Balancing Games

DISCLAIMER: There are GIFs that aren't the most family friendly

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The End

Fairness

Fairness

Symmetrical

- Balance through the same resources and powers
- Examples?

Asymmetrical

- Simulate real-world situations
- Different ways to explore the gamespace
- Personalization
- Level the playing field
- Create interesting situations
- Examples?

Fairness - League of Legends Champions

Initial Table

- Initially assume Low, Medium, High are worth 1, 2, 3 respectively
- Is Hecarim the strongest champion?
  - No, they are all balanced in-game

Things to keep in mind before balancing

- Each column may weigh differently
- What if Damage is valued at 2 points each?
  - Values are more “balanced” than before

Champion	Damage	Mobility	CC	Total
Hecarim	Medium - 2	High - 3	Medium - 2	7
Jax	Medium - 2	Medium - 2	Medium - 2	6
Vel’Koz	High - 3	Low - 1	Low - 1	5

*** Not an accurate representation of the actual champions**

Champion	Damage (2)	Mobility	CC	Total
Hecarim	Medium - 4	High - 3	Medium - 2	9
Jax	Medium - 4	Medium - 2	Medium - 2	8
Vel’Koz	High - 3	Low - 1	Low - 1	8

*** Not an accurate representation of the actual champions**

Fairness - League of Legends Champions

What's next?

- Tweak values
  - Lower Hecarim's Mobility to Medium

Champion	Damage (2)	Mobility	CC	Total
Hecarim	Medium - 4	High - 3	Medium - 2	9
Jax	Medium - 4	Medium - 2	Medium - 2	8
Vel'Koz	High - 3	Low - 1	Low - 1	8

*** Not an accurate representation of the actual champions**

Things to keep in mind after balancing

- These weight and values are just theory

Champion	Damage (2)	Mobility	CC	Total
Hecarim	Medium - 4	Medium - 2	Medium - 2	8
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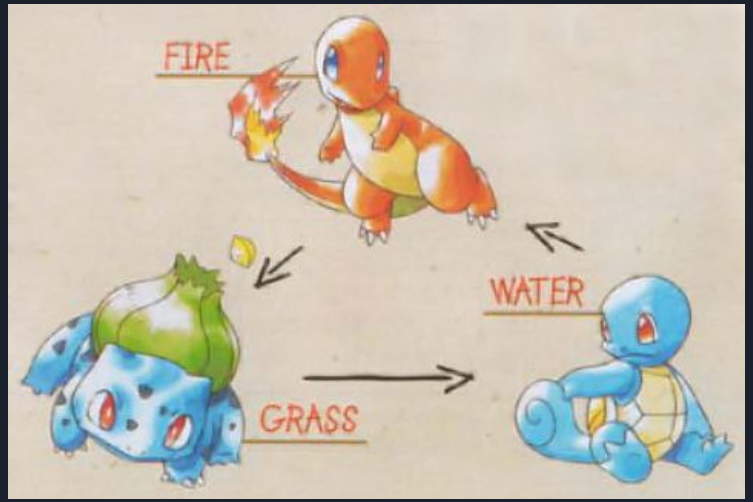
Fairness - Rock, Paper, Scissors

Balance through strengths and weaknesses

- One thing has an advantage over another
  - Rock beats Scissors
  - Scissor beats Paper
  - Paper beats Rock
- Examples?



Fairness - Ask yourself

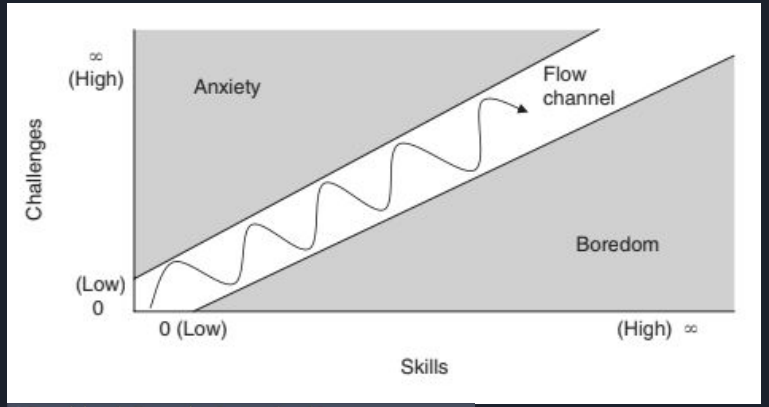
- Should my game be symmetrical? Why?
- Should my game be asymmetrical? Why?
- Which is more important: that my game is a reliable measure of who has the most skill, or that it provide an interesting challenge to all players?
- If I want players of different skill levels to play together, what means will I use to make the game interesting and challenging for everyone?

