



PRE-GCSE INSPIRE PROGRAMME

HOW TO DESIGN A SUCCESSFUL VIDEO GAME

CLASS 6: ECONOMICS & LAW

Welcome to our final class on how to design a successful video game! This time we'll be learning about video games in context of Economics and Law: we consider the factors that must be considered in pricing a video game, and we explore copyright in game design.

Keep in mind you are not expected to read every class cover to cover: we've provided lots of links to further reading and extra material, but you are welcome to focus on what is most interesting to you!

SUBJECTS COVERED: Economics, Law

RELEASE DATE: 8 July 2020

COMPETITION DEADLINE: 22 July 2020

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COMPETITIONS

We encourage you to participate in as many competitions as you can, but they are not compulsory. Once all entries have been received, we will publish the top five entries for each competition on *Inspire Digital*, and students who submitted the top two entries will be awarded Amazon vouchers.

How to submit your entry:

- Complete your competition entry and make sure it follows the guidelines listed for that competition
- Fill out the *competition cover sheet*
- Email your entry and your cover sheet to us at inspire@sjc.ox.ac.uk

The deadline for all competition entries for Class 6 is **5pm on Wednesday 22 July 2020**.

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SUBJECTS COVERED:
Economics

[Click here to read this article on Inspire Digital!](#)

HOW TO EARN BILLIONS BY GIVING SOMETHING AWAY FOR FREE

Few people can have escaped the massive success of Fortnite: Battle Royale. Launched in late 2017, the game had 250 million players by March 2019. In 2018 Fortnite made more money than any other game in history: \$2.4 billion. While creativity and technology are essential to the success of a video game, economic decisions can also play a key role. One of those decisions is choosing the right way to price.

In some markets firms must follow the market price, but video games are not like that; creating a new, popular game gives you the power to choose your own price. However, if you increase your price too much you won't sell many games, so finding the price that will make the most profit is not straightforward.

One obvious starting point is the price of competing games. The typical price of video games such as Call of Duty

is about £50, with games aimed at younger players such as Minecraft selling for about £20. In contrast, Epic Games gives Fortnite away for free and only makes money through in-game purchases: a different outfit for your characters, a new dance move, or a better looking pickaxe. Why would the makers of Fortnite have chosen to give the game away for free? What are the advantages and disadvantages and how does it affect the design of the game?

One feature of the video game market is that there are significant switching costs reducing competition. Switching costs occur when a customer prefers to keep on buying from the same firm rather than switch to competitors

who may offer better or cheaper products. These costs are particularly important for services like banking or utilities where it takes time and effort to switch suppliers. Switching costs mean that it is in the interests of firms to offer low initial prices to attract new customers, then increase prices later. How does this apply to video games? Players are attracted by a cheap or free new game, get hooked, and then are willing to pay more in order to keep on playing or enhance the experience.

Network effects in action
(AKA: gaming is more fun with friends!)



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Another striking feature of games like Fortnite is the importance of network effects. Network effects arise when customers are more likely to buy a good if lots of other people are using it too. For example, there is no point being on WhatsApp if no one else you know is on it. In Fortnite, gamers play together in large teams of friends. This means that Fortnite potentially profits from a new player even if that particular player never actually pays a penny themselves. These network effects also give Fortnite a reason to lower the price towards zero, but only if it can make enough money in another way.

Fortnite's solution to this problem is to offer in-game purchases. Offering these purchases allows Fortnite to extract large amounts of money from some players, without excluding other players. 69% of players have made in-game purchases with an average spend of about £65 – but 31% have paid nothing at all.

What sort of in-game purchases does Fortnite offer? One key to the game's success seems to be that it does not allow players to buy items that increase the chance of winning as that would make the game less interesting. Instead Fortnite sells a huge range of different "skins" that change every possible aspect of your character's appearance. Another interesting feature is that, unlike most video games, Fortnite does not offer players any choice over the appearance of their initial character. For example, the gender and race of the character are randomly assigned. It would cost Fortnite nothing to offer this improvement. From an economic point of view, the random allocation only makes sense as a way for Fortnite to encourage more purchases of skins.

Economic and design decisions like this have made Fortnite the most profitable free-to-play video game of all time. Readers who know much more about Fortnite than the author will surely be able to come up with many more examples of how this success has come about and how the pricing structure and game design successfully work together.

Dr Kate Doornik, Supernumerary Fellow in Economics

Players can buy skins that change elements of their character's appearance. (Image from <https://www.youtube.com/watch?v=du0VakN8EIA>)

FURTHER READING

- [*'Fortnite' is free to play but makes billions anyway*](#)
- [*Disney discovers peak pricing*](#)
- [*Tesla's Damaged Goods Problem*](#)
- [*How Fortnite shows the changing economics of video games*](#)



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DESIGN/PLAY/DISRUPT

Earlier this year, the *Victoria and Albert Museum* hosted an exhibition on video games which provided a unique insight into the design process behind a selection of groundbreaking contemporary videogames. While the exhibition is now closed, you can still see many of the highlights online by clicking below:



COMPETITION 15: THE ECONOMICS OF FORTNITE

Part 1: We know that 69% of Fortnite players have made in-game purchases with an average spend of £65, but 31% have paid nothing at all. What is the average spend of all players?

Part 2: Suppose that Fortnite charged £20 to buy the game instead of giving it away for free and just charging for in-game purchases? What would happen to the total amount of money they make if the total number of players fell by 10%? Or by 50%? Or by other amounts? Assume initially that the average spend on in-game purchases stays the same. What would happen if the average spend changed?

To prepare for this competition, you should read "*How to earn billions by giving something away for free*". Your competition entry should attempt to answer as many of these questions as possible and explain the reasoning you used to arrive at your answers. Entries should be 300 words or less.

