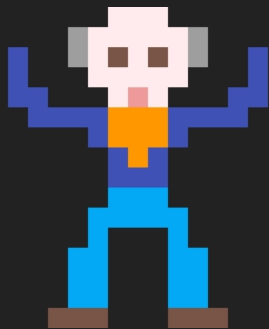


# Be Ready to Present Your Prototype!



# Characteristics of Games

## Part 1

# Length of Playtime

# Number of Players

# Heuristics



George Skaff Elias, Richard Garfield, and K. Robert Gutschera

foreword by Eric Zimmerman | drawings by Peter Whitley

# Length of Playtime

## Characteristics of Games: Part 1

Atom

Game

Match

Session

Campaign



Increasing  
Duration

# Atom

The smallest complete unit of play.  
Players feel that they've really played some of the game.

# Game

Standard **full** round of play from beginning to end.  
An ending/winning/losing condition occurred.

# Match

A series of individual games that determine the victor.



# Session

A single continuous period of play.  
Such as an evening of play.

# Campaign

A series of games or sessions.  
May happen over a long time period.

# Atom



# Game



## Match



## Session and Campaign





# Session and Campaign



## Focus on Atom Length

A good atom can be short with clear and satisfying goals.

Shorter atoms does not mean less complex.

Longer atoms can potentially be more satisfying, but require more investment from the player.



# Number of Players

# Conway's Game of Life and Progress Quest

[illegible]

# 1 Player Games

Pure one-player games

Player against a system

(puzzle games, narrative games, tetris, asteroids)

One human player vs simulated opponents

Shares properties with 2-player and multiplayer games.

(StarCraft, Civilization, Street Fighter)

# 1 Player Games

Relatively uncommon before computers.

Uncertainty of outcome is at the heart of games!

Human opponents provide uncertainty.

Without them, uncertainty needs to come from somewhere else.

# 1 Player Games

May not have as much replayability but tighter player experience.

Fine line between simulated opponents and a **true** single player game.

Is Pacman 1 player vs a system? Simulated opponents?

## 2 Player Games

Tennis, Chess, Battleship, Hearthstone, etc.

Some multiplayer games can reduce to be 2-player games.  
(Scrabble, StarCraft)

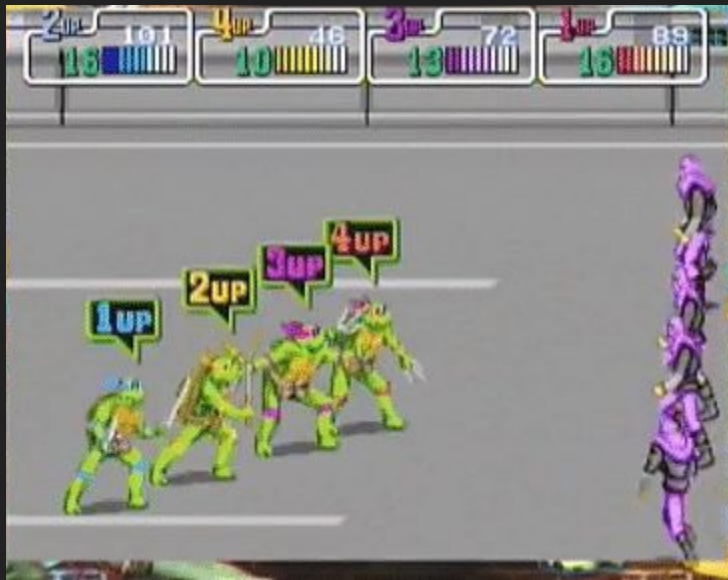
Harder to upscale a 2 player game to a multiplayer game.  
(Issues with politics and kingmaking)

Two player games are the iconic examples of games. Pure competitions.

# Teams

# 1-Sided Games

Player vs. Environment (PVE)





# 1-Sided Games

Pure - 1-Side vs. a System (Keep Talking and Nobody Explodes)

Simulated - 1-Side vs. a Simulated other Side (Overwatch vs. AI mode)

Some games with sides/teams have **roles** for individual players.

Have more in common with 1-player games than with multiplayer games.

