



# Indirect Control and Interactivity

# What is Indirect Control?

# What is Indirect Control?

- 
- Techniques to guide the player's emotions, thoughts and actions

# What is Indirect Control?

- Techniques to guide the player's emotions, thoughts and actions
- Range from subtle (transparent) to obvious (opaque)

# What is Indirect Control?

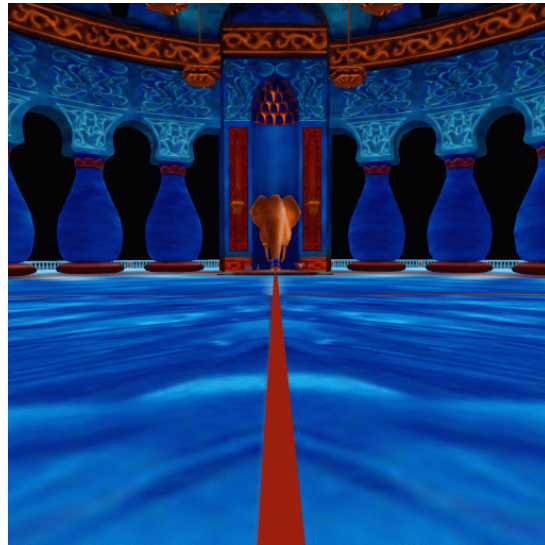
- Techniques to guide the player's emotions, thoughts and actions
- Range from subtle (transparent) to obvious (opaque)
- May be diegetic or extra-diegetic

# What is Indirect Control?

**It's easier to determine when these techniques **fail** than **succeed**.**

# How Does Interactivity Affect Indirect control?

- Player is co-author of videogame story
  - More willing to overlook inconsistencies of videogame world because he has greater ownership than non-interactive media



# How Does Interactivity Affect Indirect control?

- Player is co-author of videogame story
  - More willing to overlook inconsistencies of videogame world because he has greater ownership than non-interactive media
- In fact, if he can't adequately be indirectly controlled he won't be able to progress in the game.



# Formal vs. Material Constraints

Michael Mateas:

In order to invoke a sense of agency, an interactive experience must strike a **balance** between the material and formal constraints. (2005)



# Formal vs. Material Constraints

Formal Constraints are the dramatic  
Structure and Possibilities of the game.

Material Constraints are the Affordances of  
the game.



# Formal vs. Material Constraints

Formal Constraints of Quake:

1. Everything that moves will try to kill you
2. You should try to kill everything
3. You should try to move through as many levels as possible



# Formal vs. Material Constraints

## Material Constraints of Quake:

1. Player can run swiftly and smoothly through space
2. Player can pick up a wide array of lethal weapons
3. Player can fire these weapons at monsters that adhere to the “kill or be killed” ethos

# Equations for “un-fun”

Material Constraints



(Avenues  
of  
agency)

# Equations for “un-fun”

Material Constraints > Formal Constraints



(Avenues  
of  
agency)



(Range of Challenges  
and Constraints)

# Equations for “un-fun”

Material Constraints > Formal Constraints = Confusion/Lost



(Avenues  
of  
agency)



(Range of Challenges  
and Constraints)

# Equations for “un-fun”

Formal Constraints



(Range of Challenges  
and Constraints)

# Equations for “un-fun”

Formal Constraints > Material Constraints



(Range of Challenges  
and Constraints)



(Avenues  
of  
agency)

# Equations for “un-fun”

Formal Constraints > Material Constraints = Frustration



(Range of Challenges  
and Constraints)



(Avenues  
of  
agency)

# Equation for Fun

Formal Constraints = Material Constraints = Agency/Fun



(Range of Challenges  
and Constraints)



(Avenues  
of  
agency)

 Jesse Schell puts it simply...

Choices > Desires = Confused/Lost



# Jesse Schell puts it simply...

Choices > Desires = Confused/Lost

Desires > Choices = Frustrated



# Jesse Schell puts it simply...

Choices > Desires = Confused/Lost

Desires > Choices = Frustrated

Choices = Desires = Fun

 To put it another way...

The **Formal Constraints** provide the **framework** for the player to act

while the **Material Constraints** provide the **means** to act

# To put it another way...

The **Formal Constraints** provide the **framework** for the player to act

---

while the **Material Constraints** provide the **means** to act

It is in the boundary between these two domains where **INDIRECT CONTROL** comes onto play.



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# Methods of Indirect Control

## 1. Videogame Semiotics



WarioWare Touched!  
(2005 for Nintendo DS)

Referencing past videogame experience...



