Game Design

Analyzing

Hochschule
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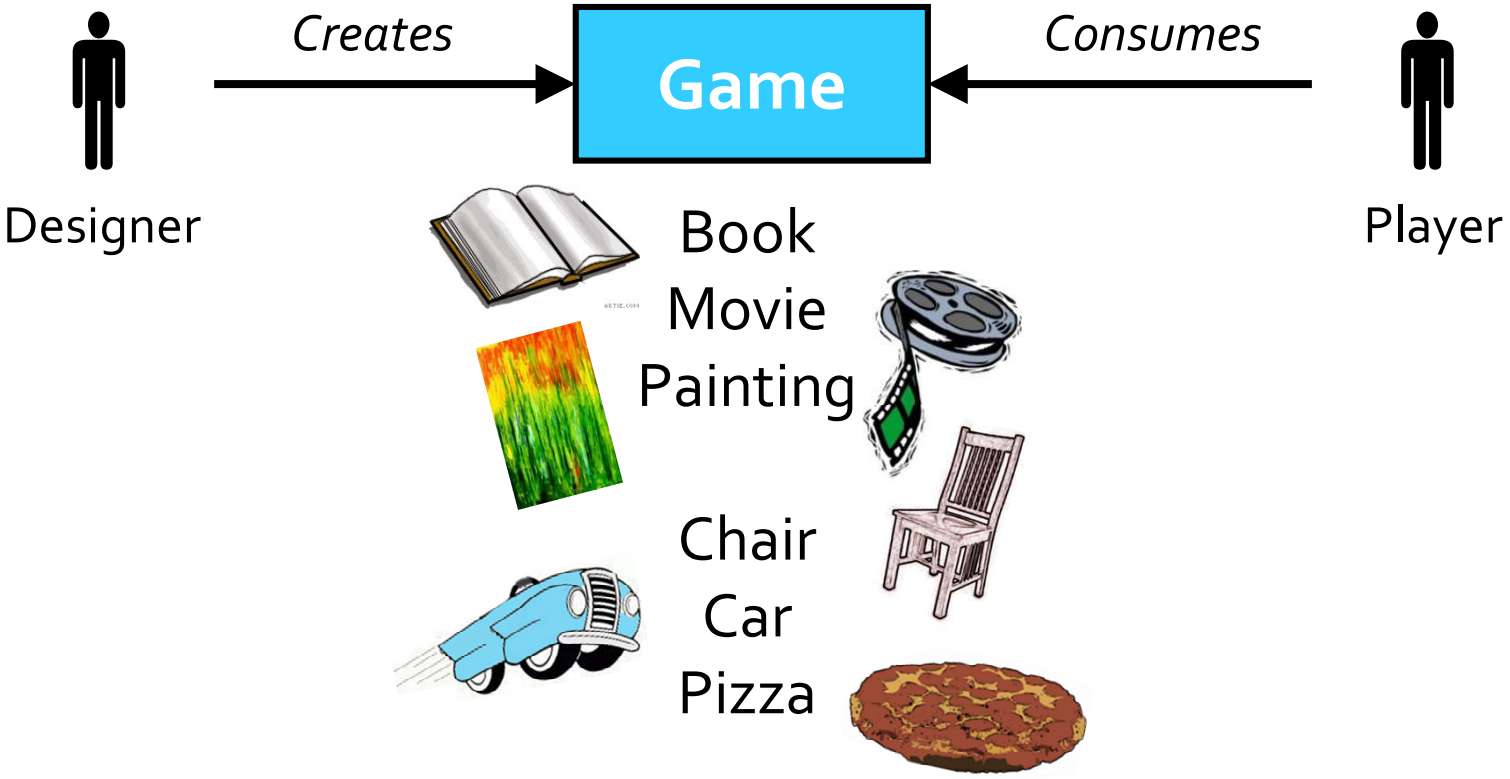
The Designer-Player Relationship



The Designer-Player Relationship

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

Differences

- A **theatrical play**
  - "design team" knows:
    - Script
    - Lighting
    - Acoustics
    - Seating
    - Intermissions
- For a **game**
  - designer doesn't know:
    - When will player play?
    - How often?
    - For how long?
    - Where?
    - With Whom?
  - And most importantly…
  - What will happen during the game?

Your Favorite game?

