Design Learning

-Will Wright
Game Designer

Everyone a game designer...
Lionel, my name is Lionel. I am 3 years old. I like the episode "Lionel’s Birthday."

It is 3am. I wish I had antlers, too. I played a trick on my brother. It was today. It is 6 am in Europe. I put an antler hat on him. I am quite a mischievous kid. I have a computer. I know how to play.

![Diagram of various objects connected to a computer](Image)
Design Fields

**Environmental**
- Architecture
- Interior
- City planning
- Amusement parks

**Aesthetic**
- Art
- Fashion
- Graphic

**Functional**
- Industrial
- Product
- Furniture

**Interactive**
- Software
- Games
- Web

**Linear Media**
- Book
- Film
- TV

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Industrial Design
Apprenticeship

Craftsman - Unselfconscious

Professionals - Selfconscious

Experiences failure (repeatedly)

Protected from Failure (through theory)
comfortable
portable
aesthetic
strong
stable
maneuverable
easy to clean
repairable
adjustable
affordable
available materials
durable
producible parts
easy to assemble
easy to ship
Powers of Ten

Eames lounge chair
Prototyping

Rapid iteration (<1 week)

Can you guess how it works?

Designer view vs. black box view- my sister - playtesting
Mouse test (want to grab) - “Let me try”

Can u learn by watching?

Do you want to save it?
Architecture
Design Patterns
Serving the critics, not the customers

Bronx Development Center
Japanese Gardens
Grammar

Not just nature
Symbolism, 48 named rocks
sensory

Space

perception
Simplicity

“Your garden is not complete until there is nothing else you can remove”

Mental tools
Russian Space Program

1962
Soyuz 1 - 1
Soyuz 11 - 3
Apollo 1 - 3
Challenger - 7
Columbia - 7
Casualties 4 17
Automotive design

Engineering

Usability

Art
Freq. analysis – sets priorities

<table>
<thead>
<tr>
<th>Action</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td>40%</td>
</tr>
<tr>
<td>Wait</td>
<td>32%</td>
</tr>
<tr>
<td>Shoot</td>
<td>21%</td>
</tr>
<tr>
<td>Open Door</td>
<td>12%</td>
</tr>
<tr>
<td>Change Weapon</td>
<td>7%</td>
</tr>
<tr>
<td>Pickup Item</td>
<td>5%</td>
</tr>
<tr>
<td>Jump</td>
<td>2%</td>
</tr>
<tr>
<td>Scroll View</td>
<td>52%</td>
</tr>
<tr>
<td>Wait / Observe</td>
<td>28%</td>
</tr>
<tr>
<td>Movement Comand</td>
<td>12%</td>
</tr>
<tr>
<td>Select Unit(s)</td>
<td>8%</td>
</tr>
<tr>
<td>Zoom View</td>
<td>6%</td>
</tr>
<tr>
<td>Attack Command</td>
<td>5%</td>
</tr>
<tr>
<td>Factory Orders</td>
<td>3%</td>
</tr>
</tbody>
</table>
Racing

Invented problems

DARPA Grand Challenge
Power tool racing

Concept cars
"Creativity is allowing yourself to make mistakes. Art is knowing which ones to keep."

-Scott Adams
Volvo YCC
Sony + Toyota

Toyota "Pod"
Seek innovative design and learn from it. Cheap.
Vehicles for self-expression

Art - uri
Art
Magic

Wrong model
AI / player model
The player will build an internal model of your system. If you don’t help them build it, they’ll probably build the wrong one.
Fitness Landscape (Sewall Wright, 1932)

gene combination fitness

Fitness Landscape

Fitness

Speed

Size
Gameplay Landscape (Sims)

Market Landscape
Language

Game Language

Players

Designers
**Semiotics**

**Sender** ➔ **Medium** ➔ **Receiver**

**Semiotics - study of signs**

- **Symbolic**
- **Iconic**
- **Indexed** (Representational)

[Images of signs and symbols, including one showing the development of Mesopotamian cuneiform script.]
• Nouns —— dog —— me
• Verbs —— bite —— run
• Adjectives —— mad —— fast

• Perceptual (what is it?)
  Dog – Mammal - Pet
• Action (what does it do?)
  Bite – Run – Eat – Play - Bark
• Handles (how can I affect it?)
  Call – Kick – Chase - Pet
• Purpose (why do I need it?)
  Companionship – Home Defense
Find the nouns with verbs.
Buy Mode - Shopping