# Methods of Indirect Control

## 1. Videogame Semiotics

- Leveraging Player's previous videogame experience
- Videogame Genres
  - Platformers
    - Formal Constraints
      - You must traverse through precipitous environments
      - Enemies are obstacles to the goal (which is usually to reach a point in space)
    - Material Constraints
      - You will have acrobatic, dexterous, or exaggerated abilities of motion
      - You will have weapons appropriate to kill enemies (often using space, such as jumping on their head, rolling into them, etc.)

# Methods of Indirect Control

## 1. Videogame Semiotics



Platformers...

# M

# Methods of Indirect Control

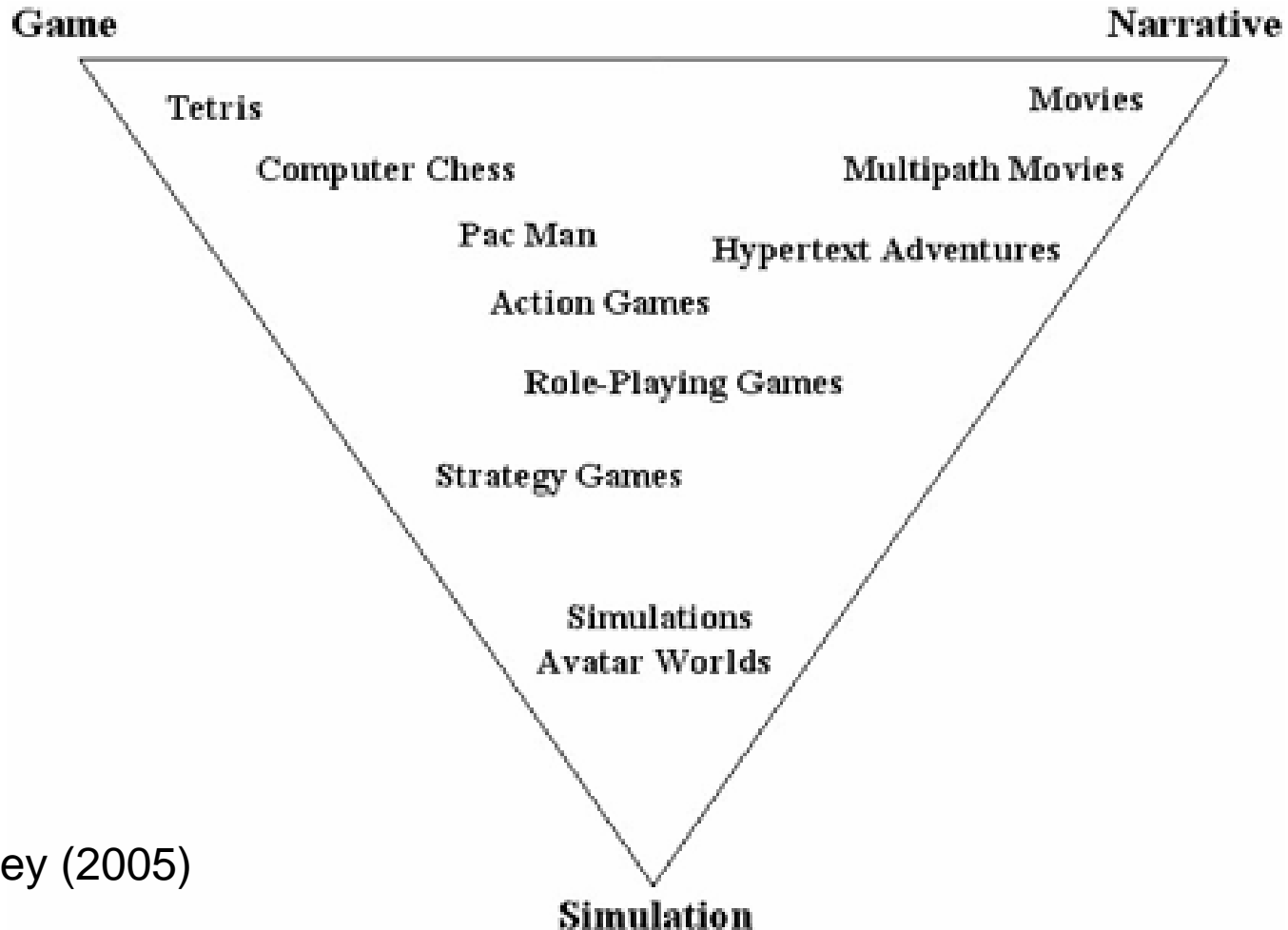
## 1. Videogame Semiotics

- *Action games*: shoot while being hit, strafe to hiding spot, take health, repeat
- *RPGs*: send fast character to lure enemy from group, all characters kill enemy, take health, repeat
- *Strategy Games*: order peasants, send to work, order soldiers, send to perimeters, repeat while slowly expanding the perimeters (up to the point of catastrophic win/lose); OR: move x archers to tower y every n minutes to head off the enemy camel musketeers from the east who arrive every n minutes

