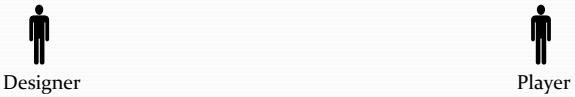
Game Design and MDA framework

- Emprunté à la conférence GDC 2005

The Designer-Player Relationship



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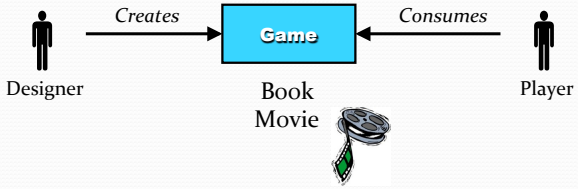

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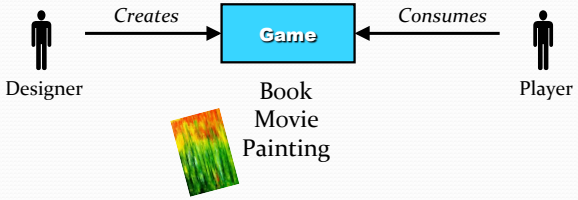

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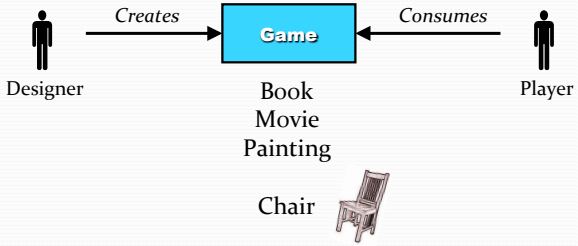

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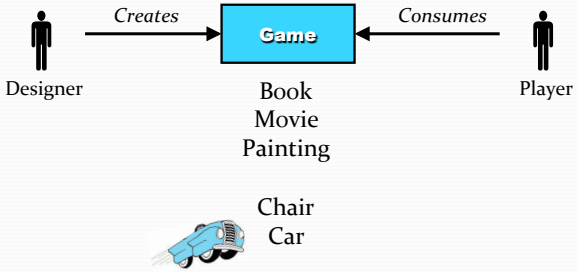

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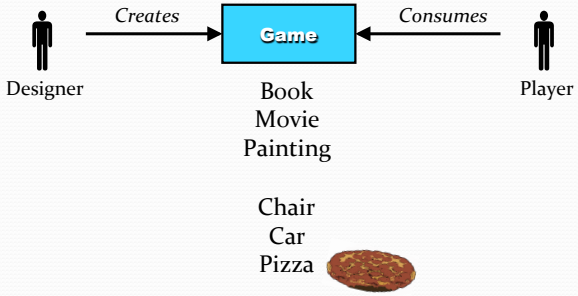


The Designer-Player Relationship

The difference is the way that games are ***consumed.***

An Extreme Opposite Example: *A Theatrical Play*

The "design team" knows:

- Script
- Lighting
- Acoustics
- Seating
- Intermissions

Games, on the Contrary

The designer *doesn't* know:

- When will the player play?
- How often? For how long?
- Where? With Whom?

And most importantly…

- What will happen during the game?

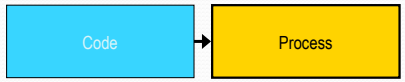
Obligatory Editorial

This lack of predictability is the essence of play.

It should be embraced, not eschewed.

Games as Software

Games as Software



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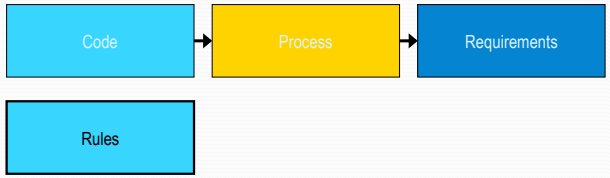

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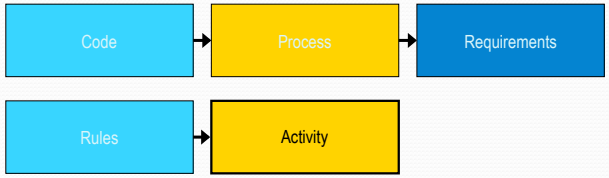

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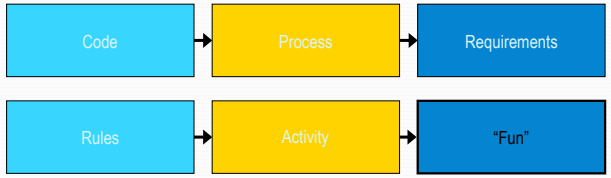
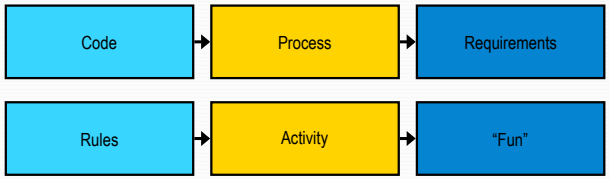


