

Lecture 15

Deck Builders

Indie Gaming: The Early Years

- *Braid* was important in rise of Indie gaming
 - Showed off what was possible with modern tools
 - Took a familiar genre and built upon it
 - Became a showcase for **system design**
- This led to many copy-cats over the years
 - Platformer + X became the indie formula
 - Still is a lucrative space (*Hollow Knight*, *Silksong*)
- But eventually became “**the student game**”

A New Formula Appears



This Changed Indie Gaming Forever

- The development costs were incredibly cheap
 - Initial two developers (Anthony Giovannetti, Casey Yano)
 - Artists add after successful playtest, Early Access
- People played this game **forever**
 - The procedural content continued to remain fresh
 - Had professional streamers until launch of sequel
- This is now the go-to indie formula
 - Modern games sell themselves as *Slay the Spire* + X
 - But too complex to be the new student game

Why Is this a Popular Formula?

- They have very **low development** costs
 - Animations are simple; just focus on card effects
 - Can be done with very small teams
- They are very deep with **high replayability**
 - They are the best example of *combinatorial design*
 - Players find them extremely good value for money
- They are highly extensible and **moddable**
 - Just have to add new cards and mechanics
 - See the *Downfall* mod for *Slay the Spire*

Why Is this a Popular Formula?

- They are extremely **platform-friendly**
 - They do not high-end graphics cards
 - They easily port to mobile devices
- They deliver **controlled randomness**
 - They are random enough to feel fresh
 - But a deck gives more control than die rolling
- They naturally create **meaningful choice**
 - Deck builders support many different winning strategies
 - But players have to be *adaptable* to succeed at them

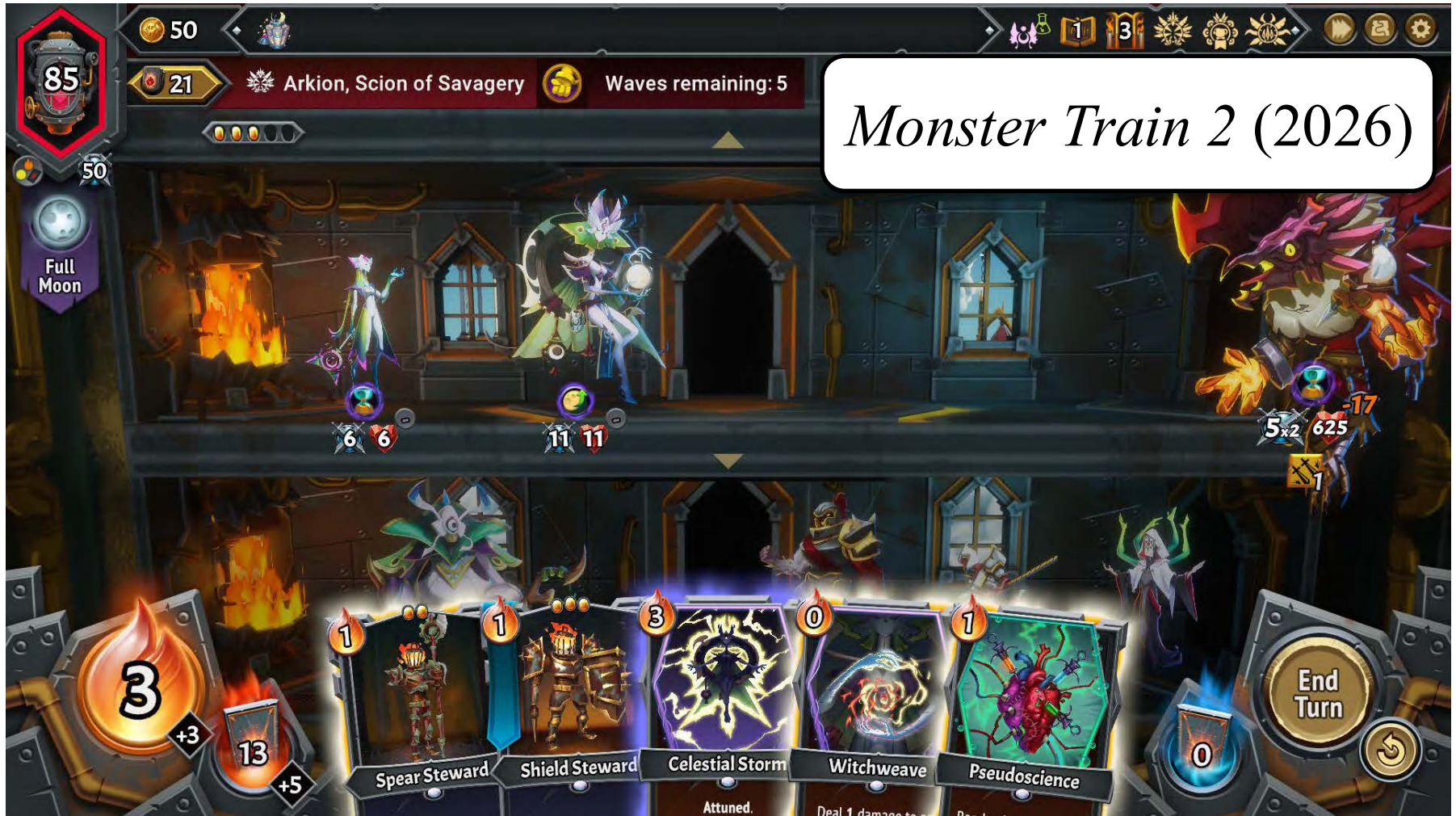
What is a Deck-Builder?