Lindley (2005)

# Methods of Indirect Control

## 1. Videogame Semiotics



Lindley (2005)



# M Methods of Indirect Control

1. Videogame Semiotics
2. **Implicit Goals**
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects





# Methods of Indirect Control

## 2. Implicit Goals



# Methods of Indirect Control

## 2. Implicit Goals





# M Methods of Indirect Control

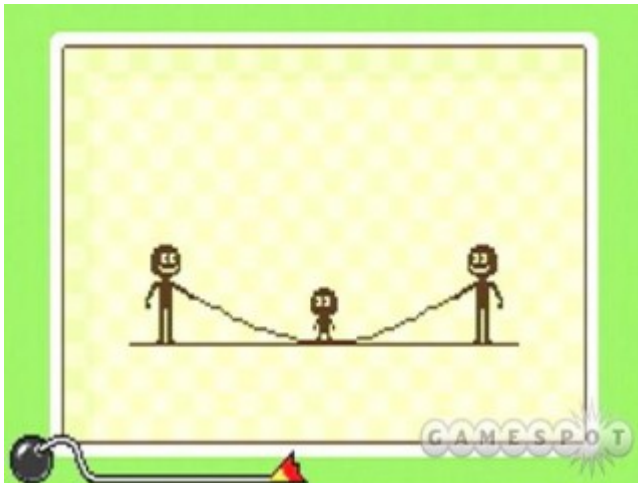
## 2. Implicit Goals

- 1) Understand **What** to do
- 2) Understand **How** to do it
- 3) Have **Skills** to do it

# Methods of Indirect Control

## 2. Implicit Goals

- 1) Understand **What** to do
- 2) Understand **How** to do it
- 3) Have **Skills** to do it



In each micro-game in WarioWare this process is completed only once, so in this way it very much like our game...

# Methods of Indirect Control

## 2. Implicit Goals

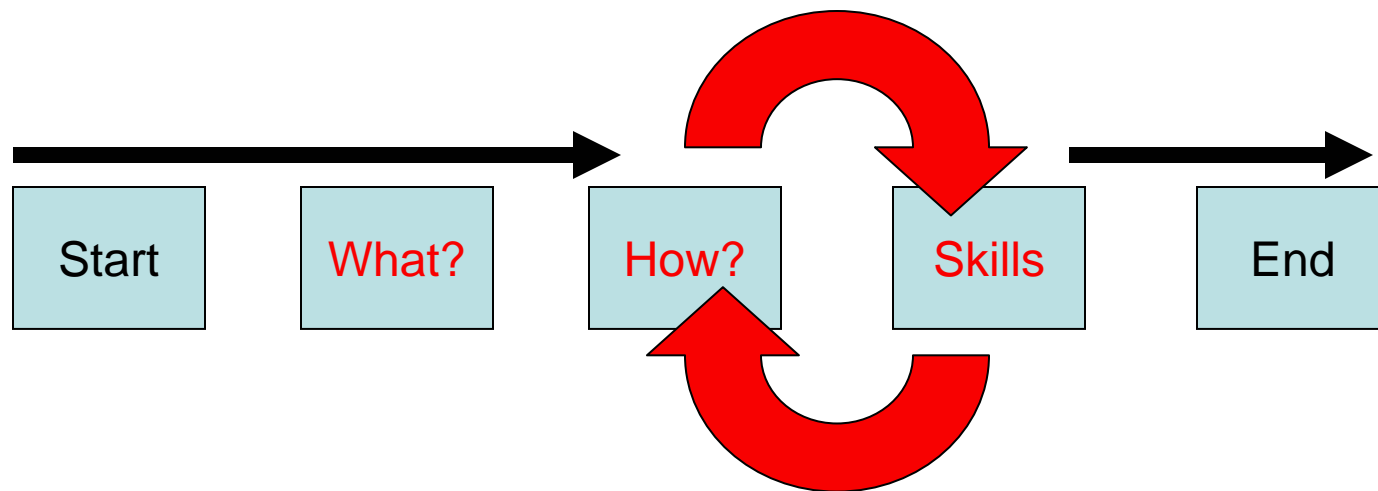
- 1) Understand **What** to do
- 2) Understand **How** to do it
- 3) Have **Skills** to do it



