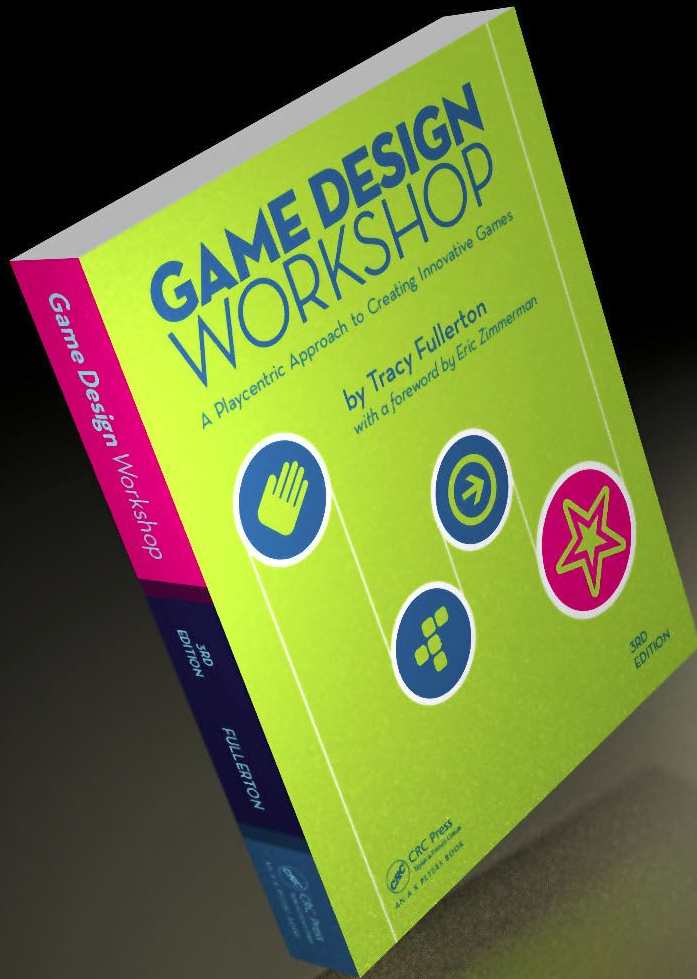# Prototype Game Design

Digital Media & Games
Derek Groen

Recap: Formal Elements

- Players
- Objectives
- Procedures
- Rules

- Resources
- Conflict
- Boundaries
- Outcome

Reference

Chapters 6-9.

Contents:

- Conceptualization
- From Concept to Design
- Prototyping
- Game Design
- Playtesting

Mission

- Create game concepts.
- Turn concepts into designs.
- Refining designs into Fun Experiences.

Conceptualization

Creative processes

- Preparation
- Incubation
- Insight
- Evaluation
- Elaboration

Crafting Ideas

- Brainstorming
- List Creation
- Idea Cards
- Mind Map

- Stream of Consciousness
- Shout It Out
- Cut It Up
- Research

Elevator Pitch

A short summary used to quickly and simply define a game concept:

"Astroclysm is a game of avoiding obstacles – with a musical twist. Adaptive background music and sound cues help the players to discover the state the ship and which lane asteroids and power-ups are due to spawn."

