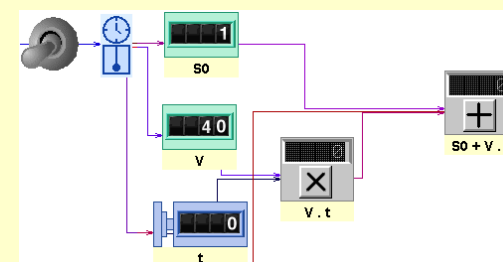


Autoria



Conteúdo

Objetos

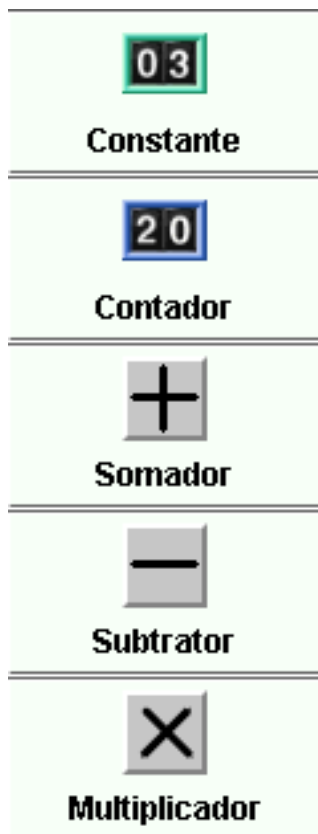


Composição de Objetos

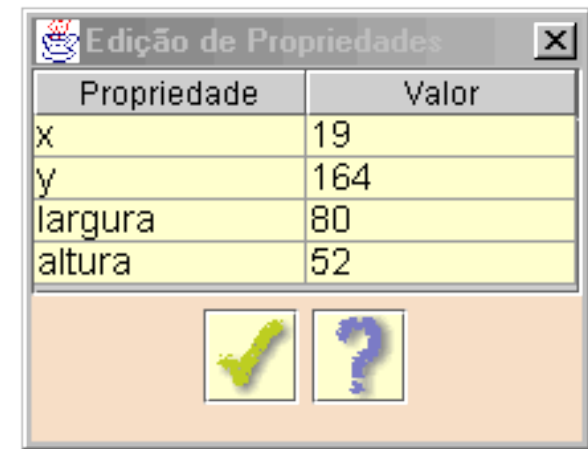
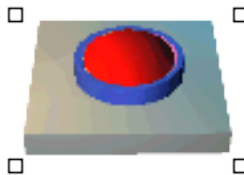
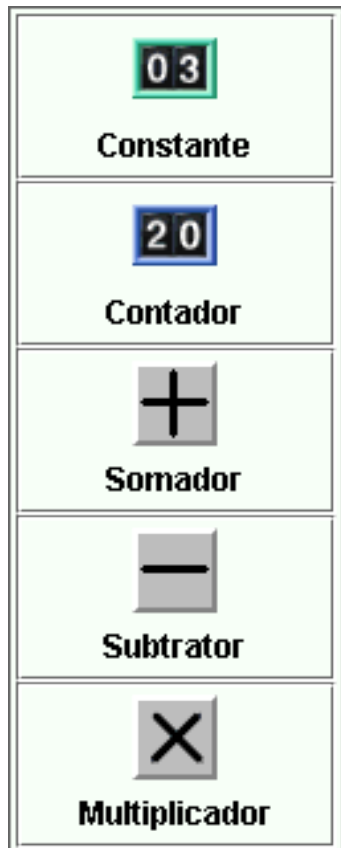


Composição

Em uma ferramenta de produção, como o Casa Mágica, o autor dispõe de uma barra de componentes para elaborar sua composição. Estes componentes são baseados em classes de objetos.

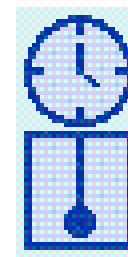
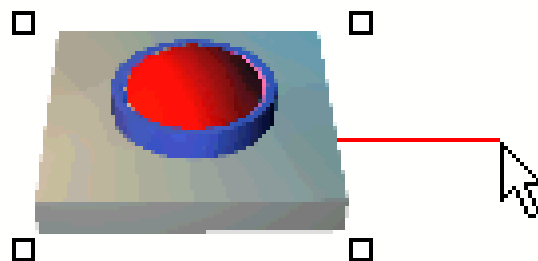


Composição



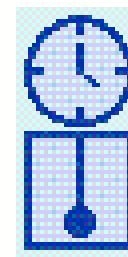
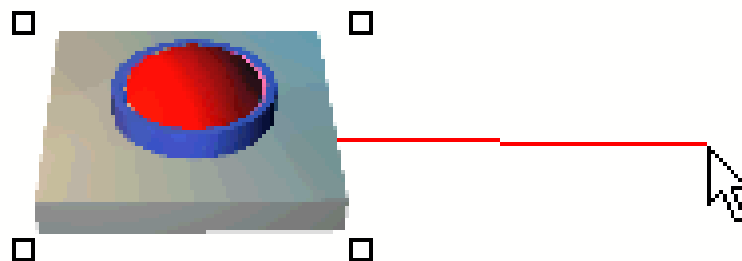
Ele seleciona os componentes e os configura conforme sua necessidade.

Composição



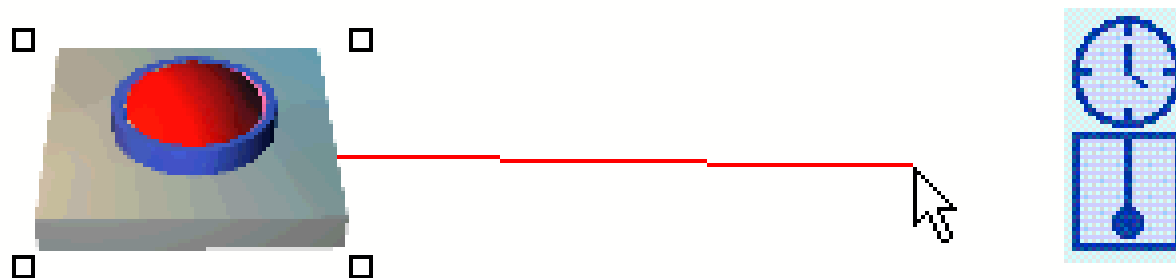
Os componentes são interligados.

Composição



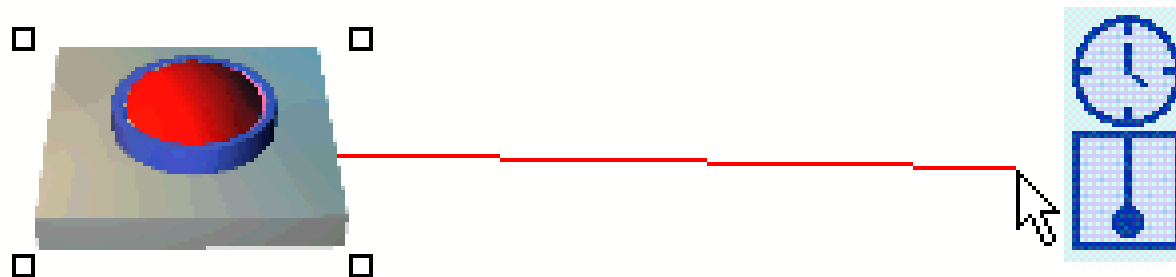
Os componentes são interligados.

Composição



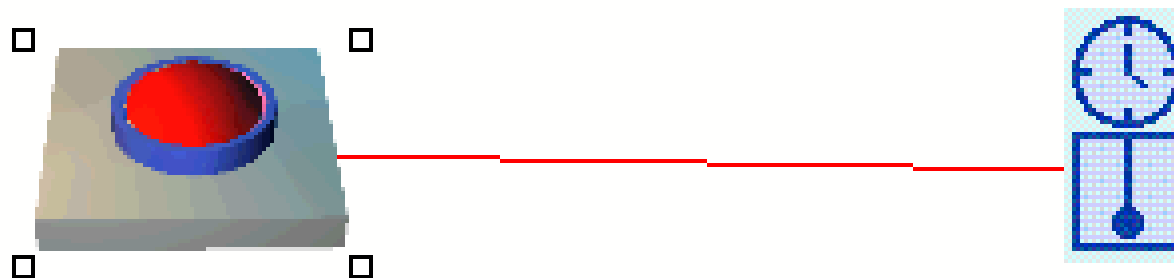
Os componentes são interligados.

Composição



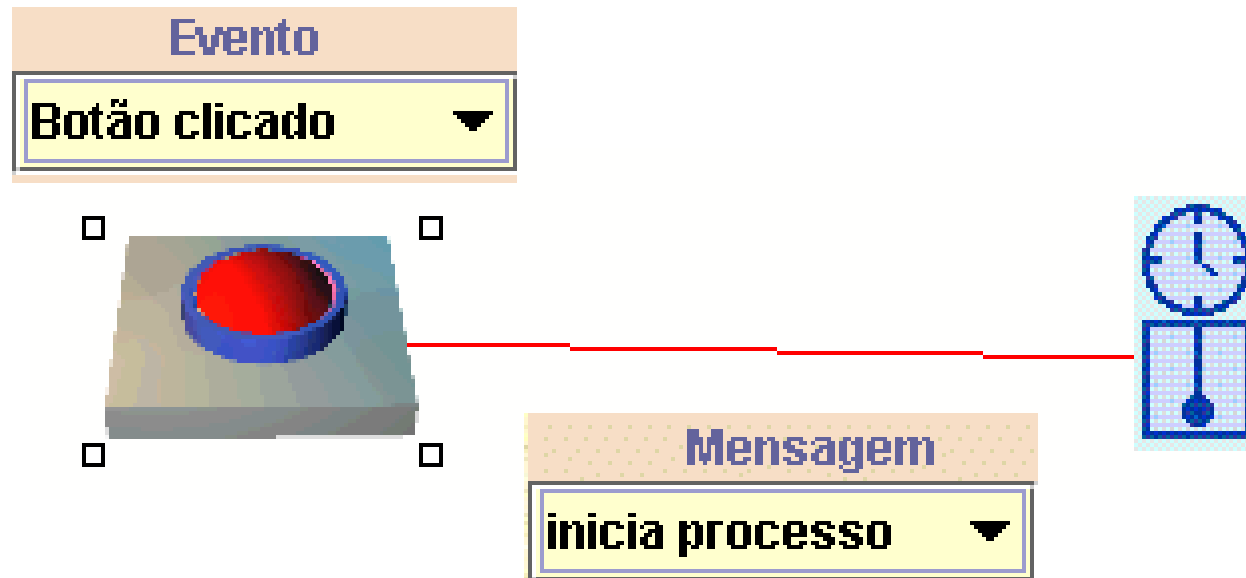
Os componentes são interligados.

Composição



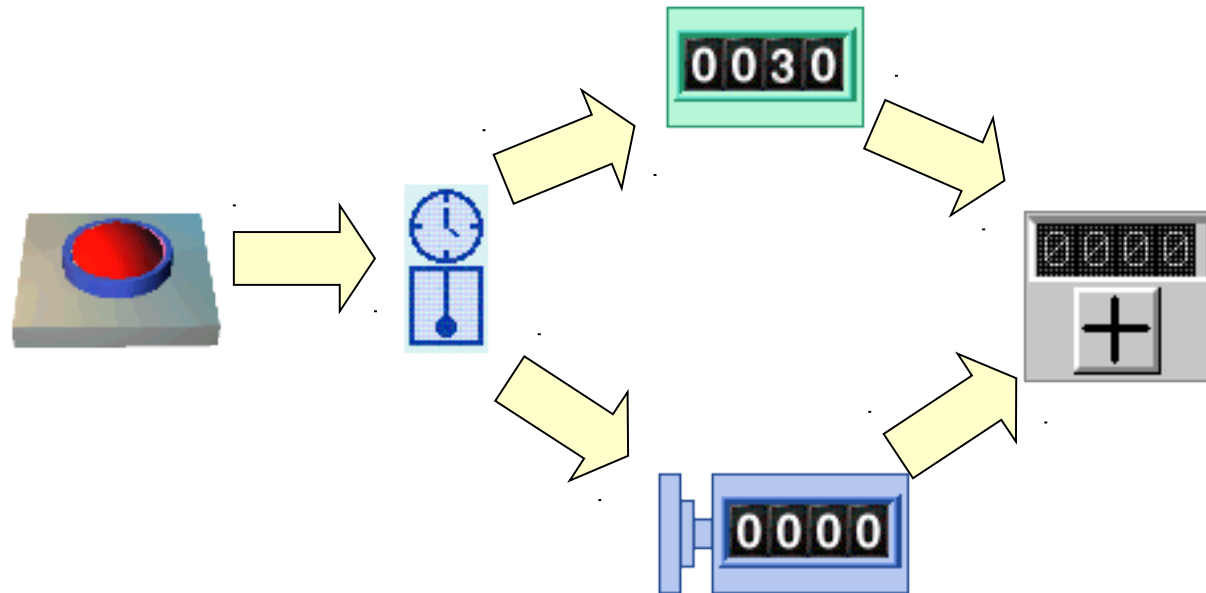
Os componentes são interligados.

Composição



O autor seleciona o evento que dispara o processo e a mensagem que será enviada de um objeto a outro.

