Apps Environment

Research Report

Prepared for **Ofcom**

By **Kantar Media**

KANTAR MEDIA

www.kantarmedia.com

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1. Executive summary

Background and overview

This qualitative research study explored the applications (apps) environment, by investigating the attitudes and behaviours of app users, the stated and observed impact of apps on their lives, and any stated concerns among users. The study focused on those using smartphones, tablet computers, MP3 players and Smart TVs, covering the Android, Apple iOS, Windows, and BlackBerry smart device operating systems (OS). The key findings from the study are summarised below.

According to current perceptions amongst app users, the apps environment is viewed as a safer, more contained space than browser-based internet access. This sense of safety is underpinned by a widespread lack of personal experience or general awareness of issues occurring in the apps environment. These perceptions mean that very little, if any, attention is paid to permission requests when downloading and using apps, whilst also limiting broader concerns around app use.

Common perceptions

Among app users, several perceptions were found to be influencing behaviours, attitudes and the low level of concern in the app environment. These perceptions were:

- official app stores monitor and vet the apps they make available;
- well-known brands (apps, app stores and OS) provide a safe, secure and reliable user experience, and;
- apps are safer than browsers due to their more limited and contained nature compared to browser-based internet use.

These perceptions, and the impact they have are discussed below.

The majority of app users assumed that official app stores (e.g. Apple App Store, Google Play) had an active role in monitoring content published in their marketplace. At least partly due to this perception, there was an almost universal trust that apps downloaded from official app stores provide a safe, secure, and reliable user experience. Much of the trust placed in apps was reinforced by the inherent trust users place in well-known brands, and a widespread lack of personal negative experience or awareness of significant problems with apps.

Participants viewed apps as providing content within a ring-fenced area, which was another factor reinforcing a sense of safety and security evident among app users. Apps were viewed as providing limited and contained content, which contrasted with what was perceived as the open expanse of browser-based internet use. Whilst participants understood that using apps often involves online connectivity, their more contained environment meant apps were perceived more positively than browsers in terms of safety and security.

This core set of perceptions was particularly influential in forming app users' attitudes and behaviours around **permission requests, concerns about apps, and parental controls.**

Permissions

Overall, many app users said they paid very little attention to permissions requested by apps and a clear difference emerged between what app users *claim to do* and what they *actually do*. Indeed, whilst many users said that they would refuse certain permissions, in reality most simply download and use the apps without fully looking at permission details. App users were influenced by a number of factors when deciding to accept or reject permissions, including:

- implicit trust in app stores, and the perception, outlined above, that apps are vetted prior to release;
- strength of desire to use the app;
- lack of experience or knowledge of problems with apps, and;
- word of mouth and peer influence.

Concerns

Very few participants raised spontaneous concerns about apps. When prompted, in-app purchasing and advertising were of greatest concern to parents, and at most, a frustration or annoyance to others. The apparent lack of concern surrounding apps was underpinned by the perceptions noted above, which lead users to believe that the apps environment is a safe space. The lack of concern currently is, for many, due to a lack of experience or awareness of potential issues. **In-app purchasing** was considered frustrating to many app users, particularly where this was perceived as not being adequately sign-posted at the point of download. Parents in particular had concerns regarding potential bill shock where children used apps featuring in-app purchasing. **In-app advertising** that interrupted or impaired the user experience was also a source of frustration to many app users. Several parents expressed

concerns about children using apps with advertising due to the potential for them to be redirected from what they perceived to be the safe app environment to browser content.

Parental controls

Influenced by the common perceptions surrounding the apps environment, parents were more likely to allow children to use apps than to access browser content as they were perceived as safer and more contained. Despite this, many participants were unaware of, or had not used in-built parental controls available on app-enabled devices. Many parents said they did not have the technical knowledge or confidence to enable these functions. However, parents who were using in-built parental controls said that they offered peace of mind and allowed their children more autonomy to use apps. There was universal agreement among parents that parental control features were appealing. The most appealing features were being able to restrict and limit the content of apps, and restricting full access to app marketplaces. The latter measure was considered to help prevent children from downloading inappropriate apps, and running up unexpectedly high bills through app purchases.

Other topics covered

In addition to the above, this report also discusses **the role of apps and OSs in smart device purchases; the use and impact of apps; and views on redress and regulation.**

2. Research objectives and methodology

2.1 Research objectives

This qualitative research study explored the applications (apps) environment, by investigating the attitudes and behaviours of app users, the stated and observed impact of apps on their lives, and any stated concerns among users.[1] The study focused on those using smartphones, tablet computers, MP3 players and Smart TVs, covering the Android, Apple iOS, Windows, and BlackBerry smart device operating systems (OS). In particular, the research examined the following:

- The role of apps and operating systems (OSs) in purchases of app-enabled devices;
- App users' views regarding any similarities and differences across different OSs;
- The impact that apps have on the day-to-day lives of app users;
- Perceptual and behavioural differences between apps and web browsers (mobile device, laptop, and desktop) and their related impact on safety and security;
- Awareness of app-specific issues, such as permissions to access device features and in-app purchasing;
- Any perceived harms or risks specific to apps and potential pathways taken to address problems as well as perceptions around existing and potential regulation and control of apps.

This report details the research findings across these areas, covering a variety of OSs and devices.

2.2 Methodology

The qualitative research design involved a series of discussion groups, in-home family interviews and paired 'teen' depth interviews.

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[1] **Apps**, or applications, are software programs specially designed for electronic devices, such as smartphones and tablets. Apps are available through stores run by operating system owners, such as the Apple App Store, Google Play and the Windows Phone store. Free and paid apps are available, spanning a range of content categories. Apps are typically accessed via icons on device home screens, rather than through web browsers.

Discussion groups

In total, **11 x 2 hour discussion groups** were undertaken – including a pilot session. Eight of the groups were defined by the level of app use, including:

- Two groups of 'high users'
- Five groups of 'mid users'
- One group of 'low users'

Participants were assigned to their relevant user categories using the behavioural statements outlined in the table below. To qualify for a category, participants had to respond positively to at least three out of the four statements.

Table 1: Qualifying statements by app-user category

Statement	High user	Mid user	Low user
1. Number of apps used & frequency	Use at least 5 apps frequently (at least 4 times per day)	Use 3–4 apps regularly daily, on average 3-4 times a day	Tend to use 2-3 apps occasionally
2. Duration of app use	Typically spend over an hour per day using apps	Spend up to an hour per day using apps, but more likely to spend around 30 minutes	Use apps more on a need basis, perhaps only using them a few times a week or less
3. Reliance on apps	Heavily rely on apps on a daily basis	Not 'wholly reliant' on apps, but see them as being very useful to daily life	Apps seen as 'nice to have' but not essential for daily life
4. Self-definition of app use	Self-define as a high user of apps	Self-define as a mid-user of apps	Self-define as low user

In addition, each of the groups included a mix of:

- **Device ownership**: Mix of smartphones, tablets, app-enabled MP3 players, and Smart TVs.
- **OS**: Mix of iOS, Android, Microsoft Windows and BlackBerry + a mix of multi-device app users with common and different OSs across their devices.
- **App purchasing:** Mix of those using free apps only, and those using both free and paid apps.
- **App genre:** Range of app genres used, including media, financial, online shopping, games, news, public services, social networking, and utilities.

- **Demographics:** Including mix of age, gender and life-stage (including parents and non-parents).

- **Locations:** 2 groups were undertaken in each of the following locations – Belfast, Cardiff, Edinburgh, London, and Manchester.

In addition, three 'specialist' groups were conducted to allow the research to provide detailed exploration of specific areas of interest. These included one group with **parents** to explore behaviours around monitoring and controls; one group with **Smart TV owners** to understand similarities and differences in app use across mobile and stationary platforms; and one group with **iPhone 5S users**, which included investigation of whether Touch ID access via fingerprint recognition changed behaviours and/or perceptions around app use on these devices. However, findings specific to iPhone 5S features such as Touch ID are not covered in this report.

The group sessions were structured to allow the research to identify similarities and differences in attitudes and behaviours across both devices and OSs relating to apps.

In-home family interviews

Alongside the groups, a series of **eight 90-minute in-home family interviews** were undertaken to explore how children (aged 14 and under) and parents were using apps. These interviews looked at the family dynamics relating to the levels of supervision and monitoring of app use. The sample encompassed a variety of household types, such as single-parent families, and single and multiple child homes. In order to explore the potential impact of relative levels of technology aptitude, the sessions were split between digitally 'conflicted' and 'consensual' households:

- **'Digitally conflicted'**: Household with disparity between the parent(s) and child(ren) where one has more advanced or limited 'digital' abilities compared to the other.

- **'Digitally consensual'**: Household where parent(s) and child(ren) share broadly similar digital abilities, whether advanced or limited.

Across the sessions, the 8 families were recruited to provide a mix of:

- **Family composition:** Including single parents, and single and multiple child households.

- **Level of parental supervision:** Mix of light through to heavy supervision of app use. Defined in relation to levels of direct parental observation of children's device use.

- **Download permission:** Mix of households where children's downloading of apps was supervised or unsupervised.
- **Device ownership & usage:** Mix of devices owned and accessed by children, covering smartphones, tablets, and app-enabled MP3 players.
- **Locations:** Interviews conducted in Belfast, Cardiff, Edinburgh, London, and Manchester.

The in-home interviews were structured to allow discussion with the family unit as a whole, and separate sessions with parents and children. This encouraged open dialogue and helped uncover app habits, dynamics and concerns across a variety of household types.

Paired teen interviews

The study also encompassed older teenagers, with a tailored approach developed for this often difficult-to-research group. Within group discussions, older teenagers can often be reluctant to engage in free and open dialogue in the presence of their peers. This stems from a desire to maintain self-image and a wariness of saying anything that would be negatively perceived by unfamiliar peer group members.

To overcome such issues, 15-17 year olds were researched using **friendship paired depth interviews**. The presence of a familiar companion often puts respondents at ease, encourages open dialogue, and helps uncover actual behaviours through interaction. Four 60-minute friendship pairs were conducted, with the profiles for each session summarised in the table below.

Table 2: Profiles for teen paired depth interviews

Session	Description
Pair 1: 14-15 year olds, non-smartphone owners	- Both own app-enabled MP3 player - Parents had not given permission for smartphone ownership
Pair 2: 14-15 year olds, smartphone owners	- Reliant on smartphones for social aspect - More digitally literate than parents
Pair 3: 15-16 year olds, smartphone owners	- Own smartphone + other app-enabled device (e.g. tablet, app-enabled MP3 player) - Smartphone 'addicts'
Pair 4: 2 x 17 year olds, smartphone owners	- 2 teens with different OSs - OS active choice in selecting smartphone

The teen paired interviews were conducted in Edinburgh, London, and Manchester.

For further information, the topic guides for the discussion groups, family interviews and teen paired depths are provided in the appendices of this report, along with details of the stimulus materials used.

Pre-tasking

A pre task was planned to help sensitise participants to their existing app habits. This was designed to encourage informed responses in the research sessions, with participants drawing on their actual behaviours and motivations. Indeed, with mobile technology, use is often habitual and participants coming fresh to the topic may struggle to accurately recall behaviours. The pre task encompassed the following elements:

- **Deprivation exercise:** Discussion group participants were asked to avoid using apps for a full day on any of their devices. This meant they had to rely solely on browsers to access online content on their devices. The exercise was designed to sensitise participants to the role apps played in their lives by highlighting what, if anything, they missed. Whilst the family and teen depth respondents did not undertake an actual deprivation task, they were asked to imagine life without apps and note down their observations.

- **Purchasing behaviours:** All participants were asked to note down, from an extensive list of options, their main motivations for buying their smartphones. This aimed to establish the role of app and OSs and purchase decision making.