# Methods of Indirect Control

## 2. Implicit Goals

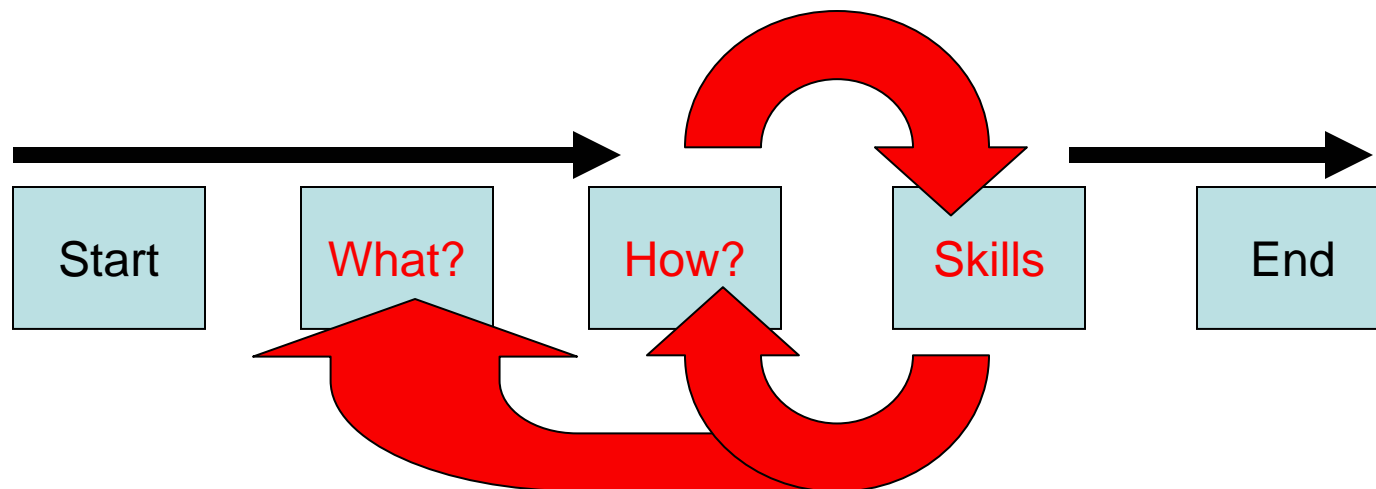
Most games have a cyclical process within these steps...



# Methods of Indirect Control

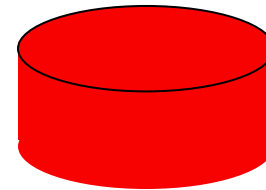
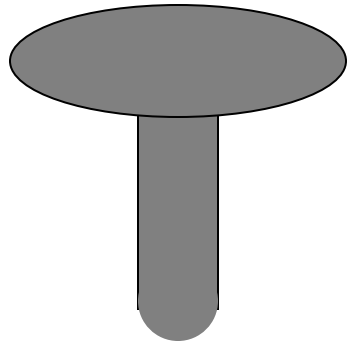
## 2. Implicit Goals

Most games have a cyclical process within these steps...



# Methods of Indirect Control

## 2. Implicit Goals



Like our game, WarioWare Inc. also uses a single joystick and single “action” button.