This is Obviously a Deck Builder



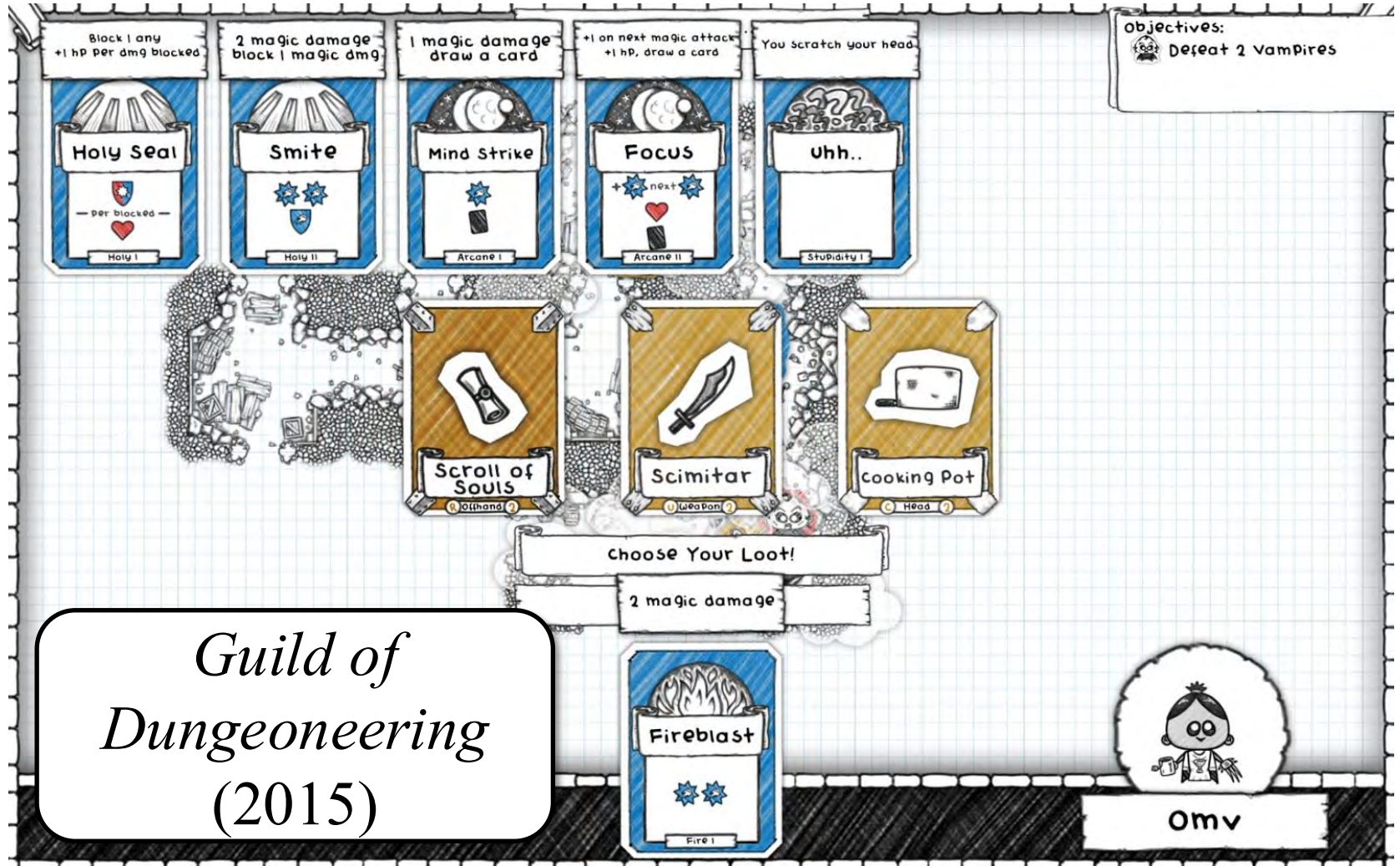
Slay the Spire 2 (2026)