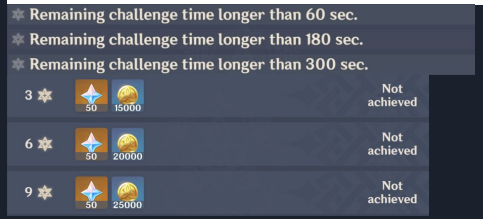
Challenge vs Success

Challenge vs Success

Common balances for different skill levels

- Increase difficulty with each success
  - Example: Super Mario
- Let players get through easy parts fast
- Create “**layers of challenge**”
  - Have minimum requirements and “stretch goals”
- Let players choose the difficulty level
  - Easy, Medium, Hard, etc.
- Playtest with a variety of players
  - Make sure to playtest with both novice and experienced players





Challenge vs Success - Ask yourself

- Where are the challenges in my game?
- Are they too easy, too hard, or just right?
- Can my challenges accommodate a wide variety of skill levels?
- How does the level of challenge increase as the player succeeds?
- Is there enough variety in the challenges?
- What is the maximum level of challenge in my game?

Meaningful Choices

Meaningful Choices

We want the players to ask themselves questions

- Where should I go?
- How should I spend my resources?
- What should I practice and try to perfect?
- How should I dress my character?
- Should I try to get through the game quickly or carefully?
- Should I focus on offense or defense?
- What sort of strategy should I use in this situation?
- Which power should I choose?
- Should I play it safe, or take a big risk?

How many choices do we give a player?

- If Choices > Desire, player is overwhelmed
  - Example: Picking between 2 doors or picking between 30 doors
- If Choices < Desire, player is frustrated
- If Choices = Desire, player feels freedom and fulfillment

However, be careful of the dominant strategy

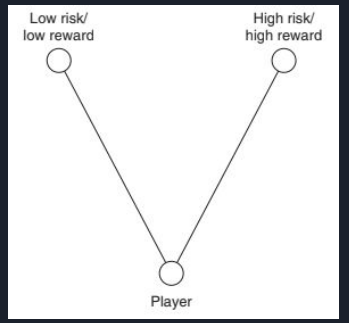
- The best way to play the game
- Takes out all the fun
- Bound to happen when developing

Meaningful Choices - Triangularity

What is Triangularity?

- “High risk, high reward”
- Would you rather…
  - Fight a harder boss to gain extra loot?
  - Fight a weaker boss with less loot?
- Expected outcome should be about the same

Boss	Chance of Success	Points	Expected Value
Orge	50%	500	250
Dragon	10%	2500	250



Meaningful Choices - Ask yourself

Choices

- What choices am I asking the player to make?
- Are they meaningful? How?
- Am I giving the player the right number of choices? Would more make them feel more powerful? Would less make the game clearer?
- Are there any dominant strategies in my game?

Triangularity

- Do I have triangularity now? If not, how can I get it?
- Is my attempt at triangularity balanced? That is, are the rewards commensurate with the risks?

Skill vs Chance

Skill vs Chance

Be very careful

- Skill and change are two opposite forces
- Too much chance negates player's skill and vice versa
- Skill - usually competitive
  - Example?
- Chance - usually more casual gameplay
  - Example?

Common usage

- Alternate both skill and change
  - Example: In battle royales, the loot is random, but how you use them is skill

Skill vs Chance - Ask yourself

- Are my players here to be judges (skill), or to take risks (chance)?
- Skill tends to be more serious than chance: Is my game serious or casual?
- Are parts of my game tedious? If so, will adding elements of change 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?

Head vs Hands

Head vs Hands

How much physical activity and thinking should I have in my game?

- Head - strategizing and puzzle solving
  - Example?
- Hands - physical activity
  - Example?
- Depends on your genre, it may have both
  - Example?
- Who is your audience?
  - Type of players
  - Age range

Head vs Hands - Ask yourself

- Are my players looking for mindless action, or an intellectual challenge?
- Would adding more places that involve puzzle-solving in my game make it more interesting?
- Are there places where the player can relax their brain, and just play the game without thinking?
- Can I give the player a choice -- either succeed by exercising a high level of dexterity, or by finding a clever strategy that works with a minimum of physical skill?
- If “1” means all physical, and “10” means all mental, what number would my game get?

Competition vs Cooperation

Competition vs Cooperation

- Basic survival instincts
- Games allow us to simulate a different stressful environment
- Competitive tend to be more popular
- Though polar opposites, they can both be put into the same game

Competition vs Cooperation - Ask yourself

General

- Does my game give a fair measurement of player skill?
- Do people want to win my game? Why?
- Is winning this game something people can be proud of? Why?
- Can novice meaningfully compete at my game?
- Can experts meaningfully compete at my game?
- Can experts generally be sure they will defeat novices?