Refining Ideas

- Technical Feasibility
- Market Opportunity
- Artistic Considerations
- Business/Cost Restrictions
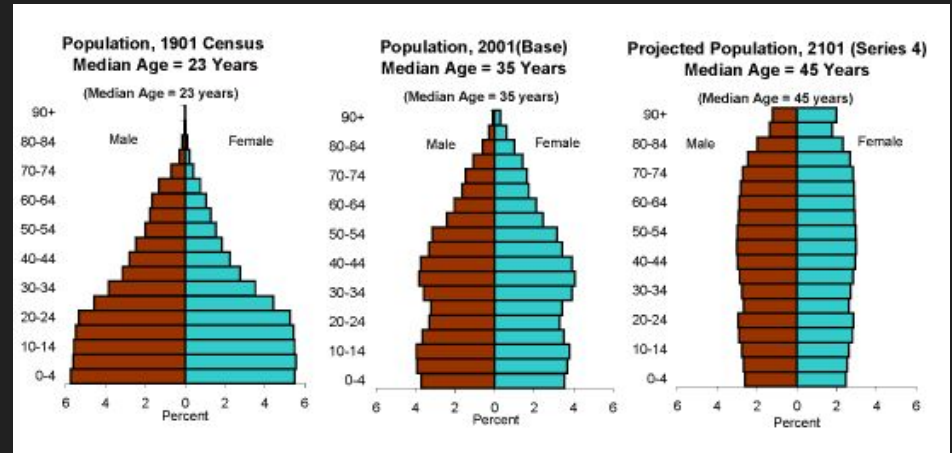
Homework #1: Elevator pitch

Some business tycoon needs an elevator pitch for a race-to-the-end board game.

Can you come up with one in about 5 minutes after the lecture?

- Make groups of 2-4.
- Try to craft ideas for elevator pitches.
- Write down a pitch for whatever comes out.
- Stick it in the chat, or on paper to read out!
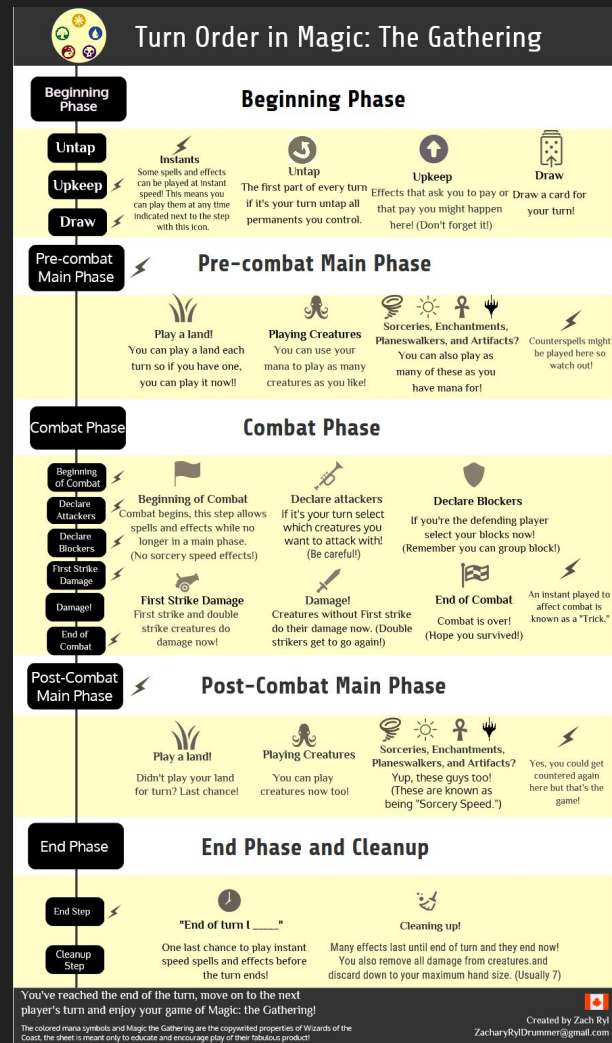
From Concept to Design

Focus on the formal elements

- Conflict
- Rules
- Procedures
- Actions

- Turns
- Time
- Players
- Title

- Audience
- Platform
- Environment
- Resources

Flesh out the Game Structure

- Define each player's goals
- What does a player need to do to win?
- Use a flow chart to map out how a typical turn works.
- How do players interact with one another?

Turn Order in Magic: The Gathering

Beginning Phase

Untap
Upkeep
Draw

Instants
Some spells and effects can be played at instant speed! This means you can play them at any time indicated next to the step with this icon.

Untap
The first part of every turn if it's your turn untap all permanents you control.