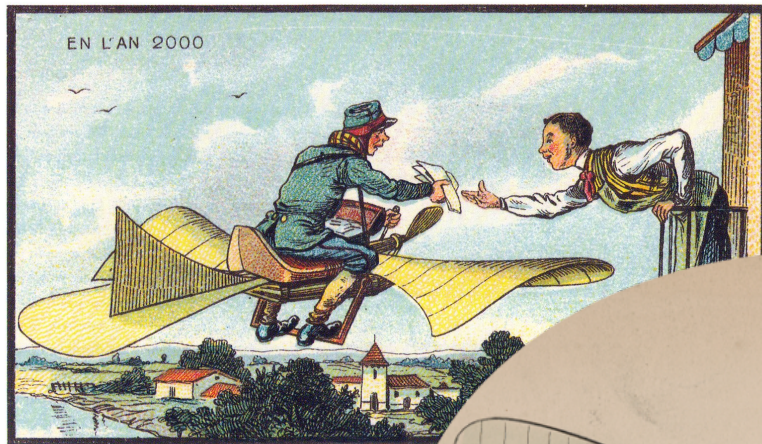
Composição



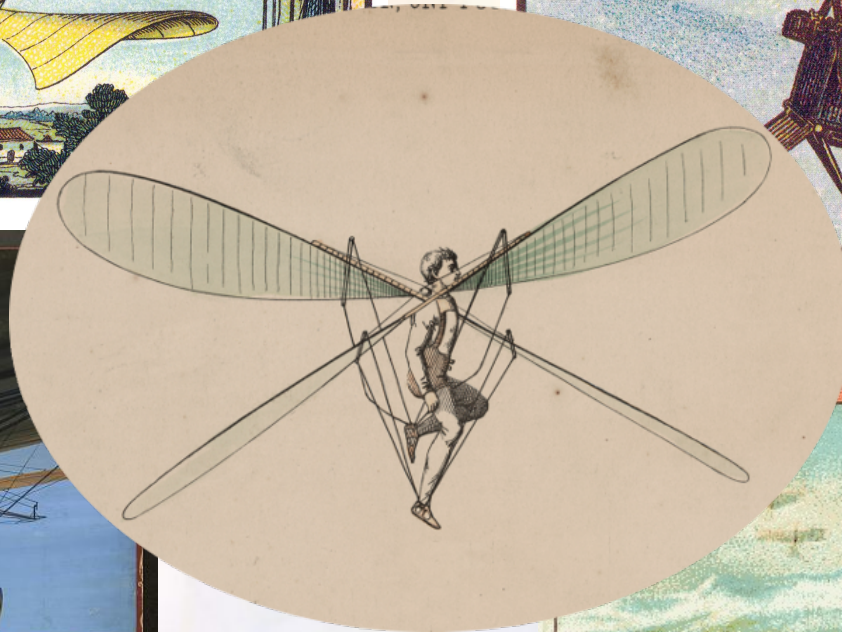
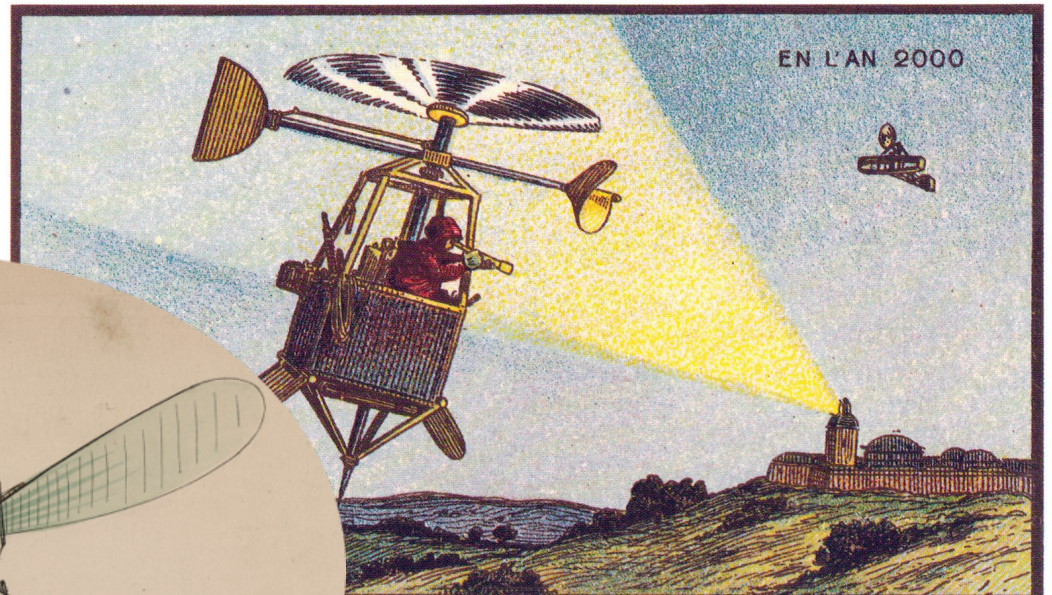
A aplicação que resulta da rede de interligações entre os objetos é a composição.

Composing Everything

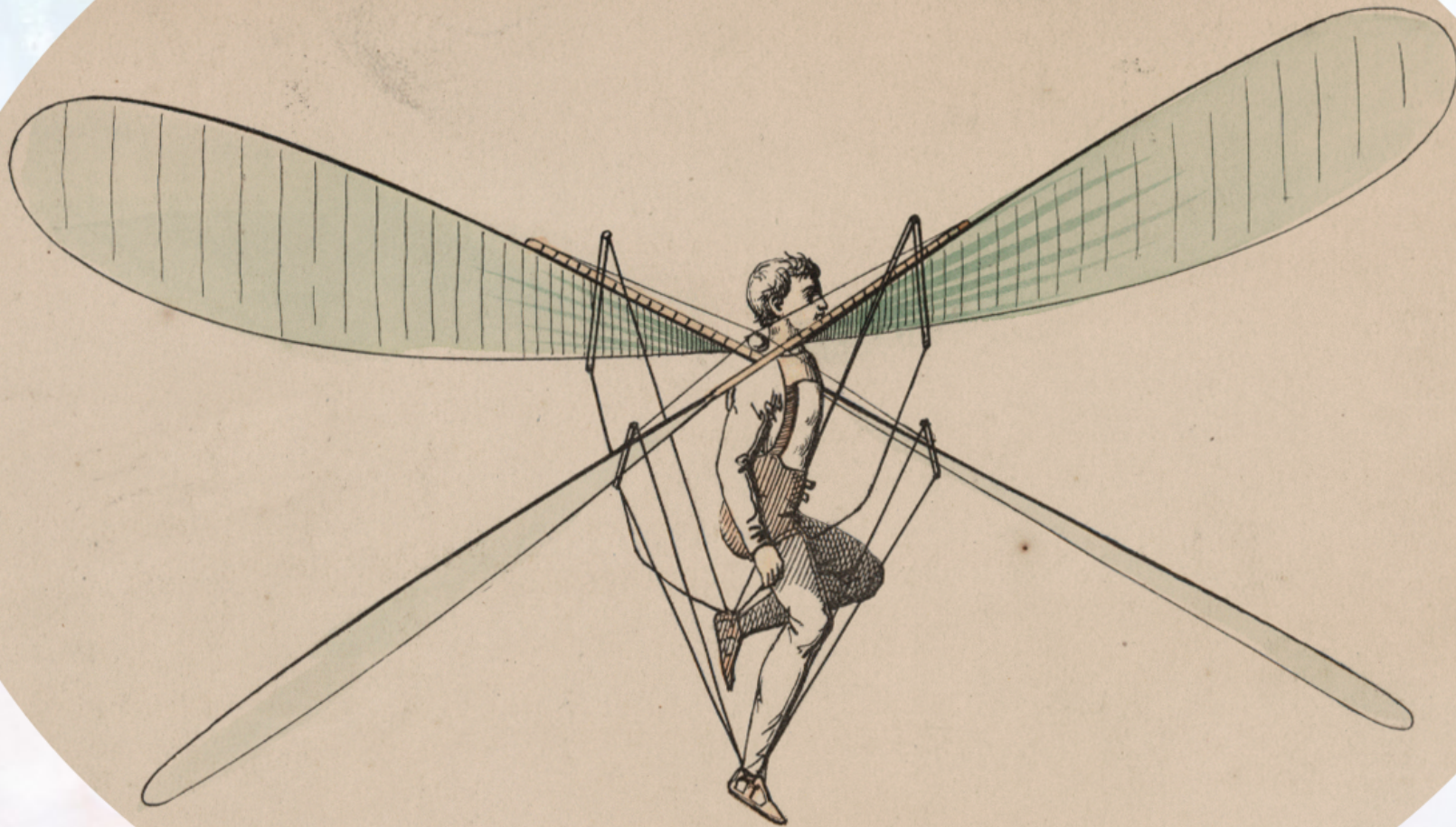
Flying Machines



The Rural Postman

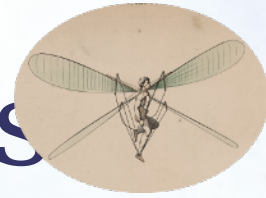


Flying Machines



Jean Jacques Bourcart 1866

Flying Machines



Pequenos Autores

- “[...] as coisas pequenas caem dentro das fendas.” (Koning-Bastiaan)



Traduzido do original em inglês: “[...] the small stuff falls through the cracks.”
(Koning-Bastiaan)



Dream of Composing Everything

ESCOT

› ESCOT – *Educational Software Components of Tomorrow* (<http://www.escot.org/>)

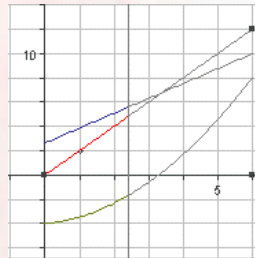
- proposta para integração e reuso de *software* educacional baseada em componentes;
- integra diversas ferramentas educacionais;
- linguagem padrão – Java;
- define protocolo padrão para comunicação entre os componentes.