Competition vs Cooperation - Ask yourself

Cooperation

- Cooperation requires communication. Do my players have enough opportunity to communicate? How could communication be enhanced?
- Are my players friends already, or are they strangers? If they are strangers, can I help them break the ice?
- Is there synergy or antergy when the players work together? Why?
- Do all the players have the same role, or do they have special jobs?
- Cooperation is greatly enhanced when there is no way an individual can do a task alone. Does my game have tasks like that?
- Tasks that force communication inspire cooperation. Do any of my tasks force communication?

Competition vs Cooperation - Ask yourself

Competition vs Cooperation

- If “1” is Competition and “10” is Cooperation, what number should my game get?
- Can I get players a choice whether to play cooperatively or competitively?
- Does my audience prefer competition, cooperation, or a mix?
- Is team competition something that makes sense for my game? Is my game more fun with team competition, or with solo competition.

Short vs Long

Short vs Long

- Too short and players have less control
- Too long and things may get boring
- Example?

Short vs Long - Ask yourself

- What is it that determines the length of my gameplay activities?
- Are my players frustrated because the game ends too early? How can I change that?
- Are my players bored because the game goes on for too long? How can I change that?
- Setting a time limit can make gameplay more exciting. Is it a good idea for my game?
- Would a hierarchy of time structures help my game? That is, several short rounds that together comprise a larger round?

Rewards

Rewards

What's a reward?

- Praise
  - "You Win!"
- Points
  - Point value
- Prolonged Play
  - Pinball
- A Gateway
  - New Level
- Spectacle
  - Scenery
- Expression
  - Accessories/Emotes

- Powers
- Resources
  - Food/Currency/Ammo
- Completion
  - Achievements

Rewards

Two types of Rewards

- Ever increasing value
  - Makes older rewards less relevant
  - Can anyone give an example?
- Random drops
  - Keeps the surprise element
  - Can anyone give an example?

Rewards - Ask yourself

- What rewards is my game giving out now? Can it give others as well?
- Are players excited when they get rewards in my game, or are they bored by them? Why?
- Getting a reward you don't understand is like getting no reward at all. Do all my players understand the rewards they are getting?
- Are the rewards my game gives out too regular? Can they be given out in a more variable way?
- How are my rewards related to one another? Is there a way that they could be better connected?
- How are my rewards building? Too fast, too slow, or just right?

Punishment

Punishment

What does punishment do?

- Punishment creates endogenous value
  - Resources are valuable, we don't want to lose them
- Taking risks is exciting
  - "High risks, high reward"
  - Ties back in to Rewards
- Possible punishment increases challenge
  - Failure means setback

Punishment

Common Punishments (Mostly reverse of Rewards)

- Shaming
- Loss of points
- Shortened Play
- Terminated Play
- Setback
- Removal of Powers
- Resource Depletion

Who remembers/played ToonTown?

- What punishments did ToonTown have?

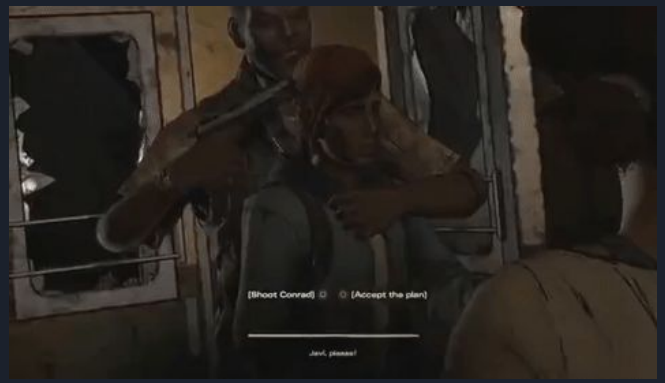
Punishment - Ask yourself

- What are my punishments in the game?
- Why am I punishing the players? What do I hope to achieve by it?
- Do my punishments seem fair to the players? Why or why not?
- Is there a way to turn these punishments into rewards and get the same, or a better effect?
- Are my strong punishments balanced against commensurately strong rewards?

Freedom vs Controlled Experience

Freedom vs Controlled Experience

- Games are interactive but is the game supposed to be a free or controlled experience?
- Games are more interesting that real life and therefore, boring options need to be omitted
- Open world vs Story telling games



Simple vs Complex

Simple vs Complex

Simple can be…

- Boring
- Elegant

Complex can be…

- Confusing
- Intricate

Two types of Complexity

- Innate complexity
  - Usually bad
  - Design has a lot of exceptions and complex rules
  - Hard to learn but there is an audience
- Emergent complexity
  - Usually good
  - Design is simple but had depth
  - Simple yet not linear
    - Example?

Simple vs Complex - Ask yourself

- What elements of innate complexity do I have in my game?
- Is there a way this innate complexity could be turned into emergent complexity?
- Do elements of emergent complexity arise from my game? If not, why not?
- Are there elements of my game that are too simple?