- **Apps diary:** All participants were asked to keep a log of all the apps they used over a three-day period. This involved noting the apps used, the number of times each was used, and the device(s) that they were used on. The diary was completed in the week prior to the groups to ensure that behaviours recorded remained front of mind.

- **Device use log:** Families were asked to keep a log of what app-enabled devices were used, by which family member, and in which location within their homes. As with the diary, this was completed in the week prior to research sessions, providing a fresh insight into device usage in participants' households.

With pre tasks collected at the end of the research sessions, participants were able to draw upon their tasks to help inform and illustrate their contributions.

3. App-enabled devices: The role of apps and operating systems in purchase decisions

3.1 Introduction

The study investigated why app users had decided to purchase specific devices. In particular, the role of apps and OSs in the decision-making process was considered, alongside a range of other factors, such as price, word of mouth, appearance, and brand reputation. This chapter focuses on the role of apps and operating systems in the purchase decision-making process, covering the app-enabled devices of interest – smartphones, tablets, MP3 players, and Smart TVs.

3.2 Key findings

- ➤ The availability of apps emerged as one of a number of factors that drove mobile smart device purchase decisions. Amongst smartphone, tablet and MP3 player users, apps were considered alongside other factors when users selected their device. Conversely, apps played little, if any, role in decision making in relation to purchasing a Smart TV.

- ➤ In relation to **smartphones** specifically, price was a key consideration in choice of handset and many participants said they had been influenced by deals or available options within their mobile contracts. Beyond price, app availability was widely cited as influential and factors such as brand, aesthetics and functionality also emerged as prominent drivers to choice of smartphone.

- ➤ Where apps were cited as an influential factor in purchase decisions, reasoning varied by first-time and experienced smartphone users. For first-time smartphone owners, the appeal of the availability of apps in general was a significant factor in the decision to get a smartphone. For more experienced users, it was important that the type of smartphone allowed access to a wide range of apps.

- ➤ Many users cited familiar and easy navigation, and reliability (software and hardware) as factors influencing device purchases. These can be interpreted as proxies for the OS.

- ➤ Operating system played a greater role in device purchase among **tablet** owners compared to smartphones, with the exception of those who did not purchase the device themselves. Most participants who had purchased a tablet for themselves

considered the OS, with interoperability in mind for some (i.e. the ability for that device to work seamlessly with other owned devices).

➢ **App-enabled MP3 players** were often purchased by parents for their children. A major driver was the child's desire to use apps. App-enabled MP3 players offered parents a means to allow their child to use apps, without some of the risks associated with smartphone use e.g. the expense of monthly contracts, and the potential for them to run up unexpectedly high bills. Some parents reported that these devices allow their children to develop their technical skills and use apps in what they consider to be a safer environment.

➢ Apps played a negligible role in **Smart TV** purchase decision making. Rather, Smart TV choice was dominated by factors such as price, brand, appearance, and screen size. Whilst the ability for Smart TVs to connect to the internet holds an appeal, the experience of using apps falls short of expectations. This was largely due to the less user-friendly nature of navigating apps with a TV remote control compared to touchscreen mobile devices.

Smartphone purchase drivers

General considerations

Participants cited a variety of factors that influence their smartphone purchase decisions. Price was the most prominent factor with the device and contract/phone plan needing to fit within personal budgets as a starting point. This was reflected in some app users choosing a particular smartphone due to offers available as part of their existing phone plans. Amongst Android users in particular, a lower price in relation to Apple products was frequently mentioned as contributing to their choice of device.

Moving beyond price considerations, factors such as the smartphone brand, functionality, and aesthetics emerged as prominent drivers. For more experienced app users, brand was often associated with previous experience and familiarity. Lower app users were more likely to be drawn to well-known brands as an indicator of quality.

Aesthetics was influential for the majority of app users, with the look and feel of the handset an important consideration. For lighter app users and those less concerned with technical specifications, the appearance of the handset was particularly important.

More functional considerations were also frequently cited, such as battery life and screen size. Of those relatively new to smartphones, the lure of a touchscreen device was a prominent factor. This was also observed in those switching from keypad BlackBerry devices to touchscreen alternatives.

In addition, word of mouth was a strong driver, with the recommendations of friends and family members particularly influential. For higher level app users, this often involved interest being sparked by seeing and discussing a smartphone belonging to an acquaintance. For lower users, many were almost entirely reliant on the advice of others when making their purchases.

Apps and operating systems (OS)

Apps were viewed as an influential purchase driver for both first-time and more seasoned smartphone users. When recalling their first smartphone purchase, apps were widely viewed as synonymous with such devices and a major motivating factor. It was widely understood that apps would be available across a range of smartphone brands and models. In this respect, the simple availability of apps was not as decisive in choice of brand and model.

Across the research sessions, OS was less frequently cited as a factor in purchase decision making. However, a number of factors relating to OS were cited frequently. For example, there were many mentions of the importance of familiar navigation, ease of use and reliability. All of these can be viewed as proxies for the role of the OS in purchases. More experienced app users were more likely to cite such factors, given that they had typically owned more than one smartphone.

> *"It is the brand…and the product design, and it [the operating system] is kind of baked in. You don't even think about the operating system because it just works."*
>
> Male, London, iPhone 5S user

> *"I didn't want to change my phone to an iPhone because I had a little mess around with iPhones before and like I am more used to using an Android system…I am happy with my phone, happy with what it does and everything so I didn't want to change it."*
>
> Female, London, High user

Existing perceptions about apps also play a role in helping app users decide between different OSs, and in particular whether or not to purchase an Apple product. A number of those who opted for a smartphone with an Android operating system said their decision was because Android provided a higher volume of apps, and at a cheaper price than those provided by Apple.

However, for the majority of app users, the quality of apps available was a more important consideration than overall volume. Indeed, several participants mentioned that having the apps they want was more important than simply having more available in total. This was particularly marked for lower level users, with an expectation that well-known apps would most likely be available across major smartphone brands and, implicitly, OSs.

For many iPhone users, the apps provided on iOS benefited from positive associations with the Apple brand. Indeed, whilst apps on this OS were understood by many to be more expensive than on other platforms, price was not a major issue. Higher costs were offset by a view, particularly amongst more tech savvy participants, that apps available through the Apple App Store were more secure. As will be discussed later in this report, this corresponds with perceived checks on apps available via the Apple App Store.

> *"Everything has got to go through Apple to get on to the app store, so I can't see them letting something through that is giving out viruses."*
>
> Male, London, iPhone 5S user

> *"They've [Android] got a reputation as a lot of [apps] crashing and stuff like that so I'd say Apple's more sorted in that respect."*
>
> Male, London, Super User

Beyond this, considerations around the relative safety and security of apps were seen to play virtually no role in purchase considerations.

3.3 Tablet purchase drivers

The purchase considerations for tablets broadly reflected the general factors influencing choice of smartphone. Again, price was often an overarching consideration, alongside factors such as brand, functionality, aesthetics, and word of mouth. However, in relation to price, the

nature of the devices meant that purchases were less bound by considerations around existing contracts and plans.

Typically, those who owned both a tablet and a smartphone had purchased their tablet subsequent to the smartphone. Given existing ownership of a smart device, interoperability emerged as a more prominent consideration in such tablet purchases, when compared to decisions around smartphone purchases. That is, there was more likely to be a desire to acquire a tablet with the same OS as other owned devices, for familiarity and ease of synching between devices.

Several participants reported that their tablet had been purchased for them as a gift. In such instances, gift buyers appear to have given little, if any, consideration to interoperability when selecting a tablet. Such gifting resulted in several participants owning different smartphone and tablet brands. For those buying tablets as a gift, particularly for children, Android devices were frequently seen as lower cost alternatives to the Apple iPad.

Amongst some iOS users who had reported a positive experience in synching multiple devices, there was a strong reluctance to consider switching OS. For such users, a major 'game-changing' device or OS would be required to instigate switching OS.

> *"With Apple you are definitely restricted but I am kind of happy, like I don't mind the restriction, I have kind of learned to live with it."*
>
> Female, London, High user

> *"Well, unless they brought something out that was absolutely sensational [to encourage switching from Apple] but there isn't anything comparable I don't think."*
>
> Male, London, iPhone 5S user

In a few instances, participants had consciously purchased a tablet (usually an iPad) that differed from their smartphone operating system. However, this tended to involve lighter app users who were less concerned with synching or transferring content between devices. For such users, the purchase was principally driven by factors such as the Apple brand and positive word of mouth, rather than any app-specific considerations.

"I don't really know what other kind of tablet I'd go for if they didn't have the iPad…it's probably the most recognised tablet so I just went for that without thinking."

Female, Manchester, Mid user

3.4   App-enabled MP3 device purchase drivers

In addition to smartphones and tablets, the purchase considerations of app-enabled MP3 player owners were explored. In this study the majority of MP3 users owned iPod touch devices. The purchase motivations varied by those purchasing devices for their children, and those purchasing for personal use.

Purchased for children

Several participants had purchased app-enabled MP3 devices for their children. For some, this involved purchasing the device for younger children (aged under 10) as a means of providing entertainment, whilst developing their technological aptitude. These MP3 devices were often seen as a lower cost alternative to purchasing a tablet for children.

For older children in particular, app-enabled MP3 devices played a key role prior to them being allowed to own a smartphone. Parents saw this as avoiding the requirement for monthly contracts, and the risks of high phone bills being generated. Additionally, the Wi-Fi nature of connectivity meant that devices could be used in a more controlled environment. Most parents associated Wi-Fi with secure in-home use, whilst the alternative of 3G connectivity was linked with out-of-home, less supervised use. Wi-Fi use had the accompanying benefit of guarding against high data charges being incurred. For children, the app-enabled MP3 players had the appeal (alongside the core audio-visual functions) of providing access to popular gaming and communications apps.

Purchased for personal use

For adults, app-enabled MP3 player ownership was driven by more functional considerations. In this respect, purchase decisions were influenced by factors such as memory size and battery life. Indeed, such devices were frequently purchased to offer greater storage space for audio-visual content and apps, and ease the burden on smartphones. With smartphone battery life a

concern for some, app-enabled MP3 players offered a dedicated alternative for playing music thereby preserving the battery life of the phone for other activities.

3.5   Smart TV purchase drivers

The availability of apps had a negligible role amongst participants in deciding to purchase Smart TVs. Purchase decisions were largely driven by price, brand, appearance and screen size. Several participants thought that having the latest technology was important and this resulted in Smart TVs being selected when they were looking to purchase a new set. However, these participants did not have particular apps or types of app-enabled content in mind when choosing to get a Smart TV. A small number of participants mentioned the benefit of internet access via their TV, but this was not immediately associated with apps.

For the majority of Smart TV owners, the experience of using apps via the device was an underwhelming one. This was in large part due to the experience not matching the ease of use and convenience offered on touchscreen smart devices. Indeed, a major frustration with Smart TV apps was the remote control interface.

> *"I got a Smart TV and I bought it when I moved house last year because my old TV was on its last legs. It has got LOVEFiLM and I have used YouTube on it probably twice because it is so painful to type."*
>
> Male, Manchester, Smart TV owner

> *"We did do initially [watch catch-up TV] but not for a long time, it is just faffy, and we now have iPads and it is just easier to use the iPad for things."*
>
> Female, Manchester, Smart TV owner

Amongst Smart TV owners, the most popular apps were those that provided audio-visual content and harnessed the big screen. These included catch-up services such as BBC iPlayer, ITV Player, and 4oD. Whilst the navigation remained frustrating, this was offset by the advantages of catching up with content on the big screen.