ESCOT

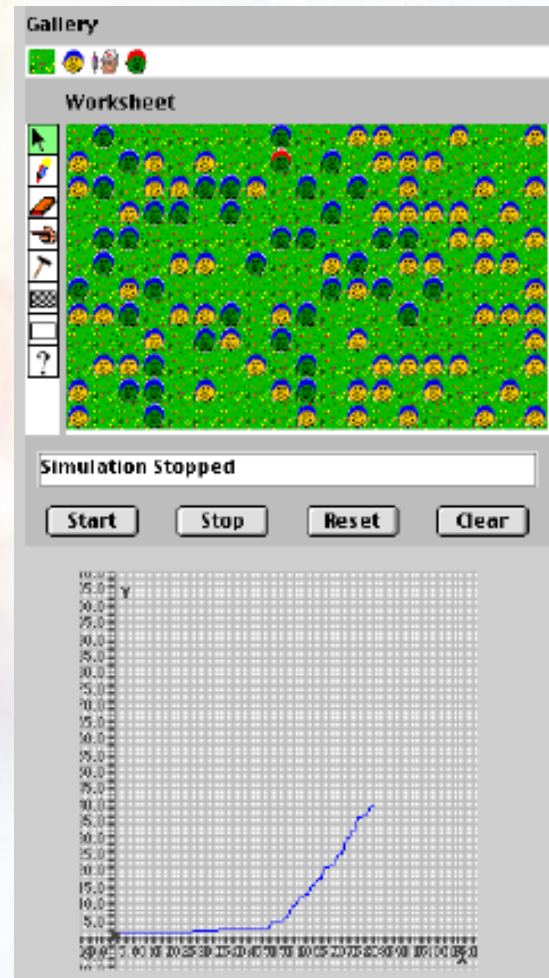
AgentSheets



Math Worlds



E-Slate

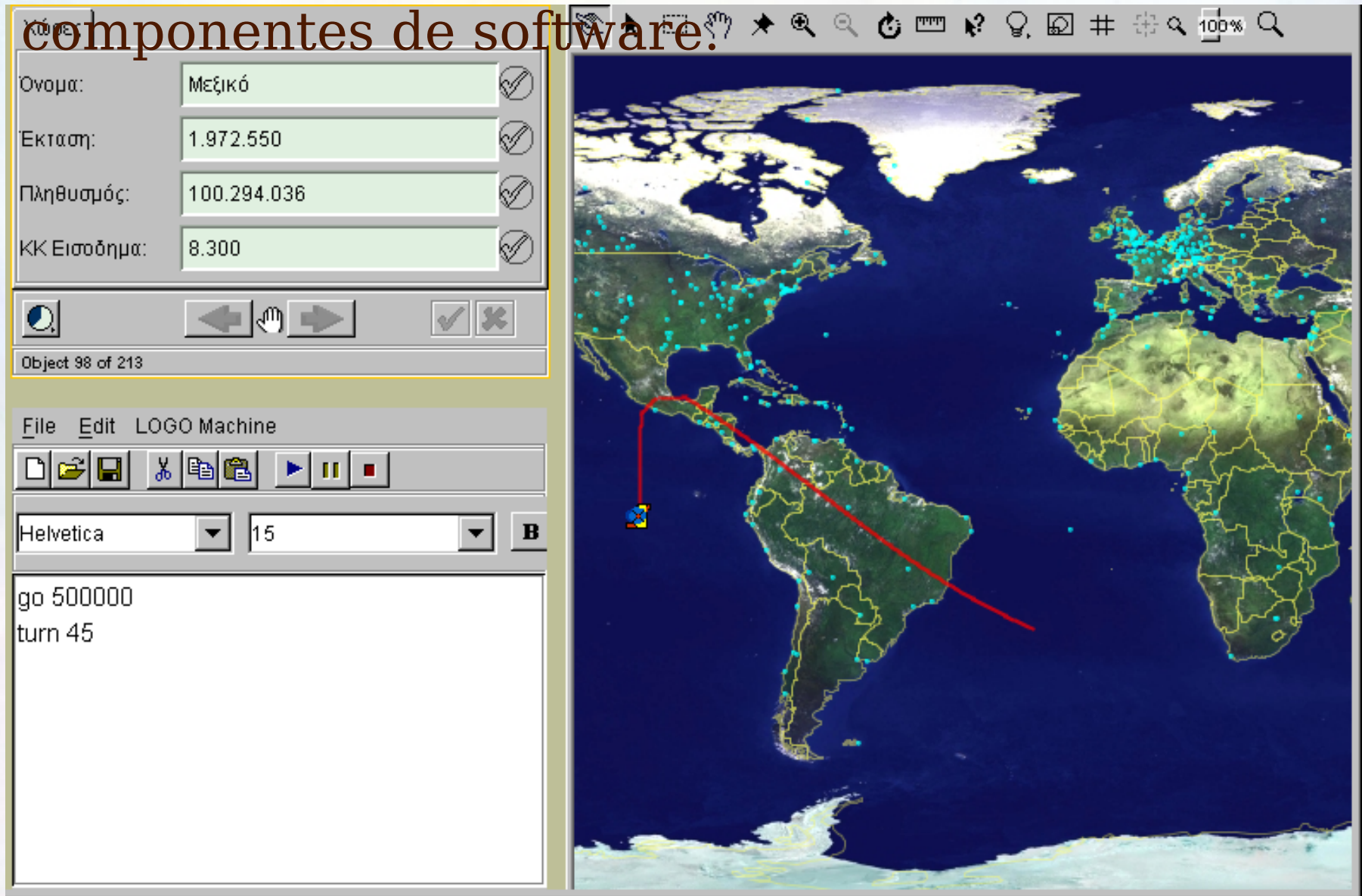


ESCOT

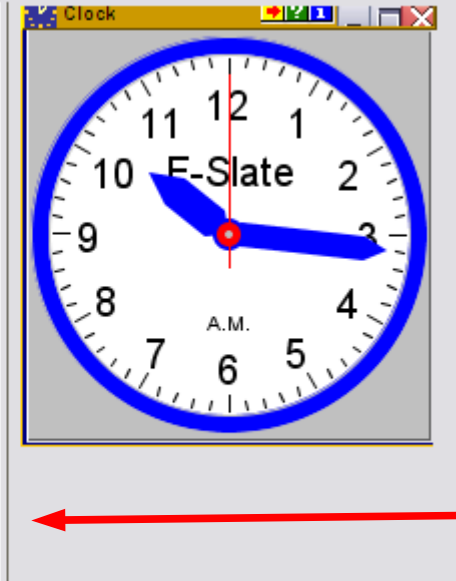
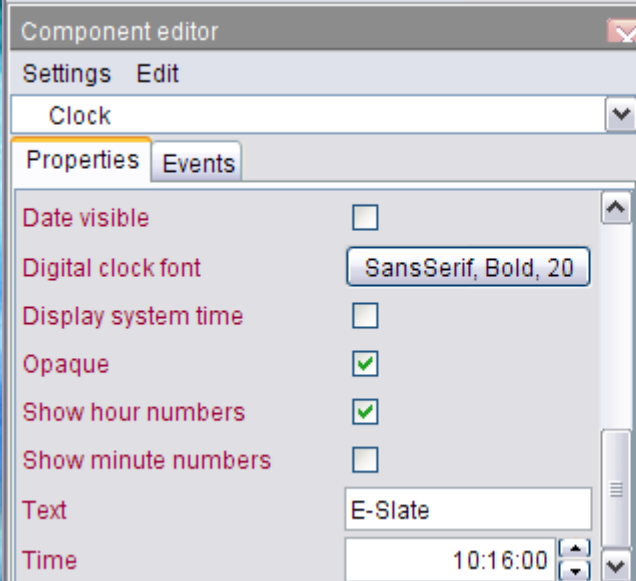
- “No futuro, as idéias para atividades educacionais específicas vão converter-se em software tão fácil quanto a escrita de um documento: O processo de desenvolvimento será substituído por um processo de edição, criação e manipulação de ‘aplicações editáveis’. Estas aplicações consistirão em objetos computacionais de alto nível, disponíveis como blocos tangíveis de construção.”
[Roschelle et al. 1999]

E-Slate

- O E-Slate é um ambiente para a construção de micromundos por meio da combinação de componentes de software.



(versão antiga do E-Slate)

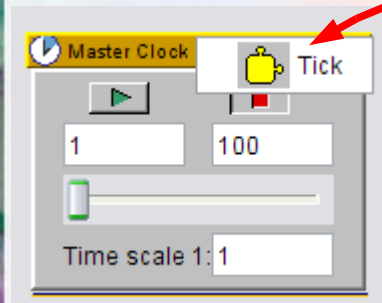


E-Slate

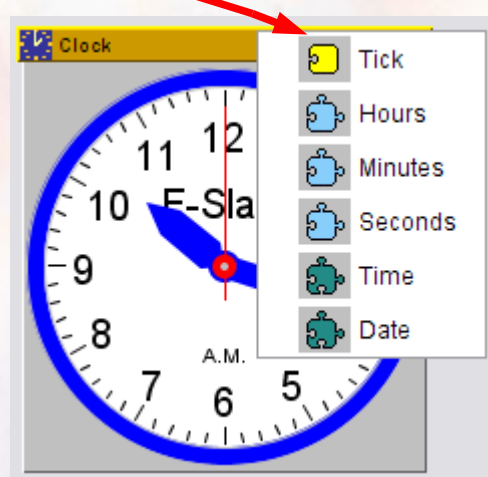
Inserção e configuração de componentes

painel de configuração

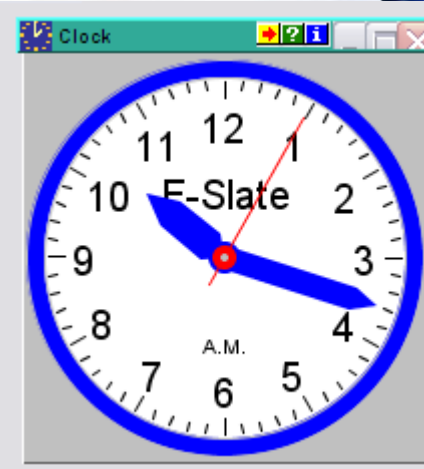
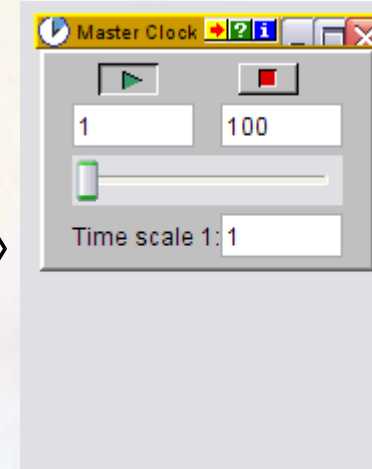
conexões compatíveis



componente
Master Clock

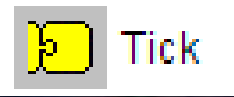


componente
Clock



Composição final

(a cada pulso do Master Clock
o Clock incrementa o horário)



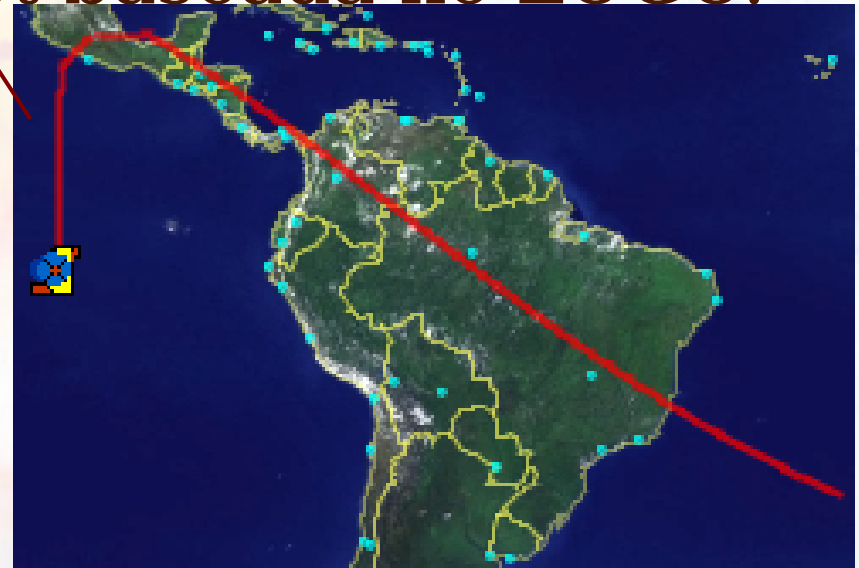
Ligação entre componentes

E-Slate

- Os componentes podem ser diretamente combinados em páginas Web e seu comportamento pode ser descrito através de uma linguagem de script baseada no LOGO.

**Componente Mapa
com agente**

**Linguagem baseada
no LOGO move agente**



**Componente
Agente**

SimCalc e MathWorlds

- “[...] provê uma coleção de componentes de software, incluindo um conjunto de mundos de animação e uma variedade de gráficos. Os atores nos mundos (como um palhaço, ou um pato) movem-se de acordo com funções matemáticas.”

[Roschelle et al. 2000]



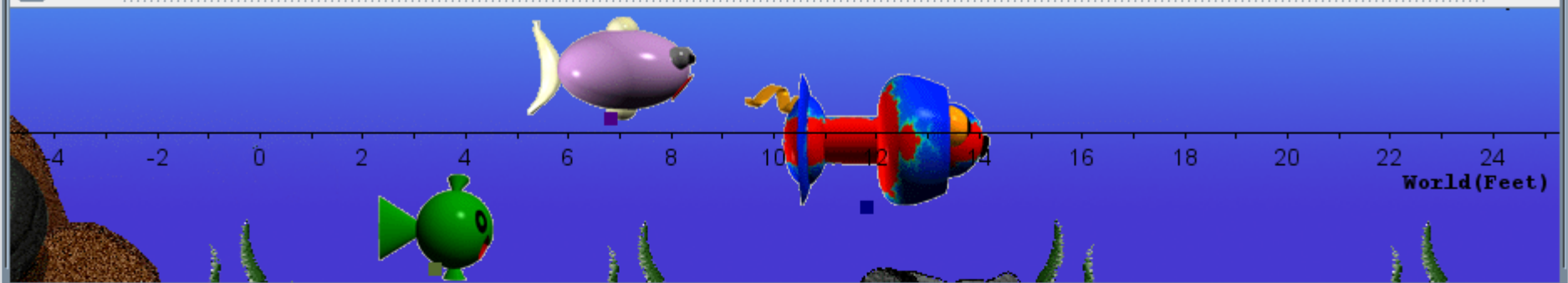
SimCalc e MathWorlds

- “Os gráficos mostram essas funções matemáticas e permitem aos alunos editarem diretamente as funções.”
[Roschelle et al. 2000]

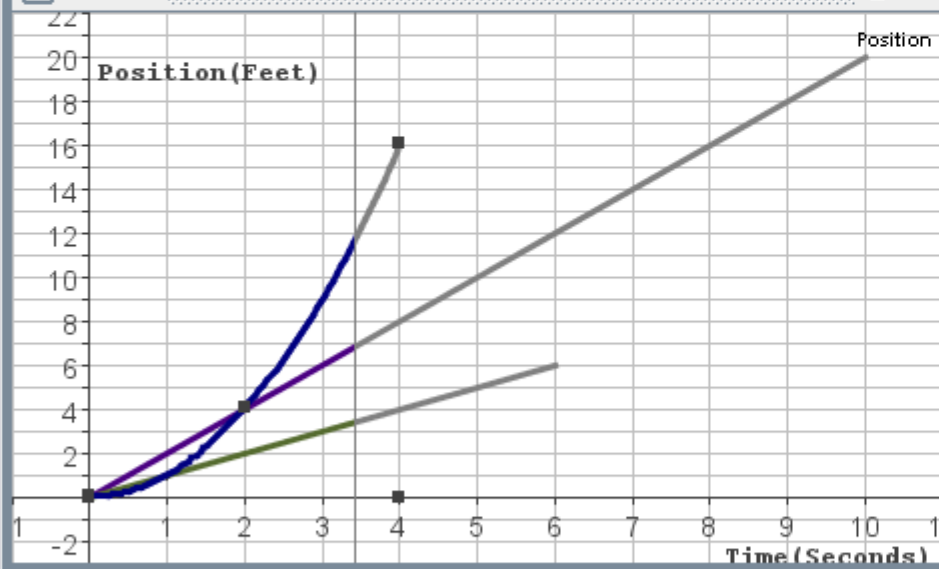
JMW: Default

File Actor View Tools Help

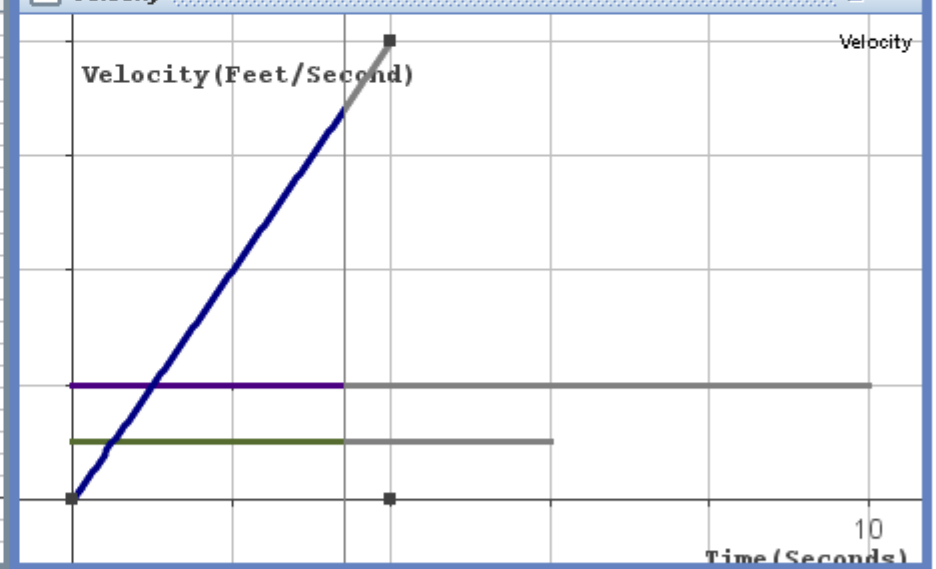
World



Position



Velocity



Function

Table

☒ Selected Function: New Actor 1 (navy)

