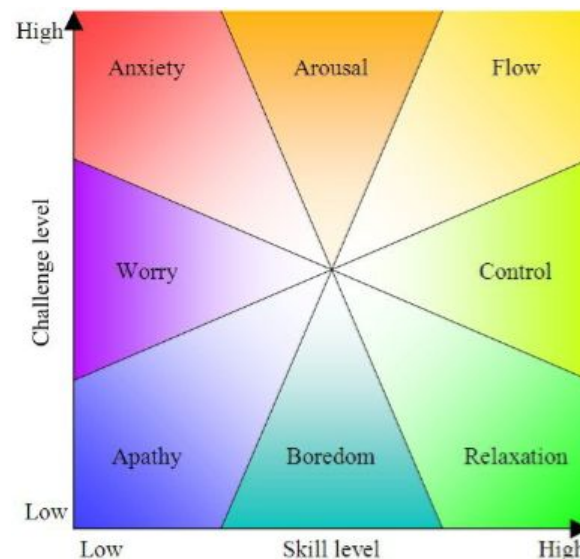


# Games and Challenge

# Challenge and Flow



- Csíkszentmihályi
- “In the zone” “getting in the groove”
- Challenge vs Skill
- Staying in flow requires
  - Increasing challenge to match skill level
- Techniques
  - Skip through easy sections
  - Grade the success
  - Difficulty choice
  - Playtest
  - Playtest
  - Playtest



# Balanced choice



A multiplayer game is *balanced* if a reasonably large number of options available to the player are viable--especially, but not limited to, during high-level play by expert players.

--Sirlin, December 2001

- Basically

- No dominant strategies
- Large number of options
- Many different ways to win

- Choice and desire

- What kind of coffee do you want?
- Choice > Desire = overwhelmed
- Choice < Desire = frustrated
- Choice = Desire = happy

# Extra Credits

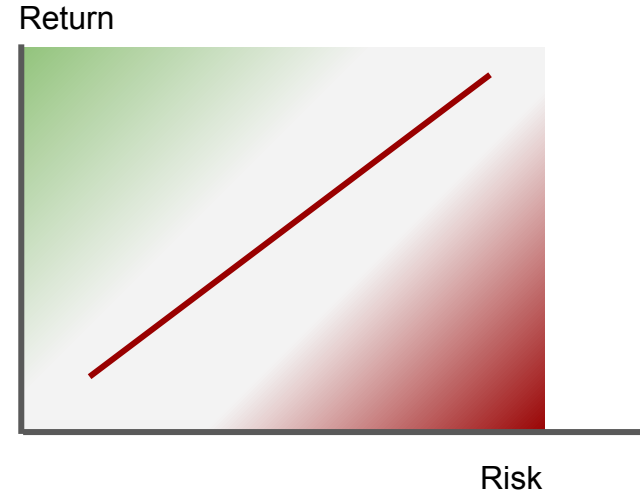


<https://www.youtube.com/watch?v=jlOXAtPvMDk>

# Risk Return Tradeoff



- Provide choices about risk
  - Risk taking
  - Risk aversion
- Risk taking players
  - Balancing game so risk is rewarded
  - Can you be completely conservative and still win?



# Chronology of Randomness



## Eurogames

**Random -> Human decision -> outcome**

**Pick up cards** -> make choices -> play card

## American games

**Human decision -> Random -> outcome**

Choose attack -> **roll dice** -> variable damage



- Questions to ask

- Are the players judging (skill), or taking risks (chance)?
- Skill is more serious than chance: Is my game serious or casual?
- Are parts of my game tedious? If so, will adding elements of chance enliven them?
- Do parts of my game feel too random? If so, will replacing elements of chance with elements of skill or strategy make the players feel more in control?

# Dexterity vs Cognition



- How good are you with your hands
- How good are you with your head
- Not a dichotomy – some games need both
  - What level of dexterity do you need to play well
  - What level of cognition do you need to play well
  - How “hard” is the game?