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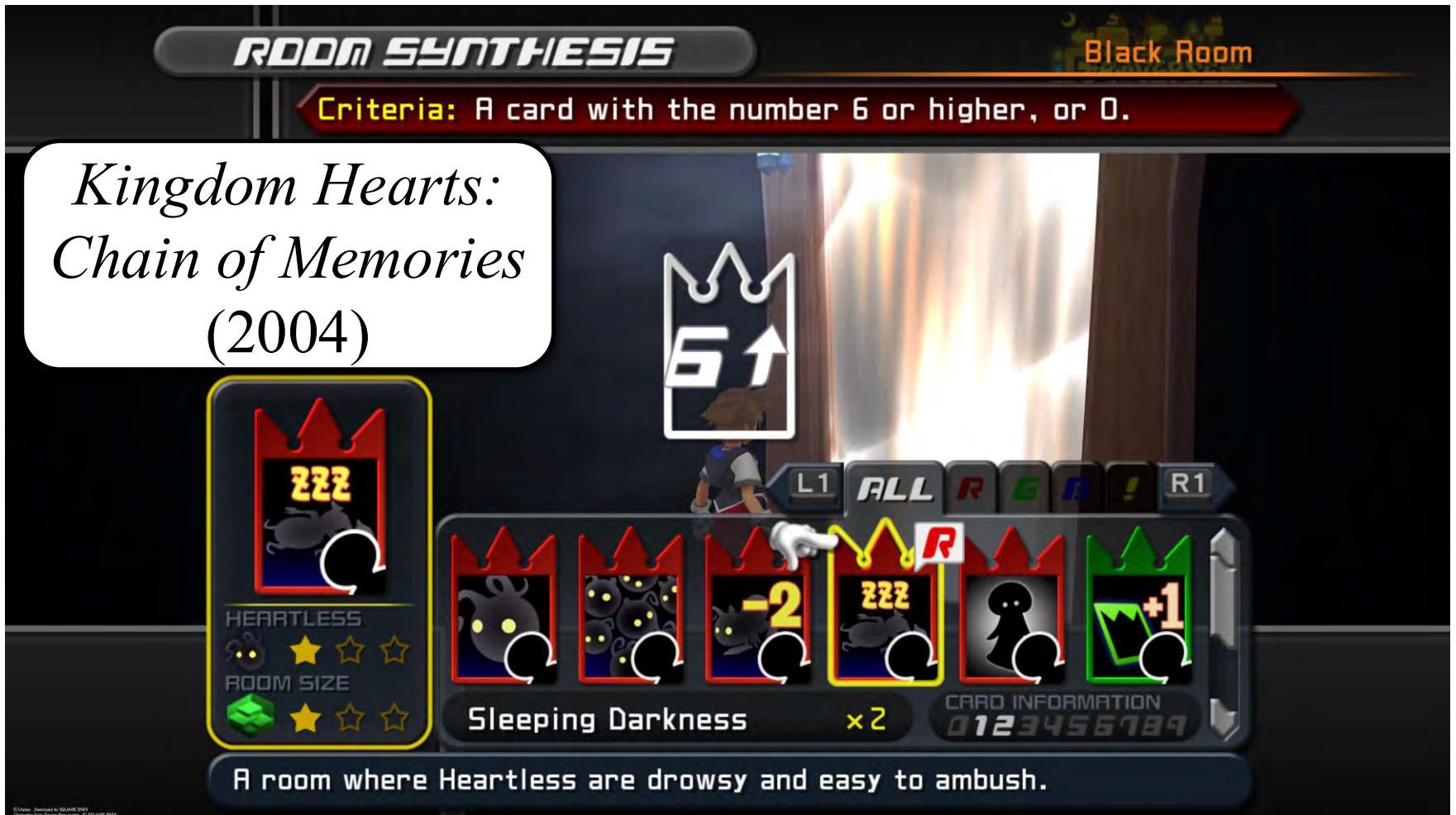


Monster Train 2 (2026)

Is This a Deck Builder?



Is This a Deck Builder?



*Kingdom Hearts:
Chain of Memories
(2004)*

Is This a Deck Builder?



Is This a Deck Builder?