Animation

03,42

☒ Allow Negative Time



Reset



Back



Pause



Step

Start

0

End

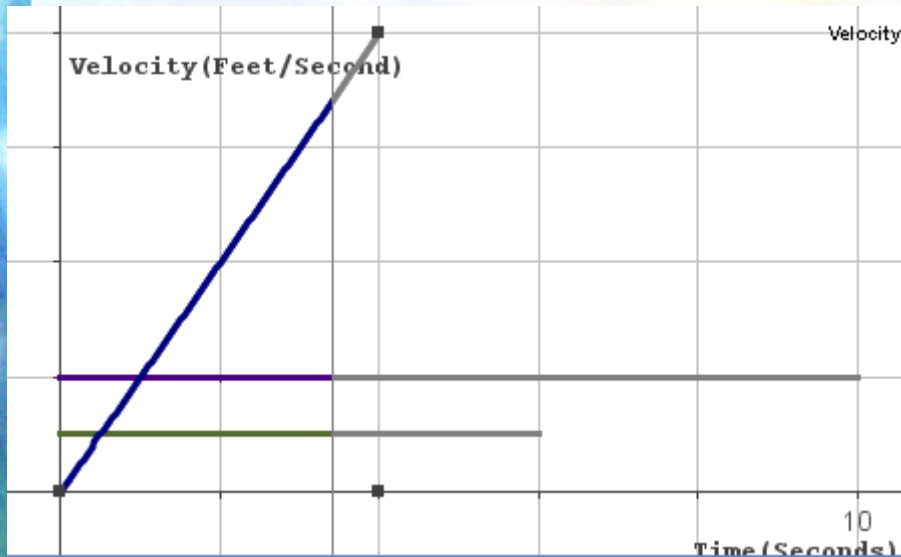
10

Step

1

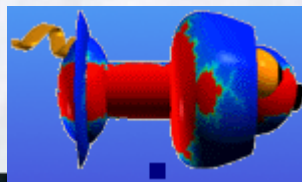
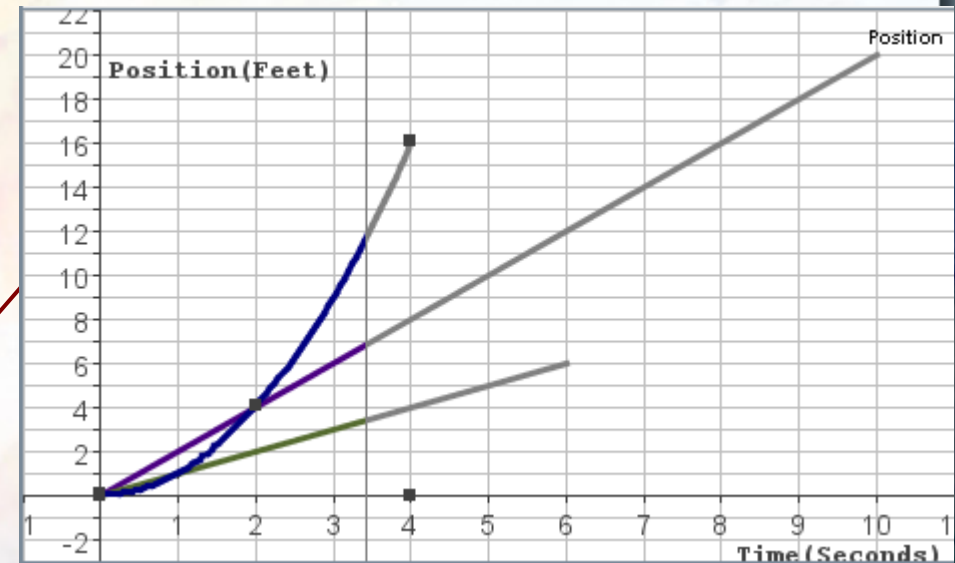
☐ Set Domain

SimCalc e MathWorlds



**Gráfico
Velocidade x Tempo**

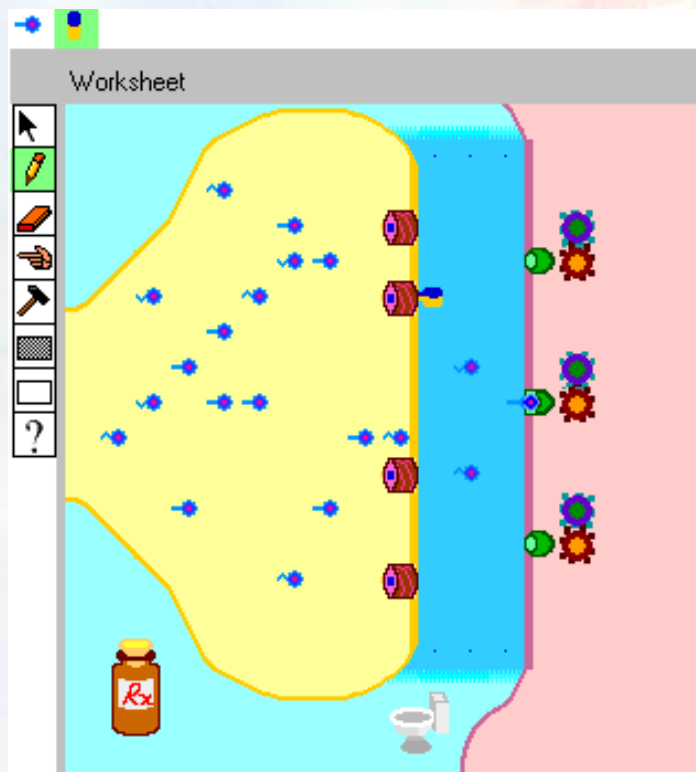
**Gráfico
Distância x Tempo**



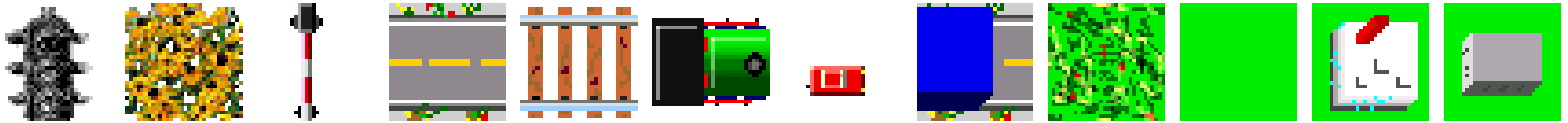
**Atores animados
(deslocamento
conforme o gráfico)**

AgentSheets

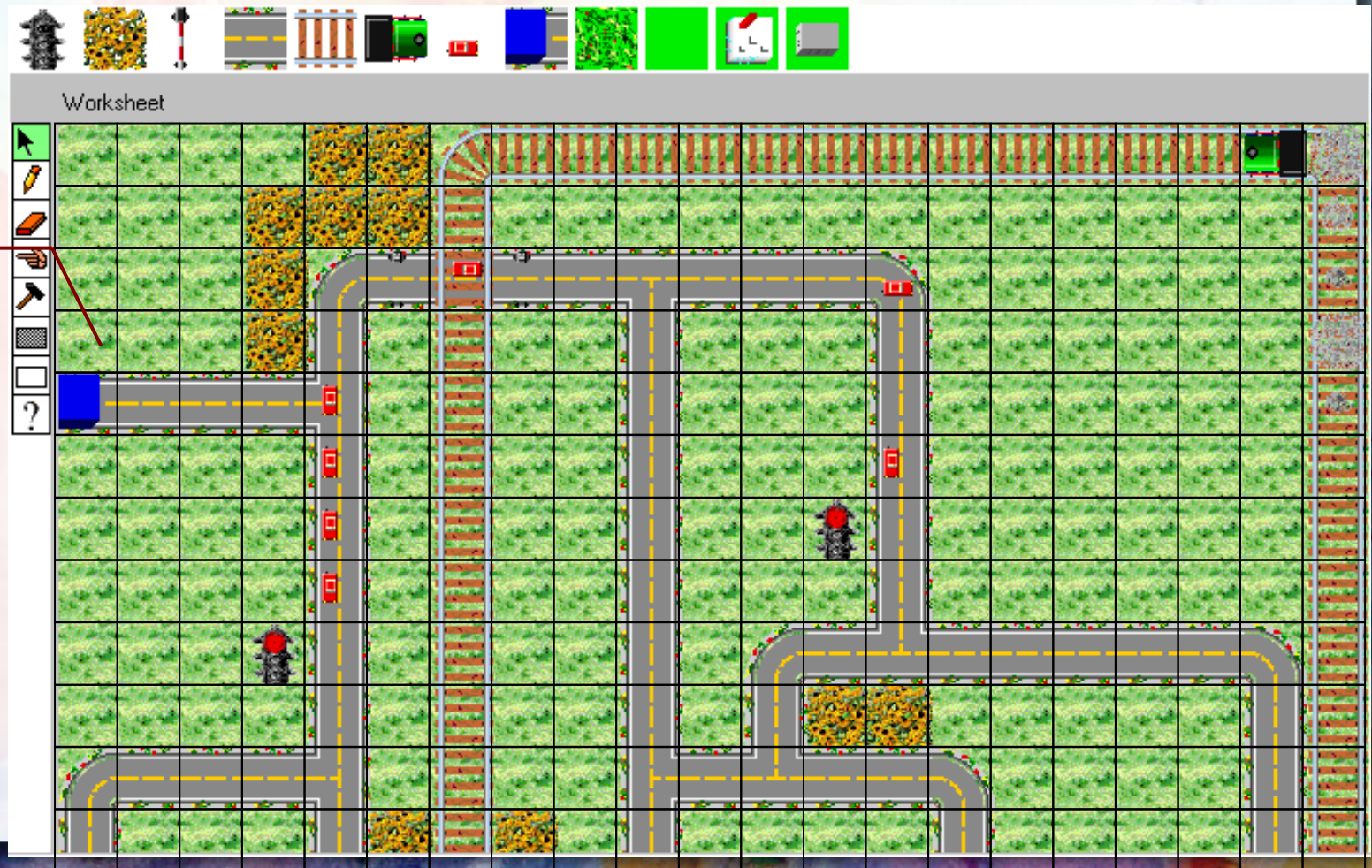
“AgentSheets é um ambiente de autoria baseado em agentes destinado a educadores para construir simulações que podem se transformar em applets Java e JavaBeans”. [ROS99]



Agentes



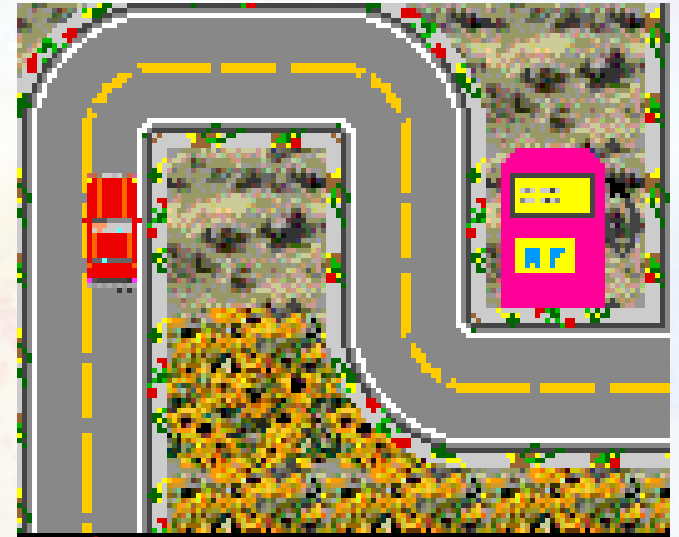
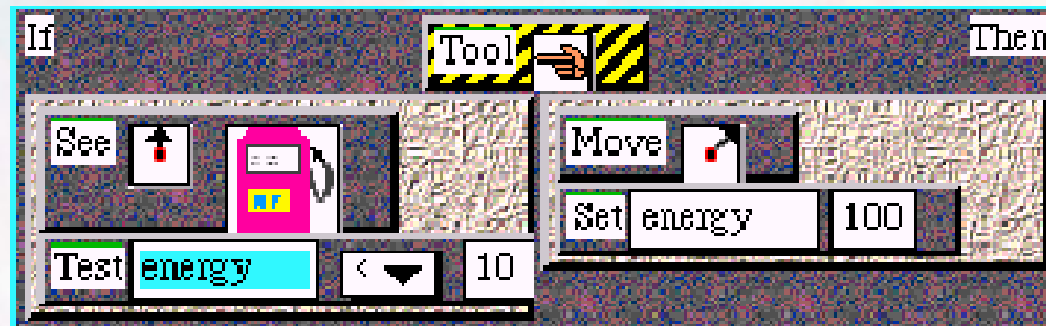
Espaço Discreto