A Design Vocabulary



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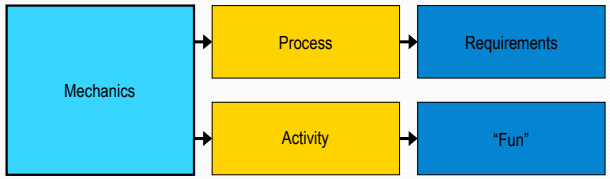

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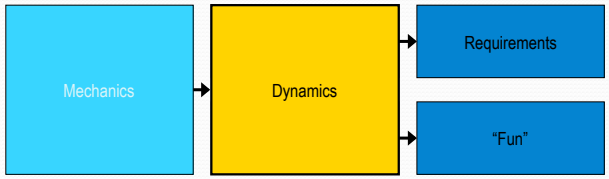

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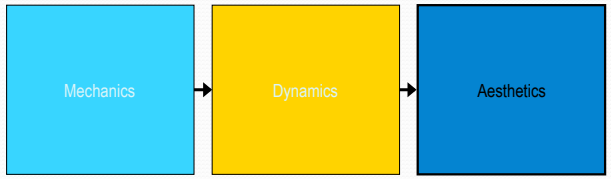
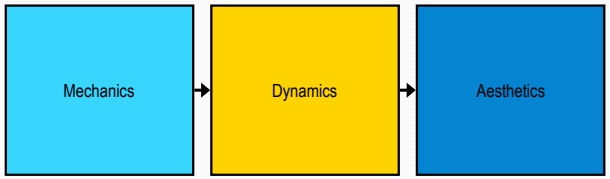


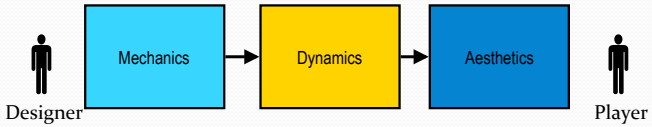
The MDA Framework



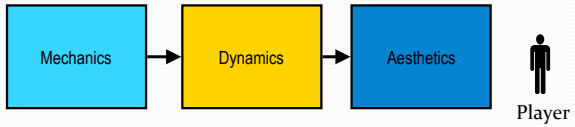
Definitions

- Mechanics: The rules and concepts that formally specify the game-as-system.
- Dynamics: The run-time behavior of the game-as-system.
- Aesthetics: The *desirable emotional responses* evoked by the game dynamics.

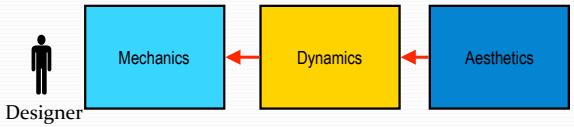
The Designer/Player Relationship, Revisited



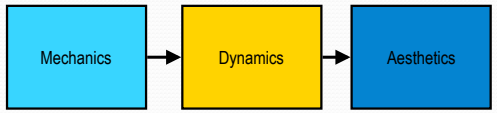
The Player's Perspective



The Designer's Perspective



Three "Views" of Games



But they are causally linked

The Building Blocks: Formal Models

- No Grand Unified Theory
- Instead, lots of little models
- We can think of models as "lenses"
- Models can be formulas or abstractions
- Discovering new models is an ongoing process

MDA is a "Taxonomy" for Models

- Knowledge of *Aesthetics*
- Knowledge of *Dynamics*
- Knowledge of *Mechanics*

- Knowledge of the *interactions* between them

Properties of Good Models

We want our models to be:

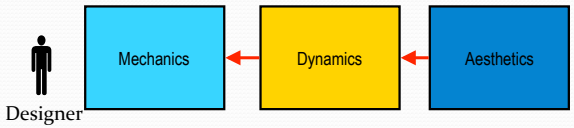
- Formal (well-defined)
- Abstract (widely applicable)
- Proven (known to work)

On any given game, we expect to use several different abstractions, not one big one.

Part III: *MDA in detail*

In this part, we discuss *Aesthetics*, *Dynamics* and *Mechanics* in detail.

The Designer's Perspective



Understanding Aesthetics

We need to get past words like "fun" and "gameplay."

- What kinds of "fun" are there?
- How will we know a particular kind of "fun" when we see it?

Eight Kinds of "Fun"

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1. Sensation *Game as sense-pleasure*

Eight Kinds of "Fun"

1. Sensation
2. Fantasy *Game as make-believe*

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative *Game as unfolding story*

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative
4. Challenge

Game as obstacle course

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative
4. Challenge
5. Fellowship

Game as social framework

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative
4. Challenge
5. Fellowship
6. Discovery

Game as uncharted territory

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative
4. Challenge
5. Fellowship
6. Discovery
7. Expression

Game as self-discovery

Eight Kinds of "Fun"

1. Sensation
2. Fantasy
3. Narrative
4. Challenge
5. Fellowship
6. Discovery
7. Expression
8. Submission

Game as mindless pastime

Clarifying Our Aesthetics

- Charades is "fun"
- Quake is "fun"
- Final Fantasy is "fun"

Clarifying Our Aesthetics

- Charades is
  - Fellowship, Expression, Challenge
- Quake is
  - Challenge, Sensation, Competition, Fantasy
- Final Fantasy is
  - Fantasy, Narrative, Expression, Discovery, Challenge, Masochism

Each game pursues multiple aesthetics.
Again, there is no Game Unified Theory.