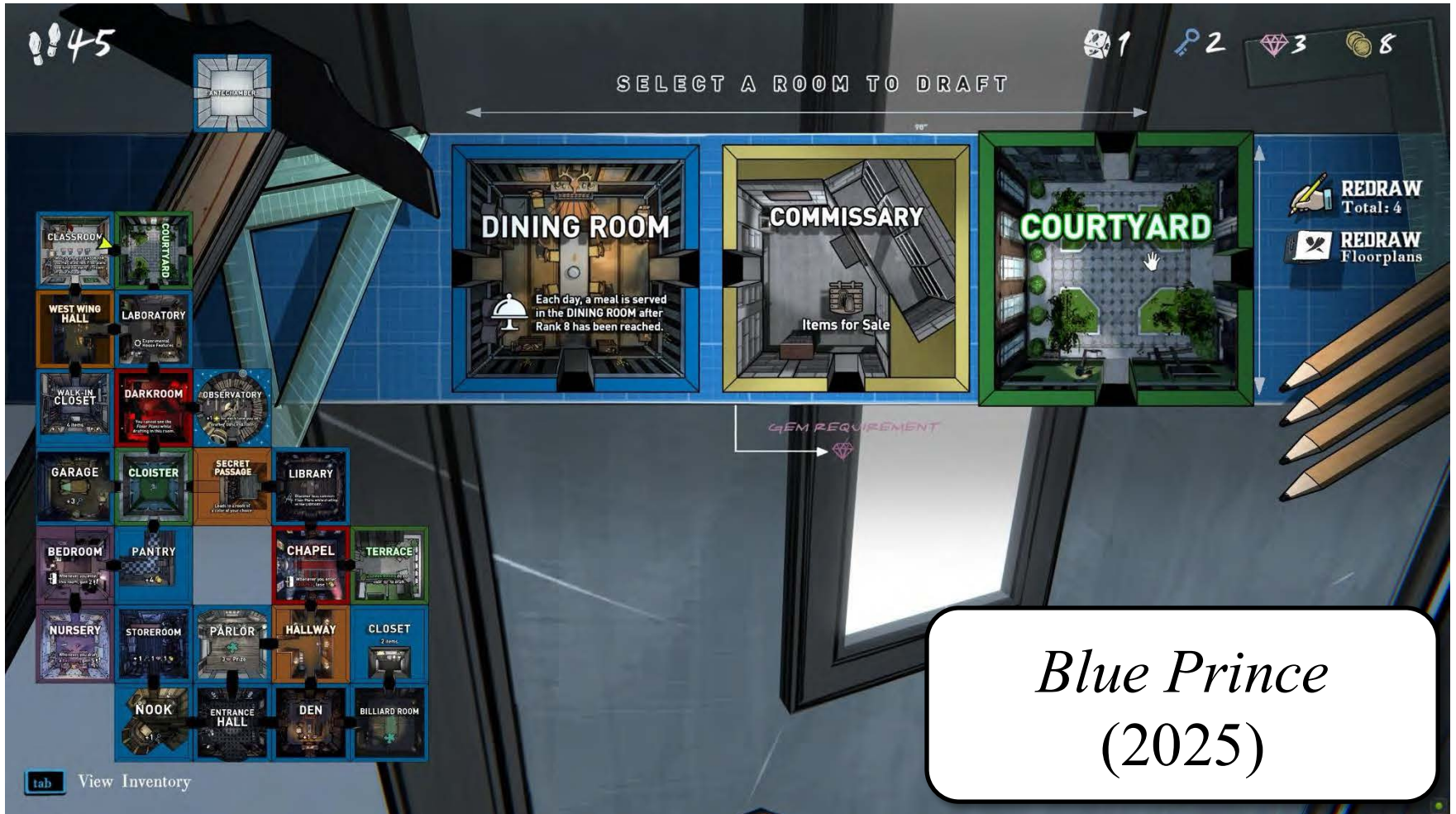


Is This a Deck Builder?



Balatro (2024)

Is This a Deck Builder?



Blue Prince
(2025)

Is This a Deck Builder?



Is This a Deck Builder?



What Must a Deck-Builder Have?

- Play revolves around a “**deck**” of card-like elements
 - You draw items from this deck randomly
 - If deck is large enough, not everything available
- The deck starts out as **very weak**
 - There is a (fun) playable game at start
 - Cannot beat later challenges without expanding deck
- You **acquire new cards** as you progress
 - Can get them as rewards or buying from shops
 - New cards are necessary to meet later challenges

Attempt at a Definition

A deck builder is a **card-based** game where a major part of play is **constructing** and **refining** your **deck** while the game is happening, not just before it starts.

