

Introduction

Survey: Perception of Dark Design in freemium 3D games

'Freemium' PC games have become more popular in recent years: these are free-to-play but make money from optional in-game purchases and advertising. The freemium model is associated with 'Dark Design' techniques, by which the designer seeks to influence the player to choose options that benefit the publishers of the game — for example, making additional in-game purchases or playing the game more frequently.

This survey is being used to investigate how players perceive these instances of Dark Design. The study aims to contribute to the gaming community by identifying common practices, by gauging user awareness & understanding of the problem, and to provide insights for game developers that may inform ethical design.

Participants must be comfortable with reading and writing in English to participate. Participation involves watching short video clips videos and answering some questions. The whole process should take around 20-30 minutes.

Participant Information Sheet

You are being invited to take part in a research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask us if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your friends or relatives if you wish. We would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

The purpose of this study In recent years a new market has emerged for 'freemium' PC games: these are free-to-play but make money from optional in-game purchases and advertising. The freemium model is associated with 'Dark Design' techniques, by which the designer seeks to influence the player to choose options that benefit the publishers of the game — for example, making additional in-game purchases or playing the game more frequently.

Existing studies of this area have focused only on mobile games or on elements associated with gambling ('loot boxes'); there is a gap in research regarding freemium games with 3D environments, and the differences introduced by this format.

This study aims to investigate the types of Dark Design found in freemium games with 3D environments, and how players perceive these instances of Dark Design. The study aims to contribute to the gaming community by identifying common practices, by gauging user awareness & understanding of the problem, and to provide insights for game developers that may inform ethical design.

We are seeking to recruit around 60 participants. Participants should have prior experience of video games featuring 3D environments. Participation is voluntary and the survey is anonymous. You are free to withdraw your participation at any time up to `{e://Field/WithdrawalDeadline}`, without explanation, and without incurring a disadvantage. (See later section "What will happen if I want to stop taking part?" for further details.)

You will be asked to provide consent for your responses to be used in this study. Following this you will be asked some short questions to help us understand your prior gaming experience. You will then watch a number of short (around 30 seconds) video clips, each showing a video game being played. After each clip, you will be asked to answer a series of questions relating to whether you think the clip contains Dark Design, and why you think this.

The whole process should take around 20-30 minutes. Please answer questions honestly

in order for us to gain useful and valid information. The researchers running this study are John King (a PhD student), Dr Dan Fitton (senior lecturer) and Dr Brendan Cassidy (senior lecturer). All work in Computer Science at the University of Central Lancashire (UCLan) in Preston, UK.

Data Protection

Your anonymous survey answers will be collected and stored securely on Qualtrics and Microsoft servers in Europe, in compliance with data protection law (GDPR). We have a lawful basis to do this because:

- You have provided your consent for your data to be processed.
- The data processing is necessary for the performance of a task in the public interest.

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of 'public task', and in accordance with the University's purpose of "advancing education, learning and research for the public benefit". Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University's research. The University privacy notice for research participants can be found at https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php

Further information on how your data will be used can be found in the table below.

How will my data be collected?	A consent record and answers to questions will be collected using Qualtrics software through a web browser.
How will my data be stored?	On Qualtrics and Microsoft servers in Europe, in compliance with data protection law (GDPR).
How long will my data be stored for?	7 years (until \${e://Field/DataStoredUntil})
What measures are in place to protect the security and confidentiality of my data?	Data is stored on secure servers with access restricted to the researchers only. Data is also encrypted in transit.
Will my data be anonymised?	Data will be collected anonymously at point of entry by the user. Each participant will be issued with a unique link allowing them to withdraw their answers from the study at any point up to \${e://Field/WithdrawalDeadline}.
How will my data be used?	Data will consist of survey answers (including opinions). This will be analysed to identify general trends (and summarise any themes identified in answers) in order to answer research questions.
Who will have access to my data?	Only the research team will have access to your data. Any published results will contain statistical information only.
Will my data be archived for use in other research projects in the future?	Data will not be archived.
How will my data be destroyed?	The data will be permanently deleted.

Are there any risks or benefits in taking part?

There are no perceived disadvantages or risks involved in participation. Game video clip content does not include any material likely to be offensive or harmful. If you should experience any discomfort (mental, emotional or physical) or any other disadvantage during the survey then this should be made known to the research team immediately.