# 2-Sided Games

Team Sports (Football, Soccer, Baseball)

Capture the Flag

Overwatch, Counter Strike

Have more in common with 2-player games than with multiplayer games.

# Multiplayer Games

Sort of multi-sided with 1 person on each side.

Scrabble, Monopoly, Risk  
Deathmatch / Battle Royale

Can be difficult to design due to player interactivity and politics.

What's up with Battle Royale being a genre now?

# Massively-Multiplayer Games

Number of players a player interacts with is actually smaller than the number of people playing (sharding / instancing).

May have a **sweet spot** for player count (1,500 to 2,500 for WoW).

Several methods for socializing.

Supports players at different skill levels.

Systems in Systems (Roles, Guilds, Auction Houses, etc.)

# Characteristics of Multiplayer Games

## Races

Competition of essentially one-player games. Low interaction between players. (Clue, Trivia Pursuit, many other board games).

## Brawls

Essentially 2-player games with more players. High interaction between players. (Risk, Battle Royale)

# Characteristics of Multiplayer Games

## Strict Elimination

Player is “out of the game” and no longer playing.

## Perceived Elimination

Player has effectively lost the ability to compete or win.



# Characteristics of Multiplayer Games

## Interactivity Between Players

Ability to influence other player's progress (for better or worse).

## Politics

Often a meta activity outside the rules of the game.

## Kingmaking

Typically when player perceives they are eliminated, they do something to choose a player who wins.

# Asymmetric Gameplay

Players or Teams have different roles or different gameplay.

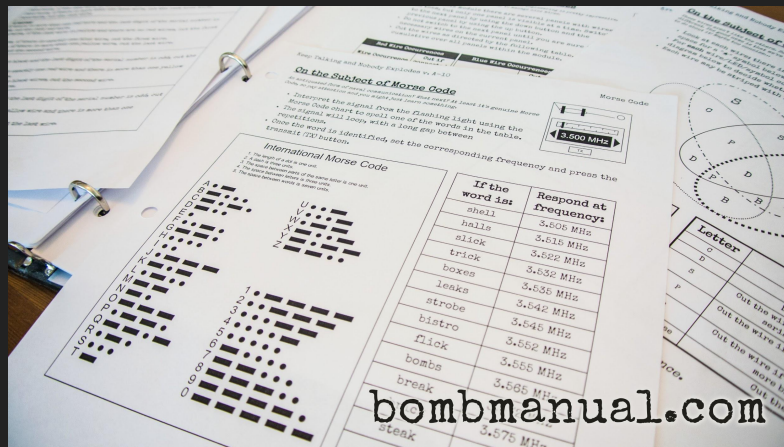
Games with offense / defense switching (Baseball, Football)

Multiplayer game modes such as “Assault”, “Escort”

Party games such as “Werewolf”



# Keep Talking and Nobody Explodes!



# Heuristics

Rules of Thumb  
Strategies from Similar Situations  
Educated Guess

Note: Not just humans, but AI also use Heuristics for searches/planning.

# Heuristics

As players (especially new players) of a game, we need to know who is winning or losing and what to do next.

How do I get better at this game?

# Heuristics

## Positional Heuristics

What is the current state of the game - Who is winning and by how much?

## Directional Heuristics

What strategy should I follow - Which move should I make next?

# Heuristics

Players get better at games by learning more sophisticated heuristics for a game.

For some games and some players, the process of learning is the main appeal of the game.

For reflex games, getting better might mean improving your reflexes, but for games that do not require reflexes, getting better is based on improving heuristics.

# Game Designers!

If your players find a heuristic which works and solves all situations, they will use it all the time!

(and not use other strategies you spent so much time designing for)

# Heuristics

Should exist on all levels from beginner to advanced.

Some should be easy for players to discover on their own. Some should be more difficult.

Should be rich enough to cover most situations, so the **player is never without guidance**, but not so powerful as to completely solve all situations.

Should be satisfying, so the player feels like they are exercising judgement, not executing a computer program.

# Prototype 2

(Due next week)

Let's review the requirements!



# Fast Prototype!

Make a board game with 2-sides (teams)

20 minutes to make and play your game!