This Rules out Several Contenders



Constructed Decks vs Deck Builder

- The games on the previous slide are **constructed**
 - They are designed around card-like actions
 - Cards typically start out as weak (but playable)
 - You gather more cards to make a better deck
- But card selection is **outside** of the game
 - No building occurs during a game session
 - Deck choice closer to a build in an RPG or a MOBA
- You can **pick one strategy** and keep it
 - True deck-builders want to force many builds
 - Understanding different builds is the primary challenge

Goal: Punish Limited Play Styles

- Power comes from card synergy
 - Cards are designed to work together
 - Combos often require many cards to pull off
 - **Example:** Attach or defense buffs
- Power can also come from passives
 - **Example:** Relics in Slay the Spire
 - **Example:** Artifacts in Monster Train
- There are no “**auto-pick**” cards
 - Any card good by itself is too expensive or too niche
 - Eventually enemies require these synergies to win

Goal: Punish Limited Play Styles

- The choice of card rewards are typically **random**
 - No guarantee you will be able to assemble a combo
 - Until you get the combo, card may be a dead hand
 - Similar to trying for an inside straight in poker
- You are expected to **lean-in** to the cards you get
 - Assemble best strategies you can with cards given
 - Avoid powerful cards that you cannot get to pay off
 - Prioritize consistency over unreliable burst of power
- This is the formula *Slay the Spire* created

Example: *Slay the Spire*



Example: *Slay the Spire*



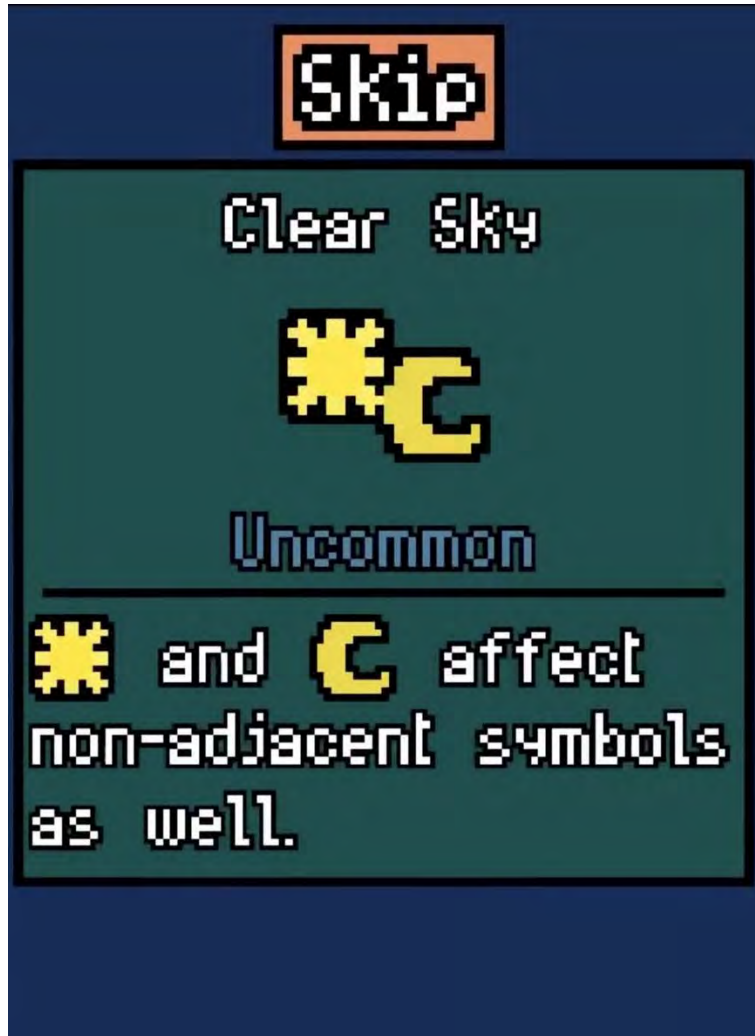
- Block is primarily defensive
 - Prevents damage to you
 - But does not make progress
 - And it resets every round
- *Body Slam* subverts this
 - Do current block as damage
 - But not very efficient
- *Barricade* makes it a winner
 - Block no longer resets
 - Allows for very big attacks
 - But have to build around

Example: *Luck be a Landlord*



- *Flowers* are very weak
 - Just worth a single point
 - Most combos up it to 2-3
- But *Sun* is a multiplier
 - Each adjacent sun is 5x
 - In theory could have $(5^8)x$
- Clear *Sky* is even better
 - No longer must be adjacent
 - Have all sun + one flower
- **Achievement:** Beat 19×10^{12}

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- **Puzzle:** basement **Reservoir**
 - Must be emptied late game
 - Cannot be done in that room
- Empty it with **Pump Room**
 - Has three pumps
 - But only two are active
- Need **Boiler Room** for 3rd
 - Makes power for pumps
 - Rooms must be connected
- Combo of cards + spatial

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What is the Objective in a Deck-Builder?