[CLICK HERE TO SUBMIT YOUR ANSWER](#)

ECONOMICS AT OXFORD

At St John's, you can study Economics with either History, or Politics and Philosophy. Click the link below to learn more about these opportunities, and click the video on the right to hear from a current student studying Philosophy, Politics and Economics.

[*Economics Joint Schools*](#)



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COMPETITION 16: FACTORS IN GAME PRICING

There are a number of important factors that video game designers must consider when thinking about how to price a game. To prepare for this competition you should read "[How to earn billions by giving something away for free](#)" to learn a bit more about some of these factors.

Part 1: Switching costs

Try to estimate how big "switching costs" might be for a video game like Fortnite. If you are a game player, how much are you willing to pay to try a new game that you don't know much about? How much are you willing to pay to be allowed to keep on playing a game once you have been enjoying it for a few weeks? The difference is your switching cost. Ask your friends what they think too and find the average switching cost.

Part 2: Network effects

Now try to estimate "network effects". If you are a game player, how much would you be willing to pay for a game like Fortnite if no one else was playing it? What if all your friends were playing it? The difference is the value of network effects to you. Ask your friends the same question and find the average value of network effects.

Your entry should answer both questions in no more than 300 words. You may want to include a chart or graph of your results.

[CLICK HERE TO SUBMIT
YOUR ANSWER](#)



Should footballers earn more than nurses?

Surely nurses should earn more since they help to save peoples' lives. But football does make a lot of money - some of which goes towards good causes. This is a tricky one...

Explore is an innovative digital outreach portal from the University of Oxford. As the 'Home of Big Questions' it aims to engage those from 11 to 18 years with debates and ideas that go beyond what is covered in the classroom. Big questions tackle complex ideas across a wide range of subjects and draw on the latest research undertaken at Oxford. Click on either of these questions to start exploring some Big Questions...

OX?LORE



Could we live without laws?

Yes

No

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SUBJECTS COVERED: Law

[Click here to read this article on Inspire Digital!](#)

DONKEY KONG OR KING KONG?

Donkey Kong was one of Nintendo's most famous video game series, chronicling the adventures of the title character Donkey Kong. The game quickly became a bestseller, strengthening Nintendo's standing as an industry leader. The gigantic ape is immediately recognisable for most video game enthusiasts. In fact, the character of Donkey Kong has proved so popular that he continues to star in a number of Nintendo's gaming franchises (including *Mario* and *Super Smash Bros*), contributing to its designer's sales worldwide.

Following the release of the first *Donkey Kong* game in 1981, American film studio Universal Pictures filed a lawsuit against Nintendo. They argued that *Donkey Kong's* characters and plot were too similar to their 1976 film *King Kong* (which also famously features a giant gorilla-like creature). Arguing that the two could become

confused, Universal claimed that the video game was a serious trademark infringement on their own motion picture.

A United States district court ruled that Universal did not own the rights to *King Kong* and awarded Nintendo \$1.8 million in damages (a significant amount of money for the time). This is partially due to the fact that in the 1970s Universal successfully defended themselves against a lawsuit filed by RKO Pictures (who had released their own *King Kong* film in 1933) by proving that the story was already in the public domain (i.e. not covered by copyright).

There have been many more legal challenges involving video games since then, including the disagreement over the popular games *Fortnite* and *PlayerUnknown's Battlegrounds*. Can you think of any other video games that have taken inspiration from other sources which might be in violation of copyright law?

LAW AT OXFORD

At St John's, you can study Law either on its own or incorporating Law Studies in Europe. Click the videos on the right to hear from current St John's students studying Law.

The Oxford Law Faculty provide a network of support systems and outreach schemes targeted at applicants from low income backgrounds, first generation students, and schools with a low history of progression to Oxford. Click here to find out more about these opportunities.

Keep in touch with the Law Faculty on social media:



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COMPETITION 17: DESIGN AN IN-GAME PURCHASE

Each class will have a photo, art or short video competition with a prompt based on the topic we are studying in that class. This class's task is a design challenge:

Choose a video game that is currently not given away for free. Imagine you were designing a free version. What in-game purchases could you introduce to make money? How much would you charge for them? Do you think you would make more or less money compared to charging for the game?

Your competition entry should visually illustrate an in-game purchase you have designed for your game; this can be a photograph, drawing, short video (<10 seconds) or other form. You should also include a short written explanation (maximum 100 words) in which you explain your entry.

[CLICK HERE TO SUBMIT
YOUR ANSWER](#)

UP NEXT: VIRTUAL SUMMER SCHOOL

We've reached the end of this year's online classes for the Pre-GCSE Inspire Programme - but don't worry, it's not over yet! In the first week of August, we'll be hosting a 5-day Virtual Summer School featuring even more activities and competitions! As long as you are registered on the Pre-GCSE Inspire Programme, you are eligible to participate in this Virtual Summer School.

The Virtual Summer School will take place from **3 - 7 August 2020**, and you'll be able to find the link on the [Pre-GCSE Inspire Programme homepage here](#).

What you can expect from the Virtual Summer School:

- Academic reading, videos and short tasks across a variety of subjects
- A week-long academic project for you to work on
- An interactive introduction to the UK Parliament
- Zoology from home
- Virtual tours of Oxford's many museums
- An interactive college tour with Agnes the Access Lamb

We look forward to seeing you there!

And if you need something to do until then, check out our collection of super-curricular resources on Inspire Digital! We've collected these resources to help you to delve deeper into your favourite subjects and provide opportunities for you to engage with your interests outside of school.

Super-curricular Material

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