Through your participation you will provide data about user recognition of manipulative design. This will be used to identify potentially problematic monetization methods, and to inform ethical design of video games.

No expenses or payments are offered for participation in this study.

What will happen to the results of the study?

The results will be published as an academic paper, released at a relevant conference. Participants will not be identifiable from the results.

What will happen if I want to stop taking part?

You are free to withdraw your participation at any time: during completion by clicking the "Withdraw" option (shown alongside the survey), or after completion (up to $\{e://Field/WithdrawalDeadline\}$) by using the link $\{e://Field/retakeURL\}$ to revisit the survey and clicking the "Withdraw" option. You do not need to offer any reasons or explanation for your withdrawal.

If you are unhappy, or if there is a problem, please feel free to let us know by contacting John King (+44 1772 893299) or Dr Dan Fitton (+44 1772 893277) and we will try to help. If you remain unhappy, or have a complaint which you feel you cannot come to us with, then please contact the Ethics, Integrity and Governance Unit at OfficerForEthics@uclan.ac.uk. The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

Who can I contact if I have further questions?

John King, Dr Dan Fitton or Dr Brendan Cassidy.

Contact details of investigatory team

John King (PhD student)
Room CM211, Computer Science, University of Central Lancashire, Preston, UK PR1 2HE
Phone: +44 (0) 1772 89 3299
Email: JKing11@uclan.ac.uk

Dr Dan Fitton (PhD supervisor)
Room CM218, Computer Science, University of Central Lancashire, Preston, UK PR1 2HE
Phone: +44 (0) 1772 89 3277
Email: DBFitton@uclan.ac.uk

Dr Brendan Cassidy (PhD supervisor)
Room CM224, Computer Science, University of Central Lancashire, Preston, UK PR1 2HE
Phone: +44 (0) 1772 89 3265
Email: BCassidy1@culan.ac.uk

Consent

I confirm that I have read and have understood the information sheet for the above study, or it has been read to me. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

I understand that taking part in the study involves an online survey (including viewing of video clips).

I understand that my participation is voluntary and that I am free to stop taking part and can withdraw from the study at any time without giving any reason and without my rights being affected.

In addition, I understand that I am free to decline to answer any particular question or questions.

I understand that I may withdraw participation during completion of the survey (using the

'withdraw' option displayed on each page) or after completion (using the "retake link" displayed at the end of the survey) at any time prior to $\{e://Field/WithdrawalDeadline\}$, leading to destruction of that information. I understand that following $\{e://Field/WithdrawalDeadline\}$ I will no longer be able to request access to or withdrawal of the information I provide.

I understand that the information I provide will be held securely and in line with data protection requirements at the University of Central Lancashire.

I understand that signed consent forms and survey will be retained securely on Qualtrics servers by the research team until publication of results.

I understand that this survey is anonymous; it will not be possible to identify me in any reports, presentations or publications arising from the research.

- ☐ I agree to take part in the above study
- ☐ I do not agree to take part in the above study

Background information

What is your age?

- ☐ Under 18
- ☐ 18 - 24
- ☐ 25 - 34
- ☐ 35 - 44
- ☐ 45 - 54
- ☐ 55 - 64
- ☐ 65 or older

What kind of computer games do you play?

Name some of the games you have played in the last month.

How regularly do you play games?

- ☐ Rarely or never
- ☐ A few times per month
- ☐ A few times per week
- ☐ Most days

Do you ever play multiplayer games with (or against) friends?

- ☐ Yes
- ☐ No

Have you ever purchased in-game items?

- ☐ Yes
- ☐ No

How regularly have you made in-game purchases during the last month?

- ☐ Never
- ☐ Once
- ☐ A few times during the last month
- ☐ A few times per week
- ☐ Most days

How much money did you spend on in-game purchases during the last month?

- ☐ Nothing
- ☐ Less than £10
- ☐ Between £10 and £19
- ☐ Between £20 and £50
- ☐ More than £50

What are your reasons for making in-game purchases?

Notification

The following examples are taken from *Roblox*, a popular 3D world featuring small games. Players can interact with in-game characters (and with other players) to buy and exchange items. The world features a system of currency called **Robux**, which can be purchased using real-world money.



Video Clip 'A'

The following video clip may (or may not) include an example of "Dark Design".