- It can be anything, just like any game
 - *Slay the Spire, Monster Train*: Tug-of-War combat
 - *Balatro, Luck be a Landlord*: Cross a threshold
 - *Blue Prince*: Create a reachable layout
- But deck-builders are typically rogue-lites
 - Want randomness to break dominant strategies
 - Card reward randomness encourages different builds
 - Failure is treated as “learning the game”
- Does this mean rogue-lite design is a requirement?

Rogue-Lite Design is Not Necessary



Rogue-Lite Design is Not Necessary

- *Dominion* is credited as the first deck-builder
- This is a **PvP** board game
 - Players acquire cards with victory points
 - Players can “attack” and “defend” decks
 - Players can buy new cards to improve deck
- The **human factor** replaces the randomness
 - Humans identify opponent strategy and adapt to it
 - The computer game version needed AI players
- Rogue-lites replace the need for complex AI

What is a Rogue-Lite?

- A game with a **run-based structure**
 - There is a final goal you can achieve
 - The run is designed to be 30 minutes to few hours
 - Actual game is an accumulation of many runs
- Heavy reliance on **procedural/randomized content**
 - Want each run to be meaningfully different
 - Helps mitigate bad card draws
- **Failure is expected** and central
 - Runs are about learning

Making Failure Expected

- There is a **meta-progression** between runs
 - New abilities/cards are unlocked
 - Some currencies may carry over
 - The story may progress (if it exists)
- This makes failure feel like **delayed success**
 - Some sort of progress is always being made
 - Skill is rewarded, but so is grinding (at slower rate)
- **Example:** God Mode in *Hades*
 - Guaranteed unlocks every run until you win

Example: *Hades*

- Heavy procedural content
- Each death progresses the story
- Also unlocks new boons/weapons

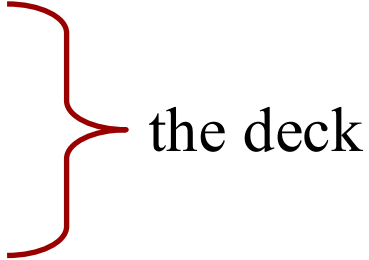


Is *Hades* a Deck-Builder?



- Boons are random rewards
 - Clear boon/weapon synergy
 - Only one boon per “slot”
 - Slots force careful builds
- They are not core to game
 - Still just an action game
 - Boons improve attacks, but do not drive them
- Artifacts, not cards
 - What is the difference?

The Deck-Builder Playstyle

- Pure deck-builders have the following:
 - draw pile
 - hand
 - discard pile

the deck
- May have other zones as well
 - *Slay the Spire*: exhaust pile (*Magic*: exile)
 - *Monster Train*: floor units
- There are two other key factors
 - Hand size is limited
 - Reshuffling is key

The Deck-Builder Playstyle

- Pure deck-builders have the following:

- draw pile
 - hand
 - discard pile
- } the deck

- May 1

- *Slow*
- *Mod*

Result: smaller, tighter decks are better

- There are two other key factors

- Hand size is limited
- Reshuffling is key

But this Eliminates a Lot of Games

- *Balatro*
 - There is a hand, draw, discard
 - But there is no reshuffle
- *Luck be a Landlord*
 - There is a hand and draw
 - But there is no discard (use full deck each round)
- *Blue Prince*
 - There is a small hand and draw
 - Cards are only discarded if they are in use

Required: Deck Management Matters

- Game mechanics must force players to trim their deck
 - Can be via encounter removes (exhaustion)
 - Can be run-level removes (card removal)
 - Can be permanent removes (across all runs)
- Happens because randomness works against player
 - Hand is small compared to draw
 - Powerful plays require card combinations
 - Reduced draw makes it more likely for combos to appear
- This means *Luck be a Landlord* is a deck-builder

Example: *Luck be a Landlord*



The Fatal Flaw of *Blue Prince*

- *Blue Prince* does not have enough deck management
 - You need specific room combinations to progress
 - A run will never see all of the room cards
 - And even if have cards, layout might not be amenable
- Runs with no progression are very possible
 - Too many futile runs where no progress is made
 - This makes the game feel very grindy
 - This subverts the explorative aspect of the game
- Failure once again feels like failure