AgentSheets

Visual AgentTalk

Comportamento

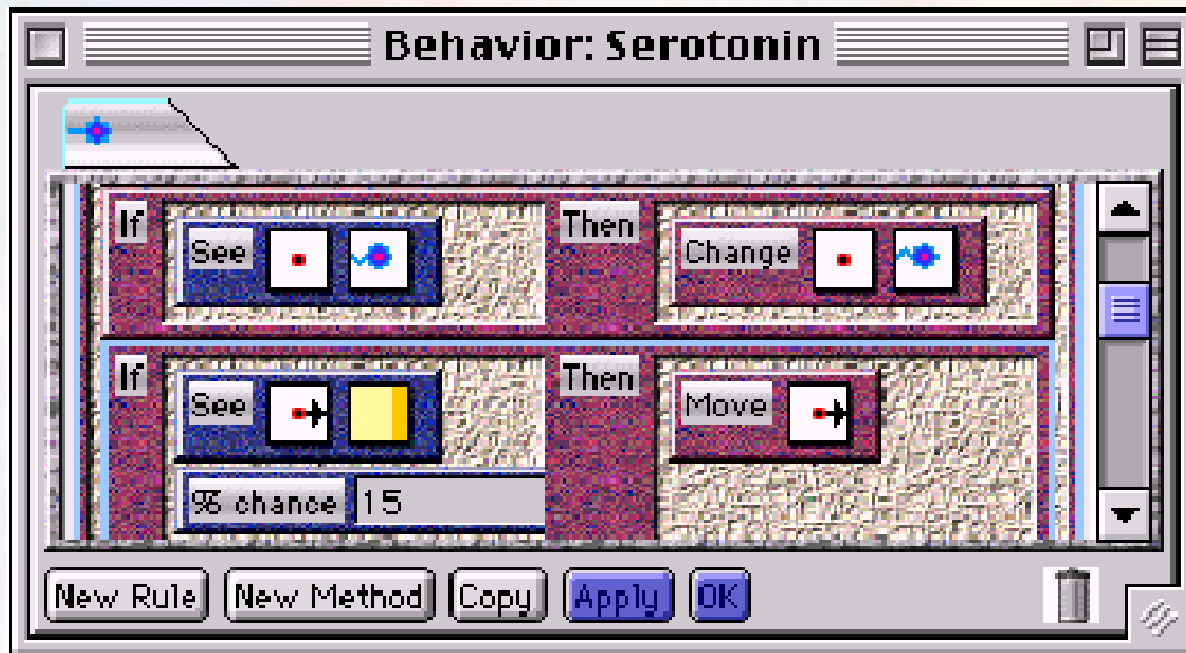
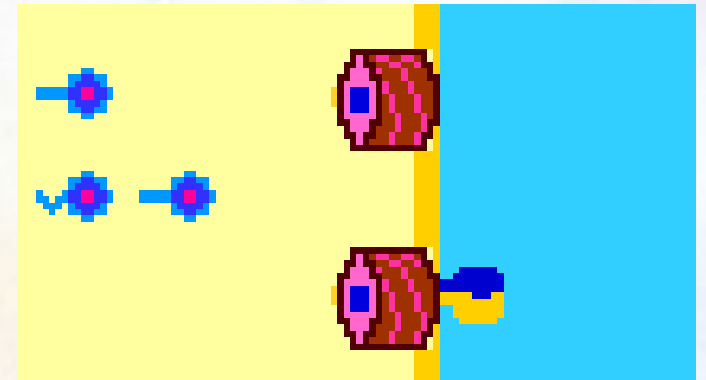


Agentes e
Simulação

AgentSheets

Visual AgentTalk

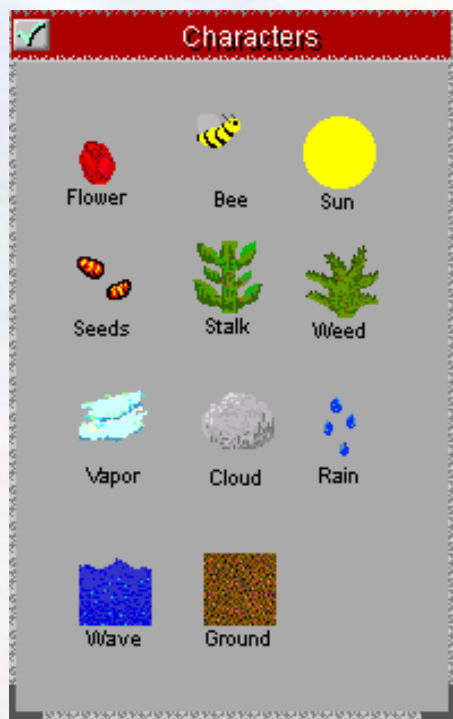
Agentes e
Simulação

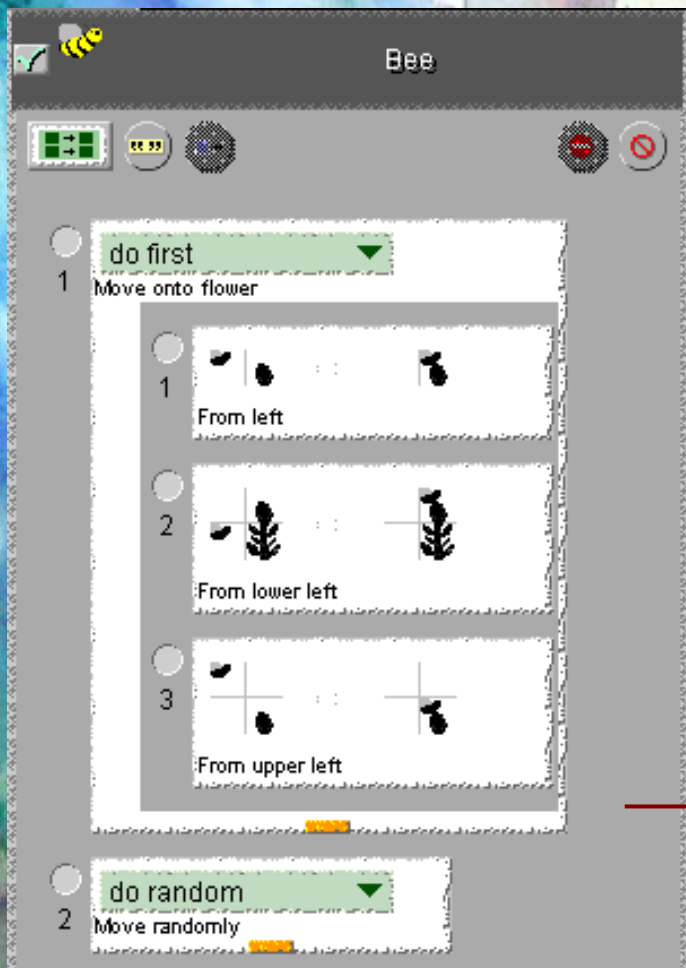


Comportamento

StageCast

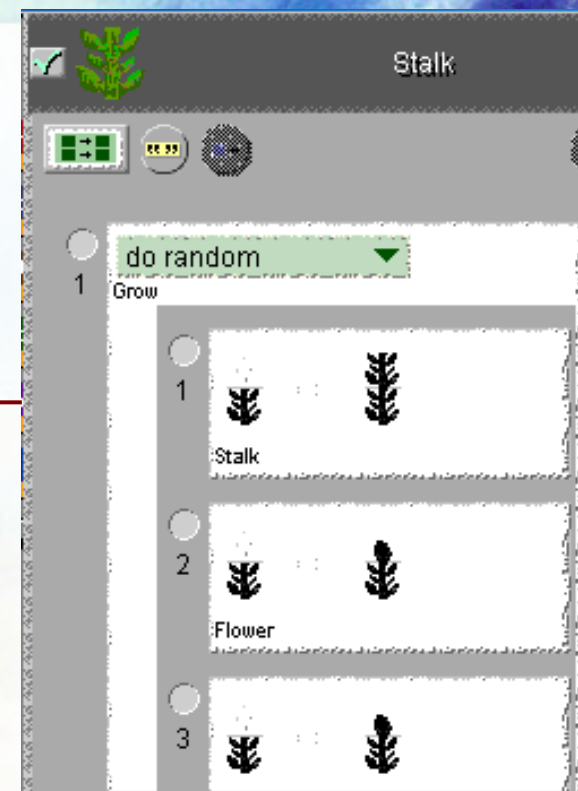
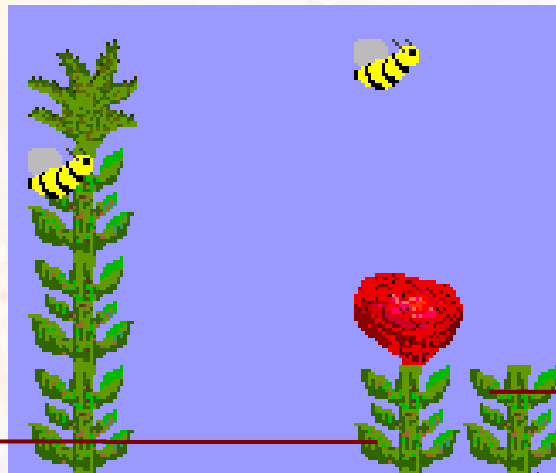
Baseados em agentes cuja atuação se desenvolve em espaço e tempo discretos. Sua abordagem é especialmente adequada para a realização de atividades pedagógicas que usam simulação.



