GHOST
OF TSUSHIMA

HONORING THE BLADE

Lethality and Combat Balance in Ghost of Tsushima
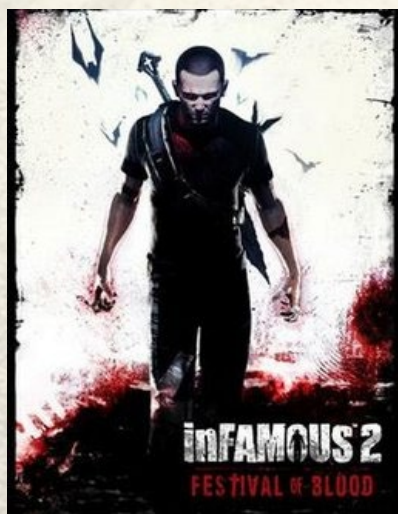
Theodore (Ted) Fishman

Twitter: @EskaAtherion

- ✦ Lead Combat Designer

- ✦ Been at Sucker Punch for 11 Years
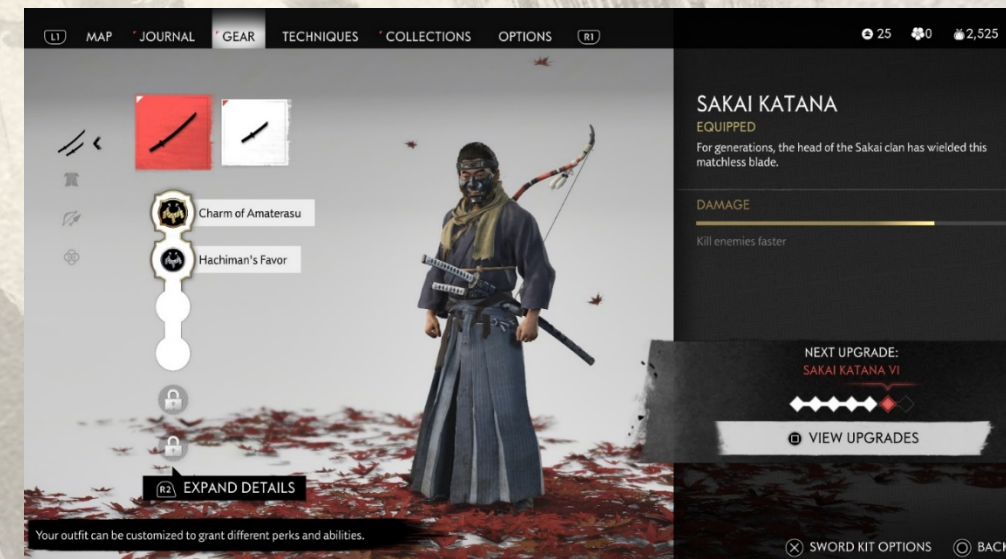 - ✦ InFamous 2 –> Ghost
  - ✦ Worked on Systems and Combat design

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Goal: Satisfying Player Progression

✦ Support a 30+ hour Open World game

✦ Multiple difficulty modes and coop

✦ Variety of enemies, and escalating challenge

✦ Responsive and fast-paced gameplay

Risk: Player upgrades can lead to "Sword Sponges"

aka HP inflation

Attempt #1: RPG levels and scaled HP

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Attempt #2: Armor Points

✦ Outer "Shield" of HP protecting low Red HP

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High HP feedback and playtesting

"Felt like I was using a foam bat"

"Am I using a pool noodle?"