# Methods of Indirect Control

## 2. Implicit Goals



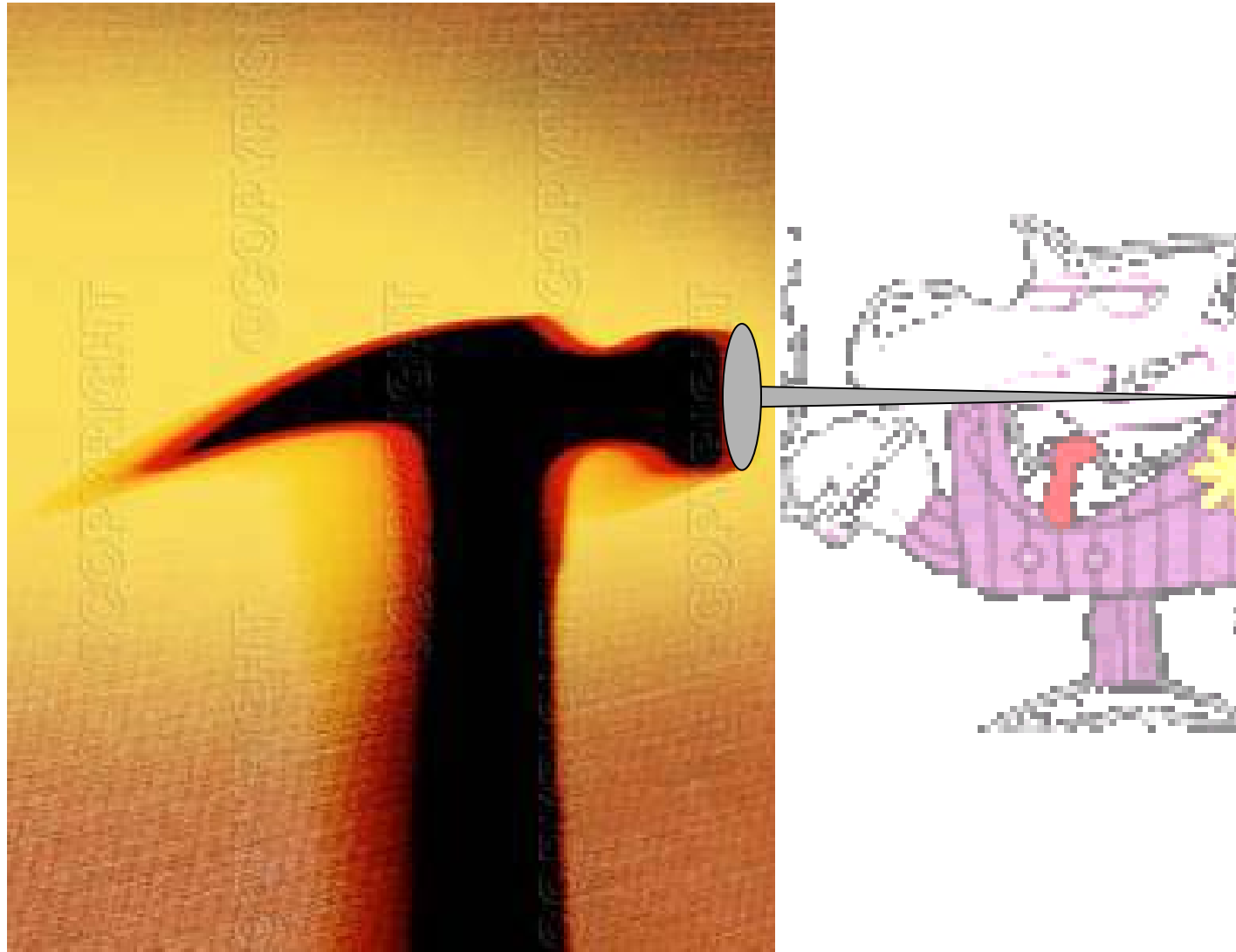
# Methods of Indirect Control

## 2. Implicit Goals



# Methods of Indirect Control

## 2. Implicit Goals



# Methods of Indirect Control

## 2. Implicit Goals



# Methods of Indirect Control

## 2. Implicit Goals





# Methods of Indirect Control

## 2. Implicit Goals

- Leveraging Worldly Knowledge
  - Hammer = Hit
  - Finger & Nose = Pick
  - Button = Push

# M

# Methods of Indirect Control

## 2. Implicit Goals

- Leveraging Worldly Knowledge
  - Hammer = Hit
  - Finger & Nose = Pick
  - Button = Push
- Raph Koster says **games teach us to pull manageable models out of reality** -mastering them is the fun part (*Theory of Fun, 2005*).

# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. **Explicit Goals**
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# Methods of Indirect Control

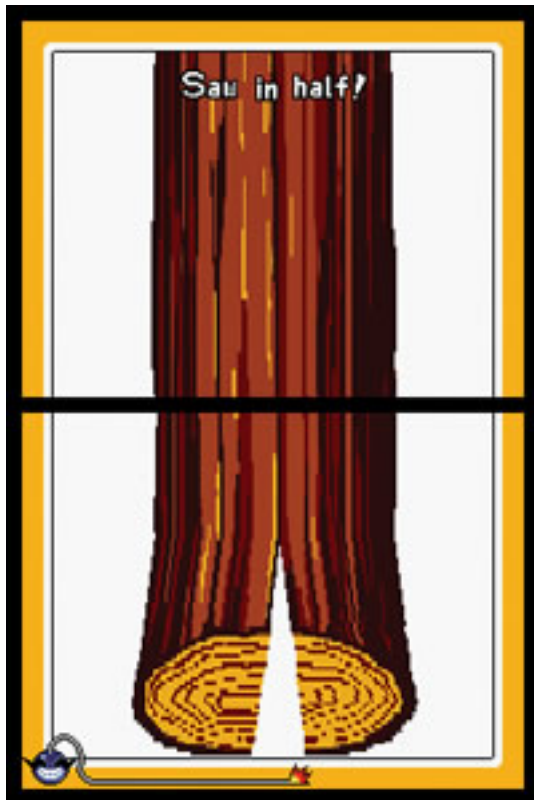
## 3. Explicit Goals



# Methods of Indirect Control

## 3. Explicit Goals

These range from a simple command:





# Methods of Indirect Control

## 3. Explicit Goals

To a Plea:



Save me Mario!

# Methods of Indirect Control

## 3. Explicit Goals

To a Statement:



# Methods of Indirect Control

## 3. Explicit Goals

To a Puzzle or a Database to be compiled or deciphered by the player:





# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# Methods of Indirect Control

## 4. Rules

- Explicit (as in Chess) or Implicit (as in Cops and Robbers)
- Indoctrination process before play even begins through a theming of the rules:



IT'S DONE!!! IT'S DONE!!!