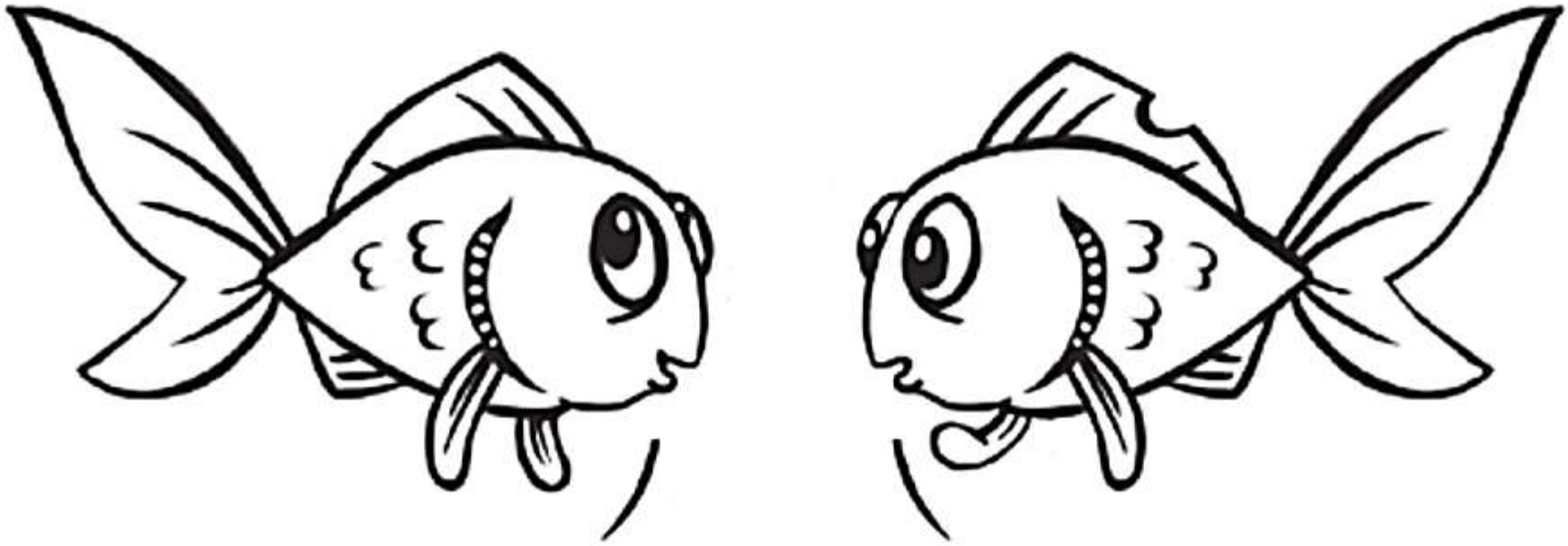
- Why?
  - Number one reason people give: *It's "fun"!*
  - What does it mean to be *"fun"* for a particular game?
  - How will we know a particular kind of *"fun"* when we see it?
- What do you consider good/bad about the game?
- What is your most memorable moment? (experience)

Goal of a game designer?

- Designing games?
  - NO!
  - Means to an end
- Designing experience
  - This is what people remember about a particular game

The Game is not the Experience

- The game enables the experience



Lens of Essential Experience

- **Stop thinking about your game**
- **Think about the experience of the player**
- **What experience do I want the player to have?**
- What is essential to that experience?
- Example: *snow ball fight*
  - What is essential?
    - *So much snow, played on the street, cold but sunny, …*
- **How can my game capture that essence?**
  - *It was so cold: breath little puffs, whistling wind, need gloves*

Lens of Essential Experience

Lens of Essential Experience

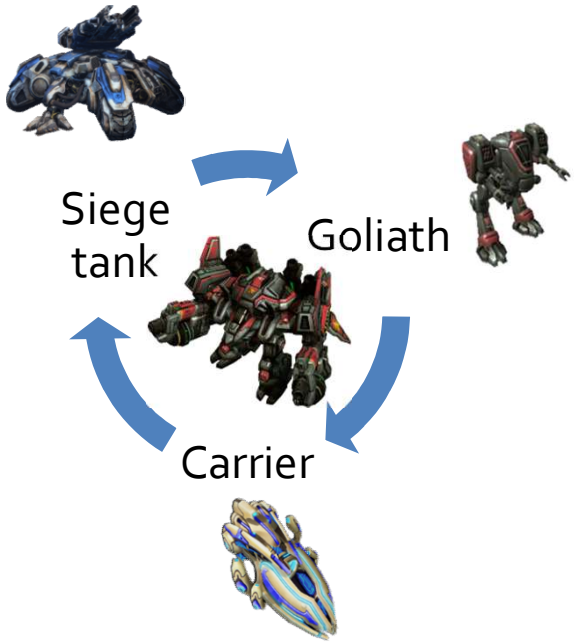
- Example: *Wii Sports - baseball*
  - *Was intended to be like real baseball*
  - *Time constrains*
  - *Can swing your controller like a bat, …*