舒适点，学习你的游戏语言

浏览名词 – 推断动词 – 比较形容词 – 模型数据结构

SwivelMaster Office Chair  $319
Description: American Office Chair.
Date: 1990 remake of 1941 original.
Condition: Excellent, some loss of varnish, crayon marks on underside.
Modification: Anti-swivel brake, wheel lock, Tilt inhibitor.
Pending Litigation: The Children vs. SwivelMaster Furniture (90-
100), S45 SG (1997).
Comfort: 2
Room: 1

Niagara Love Tub  $7,999
Like the plunging and roiling falls of the famous honeymoon spot,
the Niagara Love Tub brings out the untamed side of couples
everywhere. Hypnotic and relaxing? Or energetic and invigorating?
Either way, every caressing curve of the form-fitting seats, along
with the heavenly flow of hot, massaging bubbles will turn even the
most upright Sims into plebeian, indulgent libertines.
Comfort: 5
Hygiene: 2
Fun: 3
Can only be used by adults
Group Activity

Browse nouns – infer verbs – compare adjectives – model datastructure
Independent of gender, age, culture

Film/storytelling
3 act story structure

STAR WARS
Luke Skywalker “A” is a frustrated farm kid who wants to be a fighter pilot like his friends.

Through a series of events, he is sent on an adventure “B” to deliver the vital plans to the rebel forces, getting captured by the Empire and rescuing the Princess in the process.

Luke tends to “C” as a dad operates a forest nursery on a hostile planet in a long shot.

By learning the Force, Luke proves he is a capable warrior, eager to fight for a much greater cause. At the end, “C,” he is a skilled star-pilot who destroys the Death Star.

CASABLANCA
Rick Blaine “A” is a hardened, cynical man who “socks his neck out for nobody.”

When his old girlfriend, Ilsa, comes into his bar and sends him into turmoil “B.” He now has to grapple with his feelings which have been deeply suppressed and decide whether or not he can love her again. He also has to decide what to do with the stolen letters of transit - keep them for himself, leave with Ilsa, or give them to Victor Lazo - Ilsa’s husband and powerful leader of the underground opposition to the Nazis.

Rick helps a young couple in love, comes to terms with his own feelings, and finally gives the letters of transit to BOTH Ilsa and Victor. He even risks his own life by shooting the German Major to help them escape Casablanca. At the end, “C,” Rick is selfless, a patriot, and (tragic) romantic.

Emotional Intensity
Pacing

Emotions
Rich emotional palette
- Joy
- Sorrow
- Etc.

Basic Instincts
- Pride
- Accomplishment
- Guilt
- Expression
From the players point of view there is a fine line between complex behavior and random behavior.

Visibility of causal chains usually makes the difference.
How to get toothpaste on a toothbrush...

The steps:
1. Place the two handles (a) which free the scale and move the counter (c) to zero.
2. Slide down the tightly held scale (b). The handle will be away of range. The handle is released at the bottom and it turns. Notice the handle (b) and a handle by releasing the back of the base piece (c). When the scale is fully raised, it puts the edge step (d) and slides the counter (e).
3. Taking care not to push the base piece (c), put the scale on the toothbrush (f). It holds the handle (a) and the edge step (d). The scale moves down, and the edge step (d) is placed on the toothbrush (f).
Toys and Models
Creative - create models as play

Loosely representational
Directly representational = models
Models strip away irrelevant details
Toys invite the imagination to fill in the blanks

Scaffolding for imagination
“Understanding Comics”
- Scott McCloud

Another is the Universality of Cartoon Imagery. The more cartoonish a face is, for instance, the more people it could be said to describe.

High Detail
Hard to Edit

Low Detail
Easy to Edit
You are in a dark cave
Go North

Then...
> You are in a dark cave
  Go North

Now...

80%  20%

20%  80%
Trends
Programmer  ++ design

Artist        ++ programming

Designer      ++ programming

Producer      ++ design
Programmer

Designer

Artist

Producer

Industrial Design

Architecture

Japanese Gardens

Russian Space

Automotive

Art

Magic

Biology

Language

Film

Models
Industrial Design  Architecture  Japanese Gardens  Russian Space

Automotive  Art  Magic

Biology  Language  Film  Models

All Done