A small number of Smart TV owners noted the benefits of synching the TV set with other smart devices. This typically involved synching the Smart TV with a same-brand tablet device. Using

the latter as a touchscreen controller was viewed as overcoming many of the frustrating navigation issues.

> *"I have a Galaxy [tablet] and basically…it came with the TV, so a big Smart TV and you can use it as a standard tablet, do whatever you like with it, but also use it with the TV as well. That's a good function."*
>
> Male, London, Smart TV owner

The majority of Smart TV owners agreed that the personal nature of some apps made them less suited to use on Smart TVs. With others often present when the TV set was on, there were issues around privacy and wanting apps on TV that everyone could enjoy. Social networking apps such as Facebook and Twitter were given as examples of content that they would not want to share on the big screen.

> *"I would never really do that [go on Facebook on a Smart TV]…I don't know, I don't really see when it would be appropriate or feel the need to as the TV is usually in the living room. I normally go on Facebook and that's on my own."*
>
> Female, Manchester, Smart TV owner

A notable exception was Skype, which was seen to harness the big screen and offer the household a means of keeping in touch with friends and relatives. Some respondents had specifically purchased Smart TVs with in-built cameras or acquired separate cameras for this purpose. Amongst the research participants (of which only one group was dedicated to Smart TV owners) there was little evidence of privacy concerns related to the camera.

4.   Common perceptions

4.1 Introduction

A series of common perceptions amongst app users emerged during the course of the research, which help explain wider behaviours in the app environment. These were:

- official app stores monitor and vet the apps they make available;
- well-known brands (apps, app stores, and OS) provide a safe, secure, and reliable app user experience; and
- apps are safer than browsers due to their more limited and contained nature compared to browser-based content.

This chapter details the perceptions of app users across these three key areas.

4.2 Key findings

- ➢ This core set of perceptions was particularly influential in forming app users' attitudes and behaviours around permission requests, concerns about apps, and parental controls.
- ➢ The majority of app users assumed that official app stores (e.g. Apple App Store, Google Play) had an active role in monitoring content published in their marketplace. There was an almost universal trust that apps downloaded from official app stores provide a safe, secure, and reliable user experience.
- ➢ Furthermore, well-known, popular apps were also perceived to be trustworthy, fuelled by the reputations of well-established digital and traditional brands and positive word of mouth.
- ➢ Much of the trust placed in apps was seen to stem from a widespread lack of personal negative experience or awareness of significant problems with apps.
- ➢ Nonetheless, when judging the trustworthiness of apps when deciding whether to download, a familiar set of criteria were evident involving the look and feel of the content, and the reputation/familiarity of the app brand.
- ➢ Participants viewed apps as providing content within a ring-fenced area, which created a sense of safety and security. Apps were seen as providing limited and contained content which contrasted with what many view as the open expanse of browser-based internet use.

4.3   Official app stores perceived as protective gatekeepers

Irrespective of the actual vetting processes of different official app stores, overall, there is a strong assumption that apps are actively and effectively vetted by the app stores. App users assumed that these vetting processes ensured that apps met quality standards, were fit for purpose and – as a result – were expected to be largely problem free. This informs the view held by many that the apps environment is generally safe and secure, especially when compared with browser-based content.

"It feels safe for me because you go into like the [Google] Play store and you think that its trustworthy, I'm not going to get viruses on there…it's not like going on the internet and going on all sorts of streaming sites, it's just like a very safe shop, where you are buying apps or getting apps for free so it looks reliable."

Male, London

"You feel that if someone's went to the effort of making an app to put it onto the app store and then have that reviewed by Apple or by Google…you think it is going to be genuine. You trust the company not to let fraudsters slip through their hoop."

Male, Edinburgh, Mid user

Participants with iOS devices were more likely to consider Apple as maintaining the strongest vetting system relative to other OSs. Nevertheless, iOS users were generally unable to explain the apparent vetting process or why it was more secure than other OSs. Their explanations tended to focus on positive perceptions of the Apple brand, with apps on the App Store expected to have met Apple's perceived high standards. Indeed, for several iOS device owners it seemed inconceivable that a trusted brand such as Apple would allow dubious content on its marketplace. Users of other OSs felt that their app store's vetting procedures were likely to be as stringent as those seemingly applied by Apple.

4.4   The influence of well-known brands

App users placed a large degree of trust in apps released by familiar brands and organisations. This involved apps from digital and more 'traditional' offline brands. For example, content apps such as BBC iPlayer or even newer services such as Netflix benefit from significant brand recognition and trust. Similarly, brands with a significant offline presence, such as high-street retailers, also bring that trust into the app environment. Indeed, users stated that they would have more trust in an app from recognised brands, such as John Lewis and Topshop, than one they did not recognise.

In addition, many app users expected such brands to provide a high quality and safe user experience, given the potential reputational risks associated with publishing defective or substandard apps.

"Again the brand, the apps I download generally are well-known companies so I generally trust them…there have been once or twice I have downloaded one [an unknown brand app] and they ask for contacts and my photos and personal information, it is generally no, no, no, but the trusted companies are fine."

Male, Edinburgh, Mid user

"You know they [apps] are coming from companies that are known worldwide so I would just assume that everything was alright and above board and you could trust them and it would be fine."

Mother, Edinburgh, Digitally conflicted family

This trust in well-known brands encouraged a willingness amongst users to accept permission requests in those apps.[2] Permissions allow the app to access features of the mobile device, such as the camera, GPS location, and contacts. Given the standing of well-known brands, users were more likely to grant permission to access such features. This resulted in app users having a greater willingness to share personal information with well-known brands, such as that provided during transactions.

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[2] App permissions are explored in more detail in chapter 6 of this report

Conversely, less familiar branded apps requesting similar permissions were likely to be greeted with greater circumspection. Nevertheless, even less familiar brands published in official marketplaces were seen to benefit from the overarching assumptions regarding app stores.

4.5 Perceived differences between apps and browser-based content

The widely held view that apps are safe and secure was partly fuelled by the distinction many app users made between apps and browser internet use. Many distinguished between using apps and browsers due to the design and architecture of apps. Apps were viewed as a discrete piece of software, with comparatively little interconnectivity and linkages with other apps and the wider internet.

"I think the standard internet browser, it gives you more scope for doing what you want, there is a bit more flexibility. With an app you presume it's a little bit more closed and it's doing that one function maybe and maybe it's safer because it is just got that one role in mind, with a browser you can do anything."

Male, London, Super User

"In a way I think apps are more secure because you can't really hack anything on an app whereas when someone is on the internet and they are a pro at hacking they can hack people but when on an app they can't really hack."

Male teen, London

"It is just this self-contained thing on a screen on your iPod as opposed to going on to the internet and going on to the website, but if it is something you have downloaded onto your home screen then it shouldn't connect with anything else, it should just be the app itself."

Male teen, London, iPod only

For app users, being able to access specific content quickly and efficiently within the confines of the app in just one or two touches also sets apps apart from using a browser.

"[Apps are] just quicker for things like Cineworld for me instead of going to Google and then typing in 'Cineworld'…[I] just have to click one button and I am there rather than going through all that rigmarole."

Female, Manchester, Mid user

The perceived differences between apps and browsers resulted in some participants overlooking the fact that many apps involve online connectivity. This meant that many app users did not take security precautions as they were simply unaware that any may be required. Indeed, whilst anti-virus software was strongly associated with, and widely used on, laptops and desktops, few users were aware of potentially malicious threats from apps. Like wider perceptions of apps, this was founded upon a lack of personal experience of serious issues with apps, and little awareness of cases involving others.

For some app users, the distinction between apps and browsers was fuelled by apps being likened to in-built features of the device rather than a gateway to online content. This was particularly pronounced amongst less frequent and less tech savvy app users. For several such participants, this belief was seen to be encouraged by the presence of pre-installed apps on their device.

Some app users assumed that physically locking their device was on par with 'locking' app content. Such participants did not realise that being connected to the internet meant that apps may still be running in the background.

"I don't know if it ever occurs to me to sign out of the individual app because if I close the app it might stop you using the functionality of it…it won't be so quick when you have to log in again, but if I lock my phone I think that no one will get to the app because it is already locked."

Male, London, High user

"I am worried they have become so normal, that I don't even think of them as apps - just as things that should be on my phone."

<div align="right">Female, London, Mid user</div>

More broadly, many participants were under the impression that clicking out of an app or opening another app closed the original app down. These participants did not appreciate that several apps could be running concurrently and that apps may require to be closed down or logged out of. Nonetheless, app users expressed little concern when this was explained to them.

Taken together, these three perceptions about apps [i.e. official app stores vet content; greater trust in well-known brand apps; apps more secure than browsers] have a telling influence on how users engage with the apps environment. In many instances, app users displayed instinctive behaviours, founded upon limited knowledge or personal experiences.

5.   Use and impact of apps

5.1   Introduction

This chapter explores how people are using apps and the broader impact they have had on daily lives. It examines the criteria that participants use to describe their 'best apps', whilst considering the potential attachment users have developed to their apps. The selection of apps is also addressed, alongside a comparison of apps and browsers across a range of content areas – news, social networking, online shopping, and government services.

5.2   Key findings

Attachment to apps

➢ App users appear to have a strong functional reliance and emotional attachment to apps. As part of the research process, participants were asked to live without apps for a day. The absence of apps during this deprivation exercise left many feeling frustrated. Teens and younger adults, in particular, worried about being excluded from their social circle without access to apps.

➢ Nonetheless, for some, the absence of apps proved to be liberating, freeing up time for other tasks and activities.

Selecting apps

➢ Word of mouth and app store reviews were strong drivers in selecting and downloading apps. Recommendations from friends and family were a major influence in selecting apps, with app store reviews helping users choose between apps offering similar content or features.

➢ App users tend to expect both free and paid apps to conform to the same standards of reliability, safety and security.

Criteria that participants use to describe their 'best apps'

➢ App users stated various criteria that they felt described their 'best apps', including: being quick and easy to use; being reliable and not crashing; performing the functions described; and having appealing aesthetics.

➢ When asked to consider criteria for their 'best apps', there was little mention of safety and security. These did not appear to be front-of-mind for participants due to a lack of negative experiences with apps.

Apps versus browsers by content genre

➢ News apps tended to supplement other news sources, rather than replace them. Apps were typically used for catching up with headlines, with other sources consulted later for more detail. The sources consulted later included television, newspapers, and browser-based internet via laptops and desktops.

➢ Apps played a vital role in social networking, allowing users to use social networking services throughout the day on their mobile device. However, several users noted that browser versions typically provide more extensive access to settings, such as those around profile privacy settings.

➢ Where apps were used for online shopping, this tended to be for relatively low cost and/or digital items, such as travel and cinema tickets, and audio-visual content. App users were most likely to use mobile devices such as smartphones and tablets for this type of purchasing.

➢ Whilst there was little evidence of government services being accessed through apps, several users did see the appeal to them. Nevertheless, app users were clear that offline alternatives should be made available to ensure that nobody was excluded.

5.3   Living without apps

To uncover the role of apps in daily lives and users' potential emotional attachment to them, participants were asked to take part in a deprivation exercise. The deprivation exercise required participants to avoid using apps on their devices for a day in advance of the research sessions. Whilst they were asked to avoid using apps, participants were permitted to access content through browsers. Allowing browser use was aimed at delivering additional insights relating to differences between app and browser experiences.

Prior to the exercise, participants were asked to foresee how they would respond to life without apps. Many expected to feel frustrated throughout the exercise given that app use formed part of daily routines. Teenage and young adult participants were particularly concerned about missing out on socialising with their peers through apps.

> *"[I will find it] hard as most of my communication with my friends is via apps so I will feel isolated."*
>
> Male, London, High User

"[I will feel] a little bit lost and frustrated, probably pretty bored on my commute."