Lens of Essential Experience

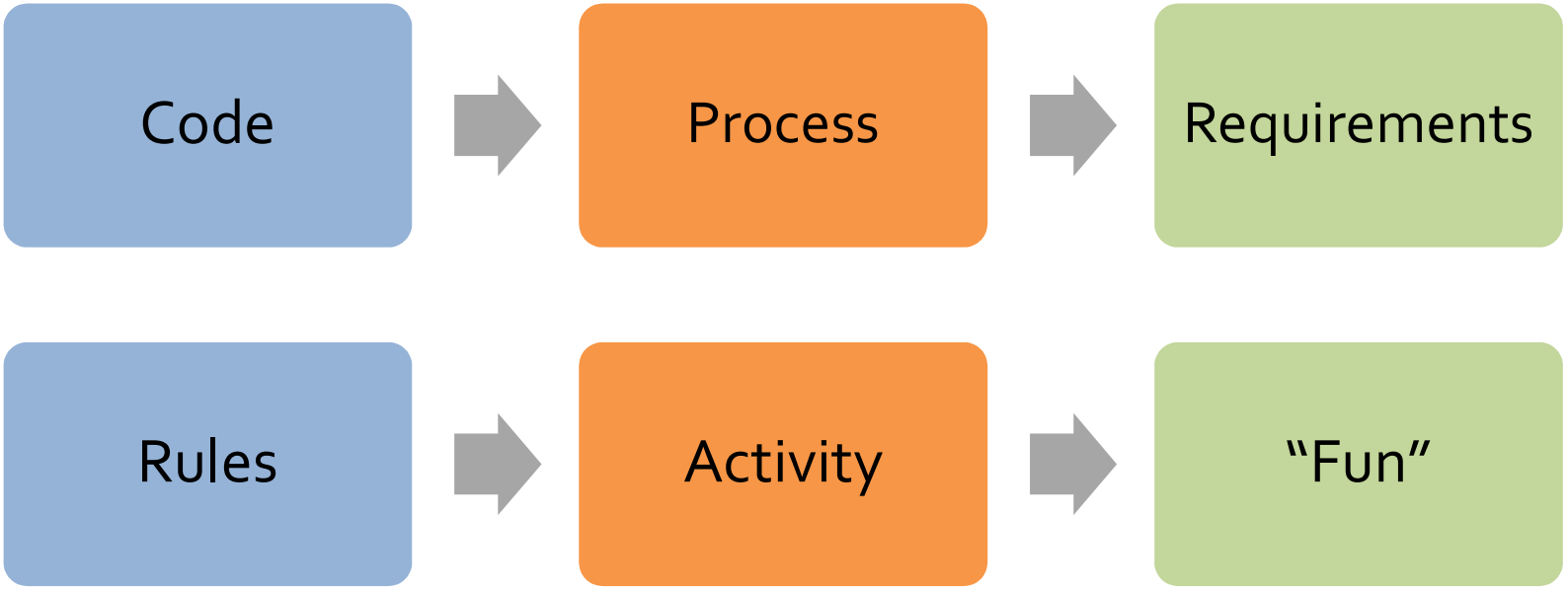
- Example: *James Bond 007*
  - *Similar games felt like war games*
    - *Risky action is not undertaken if probability of succeeding is to low, but if too high act like superheros*
  - *Budget of hero points*
    - *Can spend on risky actions*

Analyzing games

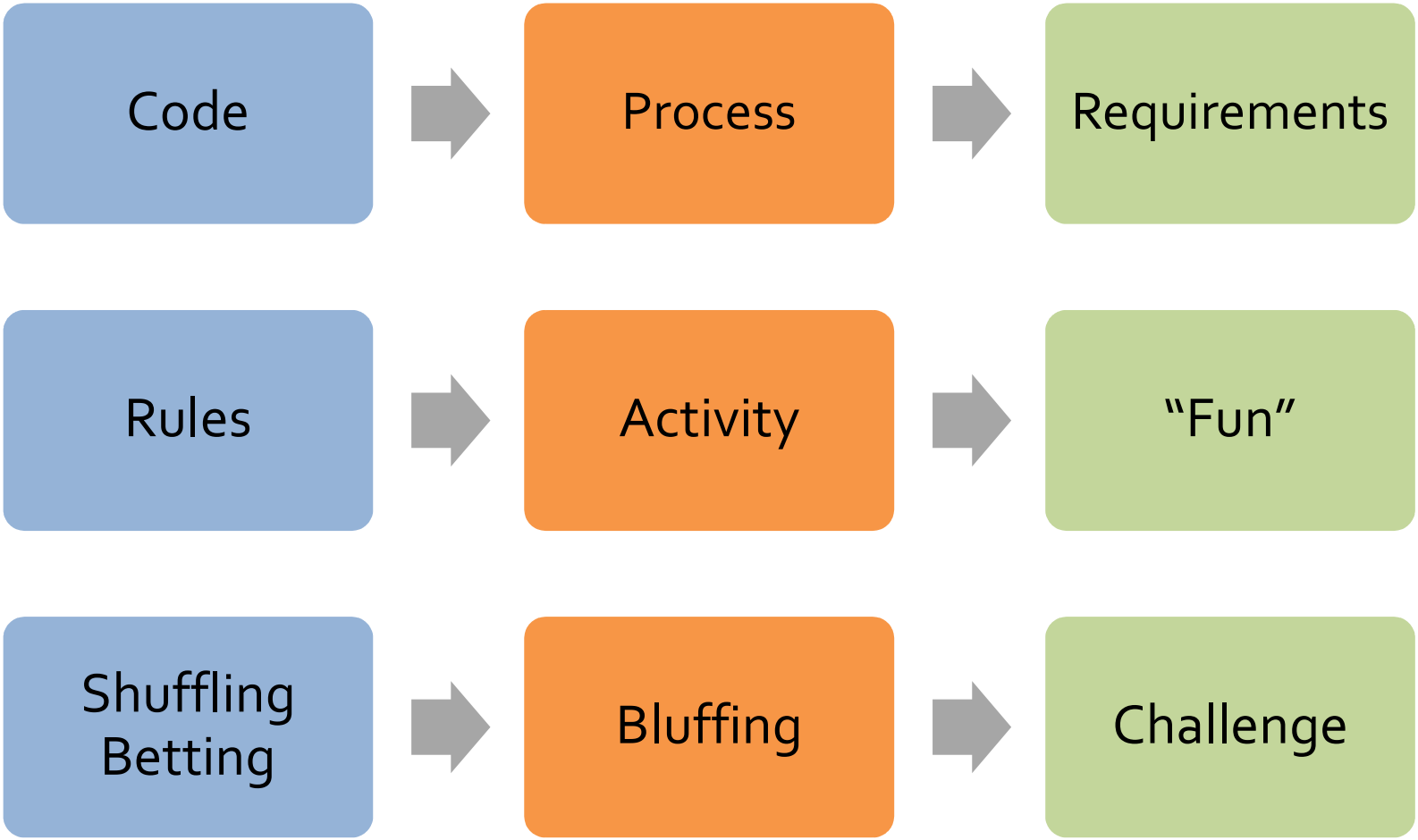
- Analyze *end result* to refine *implementation*
- Analyze *implementation* to refine *end result*
  - Discover interdependencies
  - Understand complex interactions between coded subsystems
  - Breaking changes
- Built a methodology
  - Guide creative thought process
  - Facilitate quality work
  - Vocabulary to talk about games
    - Define game through own props not other games



