Embracing Chaos: Designing for Emergent Gameplay

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Overview

- **What is Emergent Gameplay?**

- **Framework for Designing Emergent Gameplay**

    - Player Stories - Combinator

    - Sticky Systems - Waffle Maker

    - Interconnectivity - Shrub Maker

- **Embracing Chaos — create games with lasting depth**

Emergent Gameplay - What is it?

Emergent gameplay - When a collection of simple mechanics combine in a way that creates new gameplay, especially when the resulting experience is more than the sum of its parts.

Emergent Gameplay - 'Spelunky'

All enemies and items are based on **simple mechanics** that are easy to learn in isolation.

Levels are laid out procedurally to introduce items and enemies in **different orders and combinations**.

So, Spelunky is a game about understanding all parts of a complex system and reacting in the moment to new combinations of mechanics.

http://tinysubversions.com/spelunkyGen2/

Emergent Gameplay - Why do we care?

- Emergent gameplay **creates unique, memorable stories for the player**.

- They feel **unique** because they result from the state of the world you're playing in, so you're unlikely to experience them the same as anyone else.

- They're **memorable** because you discover them by experimenting with the game's mechanics instead of encountering them on some prescribed path.

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Framework for Designing Emergent Gameplay

- **Player Stories**
  - Encourage creativity
  - Make change persistent
- **Sticky Systems**
  - Interactions that encourage repeat use
  - Optimize ease of use to value of output ratio
- **Interconnectivity**
  - Outputs of systems should feed into other systems
  - Allows longer and more stories per player

Framework - Player Stories

- Our goal in designing emergent gameplay is to help players create unique and meaningful stories*

- **Player creativity** makes interactions and their results more meaningful.

- **Persistent change** lets you carry moments forward and keep adding to them over time.
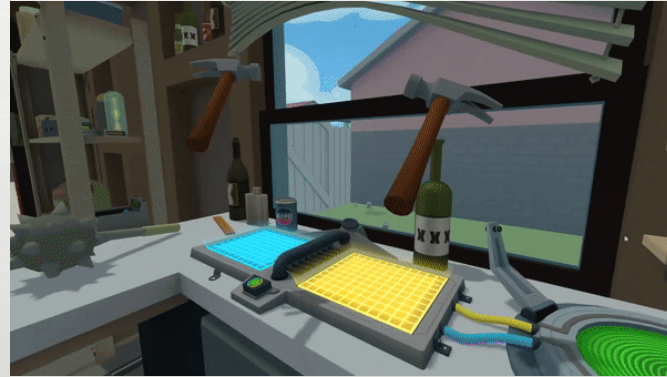
Player Stories - The Combinator

*For Rick and Morty: Virtual Rick-ality we designed the Combinator, a machine that can combine any two objects, including already combined objects.

Player Stories - The Combinator

Making the machine work without game breaking bugs required help from almost everyone on the team. Over 30,000 first level combinations.*

Ended up being a huge win, because players spend a ton of time with this machine and end up with a huge collection of unique objects and exciting stories to share.*

Player Stories - The Combinator

- When Youtubers make videos of this game, there are two types of videos they make: full-game playthroughs and combinator videos.

- Playthroughs are linear and pretty similar, but combinator videos feel very different and allow creators to add more of their personal flair, so they end up showing off the game better.

SPACE + SKULL MAKES LIVING ALIEN? (Rick and...
ProjectJamesify ✓ · 1.6M views · 6 months ago
What happens in Rick and Morty: Virtual Rick-ality when you combine a space crystal and a skull?
19:23

Can you combine KING POOP with the POOP CREAM?! ||...
Cheru · 28K views · 7 months ago
Rick and Morty: Virtual Rick-Ality (aka Virtual Rickality) is a Funny VR Game by the people that
22:13

BRAIN + POOP MAKES WHAT?! - Rick and Morty: Virtual Rick-ality...
Fynnpire ✓ · 1.1M views · 7 months ago
From the creators of Job Simulator comes Rick and Morty: Virtual Rick-ality. We're a Morty Clone and we're
19:12

When You Combine EVERYTHING - Rick and...
GrayStillPlays · 1M views · 5 months ago
When You Combine EVERYTHING - Rick and Morty Virtual Rick-ality VR 2018 Gameplay
23:25

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Player Stories - The Combinator

- We had to rethink how we represent item state to make this machine.

