Artifact Presentation

Crescendo Without Mastery: Boss Battles Through Accessibility

Reimagining the Boss Battle Experience

Problem Statement:

Traditional boss fights serve as climactic tests of skills, requrining player mastery. This project challenges that approach by creating a tutorialised and intuitive boss fight that

Traditional Boss Fight:



Adaptive Tutorialised Boss Fight:



Why is this a problem?

Boss fights become **inaccessible** to casual players, frustrating to new players, and **overly punishing** for those who haven't fully mastered the game's combat system.

Dark Souls punishes players who don't understand its mechanics by forcing them to "learn through failure" rather than guiding them within the fight itself.







The Solution – A Boss Fight That Teaches, Not Just Tests

Visual and Audio telegraphing for intuitive gameplay





The Solution



The Solution					"Many researchers have confirmed that reaction to sound is faster than reaction to light, with mean auditory reaction times being 140-160 msec and visual reaction times being 180-200 msec" (A literature Review on Reaction Time by Robert L Kosinski				
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The Solution

Instead of requiring prior mastery, the boss teaches its own mechanics dynamically using:

- Attack telegraphs (Clear visual and audio cues).
- Structured phases (Gradual difficulty increase).
- Pattern recognition (Encouraging players to learn in real time).

Outcome: Players experience a **challenging yet intuitive** fight that feels rewarding rather than punishing.

Games like Breath of the Wild implement clear attack telegraphs, helping players react and learn without extensive tutorials



The End User – *Who benefits from this approach?*



Casual Gamer: No prior mastery needed; they can engage and learn within the fight.



- Hardcore Gamer: Still offers challenge, but focuses on fairness and skill development rather than just punishment



Introduces an alternative approach to traditional boss design, making fights more dynamic and intuitive

Designers

Hardcore Gamer

Casual Gamer

Impact:

Encouraging adaptive boss design could redefine game difficulty making challenge feel fair, rewarding, and engaging for all players.

Aim – The Overall Intention

Creating an Intuitive and Engaging Boss Encounter



The aim of this project is to redefine boss battle design by creating an encounter that is accessible, intuitive, and rewarding for all players



Traditional boss fights act as **skill tests** that assume prior mastery, but this project **integrates tutorialisation** within the fight itself, allowing players to **learn and adapt dynamically** rather than through repeated failure.



By using clear attack telegraphs, structured mechanics, and progressive difficulty, this boss fight will be challenging yet fair, providing an engaging experience that doesn't alienate casual players while still rewarding skilled ones.



Objectives – The specific steps to achieve the aim

Building an Accessible yet challenging Boss Battle

Research & Design:



- Analyse traditional boss fight structures and study player frustration points in difficult encounters.
- Research game design principles for intuitive learning, focusing on telegraphing, pattern recognition, and difficulty curves.

Prototype Development:



- Implement player mechanics (melee, ranged, dodge, parry) with responsive combat controls.
- Develop the boss AI with three-phase attack behavior and adaptive difficulty scaling.
- Integrate visual and audio telegraphs to communicate boss attacks clearly.

Objectives – The specific steps to achieve the aim

Building an Accessible yet challenging Boss Battle



Testing & Refinement:

- Conduct multiple playtesting sessions, gathering player feedback on readability, difficulty, and engagement.
- Adjust timing, attack windows, and animations to ensure fair challenge and smooth transitions.
- Balance difficulty progression, making sure all players can learn without frustration.





- Polish animations, sound effects, and arena visuals for a high-quality presentation.
- Document the design process, findings, and how this method could apply to industry standards.
- Prepare a final gameplay demo showcasing the full boss fight experience.



Deliverables – *What is being produced?*

Final Deliverables

Playable Boss Fight Prototype (Final Game Build)



- A boss battle with telegraphed attack patterns
- Integrated tutorialisation within combat
- Dynamic Al Behaviour

Game Design Documentation

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- Boss Behaviour Trees (Showing Attack sequencing and Al Logic)
- Arena Design Breakdown (How level elements enhance combat)
- Player Feedback Systems (Attack telegraphs, sound cues)

Testing Reports and Iteration Analysis



- Playtesting feedback reports (before/after adjustments)
- Finalised gameplay insights (what worked, what didn't, how it aligns with industry standards)

Research Approach – Understanding Best Practices in Boss Fight Design

Learning from Industry Standards to Build a Better Boss Fight

Objective:

- Identify industry best practices in boss design, telegraphing, difficulty balancing and tutorialisation
- Compare traditional "skill-test" bosses with adaptive, tutorial-based encounters to determine effective patterns.
- Use literature review, expert talks, and game analysis to support design decisions.