"I don't feel like a Samurai"

THE LETHALITY CONTRACT

Sword combat must feel lethal
- ✦ Also, Headshots and Assassinations

Harder limits on HP
- ✦ Forcing max "hits to kill" even without upgrades
- ✦ Same for all difficulty modes, prevent inflation

No RPG enemy levels
- ✦ Hurt realism of the world

But, how do we provide escalation?
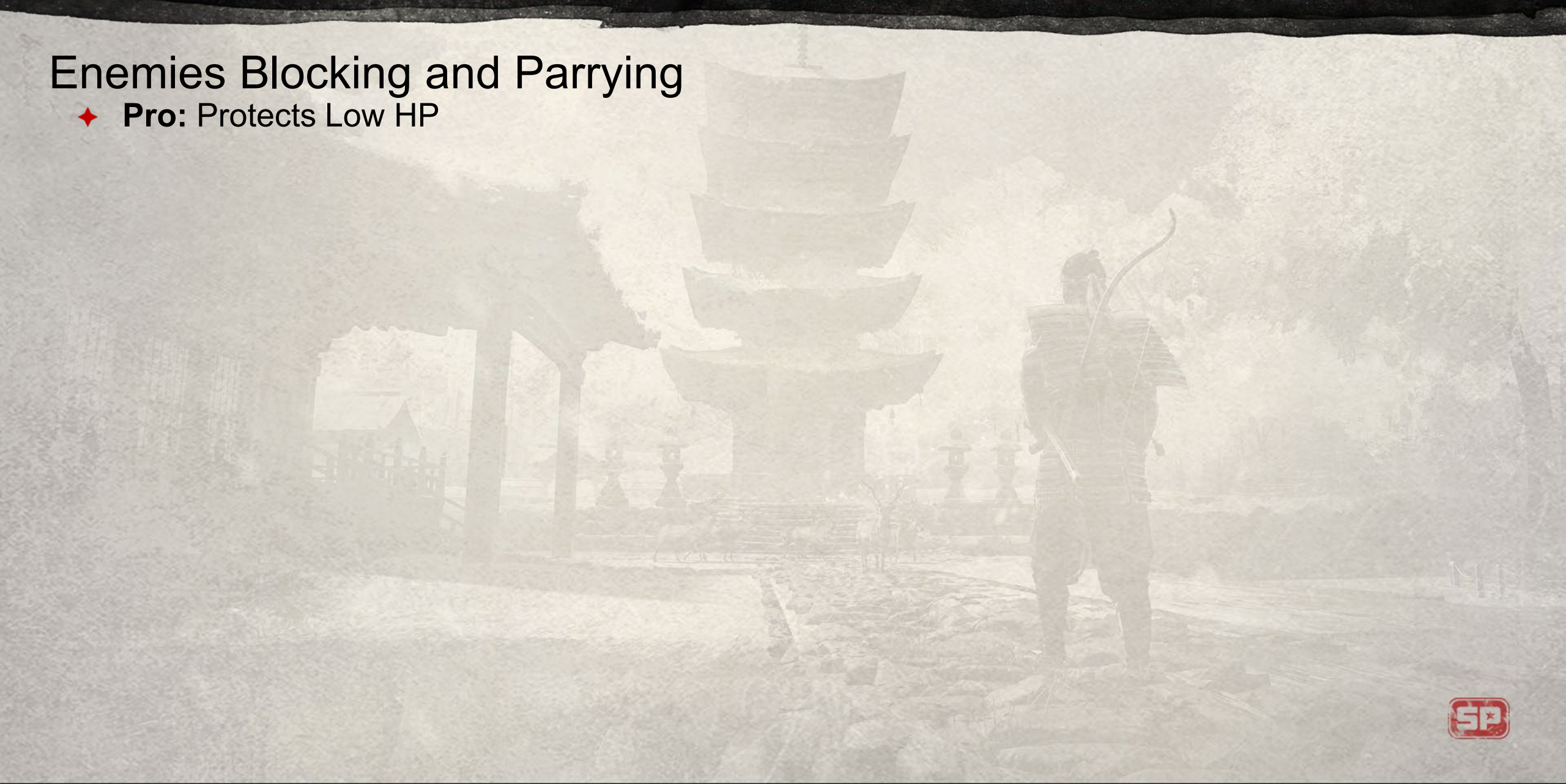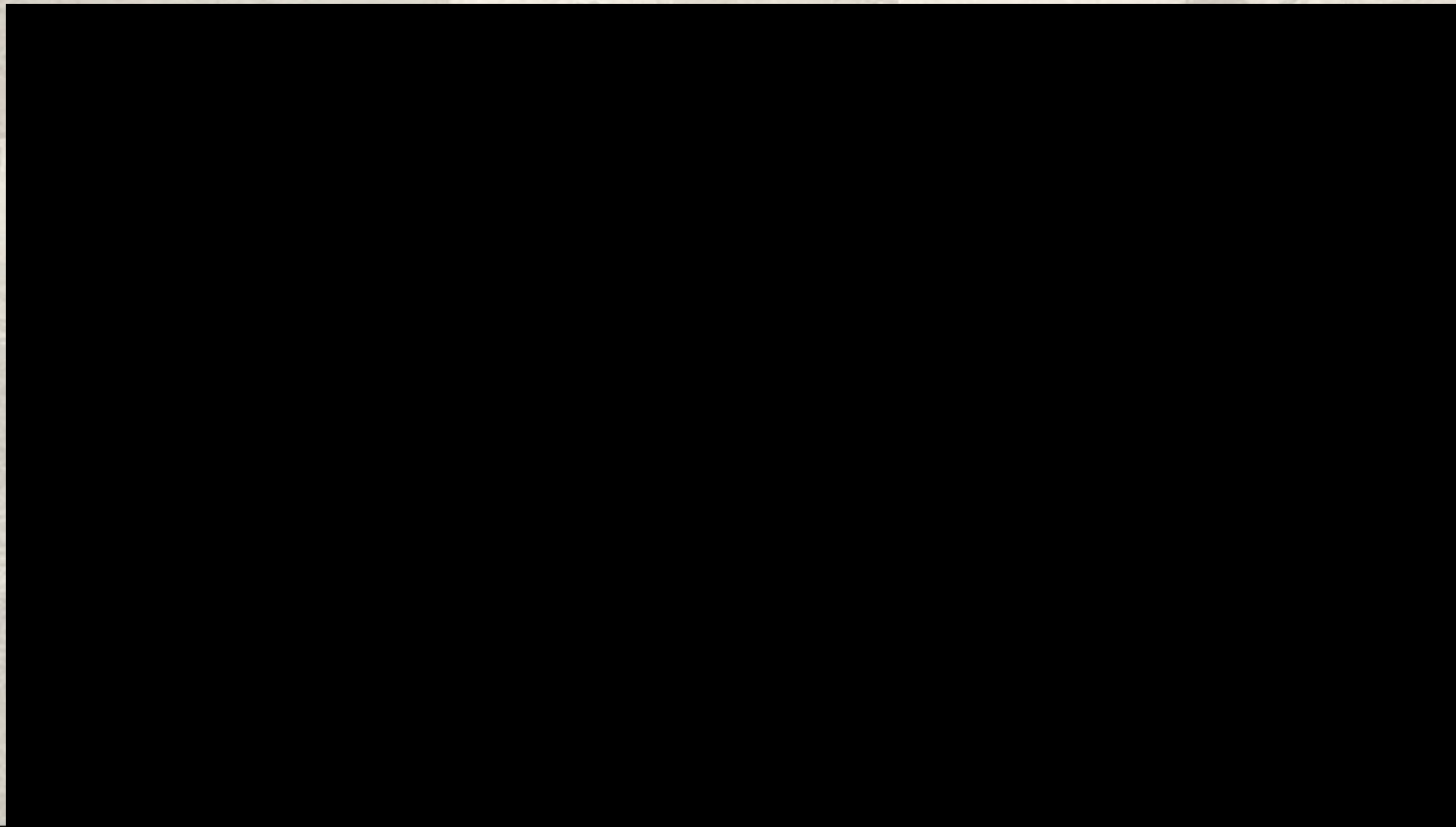
Enemies Blocking and Parrying