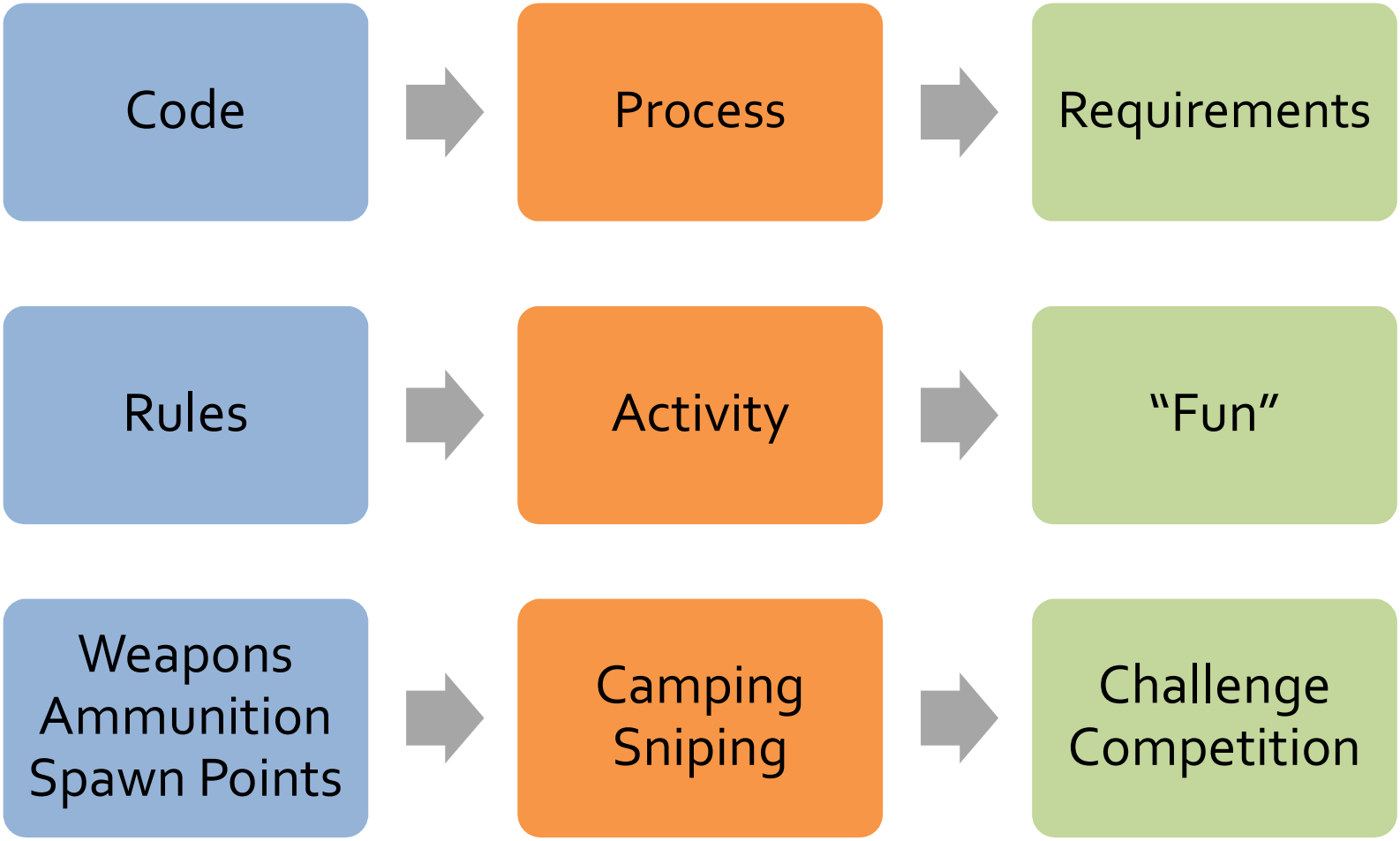
Games as Software



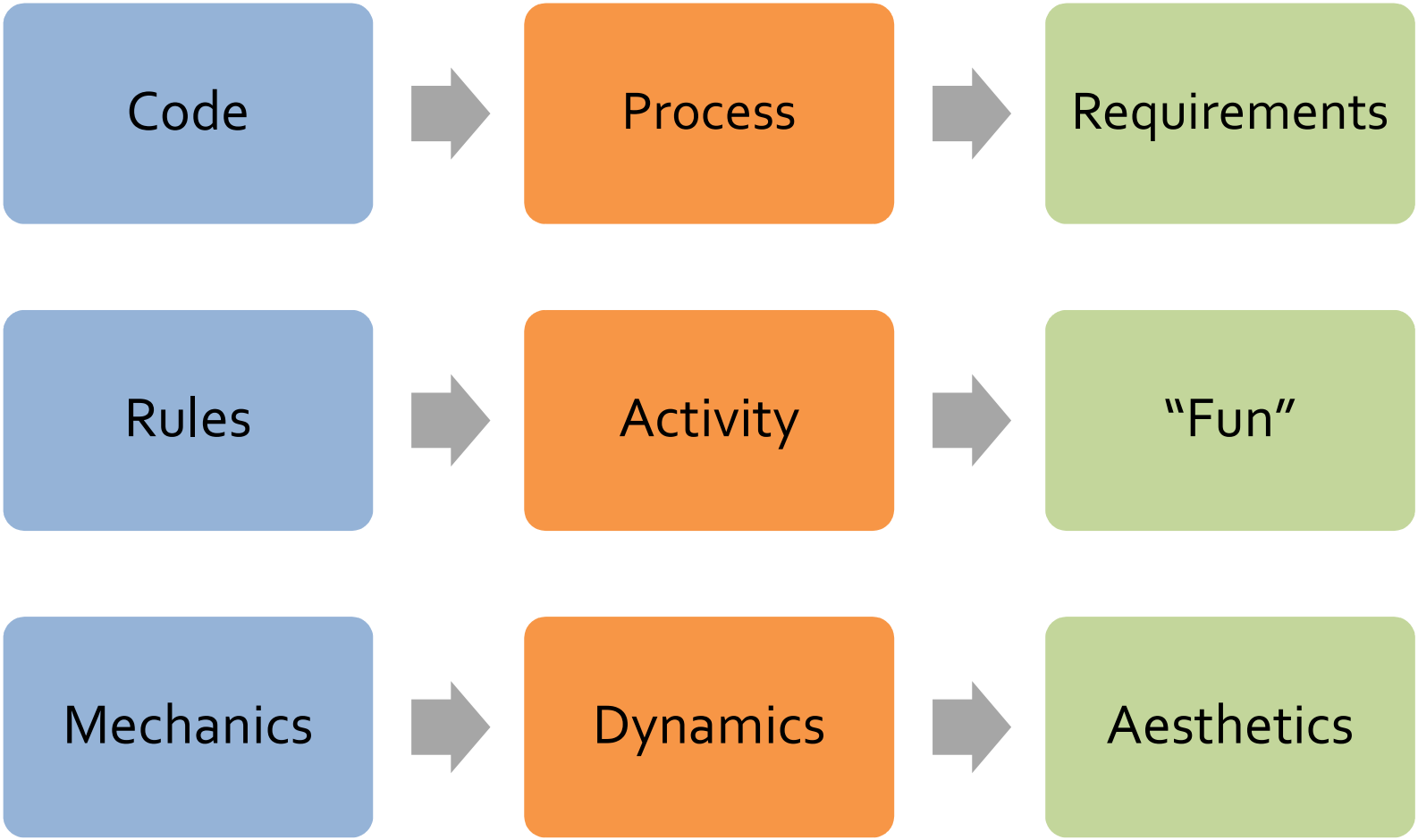
Games as Software – Poker example



Games as Software – Shooter example



A Design Vocabulary



The MDA Framework

- Create a clear vocabulary
- Bridge gap between game design and development
- Decompose, study and design broad class of designs
- Idea: **games are like artifacts**
  - Content of a game is its **behavior**
  - Not the media that streams out of it towards player
- ***Games are systems that build behavior via interaction***

MDA – Definitions

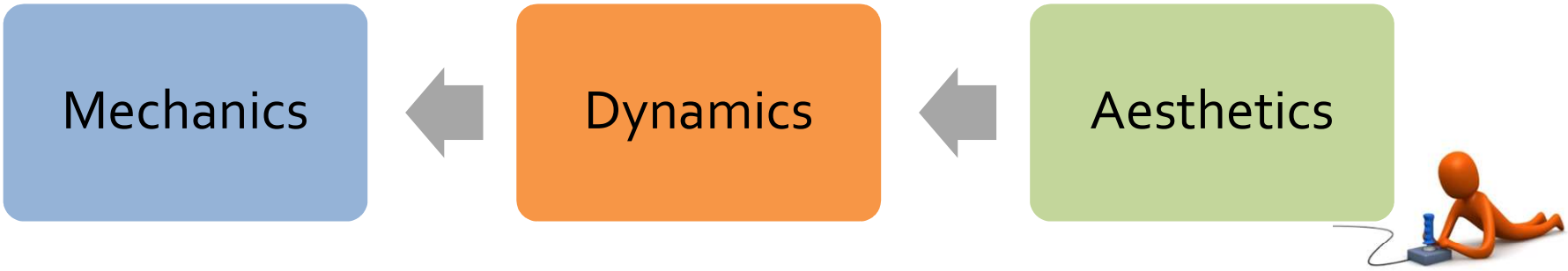
- *Mechanics*: base components of the game - its rules, every basic action the player can take in the game, the algorithms and data structures
- *Dynamics*: *run-time behavior* of the mechanics acting on player inputs and each others' outputs over time.
- *Aesthetics*: *desirable emotional responses* evoked by the game dynamics.

The Designer's Perspective

- Mechanics give rise to dynamic system behavior, which in turn leads to particular aesthetic experiences

The Player's Perspective

- Aesthetics set tone, which is born out on observable dynamics and eventually, operable mechanics.



