Emergence in Games

Emergence is a well-known concept in game design. Emergent gameplay comes when players interact with the mechanics of the game creating situations that have not been deliberately designed.

This could be part of the game design or it could be unintentional. For instance, the game may offer several tools to solve a puzzle, but allow the player to use them in any way they see fit. If the puzzle requires you to reach an item that is high up, there could be an infinite number of ways to get it. Use a grapple hook, build a tower, make a jetpack and so on.

Unintentional emergence comes when players use the game world in a way that the designers had never intended. Take for instance a racing game. The idea is to race from point A to point B as fast as possible. However, if players instead decide to chase each other and try and knock each other off the course instead, that is unintentional emergence. The game designer had not set that up as a deliberate way of playing – however, the mechanics and the rules allow it to happen.

Minecraft is a fabulous example of both intentional and unintentional emergence in a game environment. Notch create a world with very specific rules that governed how it worked and simple mechanics to play with. Whilst there is a simple core game, survive, there is so much more that can be done. You have to collect wood for instance. You can do this by hand, but once you have some wood you can create a simple tool to help. More complex tools can be created as you collect more raw materials. However, there is no one solution to each situation you find yourself in. You first shelter can be made in any way you wish out of any material you can find. You can in effect do almost anything the environmental rules will allow, whilst playing the core game of "survive".

The unintentional emergence this freedom has born is unlike anything previously seen outside of more serious game environments like Second Life. People create new games and new ways to play almost every day it seems. From simple races to Hunger Game style multiplayer events. They have created roller coasters, well-known landmarks, computers, recreations of large areas of Rome, films and even entire sections of the worlds of Game of Thrones – and more!

This is part of what has made it one of the most popular games of all time!

Kings Landing from Game of Thrones

Emergence in Gamification

It may seem that this is not really applicable to gamification. In gamification, we are usually trying to drive certain outcomes or encourage a particular set of behaviours. But why should that be all that we are doing? If you look at a gamified system, it contains a set of simple

rules or mechanics that a user interacts with. In gamification, emergence is often considered cheating. Take the unintentional situation that can emerge when the rules allow for an unexpected behaviour. You assign points to people for inviting other people into the system. The intention of the design would be simple. They would expect people to behave in a way they would consider "acceptable", so maybe inviting a 1 or 20 people. However, the rules and mechanics allow for much more than that. A user could invite hundreds of people. They could create a script that invites thousands of people.

Is that cheating? If the rules never stated there was a limit to the number of people each user could invite and the mechanics of the system allow it to happen – then no. Really it is emergence. A user has taken the rules and the mechanics and done something unexpected, but totally allowed!

The real question is, how can we make use of this? Well, the guy who wrote a script to email thousands of people, showed some serious initiative an potentially some coding skills that may have been previously unknown to the company. As a designer we could allow a lack of rigidity in our rules to try and encourage people to come up with creative solutions to the problems we present them. We have to be a little careful that that creativity is not seen as cheating though – what is fair game for some is often seen as [cheating](#) by others. Where a [player user type](#) may feel paying for stuff to get further is fine, an [achiever type](#) my well feel that is cheating as an example.

Another good example is people creating social groups and trading votes, answers, ideas and the like. Again, some may see it as unethical – but if the rules allow it – it is fair game!

To encourage this sort of emergence, you need to create simple mechanics and rules – building blocks if you will – that allow users freedom to test the system and produce more creative solutions than you had originally considered. You have to make sure that people can't push too far, but it can be really engaging and motivational to feel that you have enough autonomy to get imaginative.

[Let them play](#), you may be surprised what comes of it!

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