Research Sources:

Game Design Literature and Academic Research



Research Approach – Understanding Best Practices in Boss Fight Design

Learning from Industry Standards to Build a Better Boss Fight

Research Sources:

GDC Talks and Developer Insights





Key Takeaway:

A great boss fight should challenge the player but also teach them through experience, using clear, readable mechanics

Game Analysis:

Traditional Mastery Based Fights:



Ornstein and Smough (Dark Souls) -High skill test with minimal telegraphing



Vergil (Devil May Cry 3)-A duel-style boss design for reactive counterplayer

Adaptive and Tutorilaised Bosses:



Thunderblight Ganon (Breath of the Wild) - Teaches dodge mechanics through telegraphed attacks.



Mr. Freeze (Batman Arkham City) -Forces the player to adapt by learning patterns dynamically

Evaluating Success – *Measuring the Effectiveness* of a Tutorialised Boss Fight

How do we know if this works?



Player Comprehension:

- Can players learn attack patterns intuitively
- without prior instruction?
- Do they identify telegraphs correctly and react appropriately?



Engagement & Enjoyment:

- Do players feel challenged but not frustrated?
- Is the boss fight memorable and rewarding?



Balance and Difficulty Scaling:

- Are there clear moments for players to react and attack?
- Does the difficulty curve feel fair and progressive?

Research Implementation – *Gathering and analyzing data*

How I collected and interpreted feedback

Playtesting

Conducted playtest sessions with different player skill levels

Playtest Structure

- First playthrough observation: No instructions, observing how players naturally engage with the fight.
- **Post-Fight Interview:** Asking players to **describe attack** patterns, telegraphs, and difficulty perception.
- Gameplay Data Analysis: Tracking time to defeat, number of deaths, and player reaction times.

Iterative Design Process

After collecting feedback, the boss fight underwent multiple interactions, improving:

- Attack Telegraphs (Clearer Visual/Audio Cues)
- Timing Adjustments (More reaction windows for fairness)



Introduction – From Concept to Completion: The Production Journey

Moodboards

Comic Characters

The first influence that stood out to me were classic comic book character designs and proportions, but especially the darker side of comic book design

Out of these characters, I lean into the more brutish versions of The Hulk, but also really appreciate the extra intimidation factor brought by Batman with an Axe



The Concept (Where this fits)









Concepting – Crafting a Cohesive Duo

Moodboards



Tutorialsation at first sight

The chosen model is incredibly striking with hulking muscles and army aesthetic pushing towards a raw strength theme setting the impression instantly to the player. Teaching them to keep their distance and setting the careful tone for wild attacks

Why This Model?

 As discussed in the GDC talk "Boss Up" Shock and Awe is an essentially part of a boss fight, first impressions should leave the player with a lasting image and this chosen model does this perfectly



Concepting – Crafting a Cohesive Duo

Moodboards



The Contrasts

The Zombie Boss is overwhelming and relentless, designed to telegraph attacks clearly

The Player Character is nimble, strategic and reactive, relying on quick decisions and movement

Why This Concept?

- Visually conveys mechanics through animations and design
- Reflects narrative themes (Strength vs. Agility, Decay vs. Survival)
- Contrasts nicely with the brutish zombie boss



Concepting – *Camera*

From Isometric to Over the Shoulder: Adapting Camera Design to Gameplay



Issues Encountered:

- Reduced player immersion The top-down view felt detached from the action.
- Melee combat felt weak Attacks lacked impact due to distant perspective.
- Boss scale felt less imposing, diminishing tension.

Top Down Isometric 2D Camera

Originally, the game featured a **ranged player character**, so an **isometric perspective** was chosen to:

- Provide clear battlefield awareness for aiming.
- Allow strategic positioning with ranged combat.
- Maintain a clean, readable space for enemy telegraphs.



Concepting – *Camera*

From Isometric to Over the Shoulder: Adapting Camera Design to Gameplay

Over the Shoulder 3D Camera

After shifting to a melee-based character, a third-person over the shoulder camera was adopted to:

- Increase player immersion, making the fight feel up-close and personal.
- Improve hit feedback, allowing for better animation clarity and attack telegraphs.
- Enhance **boss presence**, making its size and power **more intimidating**.





Al Behaviour – Flowchart

Structuring the Fight – Attack Phases and Player learning





Al Behaviour – Charge Attack



Al Behaviour – Charge Attack

Concept and Purpose

- The Charge Attack is a high-damage, gap-closing move designed to: Force players to react quickly and dodge at the
 - right time. Punish nassive play by preve
- Punish passive play by preventing players from staying too far away.
 Introduce a fake-out mechanic, making the fight more dynamic.



Attack Sequence:

- 1. Wind-up: The boss lowers its stance, Stomps on the ground (telegraph cue).
- 2. Lunge Forward: Covers long distance, stunning the player if hit.
- 3. Stagger Recovery: If the player dodges, the boss is momentarily stunned before resetting.