Female, London, High User

"[I will feel] a little inconvenienced, there are other ways I can access some things but I will particularly miss Spotify on the way to work."

Female, London, Mid user

"I think I will cope but it will be a struggle. I'll be pretty frustrated and I will have to remind myself to not use them as it is an automatic reflex."

Female, London, High user

Reflecting on the exercise, the majority of participants noted the disruptive effect that living without apps had on their daily routines. Several noted that they missed services that they used habitually, such as checking travel information, emails and social networking pages, along with communicating via apps like WhatsApp.

Many participants found the experience of using browsers as an alternative to apps to be a frustrating one. Using a browser meant that several participants had to use non-optimised websites and were faced with frustrating web page loading times.

"Well it was just a bit frustrating because of people trying to contact you through messaging apps and you couldn't answer them…"

Female, Belfast, Low user

Whilst frustrations were evident across the majority of app users, several mentioned positive outcomes of the experience with some feeling liberated by a break from apps, which freed up time for other activities. Feelings of liberation were most pronounced amongst older participants and less frequent app users. Several older participants noted that they had previously made do without apps, which eased the transition and provided knowledge of alternatives. At the other end of the age range, younger users were more accustomed to and reliant upon apps. As a result, younger users tended to find the deprivation exercise most frustrating amongst all users, particularly because of its impact on their social interaction.

In summary, the deprivation exercise highlighted how reliant participants were on apps, with app use forming part of participants' daily routines. App users missed the social, information, entertainment and functional value provided by apps. The deprivation exercise also revealed how apps, alongside mobile internet and mobile devices, have encouraged a sense of always being connected.

5.4 Selecting apps

This section explores how app users decide which apps to download. During the research, a number of avenues were discussed, including recommendations from friends and family, advertising, media coverage, app store browsing, and consulting reviews and ratings. The research identified word of mouth, app store reviews and charts as the most influential sources for the selection of apps.

Word of mouth

The vast majority of participants cited word of mouth as an influential factor in their choice of apps. This typically involved recommendations from friends, family members, and colleagues. These recommendations carry significant weight, with users likely to trust apps based on the positive experiences of others. In practice, this resulted in users downloading recommended apps with little additional research, being more likely to accept the app's permission requests. Indeed, if a recommended app requests access to device features, there is an assumption that others must have granted permissions without subsequent negative consequences.

Word of mouth is important for adults in deciding which apps to download, especially when it comes to social gaming apps. Participants often downloaded social gaming apps because they provided the chance to interact with others, often including the friends and family members making the recommendations.

For younger adults and teenagers, word of mouth was particularly influential in relation to social networking and communications apps. Many of these users noted how reliant they were on such apps to communicate with friends, and how important it was for them to keep abreast of the latest services used amongst their peers. Peer influence and the desire to be 'part of the crowd' therefore strongly dictate which apps younger people will download. Amongst these users, communications and social networking apps such as WhatsApp and Facebook had largely displaced the use of SMS texting.

"I'm a bit of a sucker for general consensus, so if all my friends are banging on about this app I'd probably just be like, do you know what? If they haven't had anything dodgy come back – they would have told me if they did – so I will just go for it."

<div align="right">Female, London, iPhone 5S user</div>

"Word of mouth I definitely think is a big thing because you have little conversations and they are like 'oh wow' why don't you get this app and it will make your life much easier."

<div align="right">Female, London, Super user</div>

App store reviews and charts

Many participants stated that app store reviews and chart listings were influential in their selection of apps. The majority of users said they consult app stores when they had a particular need and type of app in mind. This typically involved instances where users sought out a type of app without a particular brand in mind. Where several apps with similar functions were available, app store reviews and ratings were seen as useful guides in selecting the app to download. Indeed, for several participants, particularly the less tech savvy, such reviews and ratings would supplant reference to detailed descriptions of app features provided by app stores.

"With terms and conditions I admit that I don't often read them, but then I would have either have used it before or read reviews or generally know that it's just a popular app or device I would know it would be ok to use."

<div align="right">Female teen, London</div>

A minority of participants, mostly younger users and females, mentioned browsing app stores without a particular type of app in mind. These users tended to make use of app store charts when browsing. These charts provided a variety of listings of the most downloaded apps, covering categories such as the top paid, free, and trending apps. When deciding upon which apps to download, those in the top 20 or 30 downloaded were most likely to be selected. The

high chart position was viewed by several participants as being indicative of a justifiably popular app that was likely to be safe if used by many others.

"Word of mouth [determines which apps I download] but I will also go to the app store and see the top 25 free apps and the top 25 paid apps - usually quite reliable."

Male teen, London

"[O]n the Windows one [store] you have got a lot of like the 'top picks'; you have got the ones with the best ratings and reviews and then they also have downloads with the ones with the better reviews, the higher starred ratings and what people actually say about it. I make a decision based on what other users say."

Male, Manchester, Mid user

By contrast, apps that were further down the chart listings were less likely to be downloaded. The casual browsers, most likely to be younger users and females, stated that they were less likely to scroll far down the listings and such positions were not as indicative of quality.

Many users look to app reviews submitted by fellow users, especially star ratings, to determine which apps to download. A majority of participants mentioned that they were more likely to download an app and assume that it was trustworthy if it had a high star rating. The star rating system was also used by a number of participants to determine which app to download amongst several apps with similar functions or content. Apps with the higher star rating were seen as being more trustworthy, reliable and stable than those with lower ratings. Reviews were more likely to be consulted where star ratings were similar for apps offering the same service.

App users universally appeared to place trust in reviews and star ratings, which were generally taken at face value. Participants did not raise any concerns that reviews and ratings may have been automated, or that they were posted by those seeking to promote apps.

"I do check the reviews because I am like, well what you have said might not be relevant to what I want but, yes, if it is one star you generally just wouldn't, there are probably plenty that have more."

<div align="right">Female, Edinburgh, Mid user</div>

5.5 Criteria that participants use to describe their 'best apps'

Throughout the research sessions, participants stated various criteria that they felt described their 'best apps'. These elements emerged through both prompted and unprompted discussion. These elements were raised in addition to the indicators that aided app selection (as discussed above), such as positive word of mouth or app store ratings and reviews. Users identified app efficiency and reliability, the app performing the functions described, and app quality design and aesthetics as key aspects that described the performance of their 'best apps'.

Efficiency and reliability

For many users, apps were defined by their efficiency and ease of use. Given this, participants viewed their 'best apps' as those that perform functions quickly with a minimal level of effort required. Reliability was also important, with the majority of participants stating that their 'best apps' did not crash frequently. Moreover, many app users raised frustrations with particularly frequent technical feature updates, and were of the view that updates should be kept to a minimum. Users were frustrated by frequent technical updates, but were happier to update apps when new features were provided. Apps that required frequent user authentication and entry of information were also a source of frustration. In relation to authentication, users expressed frustrations at having to repeatedly enter passwords or account details rather than having them stored. An exception was found in banking apps, where authentication procedures actually provided users with reassurance surrounding security.

"They [apps] tend to be lighter, smoother and give you what you need quickly…what I need apps for is a quick, on the moment look at what things might cost, look at where something is, download a picture and it's normally just very bang! bang! bang!"

<div align="right">Male, London, Mid user</div>

"I like it to be easy to use…user friendly, it doesn't take too long to load up and not too many updates…a lot of updates on an app is frustrating."

<div align="right">Male, London, High user</div>

Performing the functions described

For many app users, a prerequisite for their 'best apps' was that they perform the expected functions upon downloading, described on the app store or found in advertising. Frustration ensued where apps failed to meet such expectations or if they included unexpected elements. App users also felt that it was important that the functions described upfront in the app store were visible and easy to navigate to when the application was launched. Participants found it irritating when it was difficult to locate and use the functions that had influenced the download.

"Sometimes I have bought an app before and it looks nothing like they have described it to be and I have then wasted my money on it."

<div align="right">Male teen, London</div>

"I think there is a lot of apps out there that say what they do and when you get it it's completely different and they don't even work."

<div align="right">Male Parent, London, Digitally conflicted family</div>

In-app purchasing was a potentially unexpected app feature noted by several participants. App users perceived failing to clearly flag in-app purchasing up front as dishonest on the part of the app developer. Despite this, where clearly stated at the outset, a number of users were open to apps that involved in-app purchases. Participants noted that there should be some level of functionality included in the free version; otherwise the app download would be regarded as largely pointless and ultimately not 'free'. If clearly stated at the point of download, offering limited functionality was even seen by a few app users as offering a useful trial before committing to purchasing additional content. Despite this, many app users stated a preference for one-off payments upfront, rather than incremental payments throughout the app use, as an upfront payment was viewed as providing clarity in terms of the likely total cost.

Design and aesthetic

App users defined their 'best apps' as those with intuitive layouts and accessible menus. Indeed, given the aforementioned desire for efficiency and speed, it was important for users that content is clearly laid out with key functions readily identifiable. It was crucial for users that the app design is optimised for the relatively small screen size of their mobile devices. This optimised design was also viewed as an app's key differentiator from browser alternatives.

In addition, several users noted that their 'best apps' had a professional feel, denoting quality and inspiring trust. App users also mentioned that their 'best apps' deliver functionality within the confines of the app software, rather than providing unexpected external links to browser content.

"For me it is convenience, the app on your phone is built for that size, whereas using a website on your phone is really hard to navigate and everything is so small and you have to zoom in and then kind of move around whereas on the app you have a bigger menu and can actually select what you want on the page."

Female, London, Mid user

5.6   News plurality and discoverability

This research explored the impact that the use of news apps may have on the other news sources used by participants. The findings suggest that news apps were being used to complement other news sources, such as television, newspapers, and browser-based internet content accessed through a laptop or desktop.

The majority of participants had news apps, which typically centred on press and broadcasting brands already used for online and offline news. For the majority, these apps were mainly used on smartphones to catch up on news headlines throughout the day. This was often a time-filling activity, with other sources (e.g. television, newspapers, and browser-based content on laptops and desktops) subsequently consulted for more detailed engagement with news stories. This behaviour was reflected in some app users being drawn more to the visual content such as pictures and videos, than the details available in text. The visual content was seen as easier to consume quickly on mobile devices, with text often associated with more in-

depth consideration. In addition, for some participants, news apps were mainly reserved for what some consider 'softer' news content, such as entertainment and sport.

"You know, you can be standing at a bus stop and reading a couple of the top stories on like the BBC News app or something."

Female, London, Super user

"Just updating all the time so it's handy and there's loads of photos. There's so many more photos they put on it too than there is in the paper."

Male, Belfast, Low user

Participants used news apps differently on tablets than on smartphones. The bigger screen size of tablets provided a better interface for engagement with detail than the smartphone. Tablets were more likely than smartphones to be used as an alternative to print newspapers, with the larger screen size being more suited to detailed reading.

Some users suggested that the emergence of apps may have actually increased the range of news sources they consult. Micro blogging sites, such as Twitter, were also mentioned as encouraging the discovery of news content. Several users click on links to stories from news brands, celebrities and friends, with a variety of sources involved.

"I think that it is online over print though rather than apps, you know, the app has not changed [how I get news], it's the fact that it's all online, it's all digital now."

Female, Edinburgh, Mid user

5.7   Social networking apps and reduced functionality

This research investigated how social networking on apps compared with the browser experience. The majority of participants used social networking apps, with Facebook, Twitter and Instagram amongst the most widely used. Reference to the diary pre task highlighted the high number of occasions such apps were used daily. Though individual visits were usually of short duration, the apps were used many times throughout the day. Whilst younger

participants were more likely to use social networking apps and use them more often, usage was high across age groups.