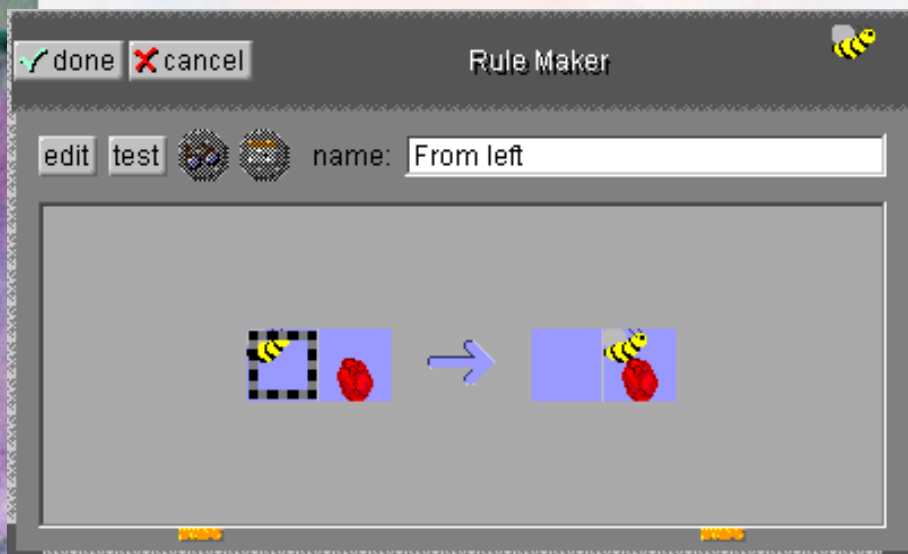


StageCast

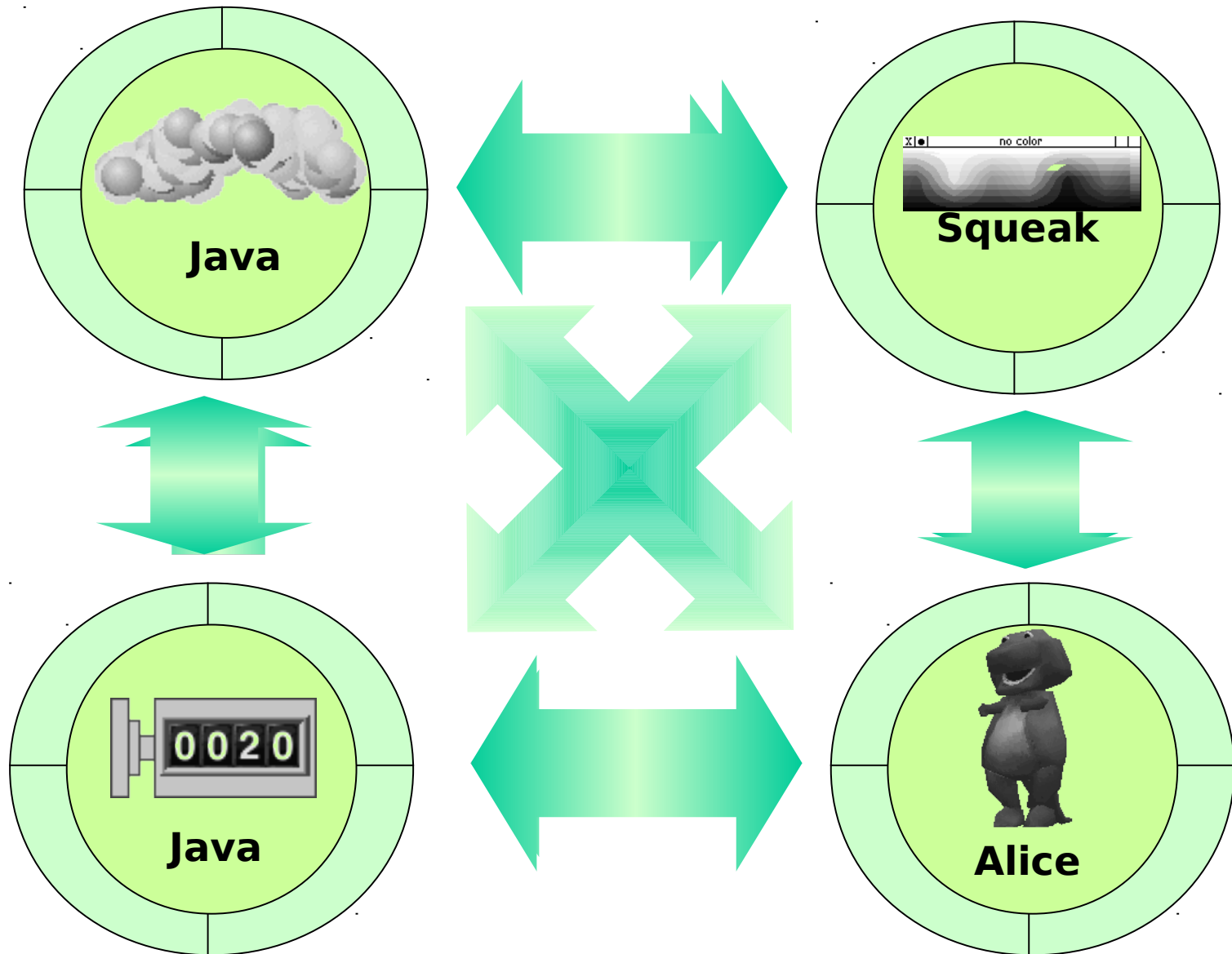
Agentes e Simulação



Comportamento



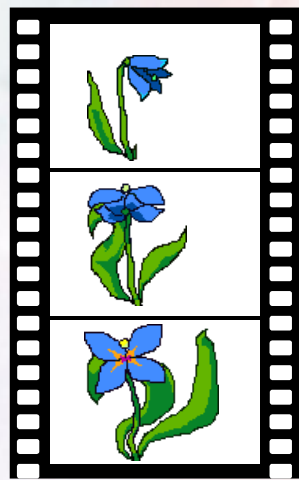
Anima e Integração



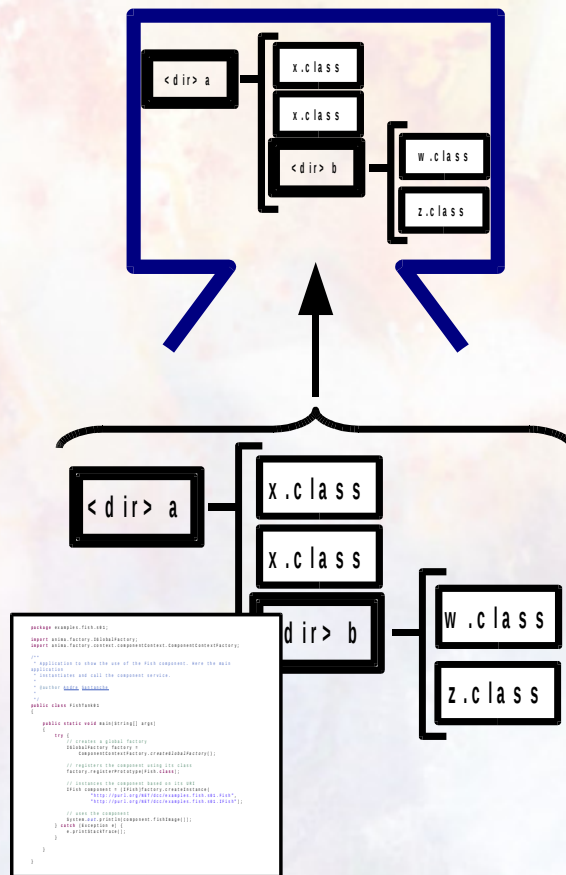
The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the page, serving as a backdrop for the title text.

Composing Everything Magic House

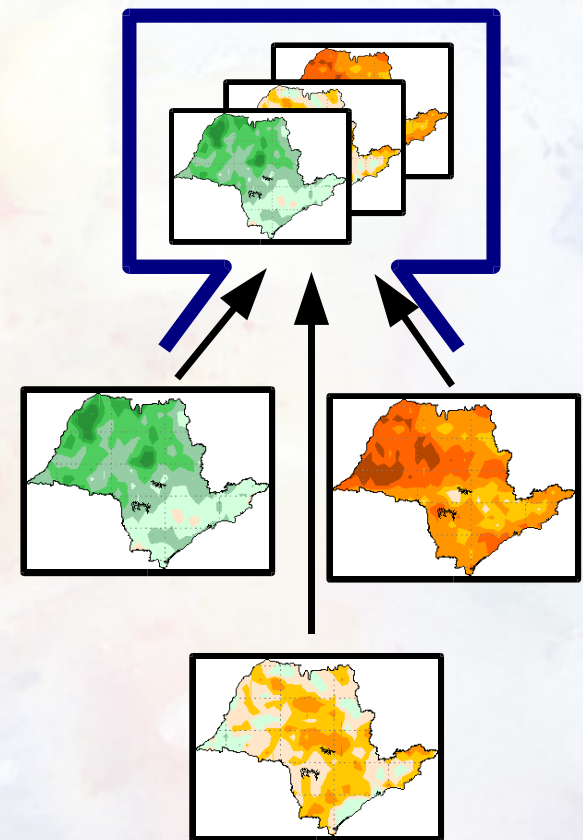
■ Heterogeneous artifacts



V i d e o



Executable Code



M a p s

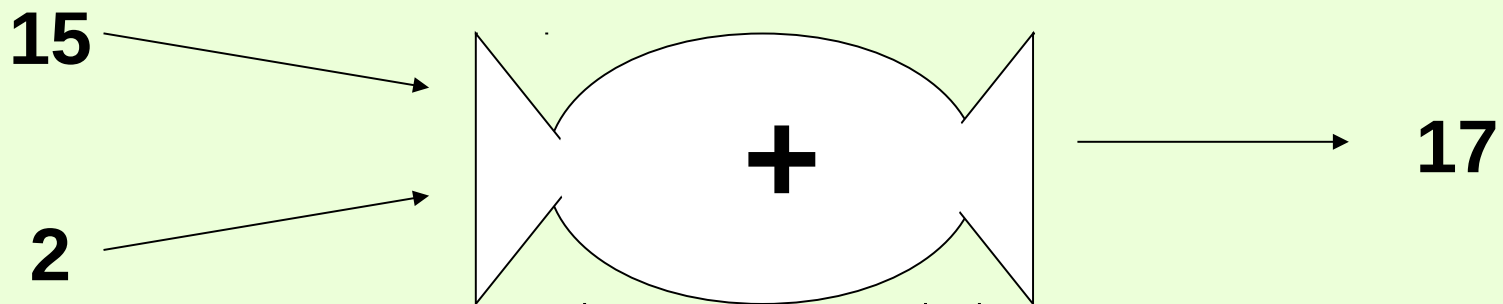


Projeto com Casa Mágica

- Componentes de *software* que simulam máquinas para o ensino de matemática.

Metáfora das Máquinas

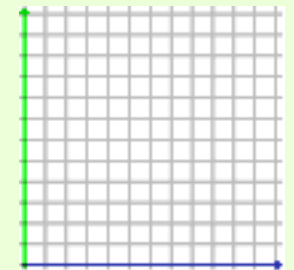
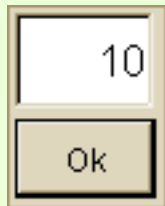
Utilizada para a explicação das quatro operações básicas.



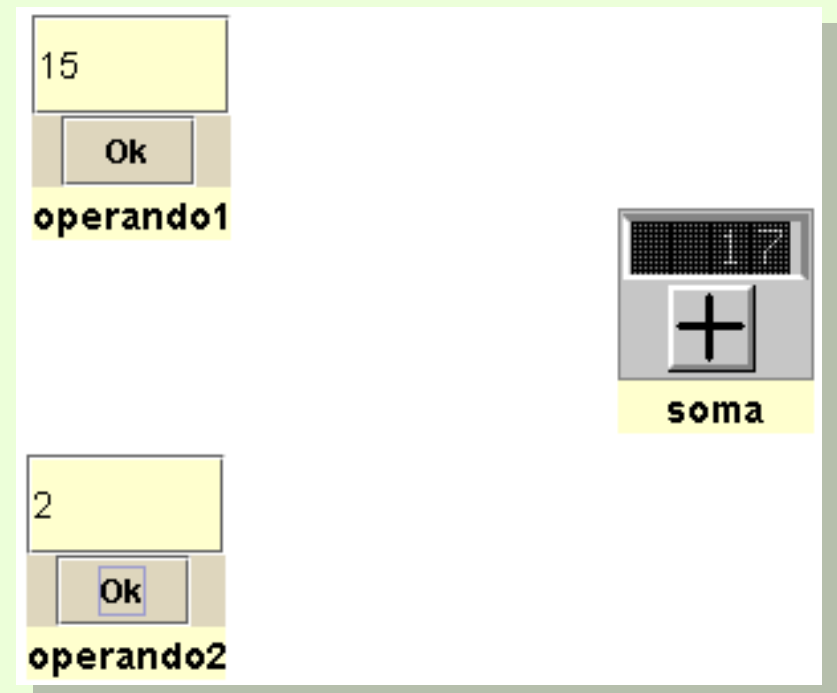
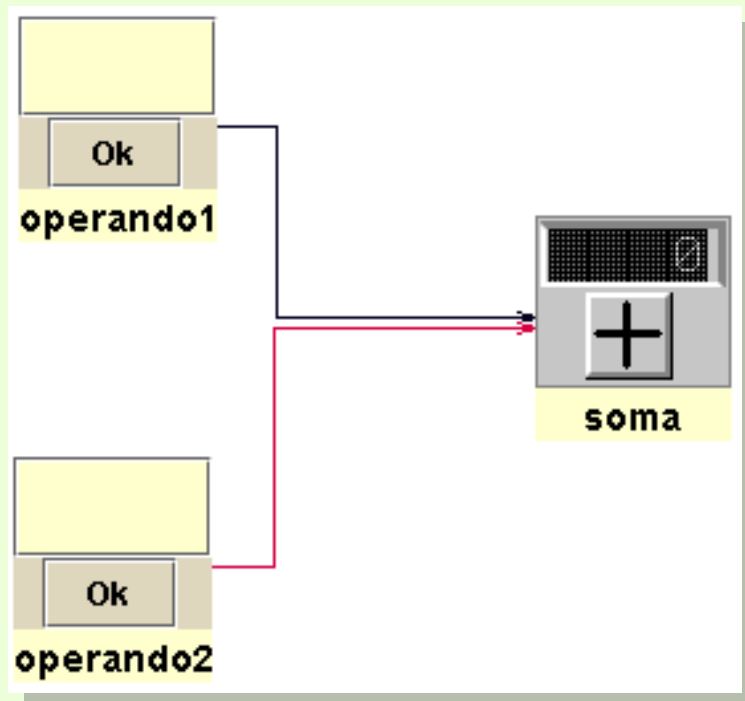
Proposta

O computador, tomado como máquina genérica, é capaz de simular virtualmente estas máquinas matemáticas, cujo comportamento se pretende estudar.

Máquinas elementares podem ser convertidas em componentes de *software*.

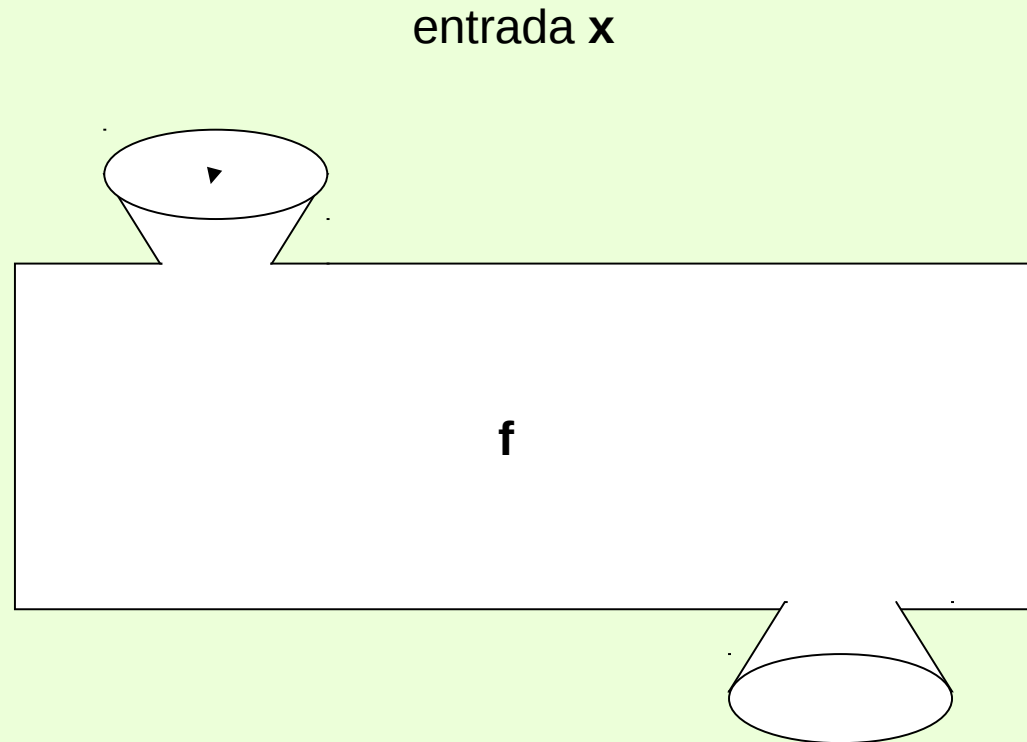


Casa Mágica



Metáfora das Máquinas

Utilizada para a explicação de funções.