Simple vs Complex - Natural vs Artificial Balancing

Natural Balancing

- Naturally makes sense
- Easy to understand
- Examples?

Artificial Balancing

- Seems out of place
- Hard to understand

Simple vs Complex - Elegance

What is Elegance?

- Simple systems with complex situations
- Although you can add things to achieve greater elegance, you can also
  - Take away stuff for new ideas

Pac Man

- Short-term goal: “Eat the dots”
- Long-term goal: “Clear all the dots”
- Triangularity
  - Safer route with no dots
  - Riskier route with dots
- Player points to measure success
- Player points to gain an extra life

Simple vs Complex - Ask yourself

Elegance

- What are the elements of my game?
- What are the purpose of each element? Count these up to give the element an “elegance rating.”
- For elements with only one or two purposes, can some of these be combined into each other, or removed altogether?
- For elements with several purposes, is it possible for them to take on even more?

Simple vs Complex - Character

Elegance is important but…

- **Character** is also important
  - Extra things that don't make a difference in the game
  - Without Character, things would be boring
  - Example?

Simple vs Complex - Ask yourself

Character

- Is there anything strange in my game that players talk about excitedly?
- Does my game have funny qualities that make it unique?
- Does my game have flaws that players like?

Detail vs Imagination

Detail vs Imagination

When to use which?

- Use details if you're able to do it well. Otherwise, leave it to imagination.
  - Voice acting vs Subtitles
- Use details to help imagination
  - In chess
    - The King is the most important
    - Knights are horses. Why?
- If something is familiar, it doesn't need too much detail

- The **binocular effect**
  - After seeing something up close, you can then always imagine it again
- Use details to inspire imagination
  - In chess
    - You control a medieval royal army
    - What does taking a piece mean?

Detail vs Imagination - Ask yourself

- What must the player understand to play my game?
- Can some element of imagination help them understand that better?
- What high-quality, realistic details can we provide in this game?
- What details would be low quality if we provide them? Can imagination fill the gap instead?
- Can I give details that the imagination will be able to reuse again and again?
- What details I provide inspire imagination?
- What details I provide stifle imagination?

Game Balancing Methodologies

Game Balancing Methodologies

- Ask yourself the questions
- **Doubling and halving**
  - Use when changing values rather than intuition
- Train intuition by guessing stuff exactly
- Document your model
  - What are the relationships between what you're balancing
- Tune your model as you tune your game
- Plan to balance
- Let the players do it

Balancing Game Economy

Balancing Game Economy

- Fairness - Do any players get unfair advantage by buying certain things, or earning a certain way?
- Challenge - Can players buy something that makes the game too easy for them? Is earning money to but what they want too hard?
- Choices - Do players have enough ways to earn money? To spend money?
- Chance - Is earning money more skill-based or chance-based?
- Cooperation - Can players pool their funds in interesting ways? Can they collude in a way that exploits “holes” in the economy?
- Time - Does it take too long to earn money or is it earned too quickly?
- Rewards - Is it rewarding to earn money? To spend money?
- Punishment - How do punishments affect a player’s ability to earn and spend money?
- Freedom - Can players but what they want, and earn the way they want?

Balancing Game Economy - Ask yourself

- How can my players earn money? Should there by other ways?
- What can my players buy? Why?
- Is money too easy to get? Too hard? How can I change this?
- Are choices about the earning and spending meaningful ones?
- Is a universal currency a good idea in my game, or should there by specialized currencies?

Dynamic Game Balancing

Dynamic Game Balancing

Adjusting the game while playing…

- It spoils the reality of the world
  - It doesn't make sense that when I get better, the enemies do too
- Exploitable
  - You can play poorly to have the hard parts of the game be a breeze
- Players improve with practice
  - If players want a challenge to beat and you take it away by lowering the difficulty when they die, they won't face that challenge that they wanted to face

Therefore, be careful when balancing a game dynamically!

My Thoughts...

My Thoughts...

The Reading

- A very pleasant read
- Covered good topics and broke it down to a lot of fundamentals
- Great for people that get into game development
- The questions from the Lens can be used for any game
- Depending on one's knowledge of games, a lot of this is already subconsciously thought of

My Thoughts...

My Takeaway

- Not something I would use actively
  - These things are already use passively
  - I personally value trial and error
- Good for when you need insight/help outside of my own thoughts
- Good for when you want to review your game in-depth to see if there is anything that needs to be balanced/looked at

My Thoughts...

My Tips

- Use this if you need help getting started with balancing **AFTER** you've made your game playable
- Don't panic, just make games and go with the flow
  - Design will never be perfect
  - Stick with your intuition and correct it later on if needed
- Experience is key
- Use playtests to your advantage and get feedback
  - Don't take the feedback too literal but take the overview
- These aren't rules, these are guidelines
  - You can always "break" them

The Actual End