- **Pro:** Protects Low HP

Enemies Blocking and Parrying

- ✦ **Pro:** Protects Low HP
- ✦ **Con:** Too defensive can cause frustration
- ✦ **Con:** Players parrying and being reactive became the optimal strategy
- ✦ Breaking defense and offensive actions had to be the next focus

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Adding the Stagger Meter

✦ Light attacks are faster
✦ Heavy attacks do Stagger
✦ Speed of Stagger enabled enemy variety

Adding Stances

✦ Stances paired against types of enemies
✦ Each stance has its own set of Heavy attacks
✦ Stagger twice as fast if aligned to enemy type
  ✦ NOT additional HP damage
✦ Not a hard solve
  ✦ Unaligned stances are parried, dodged more often, but still usable
  ✦ Matching is not only way to kill, but is the fastest (also felt cool)

Enemy Lethality and variety

✦ Weapon usage and encounter composition
✦ Speed, aggression, moveset
✦ Increased enemy damage

Increasing HP: *Carefully*

✦ Have weapon upgrades feel meaningful to "hits to kill"
✦ Character art helped justify enemy HP increases and challenge

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Gating and Benefits of world design

- ✦ Each prefecture has a "tier" of enemies
- ✦ Players start in the south end of the island
- ✦ Choke points in story and island layout
  - ✦ Won't encounter enemies with larger HP amounts
  - ✦ Ceiling for maximum power from upgrades

TRIBE PREFECTURE MAP
Updated: Jun 27

TRIBE 5
JOGAKU

TRIBE 4
SAGO

TRIBE 4
KIN

TRIBE 4
KUBARA

TRIBE 3
KUSHI

TRIBE 3
OTSUNA

TRIBE 3
YARIKAWA

TRIBE 3
UMUGI

TRIBE 3
AKASHIMA

TRIBE 1
KOMODA

TRIBE 1
HIYOSHI

TRIBE 1
KASHINE

TRIBE 1
ARI...

TRIBE 2
KOMATSU

TRIBE 2
TSUTSU

TRIBE 2
AZAMO
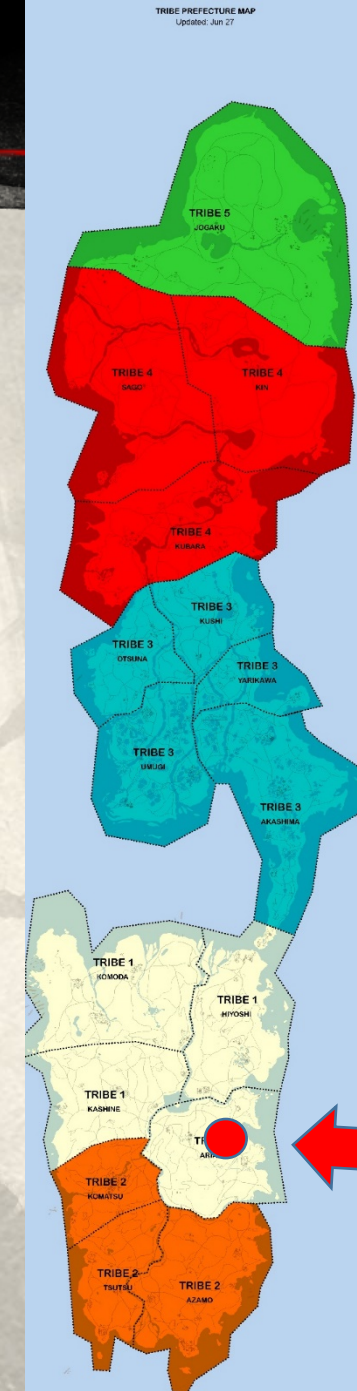
Less is more

- **Art direction goal:** Minimal UI
- Combat speed is fast, gets noisy
- Show progress but with less
- Players accept more with imprecise info