Clarifying Our Goals

- As designers, we can choose certain aesthetics as *goals* for our game design.
- We need more than a one-word definition of our goals.

What is an "*Aesthetic Model*?"

- A rigorous definition of an aesthetic goal
- States criteria for success and failure
- Serves as an "aesthetic compass"

Some examples...

Goal: *Competition*

Model: A game is *competitive* if players are *emotionally invested* in defeating each other.

Success:
- Players are adversaries.
- Players want to win.

Failure:
- A player feels that he can't win.
- A player can't measure his progress.

Goal: *Realistic Flight Simulation*

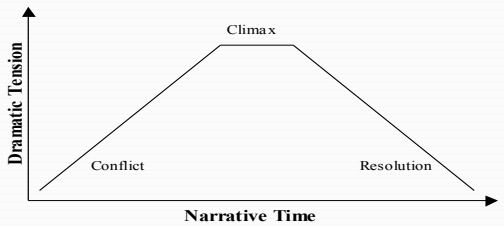
Model: Flight dynamics match user expectations.

Success:
- Match a mathematical formula
- Pass our "realism checklist"

Failure:
- Counter-intuitive system behavior.

Goal: *Drama*

Model: A game is *dramatic* if:
- Its central conflict creates *dramatic tension.*
- The dramatic tension builds towards a *climax.*



Goal: *Drama*

Success:

- A sense of *uncertainty*
- A sense of *inevitability*
- Tension increases towards a climax

Failure:

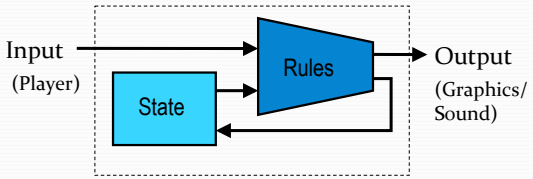
- The conflict's outcome is obvious (no *uncertainty*)
- No sense of forward progress (no *inevitability*)
- Player doesn't care how the conflict resolves

On to Dynamics...

Understanding Dynamics

- What about the game's behavior can we *predict* before we go to playtest?
- How can we *explain* the behavior that we observe?

Formalizing Game Dynamics



The "State Machine" Model

Examples: Chess, Quake

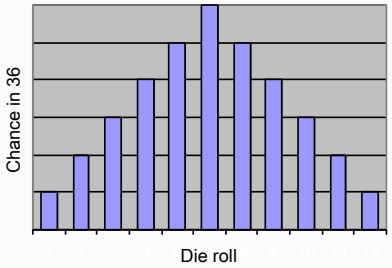
Models of Game Dynamics

- Again, no Grand Unified Theory
- Instead, a collection of many *Dynamic Models*.
- Dynamics models are analytical in nature.

Some examples...

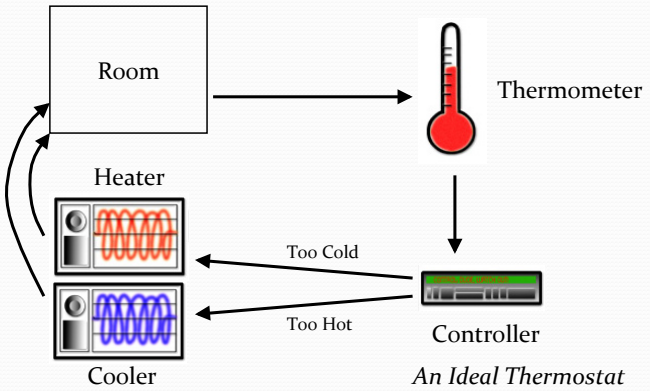
Example: *Random Variable*

This is a model of 2d6:



Example: *Feedback System*

A feedback system monitors and regulates its own state.



An Ideal Thermostat

Example: *Operant Conditioning*

- The player is part of the system, too!
- Psychology gives us models to explain and predict the player's behavior.

Where Models Come From

- Analysis of existing games
- Other Fields:
  - Math, Psychology, Engineering...
- Our own experience

On to Mechanics...

Understanding Mechanics

- There's a vast library of common game mechanics.

Examples

- Cards
  - Shuffling, Trick-Taking, Bidding
- Shooters
  - Ammunition, Spawn Points

- Golf
  - Sand Traps, Water Hazards

Mechanics vs. Dynamics

- There's a grey area
  - Some behaviors are direct consequences of rules.
  - Others are indirect.
  - "Dynamics" usually means the latter.

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- Dynamics and Mechanics are different *views* of games.

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- There's a grey area
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- Dynamics and Mechanics are different *views* of games.
- Dynamics *emerge* from Mechanics.

Interaction Models

- How do specific dynamics emerge from specific mechanics?
- How do specific dynamics evoke specific aesthetics?

Example: Time Pressure

- "Time pressure" is a dynamic.
- It can create dramatic tension.
- Various mechanics create time pressure:
  - Simple time limit
  - "Pace" monster
  - Depleting resource