"Dark Design" is where:

- **Creators of the game are trying to influence what the player does, to try to make money from the players through their actions.**

Watch the clip before moving on to the next question.

Doug



Do you think there was "Dark Design" in that video clip?

- ☐ Yes
- ☐ No

Why do you think the clip contains "Dark Design"?

What do you think the designer was trying to get the player to **do**?

Why do you think the designer **wanted** the player to do this?

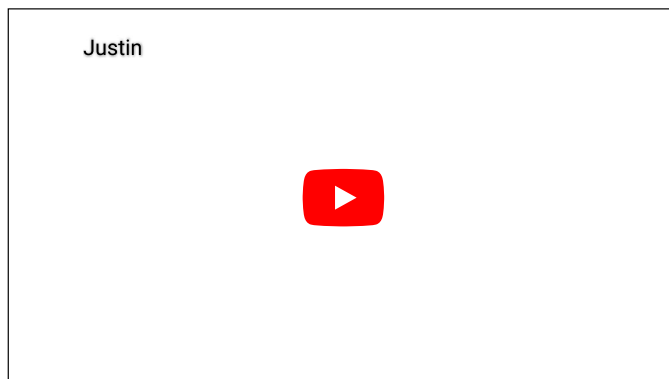
Video Clip 'B'

The following video clip may (or may not) include an example of "Dark Design".

"Dark Design" is where:

- **Creators of the game are trying to influence what the player does, to try to make money from the players through their actions.**

Watch the clip before moving on to the next question.



Do you think there was "Dark Design" in that video clip?

- ☐ Yes
- ☐ No

Why do you think the clip contains "Dark Design"?

What do you think the designer was trying to get the player to **do**?

Why do you think the designer **wanted** the player to do this?

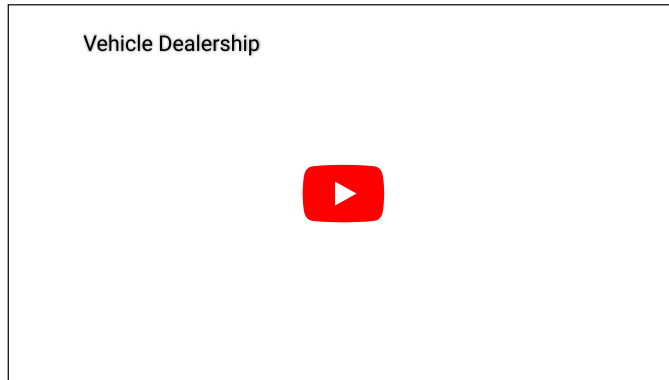
Video Clip 'C'

The following video clip may (or may not) include an example of "Dark Design".

"Dark Design" is where:

- **Creators of the game are trying to influence what the player does, to try to make money from the players through their actions.**

Watch the clip before moving on to the next question.



Do you think there was "Dark Design" in that video clip?

- ☐ Yes
- ☐ No

Why do you think the clip contains "Dark Design"?

What do you think the designer was trying to get the player to **do**?

Why do you think the designer **wanted** the player to do this?

Video Clip 'D'

The following video clip may (or may not) include an example of "Dark Design".

"Dark Design" is where:

- **Creators of the game are trying to influence what the player does, to try to make money from the players through their actions.**

Watch the clip before moving on to the next question.

Sir Woofington



Do you think there was "Dark Design" in that video clip?

- ☐ Yes
☐ No

Why do you think the clip contains "Dark Design"?

What do you think the designer was trying to get the player to **do**?

Why do you think the designer **wanted** the player to do this?

Debrief

The research in which you have participated aims measurement awareness & perception of Dark Design elements in games with 3D environments.

The findings will be published at an academic conference, the aim of informing legislation in this field. Summarised findings will also be disseminated through specialist websites & discussion groups related to Dark Design.

You will never be identified in any findings of this experiment nor will it be possible to link the findings back to you. We would like to remind you that you may re-take the survey (replacing any previous responses with new ones) or withdraw participation at any time prior to \${e://Field/WithdrawalDeadline} by visiting [.\\${e://Field/retakeURL}](${e://Field/retakeURL}).

Thank you for taking part in this study. Your time is very much appreciated.

Click '**Finish Survey**' to submit your responses.

[\\${e://Field/withdrawButton}](#)