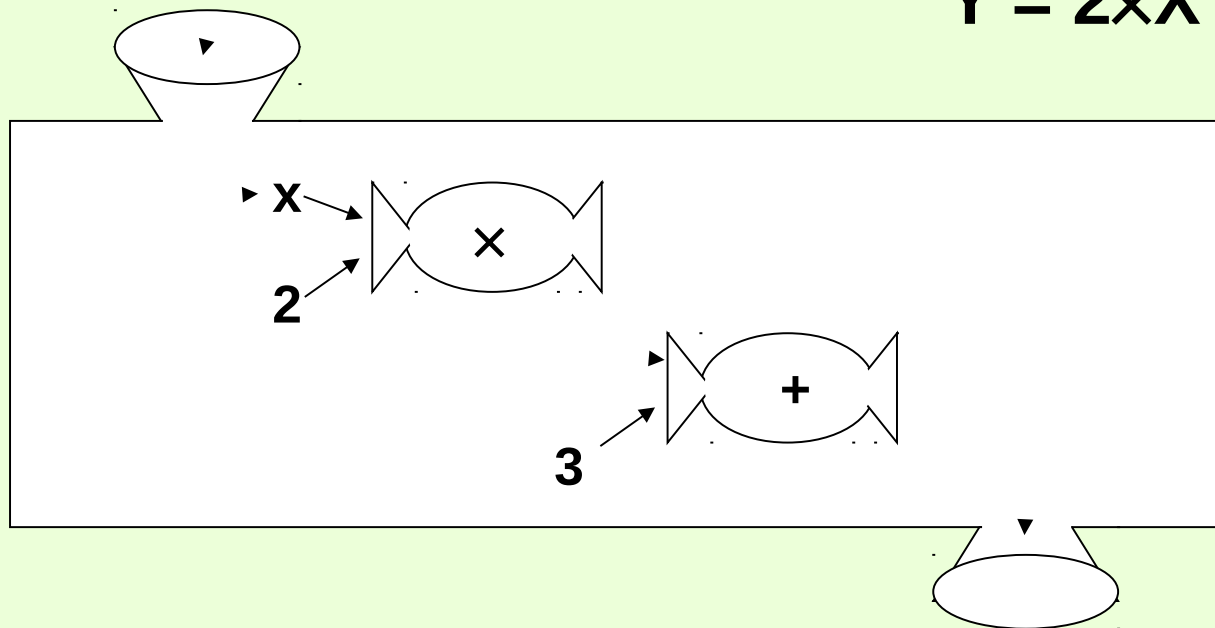
▶ saída $y = f(x)$

Proposta

Interligar máquinas de menor complexidade para compor máquinas funções.

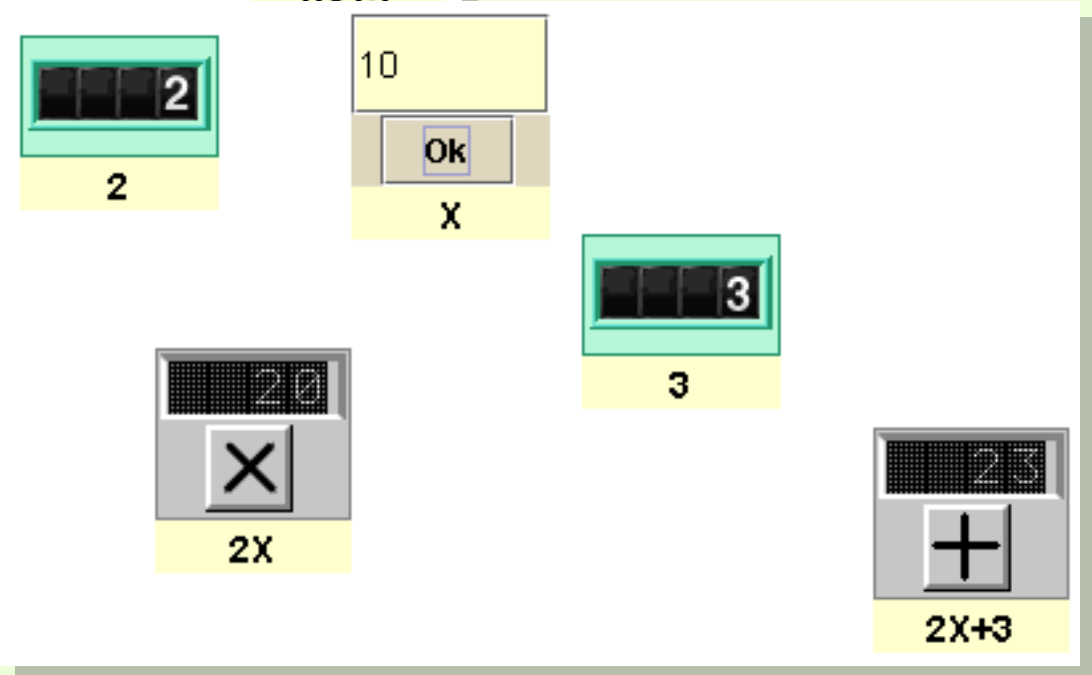
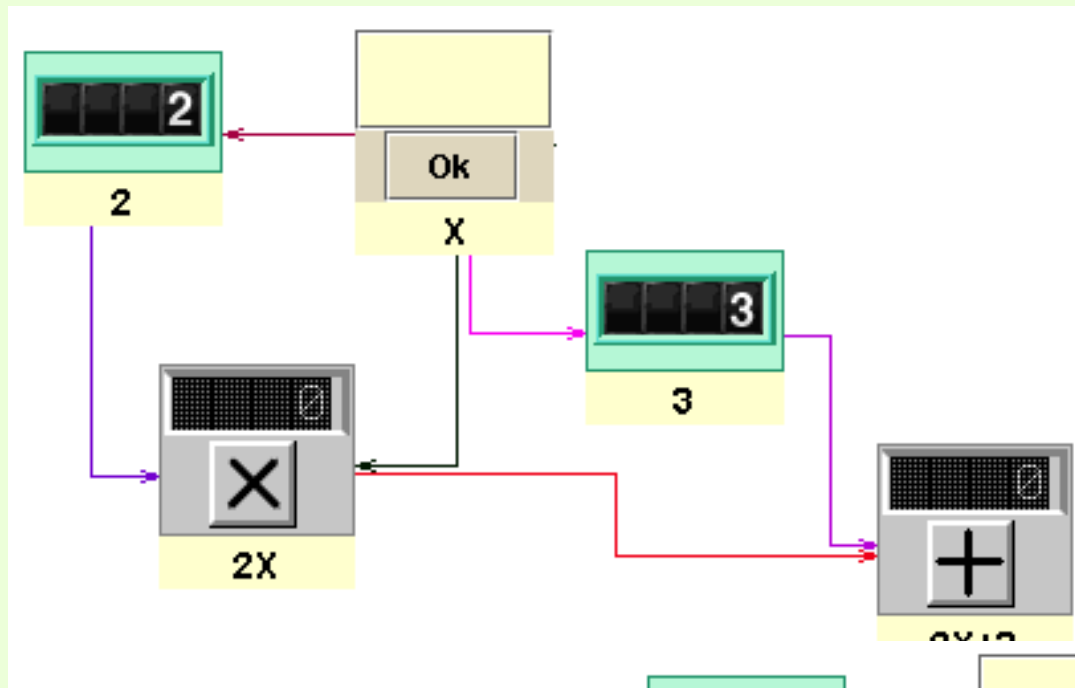
entrada x

$$Y = 2 \times X + 3$$

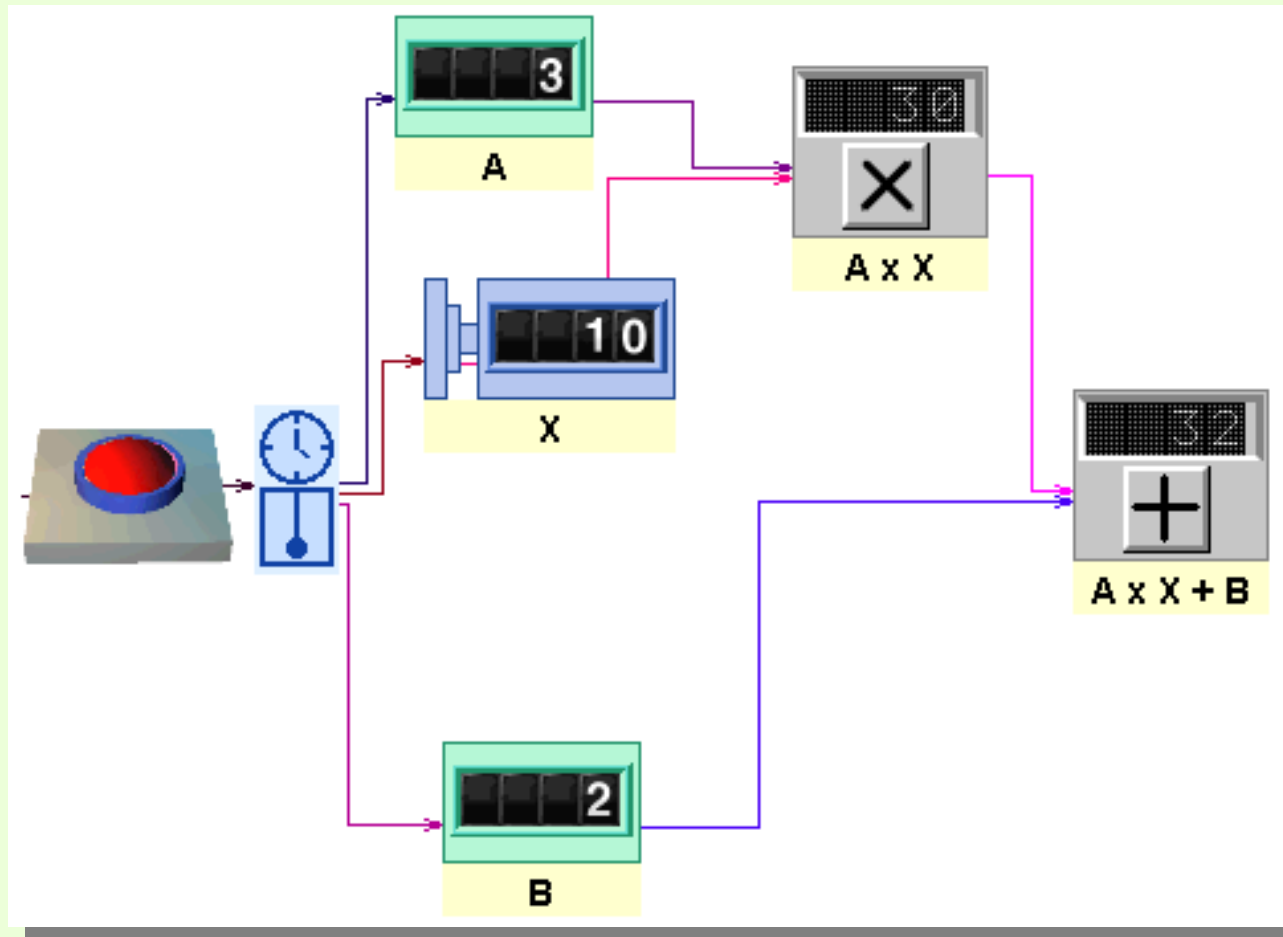


saída $y = f(x)$

Casa Mágica



Casa Mágica

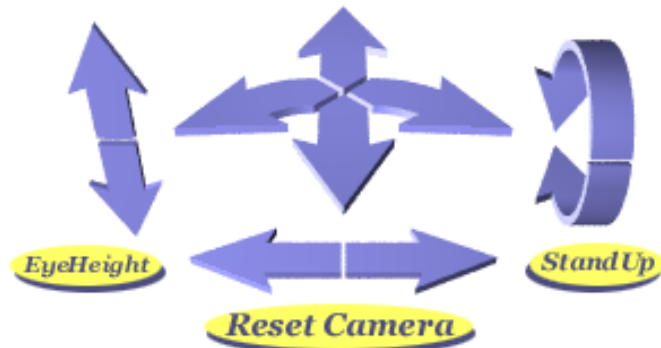


Espaço 3D

Alice

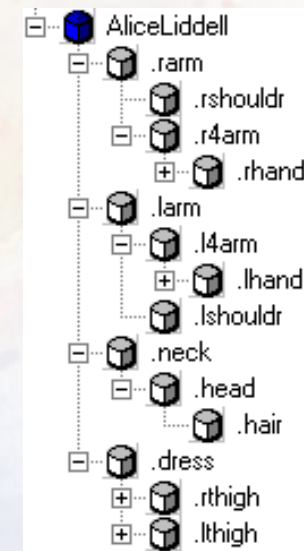


Camera Controls



Ambiente tridimensional para a construção de animações com propósitos educacionais.

Utiliza a Tecnologia de Objetos.