Charting "Hits to kill" for all enemies

✦ Matching data, design sense and Lethality expectations
✦ Open world and acceptable "bands"

Tuning by Difficulty mode

✦ HP, Stagger unmodified by difficulty (as previously noted)
✦ Attack speed and group aggression
✦ Timing required for parrying, dodging
✦ Damage output from enemies

Tribe1	Health	No Upgrade	Upgrade 1	Upgrade 2	Upgrade 3	Upgrade 4	Upgrade 5	Upgrade 6
Skirmisher	70	3	3	2	2	2	2	2
Shieldman	70	3	3	2	2	2	2	2
Archer	50	2	2	2	2	2	1	1
Spearman	70	3	3	2	2	2	2	2
Brute	150	6	5	5	4	4	3	3
WarlordShieldman	200	8	7	6	5	5	4	4
Tribe2								
DualAxeman	138	6	5	4	4	3	3	3
SpikeShieldman	138	6	5	4	4	3	3	3
Archer2	62.5	3	3	2	2	2	2	2
Halberdman	138	6	5	4	4	3	3	3
HeavyShieldman	200	8	7	6	5	5	4	4
WarlordShieldman2	300	12	10	9	8	7	6	5
Tribe3								
EliteSwordman	184	8	7	6	5	4	4	4
Pikeman	184	8	7	6	5	4	4	4
Archer3	75	3	3	3	2	2	2	2
FlashGrenadier	75	3	3	3	2	2	2	2
HeavyAxeman	300	12	10	9	8	7	6	5
WarlordShieldman3	400	16	14	12	10	9	8	7
Tribe4								
HookSwordman	255	11	9	8	7	6	5	5
FireShieldman	255	11	9	8	7	6	5	5
FireArcher	82.5	4	3	3	2	2	2	2
Grenadier	82.5	4	3	3	2	2	2	2
FireLancer	375	15	13	11	9	9	8	7
WarlordShieldman4	500	20	17	15	12	11	10	9
Tribe 5								
EliteSwordman2	300	12	10	9	8	7	6	5
SpikeShieldman2	300	12	10	9	8	7	6	5
PoisonArcher	100	4	4	3	3	3	2	2
Pikeman2	300	12	10	9	8	7	6	5
HeavyShieldman2	450	18	15	13	11	10	9	8
WarlordShieldman5	600	24	20	18	15	14	12	10

LETHAL DIFFICULTY

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| | Lethal | > | Death is always close at hand. A single sword strike is lethal. |

Have the blade feel maximally lethal not just harder
- ✦ Attack timing and damage to extremes
- ✦ Increase all damage, including the player
- ✦ Narrower band of Progression

More successful than anticipated
- ✦ Increased replay value, challenge seekers
- ✦ On fantasy and untapped potential