Prototype Development



Al Behaviour – Charge Attack

The Problems



Problem 1: Unnecessary Overlap with Other Attacks The boss already had gap closing options, making this attack redundant.



Problem 2: Difficult to Balance Players either dodged too early and got hit or exploited a predictable pattern



Problem 3: Broke the Fight's Rhythm The fast nature of the charge clashed with the deliberate, heavy feel of other attacks, disrupting the fight's pacing.

The attack was **removed**, and its **"aggressive forward pressure"** was **redistributed** into the **Ground Smash's area control mechanics** and **a reworked Leap Attack**. **Removing the Charge Attack streamlined the fight's pacing**, making the boss's aggression **more deliberate and readable** while **avoiding redundant mechanics**.

Concept and Purpose

The Ground Smash is a high-damage area attack designed to:

- Control Space by forcing the player to reposition
- Introduce Verticality, boss jumps before impact, adding suspense
- Create a clear risk vs reward moment, players can dodge early or parry at the right moment





Attack Sequence:

- 1. Wind-up (1.5 sec): Boss lowers body and raises its arms
- 2. Airborne Phase (0.5 sec): Leaps off the ground, with whoosh sound cue
- **3.** Impact (Almost Instant): Massive AoE slam, damaging nearby players.
- 4. Recovery (0.5 sec): Brief pause, allowing for a counterattack window.

V2





V3











AoE Damage



AoE Damage Ring



AoE Damage Ring



Al Behaviour – Short Range Attack

Concept and Purpose

The Three-Hit Combo is the core attack pattern of the

boss, designed to:

- Establish a predictable rhythm, teaching players to recognize and react.
- Set up more complex attacks, conditioning players to expect a third strike.
- Encourage defensive play, reinforcing dodging, parrying, and movement.

Attack Sequence:

- 1. Wide Fronthand Swing (Medium, Horizontal) Slow but wide attack, punishable on dodge
- 2. Wide Backhand Swing (Medium, Horizontal) Also Slow but wide attack, punishable on dodge
- 3. Overhead Slam (Heavy, Vertical) Covers a large area, Counters aggressive players

Basic Attack Calculation



Blueprint

BPC_Attack

I have coded everything in a way which allows me to easily change the stats in between playtesting sessions. Containing an S_DamageInfo struct, I can set the amount of damage and if the attack can be interrupted, blocked or parried.

Furthermore, each attack allows the possibly to dynamically change the montage and how the damage is calculated. The way I've structured this within a blueprint component, any Actor (Player, Boss Enemy, Minion) can share attacks and use any form of attack.



Projectile Attack



Long Range Attack



Long Range Attack



Readability

Red Outline



Black Outline



The Arena – Initial Blockout 1







The Arena – Initial Blockout 1



The Arena – *Initial Blockout 2*





The Arena – Initial Blockout 3





Evaluative Review – *Did the Project Succeed?*

This project set out to redefine traditional boss fights by removing the requirement for prior mastery and instead teaching mechanics dynamically within the fight. Through structured attack phases, clear telegraphs, and iterative playtesting, the project successfully met its core deliverables:

- A fully playable boss fight with tutorialized mechanics
- Integrated audio-visual attack telegraphs for player learning
- Balancing through multiple playtest iterations



Evaluative Review – *Did it solve the problem?*

Successes

- 1. Players learned through combat instead of external instructions Telegraphs and attack variations ensured natural player adaptation.
- 2. Challenge vs. Fairness was well-balanced Initial frustration in playtests was resolved through animation timing adjustments and stagger windows.
- **3.** Players found the fight engaging Playtesters described the experience as "challenging but fair", validating the tutorialized design approach.

Unexpected Challenges

- The Charge Attack was Cut Originally meant to pressure passive players, it disrupted fight pacing and was ultimately removed.
- 2. Some players still struggled While most testers adapted, some casual players needed more time, suggesting room for adaptive AI.
- 3. Unanticipated Exploits Some testers abused corner positioning, revealing AI pathing flaws.

Evaluative Review – *Key Takeaways & Future Improvements*

Key Takeaways & Future Improvements

- 1. Refining Enemy AI: Future iterations could introduce adaptive boss behaviour that scales aggression based on player performance.
- 2. Environment Interactions: Breakable obstacles or dynamic hazards could further shape movement and positioning.
- 3. Expanded Telegraphing: Additional animation refinements and more distinct sound cues could improve attack readability even further.

Final Verdict

Did the project succeed? Yes – the boss fight is tutorialised, engaging, and refined through playtesting.

Is there room for growth? Absolutely – adaptive AI, level design tweaks, and deeper player feedback systems could push this even further.

What if all boss fights taught rather than just tested? This project proves that it's possible—and the next step is refining the idea for even greater accessibility and engagement.