**AUG 4TH**

**FORECAST: CHANCE OF RAIN**

So, this morning, I'm, like, wrist-deep in my nostrils—digging for gold, you know—when suddenly, I get the best news ever! My newest game, WarioWare, Inc.: Mega Party Game\$, had been completed!! Heh heh heh... It's like a license to print money! I'm gonna make a mountain of cash on this, and it's gonna be mine, all mine! As for all you chumps around town who helped me make this game, tough luck! No royalties for you!

**WAAAAAH HA HA HA HA HA!!!**

I BET YOU WANNA KNOW THE CONTROLS!

• **+ CONTROL PAD**  
• **CONTROL STICK**

Select items and control movement in mini-games.

• **B BUTTON**

Cancel.

• **A BUTTON**

Enter settings and make selections.

• **START/PAUSE**

Display the pause screen.

**AUG 5TH**

**FORECAST: PARTLY STINKY**

Yesterday, at the wrap party for my game, I ate so much liver ice cream that I gained a whole twenty pounds! Heck, I ate so much that I can't even squeeze past the bathroom door!! So anyway, I figured I'd just sit here and write Controller explanations for you lazy bums!

# M

# Methods of Indirect Control

## 4. Rules

For our project we could have something analogous to this –a physical artifact:

- A letter, document or map to examine
- A Themed Rulebook
- A Transpace Map
- A object or clue
  - like a piece of wood from a pew or ship
  - something to look for, in one, some or all of the Transpaces...



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects



# Methods of Indirect Control

## 5. Semiotics

- Avatar, Character and World Design
  - Naturalistic
  - Cartoony

# M

# Methods of Indirect Control

## 5. Semiotics

- Avatar, Character and World Design
  - Naturalistic
  - Cartoony
- Tetris block doesn't look like it wants to have a conversation, jump or use a potion. It looks like something that should be manually manipulated, like a child's block.

# M

# Methods of Indirect Control

## 5. Semiotics

- Avatar, Character and World Design
  - Naturalistic
  - Cartoony
- Tetris block doesn't look like it wants to have a conversation, jump or use a potion. It looks like something that should be manually manipulated, like a child's block.
- Non-Player Characters
  - Leading you by what they're looking at, direction of motion...

# Methods of Indirect Control

## 5. Semiotics



Jesse Schell Disney VR

Learned Affordances...

# Methods of Indirect Control

## 5. Semiotics



Jesse Schell Disney VR

Learned Affordances... strings are for pulling

(you may not even have a goal or know why you're pulling it)

# Methods of Indirect Control

## 5. Semiotics



Since our project is about Transitions in Space, this provides a lot of opportunity for semiotic montage, blurring the signs.

# Methods of Indirect Control

## 5. Semiotics



Since our project is about Transitions in Space, this provides a lot of opportunity for semiotic montage, blurring the signs. Thus, we may have to hardcode the transitions **to a slightly greater degree than expected** to relieve much of that responsibility off of the player.



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# M

# Methods of Indirect Control

## 6. Visual Hierarchy

- Gestalt
  - Dominant
    - What you look at first, where you'll probably head first.
  - Continuance
    - See a line, you follow that line
  - Difference
    - Contrast
  - Closure