The app versions of social networks were popular because they were specifically designed for mobile devices, allowing quick and easy access to content. Younger users particularly enjoyed the advantage of being able to directly upload photos taken on device cameras, and 'checking in' to locations using GPS on apps. However, these benefits were countered by issues regarding the app permissions required to use such device functions. Concerns surrounding app permissions are explored in greater detail in chapter 6 of this report.

Several app users noted that browser versions of social networking services often offer greater functionality than the app counterpart. For example, several participants mentioned that privacy and security settings on Facebook could be customised in greater detail on the browser than on the app, as illustrated by the case study below. Most participants recognised Facebook as a familiar example, with many hypothesising that other social networks would also have greater functionality on browser versions compared to their app.

Case study: Apps, social networking and risk

At 15 years old, Josh is an active user of many social networks including Facebook. However, he worries that because he now rarely accesses Facebook via a browser, his security settings may be altered without his knowledge. He is concerned that when such instances happen, his personal information, which he assumed was private, may have become accessible. Despite these worries, Josh has no intention of leaving Facebook as the app is an integral part of keeping up to date with his friendship network.

5.8   Online shopping

The majority of participants use apps for relatively low-value purchases (e.g. cinema and train tickets) and digital items (e.g. music tracks and albums). Apps were also valued as a way of using online auction sites such as eBay, allowing users to keep abreast of bidding throughout the day.

The vast majority of users were of the opinion that browsers were better suited to researching purchases and comparing prices. In particular, this related to using devices with larger screen sizes such as laptops and desktops and, to a lesser extent, tablets (with the exception of smart

TVs with which participants had less experience of shopping, and had reservations regarding the security of purchases). Participants generally viewed the larger screen as offering a better view of products, whilst allowing several browser windows to be used to compare products and prices. There was widespread agreement amongst participants that browsers and large-screen devices were best suited for purchasing high-value items such as holidays or consumer electronics products. Several noted that browsers and larger screens allowed them to involve others in their shopping and the decision-making process.

In general, participants felt that purchasing through apps and browsers offered a similar level of security. With apps strongly associated with use of mobile data, a few participants cited a greater sense of security when using shopping apps through in-home Wi-Fi rather than mobile networks. A small number of participants also mentioned the reassuring padlock symbol associated with browsing secure sites. The majority of participants felt that similar signposting around secure app use would build confidence.

5.9 Government services: data and access concerns

Whilst the potential to access government services using apps was appealing for many participants, there was little evidence of current use. In particular, the practical benefits of paying council tax bills, booking medical appointments or searching for employment vacancies were recognised. Apps were viewed as offering greater convenience and speed than traditional channels such as the telephone, the post or personal visits.

Participants strongly associated apps with mobile devices, and this was viewed as potentially offering quicker and more convenient access to government services whilst out of home than other online alternatives. App users considered browser-based services as more suited to in-home use on laptops or desktops, than on mobile devices. Frequent app users were most likely to see the appeal of using apps to access government services.

"Almost like you know if you do a Tesco shop or something like that, if you could book a doctor's appointment, book your slot and know that when you go in you will be taken at that time, that would be great."

Female, Belfast, Low user

However, on deliberation, some concerns emerged regarding privacy and the handling of personal information on government apps. Several participants – particularly older and lower apps users – thought that there may be risks attached to using apps for sensitive data, such as health records. Such participants were also less confident in the reliability of using apps, which lack a reassuring human confirmation of important appointments and transactions.

A majority of participants stated that traditional means of accessing government services (e.g. the telephone, the post or personal visits) must also remain available to cater for less connected and older citizens.

A few participants mentioned that whilst apps were useful for some aspects of government services, they were less suited to others. For example, apps could allow for quick payment of tax bills, but were seen as less suited for providing detailed information such as tax returns or job applications. Similarly, whilst an app may alert participants to job vacancies in their area (e.g. via a Jobcentre app), several noted that subsequent applications were more suited to print, large screens and browser-based options.

"I don't know if I would trust it though with the way the NHS is. I don't know whether I'd trust the app that you'd definitely get your appointment."

Female, Belfast, Low user

"Well I think as long as it's not the only channel by which you can do things. I think it is great but I know my granny wouldn't want to go and pay her council taxes online, so as long as they keep the traditional channels available to use."

Female, Edinburgh, Mid user

6. Permissions

6.1 Introduction

This section examines the research findings in relation to app permissions. App permissions can be broadly defined as requests made by apps to use certain features or functions of smart devices, for example access to device features such as cameras and microphones, or access to a user's contact information or location data. This chapter explores participant attitudes towards app permissions, alongside their claimed and actual behaviours.

Participants' attitudes and behaviours surrounding permissions were heavily influenced by the overarching perceptions of apps being safe, secure, and vetted by official stores.

6.2 Key findings

- Overall, many app users said they paid very little attention to permissions requested by apps and a clear difference emerged between what app users *claim to do* and what they *actually do*. Indeed, whilst many users said that they would refuse certain permissions, in reality most simply download and use the apps without fully looking at permission details.
- App users were influenced by a number of factors when deciding to accept or reject permissions, including:
  - strength of desire to use the app;
  - a lack of experience or knowledge of problems with apps;
  - implicit trust in app stores; and
  - word of mouth and peer influence.

6.3 App permissions

Whilst the majority of app users were aware of app permissions, most paid little attention to the content and detail of requests. However, when participants were prompted with specific examples of app permissions, several of these were viewed as potentially problematic or unacceptable. Responses to these prompted examples are discussed in more detail in the next section of this chapter.

During the unprompted discussion, the principal concerns that emerged involved privacy and safety. Several app users expressed an unwillingness to grant access to their geographical

locations, which was seen as overly invasive. For many parents, there were particular concerns about children granting access to their photos or geographical locations.

iOS users were more likely to raise concerns over photo and geographical location permissions than those using other OSs (Android, BlackBerry, and Windows). This was explained by the format in which permission requests were presented to iOS users compared to users of other OSs. The iOS push notification format, which prompts users with individual permission requests as and when apps require access to certain device features, was viewed as more noticeable than the passive, up-front 'contractual' format used by some of the other OSs. This format generated greater awareness of permission requests than the format used on other OSs, which were compared by several users with 'terms and conditions' statements due to their length and detail around each permissions request.

Amongst non-iOS users (i.e. those using Android, Windows, or BlackBerry), who were aware of permissions, several felt largely obligated to grant such requests. Give the blanket 'contractual' layout of many non-iOS permission requests, several users felt that all permissions had to be granted in order to download and use the app. For such app users, the perceived inability to grant some permissions whilst rejecting others was a source of frustration.

6.4 Reported vs. actual behaviour

When participants were prompted with examples of types of permission requests, further concerns emerged. During the research sessions, participants were asked to discuss their willingness to accept the following types of permission requests:

- Access to camera/photos/microphone;
- Access to address book/contacts;
- Access to calendar;
- Access to GPS location;
- Full administrative control[3];
- Ability to make calls and send texts;
- Access to browser history.

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[3] This permission was described to participants as 'full administrative control over the device'

When initially presented with the request examples, there was widespread reluctance to accept any of them. However, following deliberation, most users said that they would be more likely to accept requests that were relevant to the app. For example, if a photography app requested access to the device camera, or if a diary app requested access to the calendar, they would be willing to accept. By contrast, those that were associated with potential invasions of privacy or without clear practical benefits to app use were more likely to be rejected. For example, the majority of app users were unwilling to permit full administrative control, access to browser history, or the ability to make calls or send texts.

> *"It's funny how we don't think about it [permissions]. I mean now we're talking about it does make me think, yeah I should be a bit more mindful, you know I have got young children and they use it, you know…they are clicking accept."*
>
> Male, London, Super user

Younger participants were generally more open to accepting requests, such as access to photos, camera and geographical location. This was associated with existing habits and, in particular, the use of social networking apps, which often involved 'checking in' at locations, or posting photos taken on the device camera. Older and less frequent app users were less likely to take part in such activities and, correspondingly, less likely to accept associated permission requests. For these users, the appeal of checking in or sharing photos was offset by potential threats to their privacy.

Despite the caution expressed by app users when prompted with the examples of permissions, they had little detailed knowledge of those that they had already accepted on their devices. Indeed, several participants frequently used apps that they said required such permissions, yet had given these little consideration at the point of download.

6.5   Considerations around app permissions

As has been discussed, many app users passively accept permissions without detailed understanding of the requests being made. Whilst this was partly explained by the format of permission requests, there were also other user considerations at the point of download and use. These included the influence of an overarching desire to use the app, the absence of

previous negative experiences, trust in app stores, and positive word of mouth. These are discussed in turn below[4]:

The desire to use the app

For participants, downloading apps was an active choice stemming from an initial desire to use the app. This was typically founded upon a perceived 'need' for the app, whether based on the functional or entertainment benefits offered by the app. When permission requests were encountered, they were balanced against this mindset of desiring the app. In many cases, the strength of desire for the app once the initial decision to download is made outweighs any uncertainties surrounding permissions requested.

Lack of negative experiences and trust in official app stores

As discussed earlier, users generally perceive apps as a safe, contained space in comparison to wider browser-based internet use. This perception is partly fuelled by a lack of personal experience of, or broader awareness of serious problems with apps. Additionally, official app stores were understood by many users to actively vet apps published on their store, with well-known app brands eliciting even greater trust. These common positive perceptions of apps are likely to offset user hesitancy surrounding app permissions. Indeed, with app users already feeling relatively secure, potential dangers were not front of mind at the point of download.

Word of mouth and peer influence

As addressed in the previous chapter, word of mouth is a particularly strong driver in deciding which apps to download. Many users assume that had any problems been encountered these would have been mentioned by those recommending the app. Consequently, any doubts that users have surrounding permissions are often superseded by the example of others using the app without problems.

Across the sample, those in their teens tended to be most influenced by their friendship groups with respect to apps. When there is hype or excitement surrounding a particular app, it is important for teens to have it. This was driven by the appeal of content and a desire to be using the same apps as their peers. In the case of social media and communications apps such as WhatsApp, these were actually required to be involved in some social interactions. These

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[4] The order of this list does not reflect the hierarchy of factors in relation to each other. In reality, often more than one or two factors are being considered interchangeably, depending on the circumstances.

peer influences and social motivations would typically offset any misgivings over app permissions.

7.   Concerns

7.1   Introduction

As indicated throughout this report, the preconceptions of app users result in a general lack of concern about the apps environment. This lack of concern is underpinned by perceptions regarding the vetting of content by app stores; the inherent trust in well-known brands; the perception that apps are a safer, restricted environment in comparison to browser-based internet use; and a lack of experience or awareness of potential issues. App permissions only emerged as being problematic when participants were provided with examples of permission requests.

Despite this, when prompted, two areas of significant concern did emerge across the research: in-app purchasing and the potential to be redirected from apps to browsers via in-app advertising. This chapter explores these two areas of concern.

7.2   Key findings

- ➢ Very few participants spontaneously raised concerns about apps. When prompted, in-app purchasing and advertising were of greatest concern to parents, and at most, a frustration or annoyance to others.

- ➢ In-app purchasing was considered frustrating to many app users, particularly where it was perceived as not being adequately sign-posted at the point of download. Parents in particular had concerns regarding potential bill shock where children used apps featuring in-app purchasing.

- ➢ In-app advertising that interrupted or impaired the user experience was also a source of frustration to many app users. Several parents expressed concerns about children using apps with advertising due to the potential for them to be redirected from what they perceived to be the safe app environment to browser content.

7.3   In-app purchasing

In general, the concept of in-app purchasing held little appeal for the majority of app users. There was a particular frustration where the presence of in-app purchasing features were seen to be inadequately flagged at the point of download.