- Previously each item had an associated asset that defined what it was. If a task in the game wants a hat, we use that to check for a hat.

- But if we combine a hat and crystal, to make a crystalline hat which item data to we use and how can we check if the item is crystalline?*

WHO WOULD WIN?

Crystal   Hat

Player Stories - The Combinator

- The core of our system still uses an asset per item, but now we use components to represent properties and hold related logic. Crystalline, Metal, Edible, Cookable, Colorable, etc.

- Now tasks can check for items that match an asset or if they have any given property or inquire about the state of individual properties.*

Framework - Sticky Systems

- **Sticky systems** are interactions that create player stories and have enough depth to keep a player's attention.

- Even if you can't afford to make your whole game a sandbox, having even one of these systems is worthwhile.

Framework - Sticky Systems

- Focus on **ease of use** and **valuable outputs**!

- **Easy to use.** Any friction discourages repeated use of an interaction.

- **Valuable outputs.** Making outputs visually interesting is great, but you should also make sure outputs are useful in other contexts.

Sticky Systems - Waffle Maker

In 'Vacation Simulator' we have a Waffle Maker that creates recognizable waffle versions of any item*

Sticky Systems - Waffle Maker

- **Easy to use.** Interaction is dead simple*

- **Valuable outputs.** Seeing some waffles doesn't spoil all possible outcomes, because they are imperfect*

Sticky Systems - Waffle Maker

- **Valuable outputs.** By making these outputs useful in other contexts, they can keep adding to player stories.*

Sticky Systems - Waffle Maker

Now in 'Vacation Simulator' there are many sticky interactions like this that create player stories and encourage repeat use.

Framework - Interconnectivity

- Allowing the outputs of systems to feed into other systems, **grows the possibility space exponentially.**

- As more systems multiply, it doesn't take long before you have a sandbox with **infinite potential for interaction and creativity.***

Interconnectivity - Shrub Maker

In 'Vacation Simulator' we have Shrubafier that turns any item into a shrub with flowers along its' surface

Interconnectivity - Shrub Maker

- At Owlchemy, we design by affordance. We understand abstraction and limited interactivity in flat games, but things not working in VR is extremely disappointing.

- We almost cut this system because of all the affordances and tech challenges that came with turning an item into a shrub, but instead made the decision to fully embrace chaos.

Interconnectivity - Shrub Maker

- If you shrubbify an edible item, should it stay edible?

- If you shrubbify a wearable item, should it stay wearable?

- If you shrubbify a mustard bottle, should it pour mustard?

Interconnectivity - Shrub Maker

Maintaining as much functionality as possible ends up making things more interesting and allows items to keep adding to player stories.

Interconnectivity - Shrub Maker

- How do we handle the complexity that falls out of this?
  Prioritize things by affordance

- When building shrubs, we expected most properties of items to stay the same so we chose to modify the mesh and materials.

- For things that weren't afforded as strongly and would be costly to implement, we turned them off one by one as we ran out of time.*

Embracing Chaos - What?

- As games get bigger and add more complex interactions, that unfortunately comes at the cost of having more things that can go wrong.

- This is especially true in emergent games because the possibility space of your game is too wide to fully test.