Upkeep
Effects that ask you to pay or that pay you might happen here! (Don't forget it!)

Draw
Draw a card for your turn!

Pre-combat Main Phase

Play a land!
You can play a land each turn so if you have one, you can play it now!!

Playing Creatures
You can use your mana to play as many creatures as you like!

Sorceries, Enchantments, Planeswalkers, and Artifacts?
You can also play as many of these as you have mana for!

Counterspells might be played here so watch out!

Combat Phase

Beginning of Combat
Declare Attackers
Declare Blockers
First Strike Damage
Damage!
End of Combat

Beginning of Combat
Combat begins, this step allows spells and effects while no longer in a main phase. (No sorcery speed effects!)

Declare attackers
If it's your turn select which creatures you want to attack with! (Be careful!)

Declare Blockers
If you're the defending player select your blocks now! (Remember you can group block!)

First Strike Damage
First strike and double strike creatures do damage now!

Damage!
Creatures without First strike do their damage now. (Double strikers get to go again!)

End of Combat
Combat is over! (Hope you survived!)

An instant played to affect combat is known as a "Trick."

Post-Combat Main Phase

Play a land!
Didn't play your land for turn? Last chance!

Playing Creatures
You can play creatures now too!

Sorceries, Enchantments, Planeswalkers, and Artifacts?
Yup, these guys too! (These are known as being "Sorcery Speed.")

Yes, you could get countered again here but that's the game!

End Phase and Cleanup

End Step
Cleanup Step

"End of turn I ____"
One last chance to play instant speed spells and effects before the turn ends!

Cleaning up!
Many effects last until end of turn and they end now! You also remove all damage from creatures and discard down to your maximum hand size. (Usually 7)

You've reached the end of the turn, move on to the next player's turn and enjoy your game of Magic: the Gathering!

The colored mana symbols and Magic the Gathering are the copywrited properties of Wizards of the Coast, the sheet is meant only to educate and encourage play of their fabulous product!

Created by Zach Ryl
ZacharyRylDrummer@gmail.com

Homework #2: make a board game prototype

- Work in groups of 4-8 (merge 2 groups).
- Take one of your previous elevator pitch ideas (or something better)
- Make a paper prototype, e.g.
  - Sketch the board
  - Set an objective / theme.
  - Design some (movement) rules.
  - Set a winning condition.
  - Add some form of conflict.
- ~10 minute time limit.
- Again, share it in Teams (or hand it in), and we'll happily give feedback.
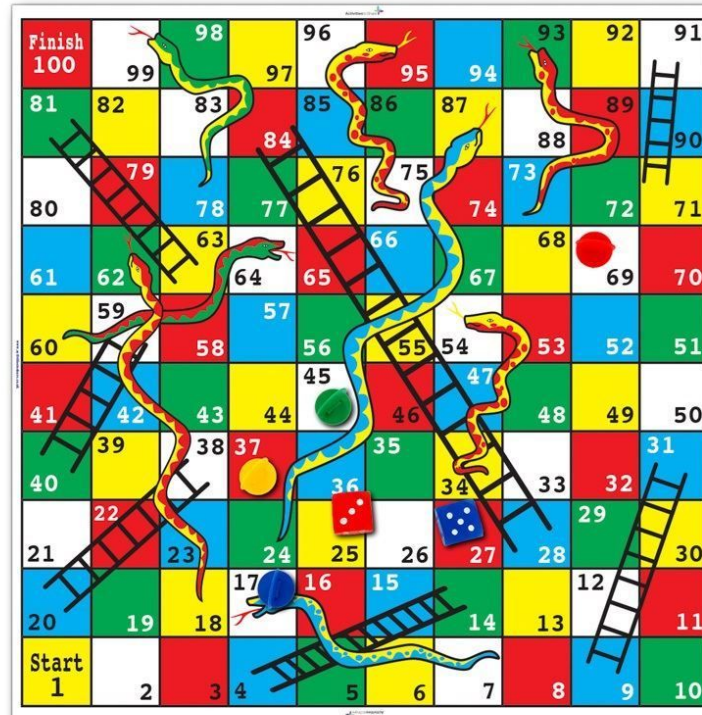
Game Design