Three Perspectives of Games

- But they are causally linked
- Changes potentially affect other perspectives
- Designer's perspective *feature-driven*
- Player's perspective *experience-driven*

Mechanics — Dynamics — Aesthetics

Understanding Aesthetics

- What makes a game "fun"?
  - How will we know a particular kind of "fun" when we see it?
  - Uninformative vocabulary

- What kinds of "fun" are there? – a classification

Eight Kinds of "Fun"

1. Sensation	*Game as sense-pleasure*
2. Fantasy	*Game as make-believe*
3. Narrative	*Game as unfolding story*
4. Challenge	*Game as obstacle course*
5. Fellowship	*Game as social framework*
6. Discovery	*Game as uncharted territory*
7. Expression	*Game as self-discovery*
8. Submission	*Game as mindless pastime*
9. …	

Clarifying Our Aesthetics

- Charades is "fun"
  - *Fellowship, Expression, Challenge*
- Quake is "fun"
  - *Challenge, Sensation, Competition, Fantasy*
- Final Fantasy is "fun"
  - *Fantasy, Narrative, Expression, Discovery, Challenge, Masochism*
- The Sims is "fun"
  - Discovery, Fantasy, Expression, Narrative

Clarifying Our Goals

- Each game pursues multiple aesthetics, in varying degrees.
- As designers, we can (and should) choose certain aesthetics as goals for our game design.
  - To know your goals
  - Can help to achieve these goals

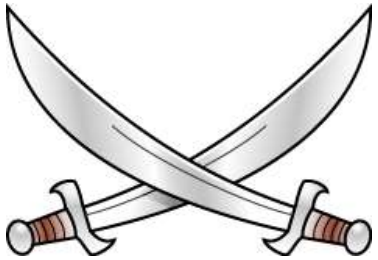
What is an "Aesthetic Model?"

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

Some examples…

Goal: Competition

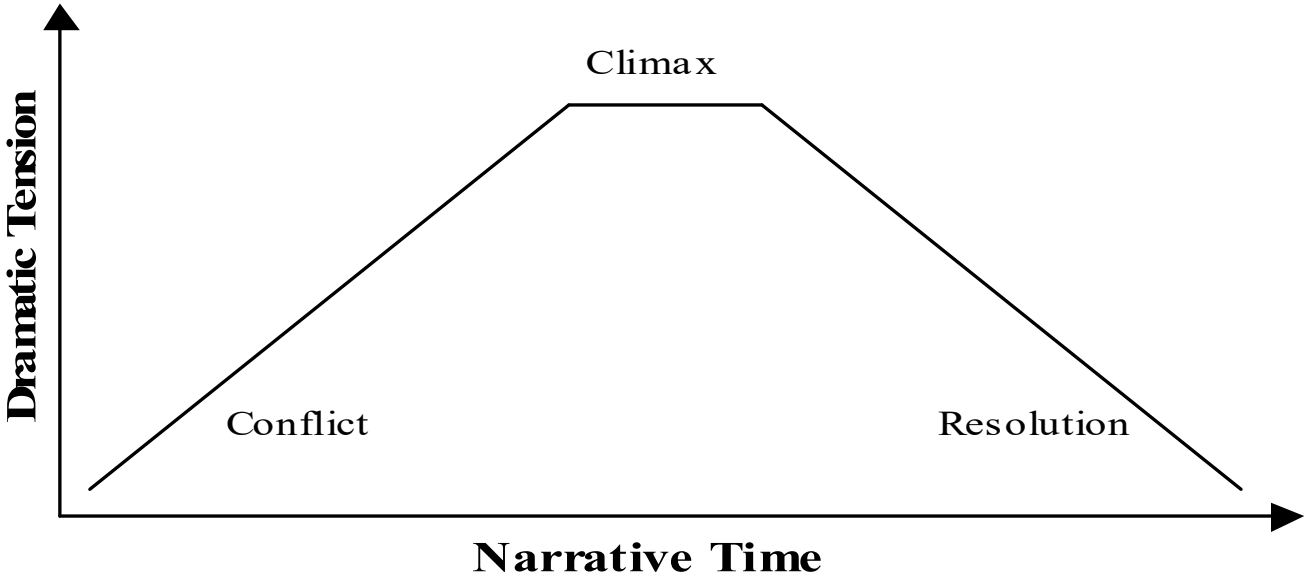
- Model: A game is **competitive** if players are **emotionally** invested in defeating each other.
- Success:
  - Players have adversaries.
  - Players want to win.
- Failure:
  - A player feels that he can't win.
  - No feedback about who is winning



- Examples:
  - Quake: against computer; win or die; alive at end of level; …
  - Charades: teams compete; winning is socially rewarding; …

Goal: Drama

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



Goal: Drama

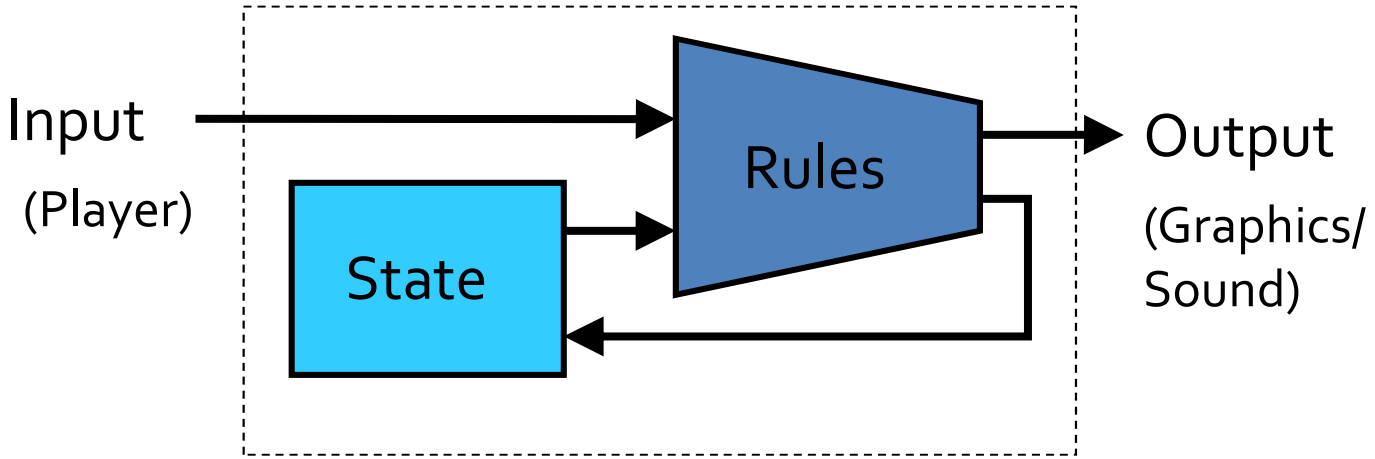
- Success:
  - A sense of **uncertainty**
  - A sense of **inevitability**
  - Tension increases towards a climax
- Failure:
  - The conflict's outcome is obvious **(no uncertainty)**
  - No sense of forward progress **(no inevitability)**
  - Player doesn't care how the conflict resolves