"Like I would download a free app and the next thing you know it is 69p to get to such and such a level, even though they said it was free in the first place."

<div align="right">Male teen, Manchester</div>

"I make sure there aren't very many of those [in-app purchases] 'cause I hate that, it drives me insane. So I don't really download apps that have too many top-up purchases in them, especially games."

<div align="right">Male, London, iPhone 5S user</div>

The possible 'surprise' element of the in-app purchase was particularly frustrating when none or very little of the app content can be accessed without payment. However, several users expressed more openness to in-app purchasing should the app feature at least some level of functionality without payment. An initial level of functionality would allow app users to decide whether to pay for additional features or content, whilst still having an experience that matched initial expectations.

"It depends on how much content you get for free. If it is actually useable and you can use the free content and then there is add-ins that you have to pay for that is your choice."

<div align="right">Male, London, High user</div>

In general, most app users expressed a preference for paying a larger fee up front, rather than being billed incrementally following the initial download. For the majority of participants, there was an expectation that apps featuring an upfront fee should not request subsequent payments.

"I find it annoying; I'd rather pay for it. I'd rather pay for a decent app and then get it forever. I'd much prefer that. So like 'Where's my Water?' which is another Disney [app]. I loved playing that and I bought it outright and then bought all the extra packs [expansions offering additional levels] because it was new content. I don't mind if it's new content. But then they brought out the second one and you had to pay money to kind of continue playing for longer than 20 minutes and I hated that. That's different. If I'm paying for more stuff that's fine. If I'm just paying to use it like a subscription that's terrible. "

Male, London, iPhone 5S

Several participants cited the addictive nature of some gaming apps with in-app purchases. It was felt that the addictive element drew them into spending amounts that they likely would not have paid up front. In one example, a teenage app user had become fixated on a game that featured in-app purchasing. This resulted in him continually buying lives to continue playing and, ultimately, bill shock for his parents.

"I've done it [bought in-app purchases] to my mum and dad…I have bought something on the phone that my mum and dad have paid for. I kept on buying it cause the game was getting dead addictive and I needed more lives to carry on playing and I couldn't be bothered waiting until someone gave me the lives…I knew it was charging me money for the lives, but I didn't think I would get into it that much to actually start paying."

Male teen, Manchester

App-using parents were the most likely to express concerns over in-app purchasing. For some parents, this was based on actual experiences of bill shock, where their children had run up bills for in-app purchases for game tokens or currency or access to additional levels in game apps. The prospect of bill shock was also recognised by parents who had not yet experienced it, due to recent news stories whereby children were reported to have run up large bills on their parents' accounts.

A number of parents also questioned the ethics of apps targeted at children that include in-app purchasing. In particular, there was annoyance that such apps often led to 'pester power' from children that some parents felt was unfair for them to have to deal with.

> "*They do that with quite a lot of kids' things. You get like half a story and you have to pay for the end and that's not fair.*"
>
> Female Parent, Edinburgh, Mid user

> "*They did that [asked for in-app purchases] on the toddler games I have got on my phone to keep [son] quiet and I'm like that's ridiculous so my son is going 'broken' to me, like holding my phone and I am like what? Another £1.99? Alright then, I'll have to.*"
>
> Female, London, iPhone 5S user

7.4   In-app advertising

Many app users expressed frustrations with in-app advertising, which in their view, disrupts the user experience. Advertising that interrupted content was particularly annoying, as were adverts that redirected to browser content when touched. Despite this, several app users were more accepting of such advertising in the case that it was used to fund free apps. Several participants often cited the importance of the relevance of advertisements to them.

> "*In terms of advertisements I feel that they should be more relevant to the app itself, like if you go on Facebook or you go on another app and it's advertising something completely different, and then you are not happy with the app itself, so definitely base advertisements with relevance.*"
>
> Male, London, iPhone 5S user

> "*Those adverts do my head in when you're in the middle of an app, press it accidentally and you're off!*"
>
> Male Teen, Manchester

Several parents expressed concerns that, when touched, in-app adverts could redirect children to browser-based content, thereby removing them from the app environment that was viewed as relatively safe and contained. In addition, a few parents expressed concerns over the type of products and services that could be advertised in apps aimed at children. Although no actual experiences were cited, these parents felt that apps targeting children should not contain gambling adverts or other advertisements aimed at adults.

> *"When you get the apps and the kids are playing them there's loads of pop-ups and adverts in the bottom and I'm not there all the time to monitor what they're doing. So I'm worried, especially with my little one, if she's pressing onto things she shouldn't be seeing."*

> Female, Edinburgh, Mid user

> *"If you are on a children's game and an advert comes up for William Hill or something then it is inappropriate, so some advertising, depending on what it is, is inappropriate."*

> Male, Belfast, Low User

8. Parental controls

8.1 Introduction

A key focus of this research was to understand what measures, if any, parents use to monitor children's app use. Parents were influenced by common perceptions around the apps environment, and were more likely to allow children to use apps than browser-based content as they were perceived as safer and more contained. This chapter focuses on the various measures that parents are using to control children's app use, what measures they would like to use, and attitudes towards app age ratings.

8.2 Key findings

- ➢ Many participants were unaware of, or had not used in-built parental controls available on app-enabled devices.

- ➢ Several parents said they did not have the technical knowledge or confidence to enable these functions. However, parents who were using in-built parental controls said that they offered peace of mind and allowed their children more autonomy to use apps.

- ➢ There was universal agreement among parents that parental control features were appealing. The most appealing features were being able to restrict and limit the content of apps, and restricting full access to app marketplaces. The latter measure was considered to help prevent children from downloading inappropriate apps, and running up unexpectedly high bills through app purchases.

- ➢ Less tech savvy parents tended to rely on personal/more crude approaches to monitoring children's app use. These included checking devices to see which apps had been downloaded and how they were being used.

- ➢ In terms of age ratings, there was a desire for consistency across OSs. Where a preference was given, several parents were keen for ratings to be consistent with familiar examples such as film ratings.

8.3 Lack of awareness of device parental controls

The majority of parents had limited, if any, awareness of the parental controls available on app-enabled devices. Only the tech savvy and frequent app-using parents understood and applied such controls. Whilst other parents were broadly aware of such controls, they lacked the technological aptitude or confidence to apply the settings. The difficulty of using parental

controls was often exacerbated in cases where children had greater levels of knowledge than the parents.

> *"I haven't looked for one [in built parental control], I've never noticed one."*

<div align="right">Male Parent, Cardiff</div>

> *"I think a good idea, actually, is in the app store that you should possibly have a button, you know where you've got various on and off for various functions, in-app purchases on and off, and on your phone you have it turned off so that you don't even have the option, so if you have got kids it goes away."*

<div align="right">Male, London, iPhone 5S user</div>

Parents who were aware of and used parental controls said they provided valuable reassurance around their children's app usage. Indeed, it meant that children did not have to be fully observed whilst using devices, with the controls limiting access to certain content areas and device functions. The case study below provides an example of one such household.

Case study: Reassurance and the use of parental controls

John is a single parent, living with his 4-year-old daughter. He is very knowledgeable about technology and believes it is important for his daughter to be engaging with and learning about technology to the extent that **she has her own iPad.**

Being very tech savvy, John understands the workings of app-based technology and **uses all the controls provided in his and her app-enabled devices to 'childproof' them.** These controls give him the peace of mind to allow his daughter to use her iPad unsupervised. Key to this **reassurance** is the knowledge that, as a result of the parental controls, the browser is disabled – meaning that his daughter will **never be exposed to browser content by being redirected by an app**.

Despite being app users, several parents were unaware that parental controls were available on their devices and/or OSs. When made aware that such controls existed, these parents expressed a desire to learn more.

With a discussion group dedicated to app-using parents, the research presented an opportunity to explore the existing parental control options across devices and OSs. The most popular parental control features included:

- Disabling in-app purchasing;

- Controlling content that children can access;

- Disabling access to certain apps;

- Limiting the amount of time children can spend on apps; and

- Filtering out explicit content in music streaming apps.

Each of these measures was considered appealing by parents because of the peace of mind provided. Parents claimed that they would allow children to use devices with little or no direct supervision should such features be implemented. This was viewed as being particularly useful given the mobile nature of the app-enabled devices being used by children. Such controls would offer reassurance when children were out of sight or out of the home. Despite this, the parents group emphasised that there is currently little awareness or usage of such parental control features.

8.4   Existing parental monitoring strategies

With the majority of parents unaware of the dedicated parental control features available, many developed their own ad hoc strategies for monitoring children's app use. The level of success varied in relation to parents' digital aptitude and experience, as well as their technological aptitude relative to their children. It was more challenging for parents to monitor the app use of children whose device knowledge and experience was greater than their own.

An approach frequently used by parents involved keeping control of login details for app stores. This meant that children required their input to download apps, whether free or paid. This helped forestall downloading of potentially inappropriate content and episodes of bill shock.

The level of parental supervision varied across the research sample. Parents using heavier

supervision downloaded content for children through their own account, and withheld login details from their child, such as the account password. A variant on this approach related to parents setting up accounts in children's names, but withholding the account password. Parents with young children were most likely to use this approach.

Parents using lighter supervision trusted their children with password details for an account in the parent's or the child's name. Amongst iOS users, parents receive email notifications when apps were purchased to the account. However, in such instances, parents were typically unaware that the downloading of free apps was not similarly signalled via email.

Case study: The challenge of parental monitoring with limited knowledge of app landscape

Emma lives with her teenage son. She openly admits that she is less digitally confident than him and often relies on him to provide her with information relating to apps. Her son **frequently uses apps on his smartphone.**

At present, Emma feels that she is able to effectively monitor her son's behaviour as **she has set up the App Store account in her name, but allows him access to the password** to download the apps. Emma is aware that there are some games with age ratings that may not be suitable for her son, so regularly checks her e-mail receipts from the App Store to monitor which apps her son has purchased. However, **Emma is completely unaware that no such log is provided for free apps** on iOS. Therefore, she actually does not know which free apps her son has downloaded. More to the point, she is unaware that she is missing this information.

In the most liberal approach to monitoring, children were allowed to have their own app store accounts and login details. This was most common with older children, with parents monitoring use by occasionally checking the device and by looking at the apps that were installed and how they were being used. Across the sample, parents of children using Android devices were most likely to monitor use by physically checking devices.

A number of participants mentioned that they had resorted to misleading children in an effort to encourage responsible app use. These parents created the impression that they received a

log via email, which detailed the child's app activity, when they in fact don't. Several parents mentioned that if such a service was made available, it would provide significant reassurance.

"We've planted seeds in their minds…that the computer sends reports every [app] download. [The children are] Not quite savvy enough to realise it's not all logged!"

Male parent, Manchester, Digitally Consensual household

One of the more tech savvy parents expressed concerns regarding cloud-based storage. This related to instances where parents and children were using different devices with a shared account. The shared account could allow children to download apps to their device that had already been downloaded by the parent on another device. In such circumstances, the parent may have downloaded an app onto their device that is not deemed suitable for use on the child's device. There was concern that an app downloaded onto the parent's device could subsequently be downloaded onto the child's without entering a password.

8.5 Age ratings

Within the dedicated parents group, reactions towards the use of app age ratings were explored. This included general discussion around current awareness and preferences, followed by consideration of the age ratings used for the four main OSs. With a single session dedicated to parents, these were provided together for consideration rather than separately in a specific order.[5]

The majority of parents were of the opinion that age ratings were a valuable indicator of the suitability of app content for children (especially younger children). Whilst there was widespread awareness of the use of age ratings amongst participants, few could recall the details of different aspects of the age ratings unless prompted with examples. Few expressed dissatisfaction regarding categories used for age ratings.