Alice

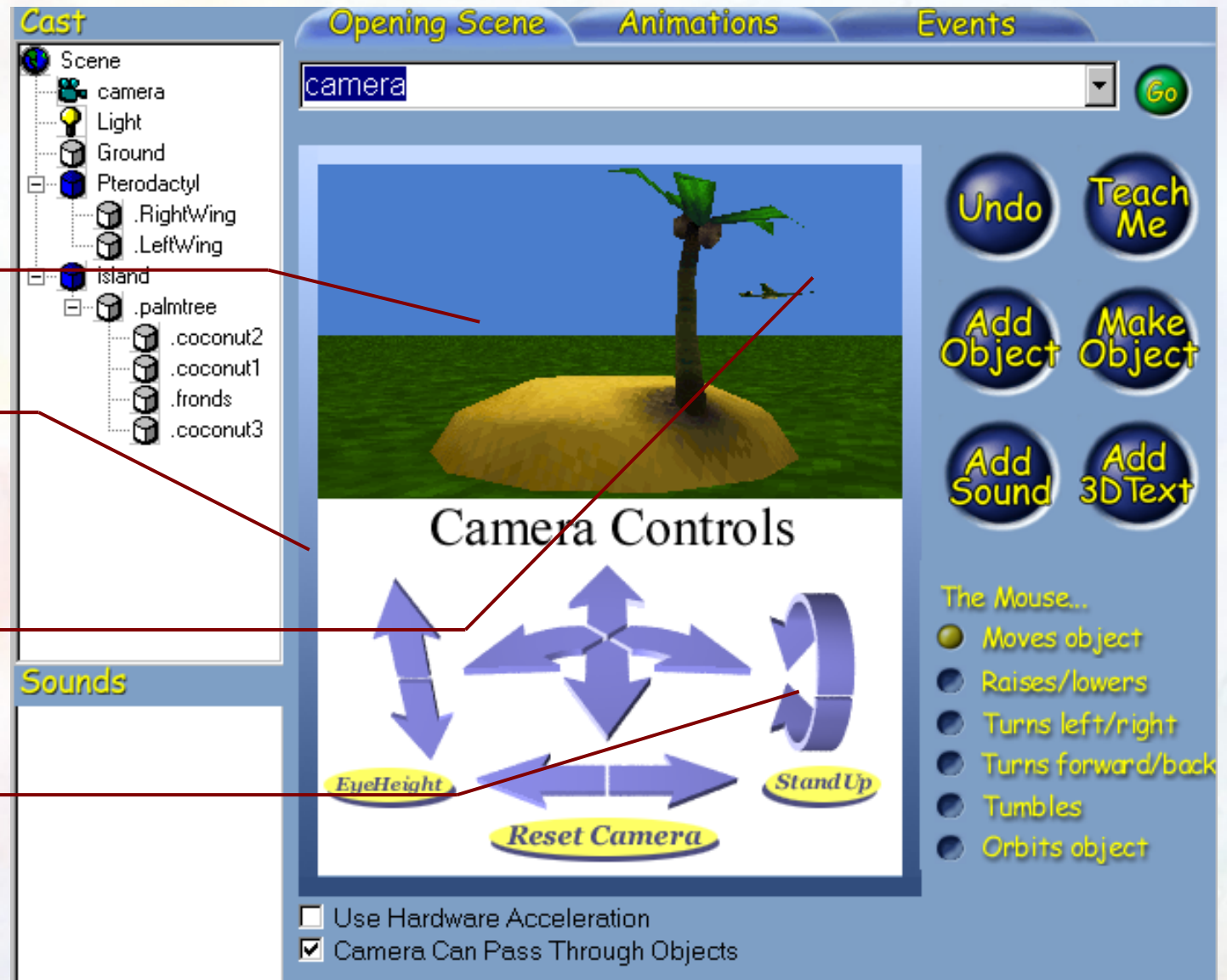
Objetos da
Cena

Cena

Navegação
no Espaço

Operações

Transformações com
o Objeto



Alice



**Scripts
associados a
Objetos
(comporta-
mento)**

**Codificação
“arrastando e
soltando”**

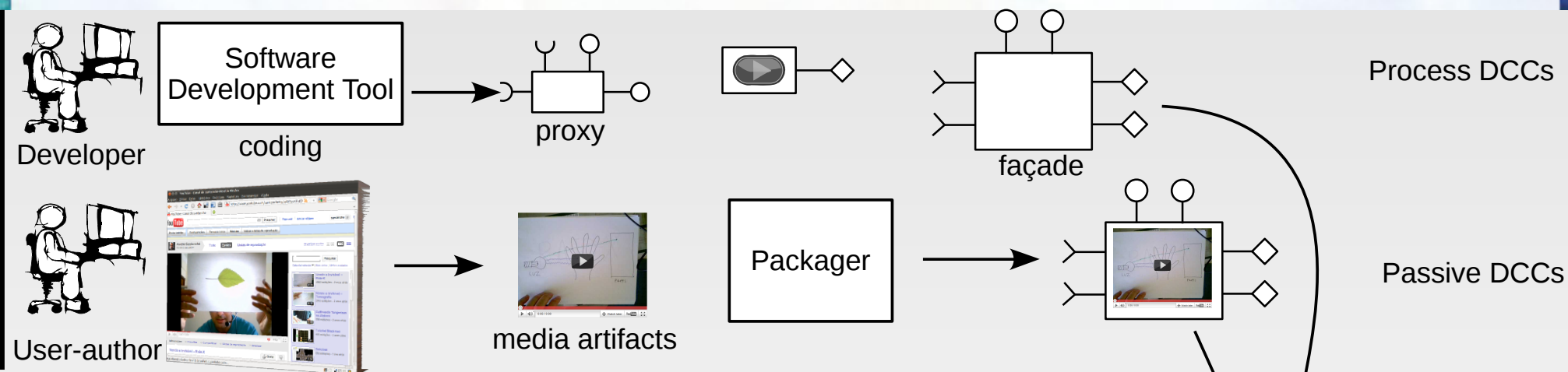
**Tabela de
Eventos**

When	Happens To	Do Animation
World Start	- - -	Movimento
LeftMouseButtonDown	Pterodactyl	DesceAsa
RightMouseButtonDown	Pterodactyl	DesceAsa

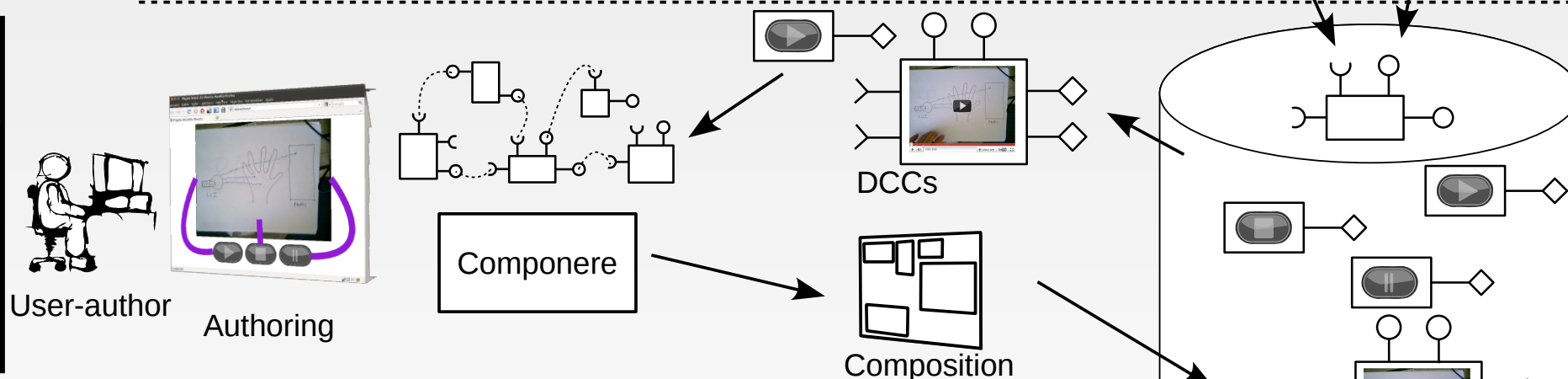
The image features a soft, abstract watercolor background with a palette of light blues, pinks, yellows, and greens. A large, semi-transparent white rectangle is centered on the page, serving as a backdrop for the text. The watercolor strokes are visible around the edges of this rectangle and in the corners of the image.

Componere

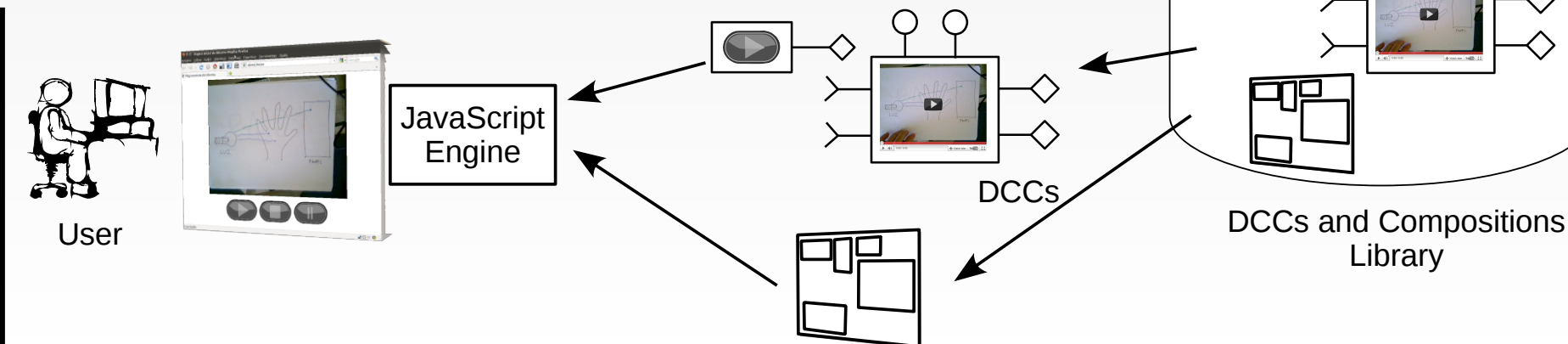
Primitives Creation



Authoring



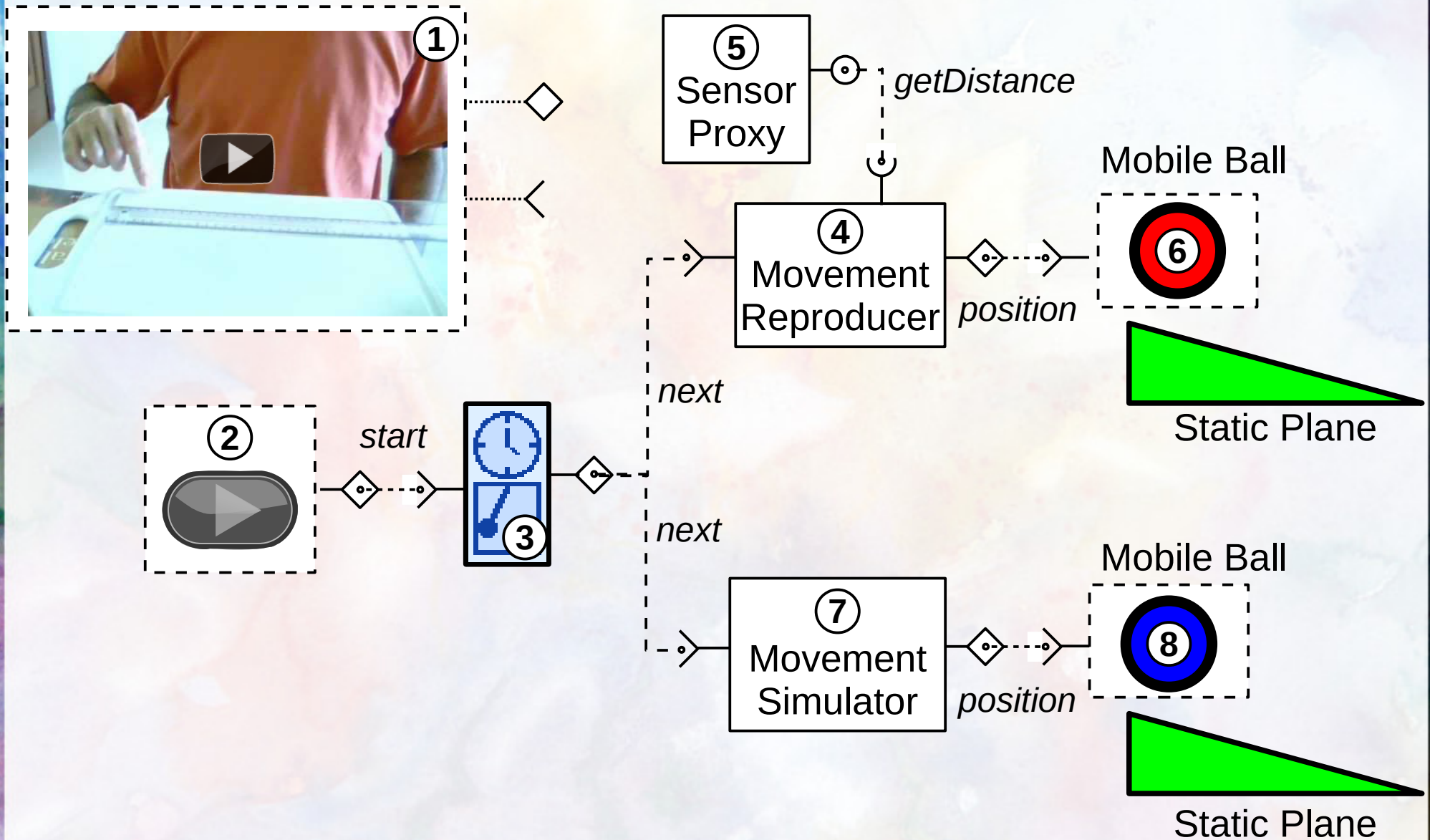
Execution



The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the page, serving as a backdrop for the text.

Translucens

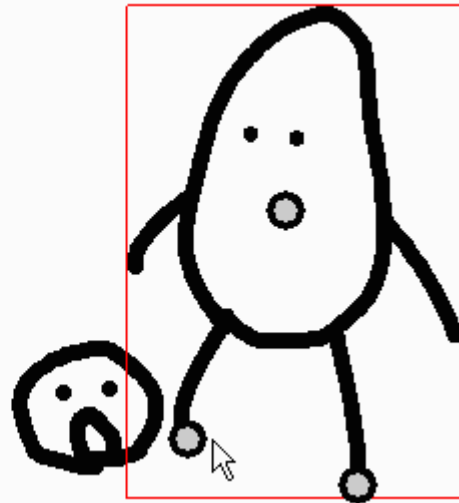
Practical Example



The background of the slide is a vibrant watercolor wash in shades of blue, green, yellow, and red. A large, semi-transparent white rectangle is centered on the page, serving as a backdrop for the text.

Ideas to Explore

Desenho Interativo



Takeo Igarashi

<http://www-ui.is.s.u-tokyo.ac.jp/~takeo/>

Referências Bibliográficas

- Koning-Bastiaan, Martin. **Connected and Scalable: A revolutionary Structure for Online Communities**. EOE – Educational Object Economy.
- Santanchè, Simone. **Modelo de Simulação Empresarial baseada em Componentes de Software**. Master Thesis, 2002
- Wing, Jeannette M. 2006. **Computational thinking**. Commun. ACM 49, 3 (March 2006), 33-35. DOI=10.1145/1118178.1118215
<http://doi.acm.org/10.1145/1118178.1118215>

André Santanchè

<http://www.ic.unicamp.br/~santanche>

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