on to Dynamics…

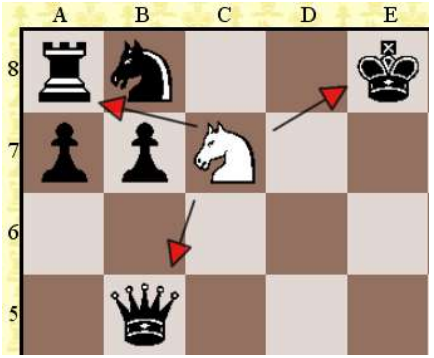
Understanding Dynamics

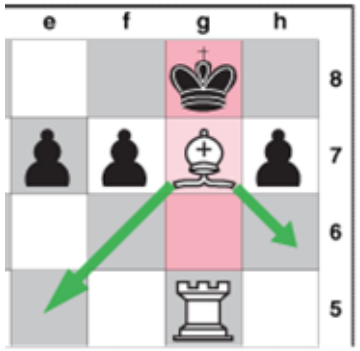
- Dynamics work to create aesthetic experiences
  - *Challenge: time pressure, opponent play*
  - *Fellowship: sharing information across a team, winning easier in team (capturing enemy base)*
  - *Expression: encourage users to leave their mark (purchasing, building, modding, personalized characters)*
  - *Drama: rising tension - a release - denouement*
- 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