Design Phases

- System Design
- Level Design
- Content Design
- Interface Design
- World Design
- Narrative Design

Approaches to Game Design

- Blue Sky: no limits, no judgment.
- Slow-Boil storylines.
- Mechanic-Driven.
- Intellectual Property.
- Story-Centred.
- Research-Driven.
- Mechanics-Dynamics-Aesthetics (MDA) Design.
- Game Rules and scEnario Model (GREM).
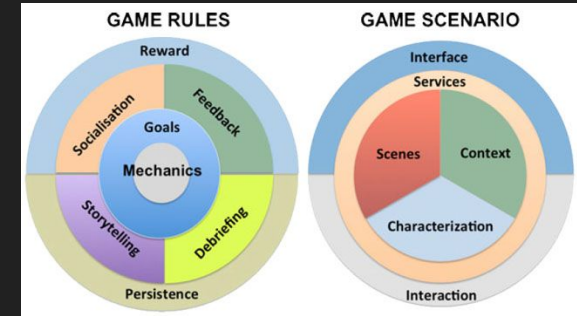
Prototyping

Visualizing Core Gameplay
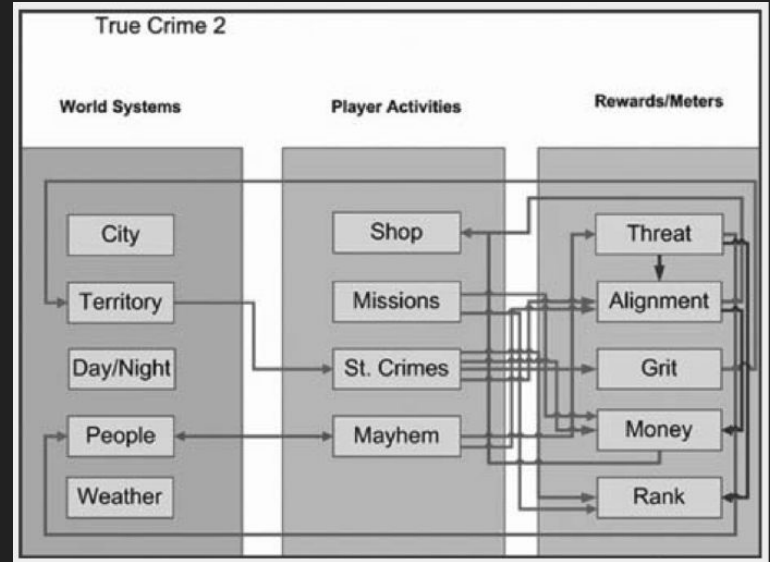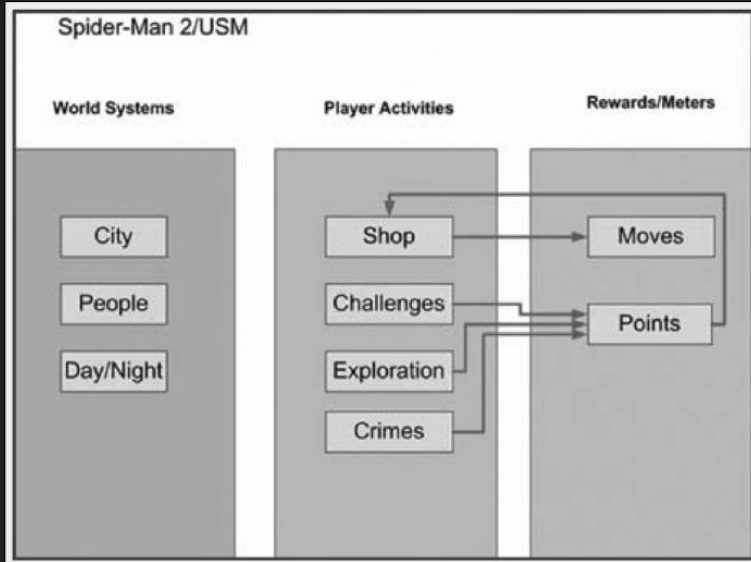
Prototyping steps