# Methods of Indirect Control

## 6. Visual Hierarchy

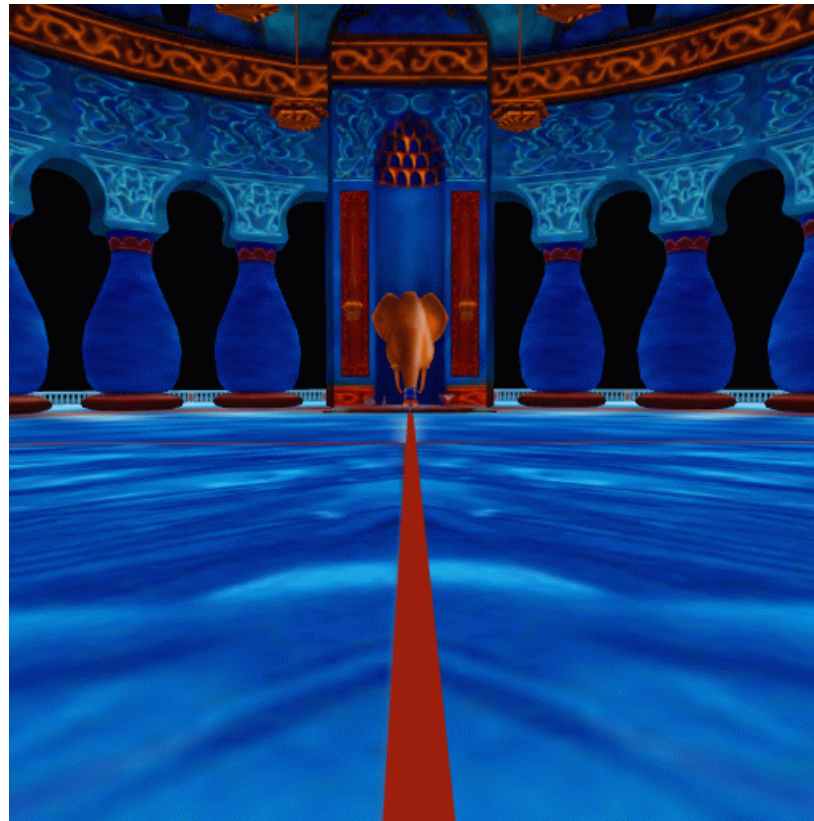


Architectural Dominant...

Jesse Schell Disney VR

# Methods of Indirect Control

## 6. Visual Hierarchy

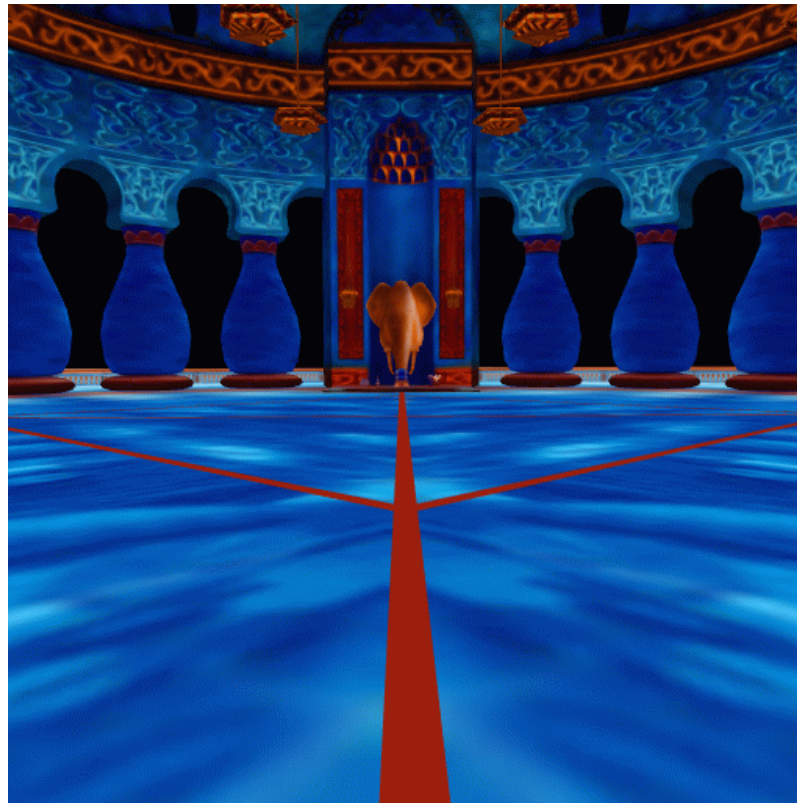


Jesse Schell Disney VR

Continuance...

# Methods of Indirect Control

## 6. Visual Hierarchy



Jesse Schell Disney VR

Continuance...

# Methods of Indirect Control

## 6. Visual Hierarchy



Continuance...

# Methods of Indirect Control

## 6. Visual Hierarchy



Difference through contrast...

# Methods of Indirect Control

## 6. Visual Hierarchy



Difference through contrast...



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# Methods of Indirect Control

## 6. Music

- Music invokes certain behavior patterns:
  - **Fast-paced music** encourages quicker actions by the player
  - **Spooky music** encourages more calculated actions by the player
  - [sudden] **Absence of music** can cause reflection or maximum dread/suspense



# Methods of Indirect Control

1. Videogame Semiotics
2. Implicit Goals
3. Explicit Goals
4. Rules
5. Semiotics
6. Visual Hierarchy
7. Music
8. Sound Effects

# Methods of Indirect Control

## 6. Sound Effects



# Methods of Indirect Control

## 6. Sound Effects





# Methods of DIRECT Control

# Methods of DIRECT Control

Limitations or Forced Events should be contextualized diegetically.

Imagine running into a wall you can't see...



# Methods of DIRECT Control

Limitations or Forced Events should be contextualized diegetically.

(In truth this happens often in videogames)



# Methods of DIRECT Control

Limitations or Forced Events should be contextualized diegetically.

(In truth this happens often in videogames)



# Methods of DIRECT Control

Limitations or Forced Events should be contextualized diegetically.