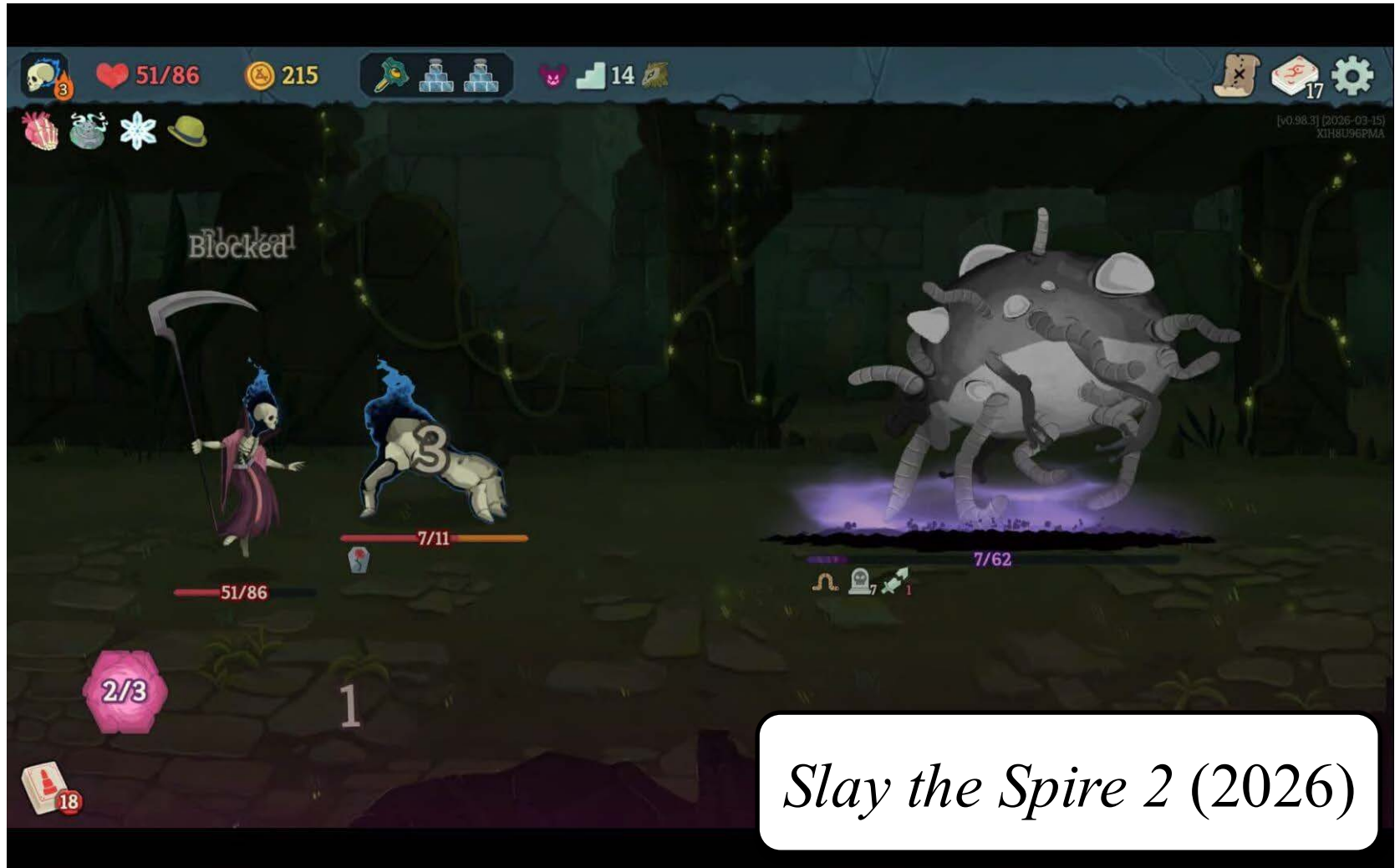
The Fatal Flaw of *Blue Prince*

- *Blue Prince* does not have enough deck management
 - You need specific room combinations to progress
 - A run will never see all of the room cards
 - A run will never see all of the room cards
- **Verdict: *Blue Prince* is not a true deck-builder**
- Rooms where no progress is made
 - This makes the game feel very grindy
 - This subverts the explorative aspect of the game
- Failure once again feels like failure

The Design Space of Deck-Builders

- Deck-builders can generate **huge depth**
 - They are they example of combinatorial design
 - A 100 or so cards can have thousands of interactions
- Ironically, they are relatively **easy to balance**
 - We have 30+ years of experience in TCGs
 - Can control by rarity, cost, timing, synergies
 - Much easier than tweaking physics or AI
- This makes it easy to **extend** or **mod** them
 - We can achieve the goals in new ways
 - We can even add new goals/win conditions

New Ways to Achieve Goals



Alternate Win Conditions



Alternate Win Conditions



Ensure cost is comparable to a traditional win



Is Balancing Really Easy?