Participants considered examples of age ratings, and there was consensus that age ratings should be consistent across OSs. When comparing the various age ratings systems across OSs,

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[5] The age ratings tested are provided in Appendix D of this report.

participants favoured numerical labels (e.g. aged 4+) rather than descriptive labels based around maturity levels (e.g. 'Low maturity'). Parents appreciated the numerical labels as they were seen to be similar to the familiar format used for rating films.

Whilst favouring the familiar numerical labels, several parents stated that maturity was also important when deciding if content was suitable for children. Indeed, some parents stated that two children of the same age could have different maturity levels and this was relevant in determining if content was suitable for them. However, parents factored their child's maturity into decisions founded upon initial consideration of the familiar numerical age labels.

"The maturity one [Android category] is a tricky one isn't it, because it isn't very scientific."

Female, Parent, Cardiff

"I would like it [age ratings] to say 18 because that's a recognised point of becoming an adult… [recognised in] the film categories, we all understand what that means, don't we?"

Female, Parent, Cardiff

9. Redress and regulation

9.1 Introduction

This chapter explores app users' perceptions around existing and potential future regulation of the apps environment. It investigates attitudes to making complaints, awareness of possible channels open to app users should issues arise, and preferences for regulation.

9.2 Key findings

➢ Most participants said they would only seek redress if they encountered a major financial, or device functionality issue caused by apps (e.g. unexpected charges or making a large payment for content and/or features that were not provided).

➢ In addition, several app users said they would be likely to seek redress where they were emotionally affected (e.g. where inappropriate content was encountered on an app). In the event of such issues, the majority of app users would contact the official app store in the first instance.

➢ The majority of participants had never considered seeking redress, largely due to the lack of significant negative experience or awareness of problems with apps.

➢ Where issues with apps had been encountered, these usually related to poor app stability (i.e. frequent crashing) or content that failed to meet expectations. In such instances, the main course of action to 'resolve' issues was to simply delete that app.

➢ The general consensus among participants was that the app environment should be collectively regulated. Most considered that official app stores play a role in the regulation of apps that they make available, particularly when it comes the quality of apps. In terms of responsibility for monitoring app content, most parents were strong advocates for a parental role in supervising the app use of children. The majority of app users saw this self-regulation as forming part of a broader collective model of app regulation, involving individual users and parents, alongside app developers and app stores.

9.3 App redress

Participants had very limited experience of encountering problems with apps, so they were asked to contribute hypothetical scenarios in which they might seek remedial action. App users agreed that redress would only be sought for what were deemed to be serious matters. These serious matters included:

- significant financial loss;
- inappropriate content (offensive content or, for parents, content deemed inappropriate for children); and
- major issues with the device software.

This mindset, at least in part, can be explained by the pre-existing assumptions that exist around apps – app users find it difficult to comprehend problems on a platform that they see as being safe and secure, and therefore they feel they would react only when the issue was substantial. In relation to financial loss, the majority of participants felt that a loss of more than £10 would be required for them to take further action.

"In the past where it [an app] did not work properly, it just kept crashing, but because it was only a 99p app I didn't bother. I just thought it was one of those things so I uninstalled it."

Male, Manchester, Mid user

Where smaller financial losses were incurred (i.e. less than £10) users were likely to simply delete the app and try to learn from the experience. A few participants based this on experience of small losses, whereas the majority considered it hypothetically.

"I would just delete it and not cause any hassle. I couldn't be bothered ringing lots of people and trying to get to the bottom of it, I would just delete it off my phone."

Female, Belfast, Mid user

Similarly, when considered hypothetically, participants were likely to delete apps where inappropriate content was encountered rather than taking further action. Participants were only likely to take further action if children were exposed to inappropriate content, or where it was deemed to be particularly shocking.

"I think I would only report it if it was to do with kids and if it was something that was inappropriate. Other stuff I would just be like, I would be more inclined to just say, right, I am not using that any more...it would be the same process that I would use if it was Amazon or something, if something popped up that I thought was really inappropriate there then I would go on the website, try and contact the details."

<div align="right">Female, Edinburgh, Mid user</div>

"Not unless it [app content] seriously offended me and then it would have to be really bad to really offend me and really inappropriate in the sense that I haven't downloaded a kind of adult content app...it's just a general, you know, it's a cooking app or something and if it was like where has this come from, there's no reason for this to be here then I might [report the issue] but it'd be very extreme."

<div align="right">Female, Manchester, Mid user</div>

The majority of participants identified the app store as the first point of contact should a serious problem arise. A few participants had actually experienced bill shock - their children had made unexpected in-app purchases and the participant had contacted app stores to address the matter. For all parents who had contacted the app stores, the expenses incurred were reimbursed by the app store. Similarly, a few participants had been charged twice for downloads, with the double payment subsequently reimbursed by the app store upon the user notifying them. In this research, participants who shared personal experiences of being reimbursed following parental bill shock and double payments had been using the Apple App Store. However, when asked to think hypothetically, participants expected that the other major OSs would reimburse app users under similar circumstances.

Most participants agreed that app developers would only be contacted if they experienced relatively minor technical issues, or required help using an app. App developers were not viewed as an obvious point of contact should more serious issues arise, such as incurring significant financial losses or encountering inappropriate content. Participants viewed such problems as being deliberately caused by the app developers, who were therefore not an impartial point of contact.

9.4 Perceptions of regulation: Who is responsible?

Across the research sessions, there was very low awareness and understanding of any existing regulation of the apps landscape. The majority of users were unable to identify a regulatory body likely to be responsible for overseeing apps. When pressed, several users felt that app stores likely played a role in the control of apps by imposing quality control guidelines on apps, rather than monitoring content in the app stores. A few participants however understood app stores' involvement to mean that they verify apps prior to release in their stores.

In addition to the perceived role of app stores, participants thought that individual app users also had a contribution to make in the apps environment. Several participants mentioned that individual users had a role in monitoring the apps they used and, particularly, in supervising those used by children. Participants also said that app developers had a responsibility to ensure that apps met product descriptions and did not include dubious content.

"To me there is a fair bit of responsibility, self-responsibility…understanding what you are signing up to."

<div align="right">

Female, Edinburgh, Mid user

</div>

"I think fundamentally when it comes to children, fundamentally, the buck stops with them…I think you (the parent) should be involved with what your children are looking at, and I suppose you are the final filter really."

<div align="right">

Mother, Cardiff, Digitally Conflicted Household

</div>

Several participants were of the view that app regulation may vary by the type of content involved. For example, some users thought that adverts on apps could be regulated by the Advertising Standards Authority (ASA) and purchases on apps should be protected under trade legislation. A few participants cited the Office of Fair Trading (OFT) and 'trading standards' as examples of organisations who could be involved in regulating elements of the apps landscape.

Many participants noted that it was perhaps impossible to regulate apps, given the volume of apps available. This was likened to the challenge of regulating online content in general.

A number of participants also saw a potential role for an independent, third-party regulatory body. This idea was generally well received by the majority of participants, with an independent body potentially offering a point of appeal.

"I think there should be a mixture from the industry, from the app industry, it should be a balanced thing…and there should be someone from [independent regulatory body]…that has clout to say actually, there will be penalties here."

<div align="right">

Male, Manchester, Mid-user

</div>

Appendices

Appendix A: Discussion groups guide

45114064 Apps Environment

Discussion guide for pilot/ high/mid groups

Length 2 hours

Group times: 6pm – 8pm / 8.30pm – 10.30pm

Objectives:

- To explore behaviours and attitudes towards apps and the influence of devices and/or operating systems in framing these perceptions.
- To understand awareness and expectations regarding standards between apps and websites, and the role that apps/ app stores played in influencing purchasing decisions across devices.
- To identify levels of understanding and experiences of or concerns relating to harms/ risk around app use and perceptions of regulation around this by platform.

Summary

1.	Introduction	
2.	Up-skilling session	The purpose of this quick section is to talk participants through key terminology that will be used in the session: smart devices, operating systems, web browsers and apps. Participants will be shown a quick PowerPoint overview to explain these terms. USE AT DISCRETION DEPENDING ON THE STATUS OF THE GROUP
3.	Purchasing decisions and deprivation exercise	This section gets participants to talk through their purchasing decisions for their mobile devices and to identify what role, if any apps/ the app store/ operating system played across smartphone, MP3 and tablet. This section also gets participants to discuss their use of and reliance on apps through reflecting on the deprivation exercise they took part in, as well as identify any pre-existing perceptions around app use via different operating systems.
4.	App purchasing and downloading	This section explores the decision-making process behind app selection and download, as well as deep diving into the role of issues relating app searching and app permissions. The latter involves participants undertaking a sorting exercise around permissions they are willing/ unwilling to grant when downloading apps and discussion around these.
5.	App Impact	This section explores app use, and the impact that apps have had on the day-to-day life of users. This section then explores perceptual differences between apps and browsers in relation to 4 key areas – news, social networking, online shopping and government services, while also looking at how both apps and browsers are perceived in terms of trustworthiness, security, user experience and likely use to purchase.
6.	Comfort break	10 minute break to refresh participants
7.	App use: concerns, trust and regulation	This section focuses specifically on the issue of concerns relating to apps and how participants react/ would react if problems with apps presented themselves. This section then sets out a number of statements for participants to discuss their thoughts around the following areas – in-app purchasing, app based TV content, app based advertising, app problem solving. This section also explores attitudes to age ratings as well as overall thoughts on regulation of the app landscape.
8.	Vox pops and wrap up	This final section will involve capturing views on apps to camera, while capturing final thoughts based upon the overall discussion of apps.

Time	Introduction	Notes
5 mins	- Welcome participants and thank for agreeing to take part. - Kantar Media as independent company - Session structure – here for 2 hours – everyone here for a reason – everyone will have opportunity to share views - No right or wrong answers – if we use any terms you may be unfamiliar with then let us know - Housekeeping: Fire exits, toilets, mobile phones off. Warm up: What devices do you own that use apps?	
5mins	**Up-skilling session**	
	To ensure that all participants are at the same level of understanding of terminology	TERMS AND PHRASES PP STIMULUS
20 mins	**Purchase decision making and deprivation exercise**	
	Moderator note: Ask participants to refer to pre-task for the following exercise and FLIPCHART RESPONSES. **Smartphones** For all participants, ASK: What was the <u>most important factor</u> for you in purchasing your smartphone? Why was this important? Moderator note: if cost or another individual factor dominates responses to 'most important' factor, then ask about the second most important factor. Where did app store/quality, availability of particular apps feature in your decision to take your current handset/ OS? Why was that? If you were to purchase your smartphone again would any of your decisions be different? Why is that? Moderator note: observe differences in decision making by OS, if these appear and probe around them. **Tablets** For all participants, ASK: What was the <u>most important factor</u> for you in purchasing your tablet? Why was this important? Is this different to	

smartphone purchase reasons? Why is that?

Where did app store/ /quality, availability of particular apps feature in your decision to take your current handset/ OS

Moderator note: observe differences in decision making by OS, if these appear and probe around them.

MP3 (e.g. iPod touch)

What was the <u>most important factor</u> for you in purchasing your MP3 device? Why was this important? Is this different from smartphone purchase reason? Why is that?

IF SMART TV: What was the most important factor in purchasing your smart TV? Where did the availability of apps play in the role? Why?

Deprivation exercise

As part of the pre-task you were asked to live for 24 hours without using apps. How did you get on? Did you manage to do it? What was the best thing about your experience, what was the worst thing?

Why was that? Did you expect to feel that way? What, if anything, did that reveal about your relationship with apps? What impact would you say that apps have on your everyday life? What, if anything, would you struggle to do without access to apps?