Another solution is to allow the player to transgress the limit, but bring him back through a force of nature, etc.





# Methods of DIRECT Control

In the Truman Show much of the humor was achieved through the exaggerated methods of **Indirect Control** and **Direct Control** to keep him contained.



# Methods of DIRECT Control (that's diegetically contextualized)

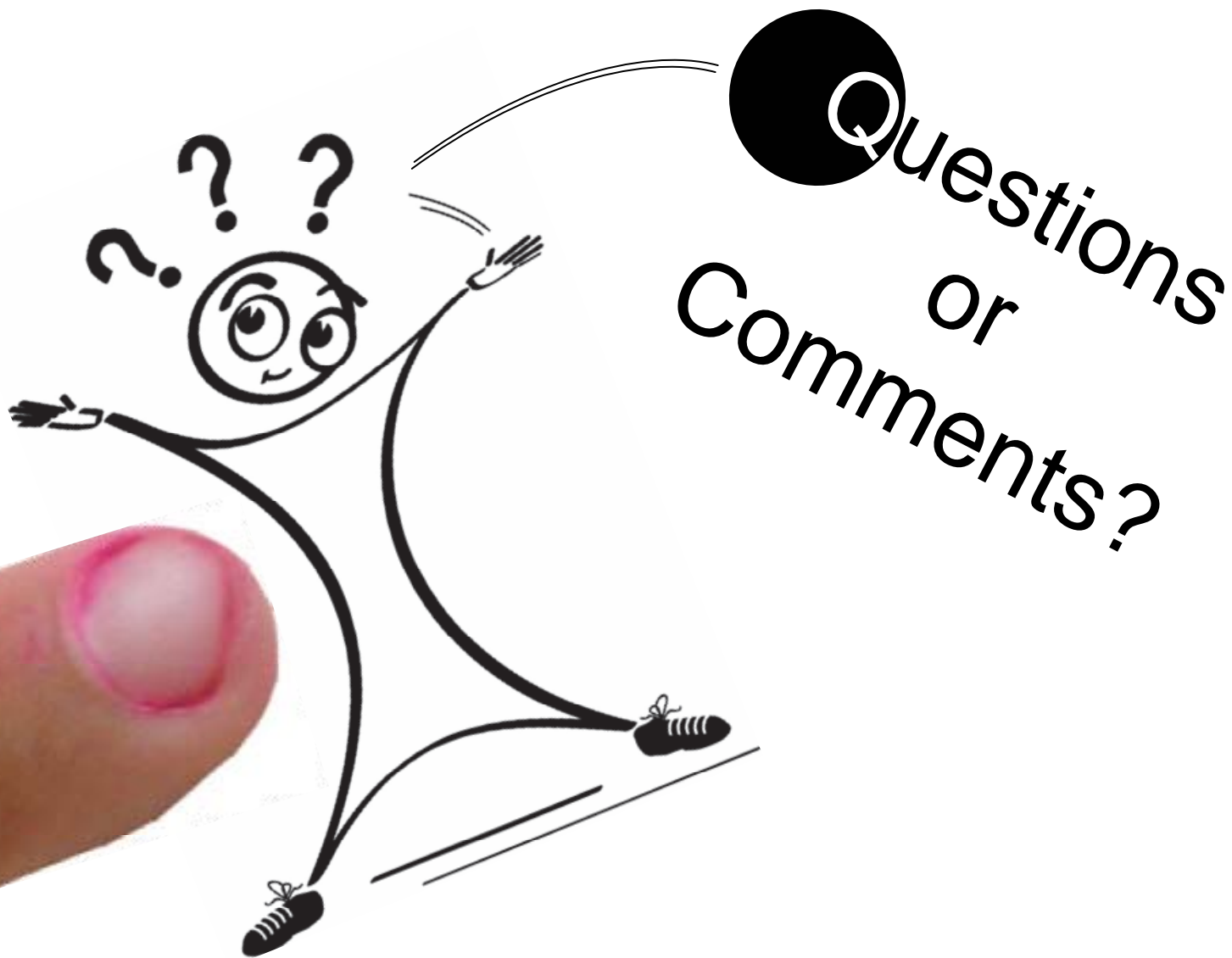


Jesse Schell Disney VR

Another way to do this is through dialogue...

# References

- Michael Mateas
  - Wardrip-Fruin, N. & Harrigan, N., First Person : New Media as Story, Performance, and Game, MIT Press, 2004.
- Craig Lindley
  - The Semiotics of Time Structure in Ludic Space As a Foundation for Analysis and Design, 2005.
- Jesse Schell
  - Source for Disney references, indirect control of patrons, etc.
- Raph Koster
  - Theory of Fun for Game Design, Paraglyph, 2004.



Questions  
or  
Comments?