https://www.youtube.com/watch?v=mgKTxLpvkh4

https://www.youtube.com/watch?v=fxx07TC81rM
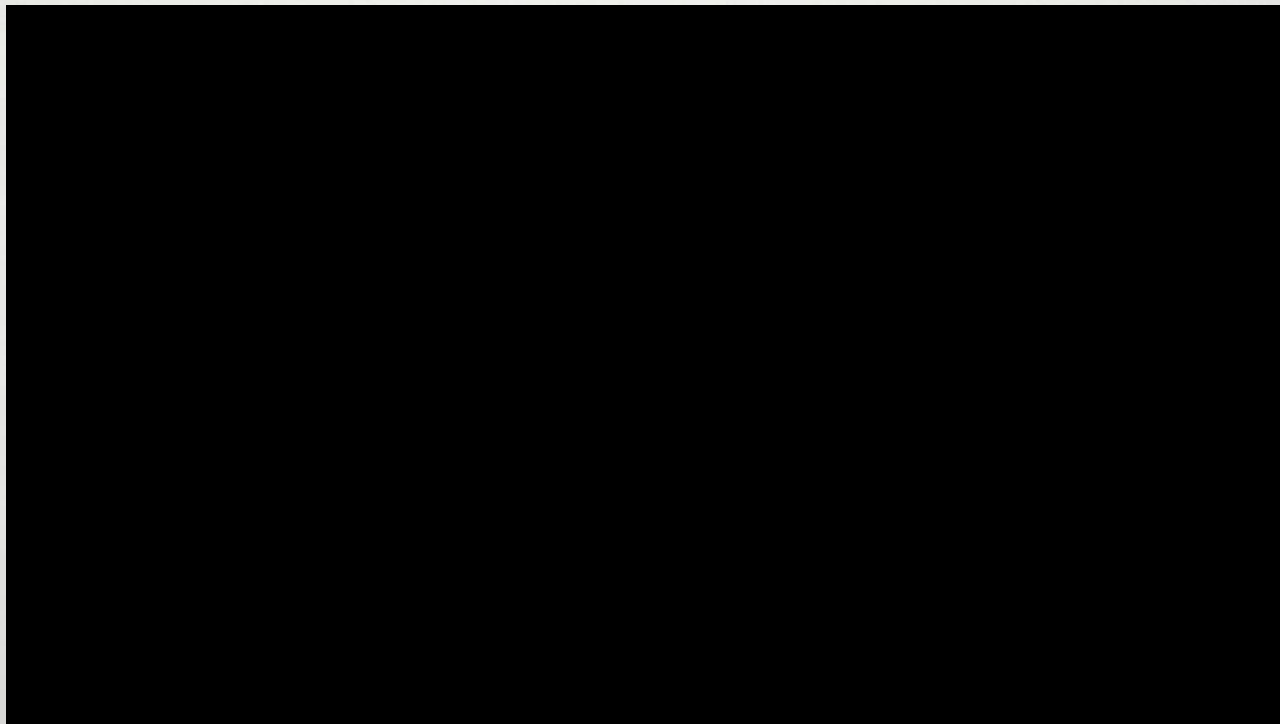
Embracing Chaos - Why?

- Owlchemy games are about **player freedom**, because hand tracked VR is the closest thing we have to interacting in the real world.

- The real world can get infinitely messy, but in games, there's only so much time and budget to go towards fixing all possible outcomes.

- We've decided to meet all the affordances and allow some bugs to go unresolved because it creates games with **lasting depth**.

Embracing Chaos - How?

- If you really mean to, you can get Job Simulator, Rick and Morty: Virtual Rick-ality, and Vacation Simulator into a broken state. It's ok because players are more understanding of issues when they help build the chaos.

- We decide on a **case by case basis** if a mechanic is worth keeping when compared to the number and type of bugs it will create.

Embracing Chaos - Vacation Simulator

Embracing Chaos - Vacation Simulator

Subject: Half Eaten Burger
A delicious stack of Bun, Yellow Cheese Slice, Burger Patty, Ketchup, Mustard, Waffle, and Bun

Also Featured: You, Shrubbed Life Preserver Waffle, Yellow Cheese Slice, Cooked Burger Patty

Conclusion

1. Start with the goal of creating unique and meaningful player stories.

2. More player stories means more longevity and self-marketing potential.

3. Players will be more understanding of bugs if they get to be part of the chaos.

4. You can start small and add emergent gameplay piece by piece.

5. Consider if embracing chaos is right for you!

Q&A

Thanks!

Chris Wade

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GDC Speaker Survey

Remember to fill out the feedback survey!