- Foundation
  - Physical or Digital?
- Structure
  - Introduce formal elements of interest.
- Formal details
  - Add rules to make the prototype a functional game.
- Refinement

Physical Prototyping

- Focus on gameplay rather than technology.
- Real time response to player feedback.
- Participation of non-technical team members.
- Low costs allow for a broader experimentation process.

Digital Prototyping

Game mechanics

Kinesthetics

Technology

Aesthetics
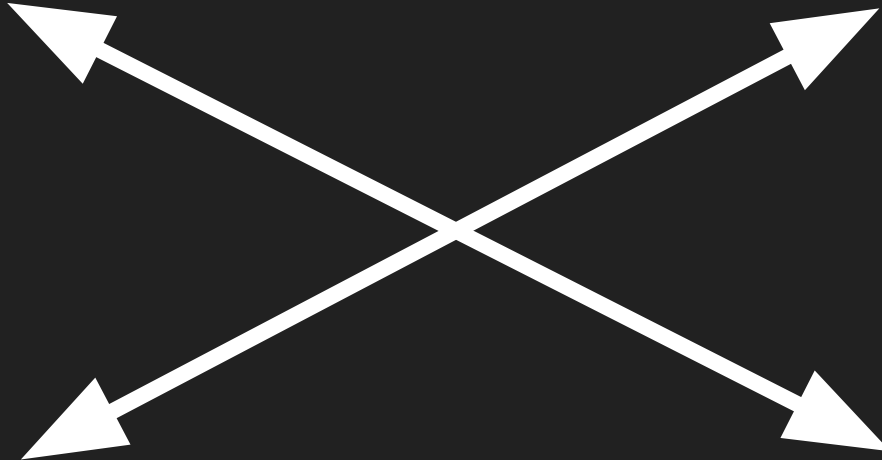
Digital prototyping - details

Aesthetics:

- Concept art.
- Audio sketches.
- Storyboard.
- Animatic.
- Audio sketch.

Kinesthetics:

- Prototype for each type of control.
- Response in simplified form.
- Cannot be done using physical prototyping.

Game mechanics:

- See physical prototypes.
- Customized spreadsheets.

Technology:

- Graphics.
- AI.
- Physics.
- Production process.

(often done in another programming language)