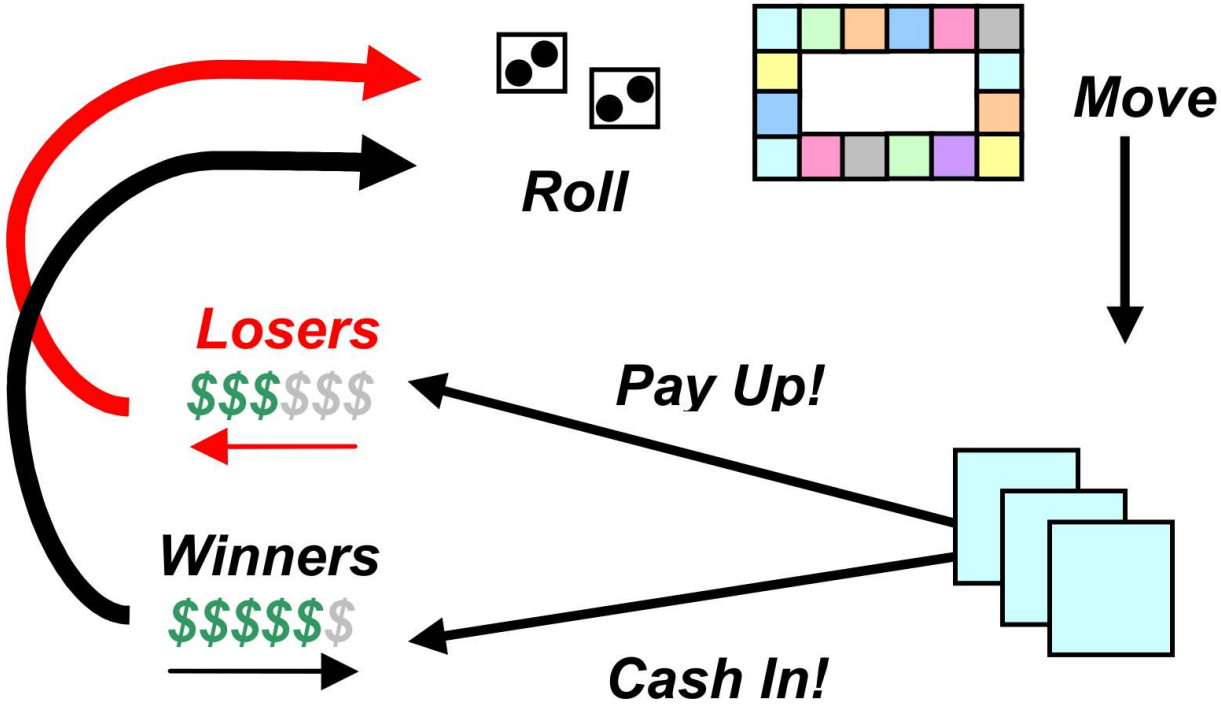


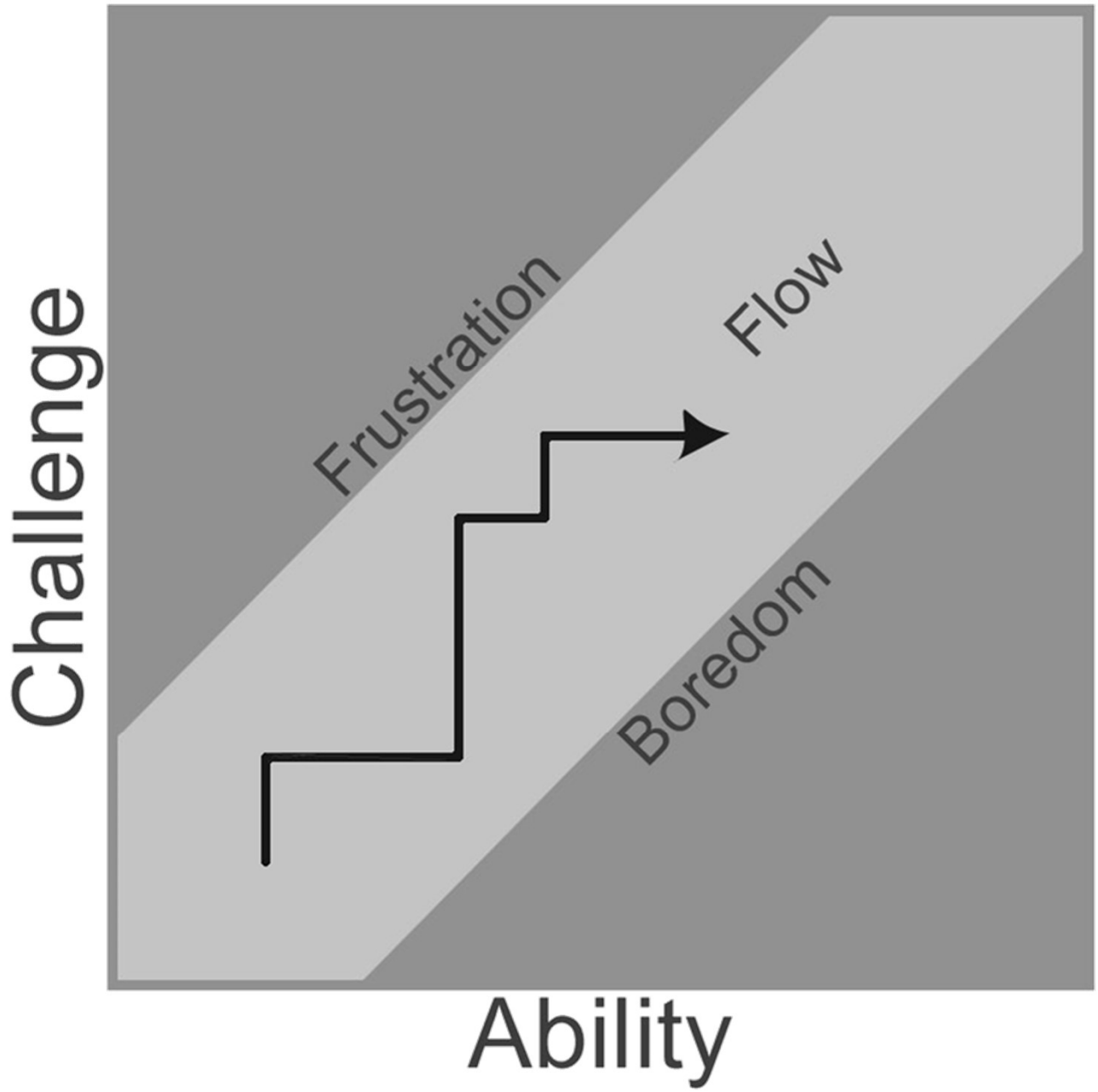
Example: Random Variable 2d6

- Monopoly board: average progress around board

Example: Feedback System

- Monitors and regulates its own state
- Monopoly: poor become poorer, rich become richer
  - Win for poor unlikely → less players emotionally invested
  - Fix: reward poor players, taxes, …




Challenge
Frustration
Flow
Boredom
Ability

Avoid Dominant Strategies

- Are strategies that gives you a win no matter what.

- E.g.

	Wife Birthday	Not Wife's Birthday
Buy Flowers	10	20
Don't Buy Flowers	-100	0

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.
- Dynamics and Mechanics are different views of games.
- Dynamics emerge from Mechanics.

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

How do you design a good game?

- Do a lot of research
  - Other games (memorable moments), field, history, …
- Prototypes (small, use all tools possible)
- You can use some of the frameworks around
  - MDA framework (Mechanics, Dynamics, Aesthetics)
  - Game balance, fit to an old model (e.g. rock, paper, scissors)
  - But keep it simple
    - Rock, paper, scissors, lizard, spock
    - Total Annihilation vs. Starcraft
  - …
- **Test, test, test**
- **It's an iterative process**

Design Examples and Links

- Darknet: www.gamasutra.com/blogs/EMcNeill/20140818/223585/Narrative_and_the_MDA_Framework.php
- I Have No Words & I Must Design www.costik.com/nowords.html
- Game design concepts gamedesignconcepts.wordpress.com/2009/06/29/level-1-overview-what-is-a-game
- Understanding games games www.kongregate.com/games/pixelate/understanding-games-episode-1

Books on game design

- David Perry on *Game Design: A Brainstorming ToolBox*
- ISBN-10: 1584506687