# Length and cooperation



- Cooperation vs Competition
  - Synergy  $2+2 = 5$ , or antergy  $2+2 = 3$
  - Is cooperation required
  - What does my audience want?
  
- Length of Game
  - Too short
  - Too long
  - Provide different options by replayability



- Reward structure are vital for engagement
- Psychology studies suggest an ideal reward frequency
  - Praise
  - Points
  - Prolonged play (if play is limited by cost)
  - Curiosity fulfillment
  - Shiny – Spectacle
  - Items
  - Powers
  - Resources – (touches Maslow's hierarchy of needs)
  - Completion
    - Must beat the game even though it is boring.

# Punishment



- Linked to Risk
  - Without punishment there is no risk and thus lowered reward?
  - Shaming?
  - Setbacks?
  - Removal of points or powers?
- Care must be taken with punishment
- Different player types respond differently

# Freedom and Complexity



- How scripted is the action
  - Heavy rain – player only affect the success of an action
  - Imagination vs explicit description
- How complex do the rules need to be?
  - How much you need to know to play
- Emergent complexity
  - How much you need to know to play **well**

# Elegance



- Simple to play, hard to master
- Simplicity is hard, but rewarding
- Learning to cut features which are not working
- Apple iPhone is about elegance not functionality
  
- Quality vs Quantity
  - Removing unnecessary words is vital
  - Clarity
- Removing unnecessary game mechanics
  - Good drawings do not have extra lines
  - Lots of bad choices does not make the 2 good choices balanced



- Balance may not be interesting

- Rock paper scissors ( water, wind, bomb, fire, lizard, spock)
- Balanced but not deep, for a single round

A multiplayer game is *deep* if it is still strategically interesting to play after expert players have studied and practiced it for years, decades, or centuries.

--Sirlin,

- For it to be interesting there needs to be some complex relationships between options.



- All about working out what the other player has
- Balanced and fair
- No deep strategy
- Betting amount allows strategy
- Betting is the metagame
  - Texas hold'em
    - No actual card play mechanic
    - Betting is the only player action

# Ending quickly



- Checkmates

- No further moves will change the winner
- One side has lost – bar the shouting

- Lame-duck

- Actual game result known midway through session
- Players resign
- Use positive feedback to kill off weaker player



# Magic the gathering



- Many bad cards
- Intentional inclusion of bad cards
  - By definition, some bad cards have to exist.
  - Some cards are “bad” because they aren’t meant for you.
  - Some cards are “bad” because they’re designed for a less advanced player.
  - Some cards are “bad” because the right deck for them doesn’t exist yet.
  - “Bad” cards reward the more skilled player.
  - Some players enjoy discovering good “bad” cards.
  - Some “bad” cards are simply R&D goofing up.

# Double blind



- Making choices simultaneously
  - Rock Paper Scissors is not balanced if one person goes first
  - Fighting games need small windows for counter moves
    - You have to have started the counter within limited time of the opponents move
    - Otherwise all attack could be blocked
  - Diplomacy – simple simultaneous mechanic
- Double blind as neither player knows the others move

# Game Space



- Doubling and halving
  - Make large changes to explore the space faster.
- Training intuition
  - Exact guessing, feedback for you estimation

# Game Economies



- Whole degrees on structuring economies
- Ernest Adams – economy up front
  - What resources does the player have
  - How does she earn them?
  - How does she spend them?
  - Why does she want more?
- Micropayment models
  - How do you cope with rich players being better?
  - Fortnite - pay for cosmetic changes not power.
- Gold Farming

# The dangers of auto balance



- Auto adjust game to player skill
  - Number of deaths
  - Number of points
  - Cameras measuring player stress
- Removes motivation to improve as the goal posts constantly move.
- Exploited to make game easier later.
- Impossible to compare skill with other players

# Playtesting



- Playtest
- Playtest
- Playtest
- Playtest
- Watch how people are playing
  - User mistakes are also bugs in interface
- Watch for dominant strategies
  - Record game behavior
  - Database of actions
  - Mine for events that lead to victories