Prototyping: Rules of Thumb

- Always ask a question, to give a purpose/hypothesis.
- Stay falsifiable.
- Persuade and inspire
  - what to do if a prototype isn't fun?.
- Work fast, minimize time to first failure.
- Work economically.
- Carefully decompose problem.
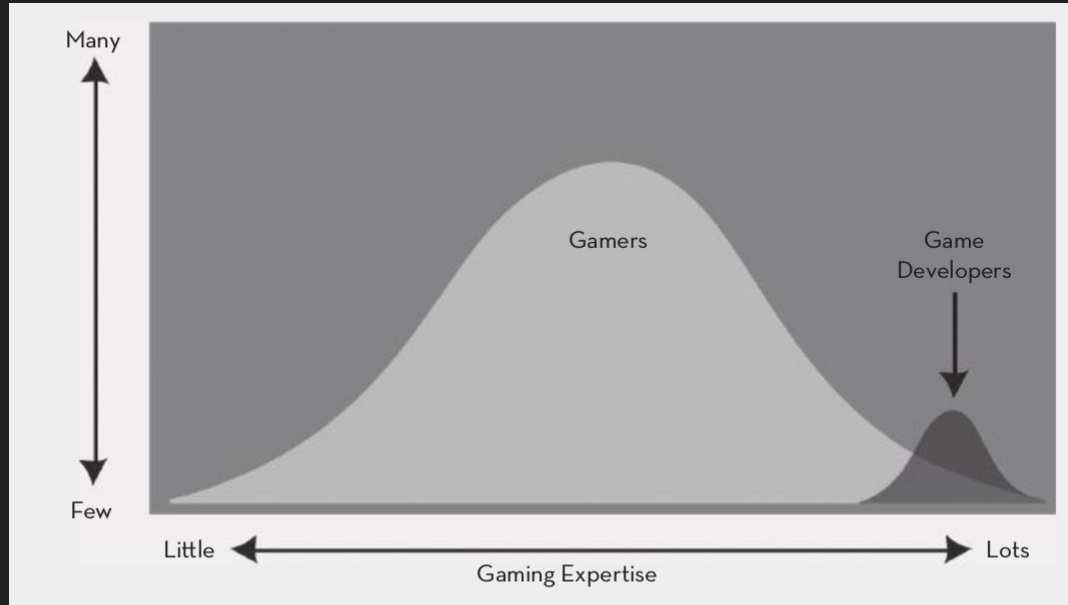 - Many prototypes > few heavyweight prototypes.

Playtesting

Iterative Game Design
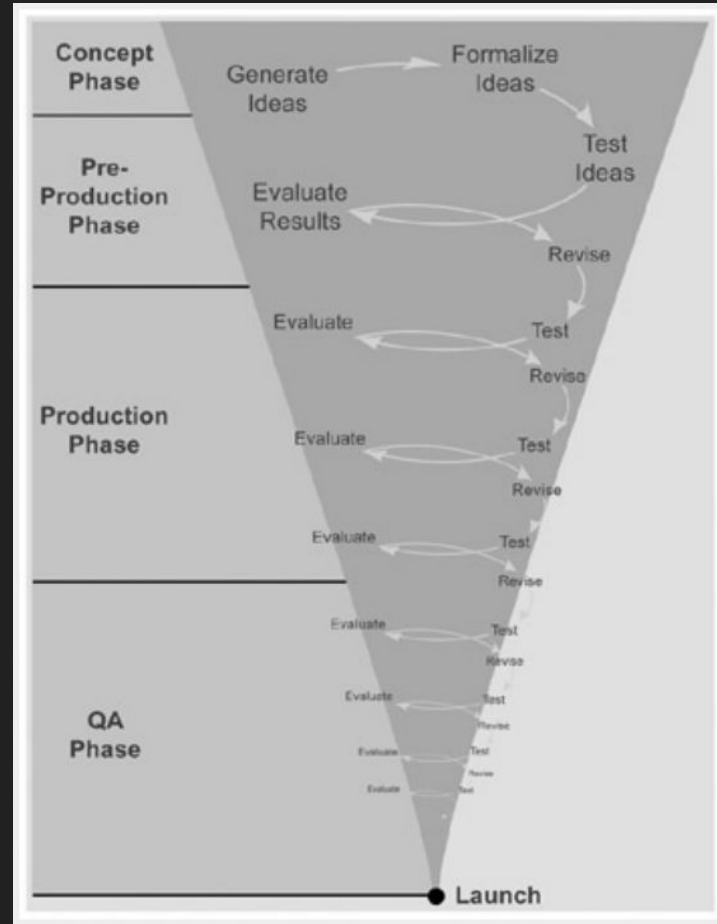
Methods of Playtesting

- One-on-one testing
- Group testing
- Feedback forms
- Interview
- Open discussion
- Data hooks / metrics

Playtesters

Stage	Yourself	Confidants	Target Audience
1. Foundation	x		
2. Structure	x	x	
3. Formal Details			x
4. Refinement			x

Playtesting controlled game situations

For example:

- The end of the game.
- A random event that rarely takes place.
- A special situation within a game.
- A particular level of a game.
- New features.

End