- **Infinite combos** are very common
 - Small deck allows you to cycle through it quickly
 - Abilities allow you to replenish energy source
- But this is not considered a bad thing
 - Just treat this as an **alternate win condition**
 - Even PvP games like *Magic: The Gathering* have this

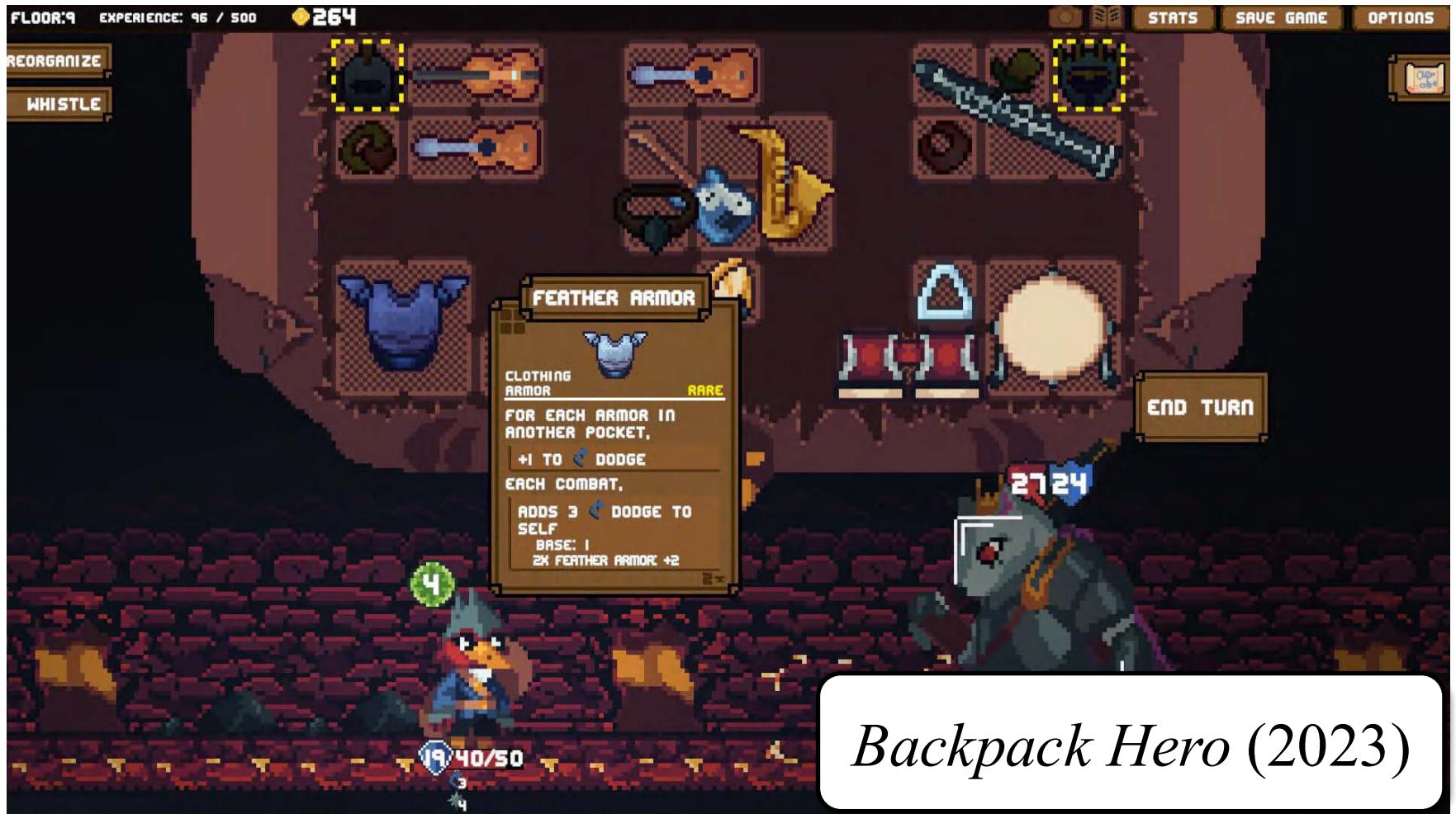
Summary

- Deck-builders have become a dominant indie genre
 - They have very **low development** costs
 - They are very deep with **high replayability**
 - They are highly extensible and **moddable**
 - They deliver **controlled randomness**
- We tried to come up with a good definition
 - Players start out with a weak deck they must refine
 - Deck management is part of the core game loop
 - The deck size is as important as the composition
- If just want a rogue-lite, can *relax* some of these

Deck-Builder Inspired: Dice Games



Deck-Builder Inspired: Layout Games



Backpack Hero (2023)

Deck-Builder Inspired: Layout Games