KANETOMO

DATA AND VERIFYING DESIGN INTENT

Verifying via player models and playtesting

- **Goal:** Match difficulty to projected player progression curve
- Linear, Average and Wide (LAW)
- Primary measurements: Sword, XP, HP
- Combined with User feedback, internal and external
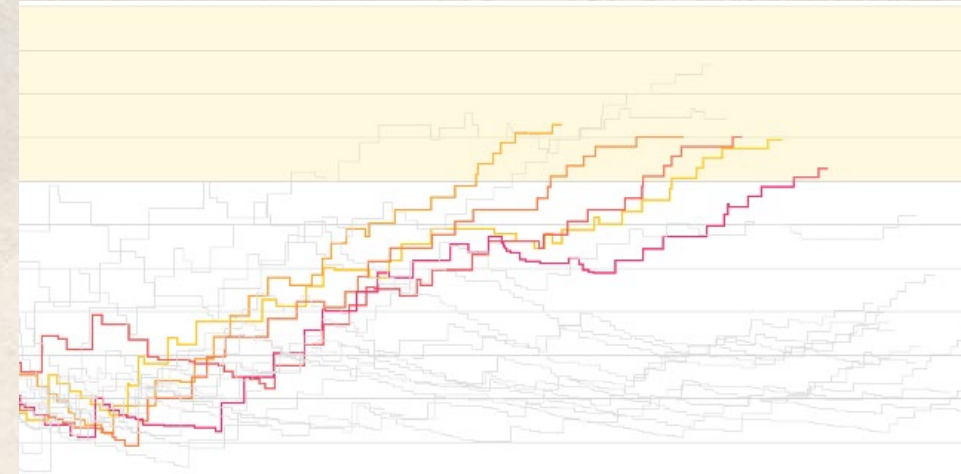
| EFT20		XP			HP		
		L	A	W	L	A	W
Stage	Model	2,150	2,616	4,662	130	130	160
Gate 1	Actual	2,050	2,585	4,244	110	125	153
Stage	Model	4,466	5,248	7,760	140	150	180
Gate 2	Actual	4,150	5,575	8,489	130	147	188
Stage	Model	6,616	7,564	11,490	150	160	205
Gate 3	Actual	6,875	8,410	15,169	140	165	215
Stage	Model	8,932	10,046	14,754	150	180	220
Gate 4	Actual	9,235	10,740	17,383	140	180	220
Stage	Model	12,248		18,734	160		240
Gate 5	Actual	11,770		20,956	150		235

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Duels are boss fights
- ✦ Skill challenge
- ✦ More defensive enemies and fast timings
- ✦ Longer battle, cannot be over in a flash

Samurai cinema and reverse of expectations
- ✦ "Hits to kill" had to be high
- ✦ Showing more UI to show more discrete progress
- ✦ Phases via Sword clashes / Binds

YASUHIRA KOGA
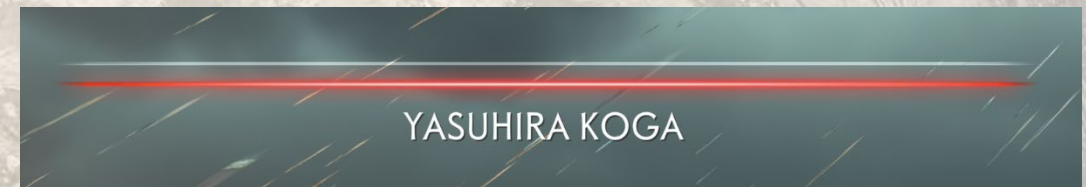
Realities of multiplayer

- ✦ 2-4 player coop
- ✦ 4 players vs one target
- ✦ Gear scaling, and player abilities

Supernatural enemies

- ✦ Oni as mini-bosses, and area of effect attacks
- ✦ "Magic" and enemy buffs
- ✦ Health bars and High HP

"Over leveling"

- "Wide" players in playtests NEVER matched at home experience
- Acceptable, power empowerment / journey of the character

Understanding damage reactions

- Sparks vs Blood, did I do HP damage or blocked?
- Combat speed, hard to absorb combat feedback

- ✦ Core design decisions (and tuning) should support the character fantasy
  - ✦ Lethality goes both ways, and is expected
  - ✦ Enemy Defensive behavior is critical (Stagger, Blocking, Dodging)
    - ✦ Player verbs and attacks to counter (Stances)
  - ✦ Trust your design intuition but verify via tons of playtesting

- ✦ Difficulty balancing and escalation can be done without major HP inflation
  - ✦ Aggression, movesets, timing, damage output is core
  - ✦ HP increases should be done *carefully*

Studio Head Emeritus – Chris Zimmerman

- ✦ Master of the Katana: Melee Combat in Ghost of Tsushima
- ✦ Another deep dive into how we built the combat

Want to work on problems like these? We need a *combat designer!*

WE ARE HIRING!

https://jobs.suckerpunch.com/

SP