Did you find any differences **across your devices** with not being able to use apps? **IF YES**, what were these? Why was that?

Operating systems
Thinking more generally about different Operating Systems, do you have any existing perceptions relating to:
Apple iOS?
Android?
Blackberry Rim?
Microsoft Windows?

Probe specifically around issues:

	• Feels safe to use (e.g. viruses, malware etc.) • Trust with personal details/permissions • Reliable/stability – does not crash/ need re-installed • Trustworthy/ secure payment facility • Good user experience • **OS upgrades**: Have you ever upgraded your operating system? What benefits do you think updates bring? Any security benefits?	
25 mins	**App purchasing and downloading**	
	What stages do you typically go through when deciding to download an app? Probe on role of: • Word of mouth among friends/ family • Word of mouth from other sources (e.g. media/ social networks/ newspapers) • App store browsing v's searching for specific apps • Reviews – how important/useful are these • Whether app is free or paid • Whether app is from a known brand/ provider • Device – different approaches to apps across different devices? Genres – different attitude to apps depending on app type? What makes a good app? What would it need to include? Probe specifically on importance of: • Feels safe to use (e.g. viruses, malware etc.) • Trust with personal details/permissions • Reliable/stability – does not crash/ need re-installed • Does not try and get me to pay money for in-app features • Trustworthy/ secure payment facility • Good user experience Where do you download apps from? • Official App store (e.g. ITunes, Google Play etc.) • Other app providers (e.g. Amazon) • Other sites? – which ones (e.g. if iPhone has been jail broken) Have you ever paid money for an app? If YES: how do you decide whether to pay for an app? What encourages you to	

pay for an app? If NO: What, if anything, would encourage you to pay money for an app?

Do you have different expectations for apps that are free compared to those that are paid? Do your views on ownership of the app differ depending on whether it is free or paid?

Probe specifically on any perception differences around :
- Feels safe to use (e.g. viruses, malware etc.)
- Trust with personal details/permissions
- Reliable/stability – does not crash/ need re-installed
- Does not try and get me to pay money for in-app features
- Trustworthy/ secure payment facility
- Enhanced user experience

Why is that?

If you changed operating systems, would you expect/ want to be able to keep some/ all of your apps when you transferred? Why is that?

If you changed devices, would you expect/ want to be able to keep some/ all of your apps when you transferred? Why is that?

App Permissions
Are you aware of app 'permissions' that ask for access to data/ information held on your device? What are your views on these? [show APP PERMISSIONS STIMULUS]

How do you react when the app prompts you for permissions? Do you read through this information? If YES, to what extent? If NO, why not?

Moderator note: the following task involves a sorting exercise where participants need to think about in terms of how they react when prompted for the following permissions when downloading an app. Issue participants with permissions show cards and ask them, as a group to sort these into three piles – 'allow', 'never allow' and 'unsure'

How would you feel if an app requested permission to have access to your:

	• Access to camera/photos/ microphone • Address book/ contacts • Calendar • GPS location • Full administrative control • Ability to make calls and send texts • Browser history For each, ask/ observe whether the group understand the term? What do they THINK it means? Does your view apply to certain types of apps or all apps? Why is that? Thinking about the apps that you have, are you aware of what permissions you have granted? In terms of permissions, what would be the preferred way of presenting this information to you? Why this way? What other factors do you consider when deciding whether to accept or reject permissions have against other factors? Probe on: • Vs a popular app • Vs word of mouth among friends • V's whether app is free / special offers	
25 mins	**App vs. browser**	
	Comparing apps vs browsers Moderator note: The purpose of this next section is encourage participants to reveal similarities and differences in perceptions between content accessed via an app and via a browser and to identify any particular concerns across the areas outlined below. The first task is a quick 'top of mind' exercise, while the remainder of this section focuses in on differences across 4 different areas – news, social networking, online shopping and government services. Moderator note: Thinking about apps, browsers on mobile devices (smartphones and tablets) and browsers on a PC, what similarities and differences do you think exist in relation to: • Feels safe to use (e.g. viruses, malware etc.) • Trust with personal details/permissions • Reliable/stability – does not crash/ need re-installed • Trustworthy/ secure payment facility • Good user experience (e.g. level of personalisation,	

fun experience, ease of linking to content/ discovering new content)

Moderator note: Please rotate these across sessions and cover off a minimum of two in each session.

News: News app vs Online website
SHOW 'NEWS STIMULUS'

- Do you use news apps? If so, which ones? [FLIPCHART RESPONSES]
- Have news apps changed the way in which you access (a) online news and (b) news generally? If so, how? What are the different news sources you use? How does app based news stories fit around these other sources? PROBE ON: whether they have become more reliant upon one news source as a result, or whether they still use a range of online news sources.

IF MORE RELIANT UPON ONE SOURCE:
- Do you feel that you are getting the full coverage of a story? Does this differ by app provider/ pre-existing perceptions about news provider? Why is that?

ASK ALL
- Is having 'balanced' news coverage something you expect within an app? Is this something you have previously thought about in relation to apps?
- IF USE MORE THAN ONE NEWS APP: Does your view change depending on the news app being used? Does this differ from your expectations compared to a news website? If so, what expectations are different? Why is that?

Social networking: apps v's website
SHOW 'SOCIAL NETWORK STIMULUS'

- Do you use social networks? If so, which ones?
- Do you use these differently across different devices? Probe on differences across and between (a) mobile devices (b) PC/ laptop and, if relevant (c) via TV screen. IF DIFFERENCES: Why is that? What things do you do differently?
- Do you prefer accessing social networks through apps, through a browser or both? Why do you say that?

- With social network sites, such as Facebook and Twitter, are there any particular circumstances where you would be more likely to access social networks via an app compared to through a browser (either on your mobile device or laptop/PC)? If so, why?

- Thinking specifically about <u>privacy settings</u> is there anything different you have noticed around being able to change privacy settings on an app compared to browsers?

Online shopping: apps v's websites
<u>ONLINE SHOPPING STIMULUS</u>

- Do you shop online? IF YES – how do you currently do this? Do you use apps, via a browser or both? If use apps, which apps? Do you use these brands more now since having an app for them?
- Does what you buy/ would buy differ between app and browser? PROBE ON digital content (e.g. music track, movie) vs physical product (clothing, technology etc.)? If so, why?

- What do you see as the advantages and disadvantages/ concerns of shopping online via an app? How does this compare to via a browser on mobile device/ PC, laptop? PROBE ON: (i)being able to compare prices (ii) being able to browse similar products across several online stores (iii) being able to store payment details/ pay securely (iv) overall customer experience

Government services: apps v's websites
<u>SHOW GOVERNMENT SERVICES STIMULUS</u>

- Have you ever used government service online (e.g. direct gov, NHS24, Job Centre plus, Dr/ hospital appointments)? If so, was this via a website, app or mix of both?
- Do you have any particular thoughts about these services (a) being accessed online generally (b) via an app?
- Would you, personally have any concerns about using any of these services either via a website or via an app? If YES, what concerns? Why are these concerns?

• Thinking across different groups in society, do you think there may be any concerns using these services via an app? If YES, what concerns? Why do you envisage potential issues for this group/ these groups in particular?	

10 mins	**Comfort break**	

25 mins	**App use: concerns, trust and regulation**	
	Moderator note: Summarise any concerns/ worries about apps raised in the group so far and flipchart these. Have you ever experienced any issues/ problems with apps? IF YES: - What were these issues/problems? - What, if anything? Did you do about this? - Who, if anyone, did you contact? - Did you follow up on the issue, if reported? - How confident would you feel that your issue would be addressed, if you did decide to report it? Why do you say that? Probe on awareness and use of reporting functions and Operating System cancellation policies. Beyond the concerns discussed previously, would you say you have any further concerns or worries relating to apps? If YES, what are these? Do they differ by device? FOR ALL CONCERNS MENTIONED: What could be done, in your view, to address these concerns? What would this involve in practice to address the concern? Do others agree? Disagree? Moderator note: please use the following statements to encourage participants to discuss whether they agree or disagree, using the probes to investigate each thoroughly **It is important to know if you will need to pay for in-app content before you download the app.** - Have you ever downloaded an app that includes in-app purchasing? Were you aware before you downloaded that this feature was included? How did you react? - Does your opinion vary according to whether app is free or paid - Is it important? Why is it important? Why not important?	FLIPCHART STATEMENTS STIMULUS (pp)

	• When might it be most important? When and how should you be advised about likelihood of in-app purchasing? • What might an ideal scenario look like? **Is App content regulated?** • Do you think apps are regulated? If so, who by? Why do you think that? • In your view, how, if at all, should apps be regulated? What would this involve in practice? • Should apps contain warnings about content, age ratings (as is the case for other types of content. E.g. TV and film) – ever come across these? Where and how? • Views on whether and why app content should be different to internet content? E.g. browser vs app. **Some advertising within apps is inappropriate** • If YES – What type of advertising? What is defined as inappropriate? Is it a content issue or who the ad is exposed to? • What did you do about it? Did you report it? If YES – how did you do this and to whom? • Any security concerns about apps with advertising? Any experience of issues. Thinking about the discussion about apps overall, who, for you, should be responsible, if anyone, for monitoring app content? Probe on: • Self-regulation/ parents • App makers/ providers • Regulator • Operating system • No regulation	
10 mins	**Vox pops & wrap up**	PLENARY (both groups)
	Select 3 – 4 participants from the group to take part in vox pops. While these participants are taking part in the vox pops, ask the host to issue incentives to the remaining participants. For those taking part in Vox pops use the following responses (these are similar to the questions asked to the group above, so should be used to select participants who	

	were able to formulate succinct and articulate responses. • Deprivation exercise: Describe your experience of the deprivation exercise. What did you miss most? Why was this? • Permissions: Talk me through how you deal with permissions on apps? Why is that? What things would you be unwilling to give apps permissions for? Why? What things are you happy for apps to have permissions for? Why? • In app advertising: What is your view on adverts in apps? How would you describe them? Do you think some in-app adverts are inappropriate? Which ones? Why do you see these as inappropriate? • Redress: Talk me through what you would do if you had a problem with an app? Why would you take this course of action? What would need to happen for you to contact someone about a problem with an app? Once complete issue incentives to final respondents and close. ENSURE ALL PRE-TASKS ARE COLLECTED	

Appendix B: In-home family depths discussion guide

45114064 Apps Environment

Discussion guide for in-home family depths

Length: 90 mins

Times: TBC

Objectives:

- To understand the relationships that different households have with technology, and in particular how they are engaging with apps.
- To understand parental views around their own attitudes and behaviour towards apps, how, when, and why they allow children in the household to engage with mobile devices/ apps, as well understanding how, if at all, they regulate their children's behaviour with apps.
- To explore the perspectives of young people towards app use – especially in terms of their attitudes and behaviours towards apps across different devices.

Summary

1.	Introduction	
2.	Technology and apps overview	This section discusses the different way in which apps are used by the family, across different devices and across different areas of the home and outside. Drawing upon the pre-task it also explores how families would feel if they did not have access to apps. In this section, the role of operating system/ apps/ app store is also explored in terms of what role it played in purchasing decisions for app based devices owned. This section also allows for wider exploration into the conflicted/ consensual relationship of the household in terms of digital abilities.
3.	Parents only: household use of apps	Speaking specifically to the parent or parents, this section focuses on how they and their children engage with apps, discussing current levels of online supervision and reasons for this, as well as whether there are differences in supervision/ permissions with apps compared to internet use. This section also explores the issue of downloading as whether attitudes and behaviours differ via different devices/ operating systems.
4.	Parents only: Concerns and regulation	Again, specifically speaking to the parent or parents, this section seeks to explore the wider app landscape in terms of concerns, as well as specifically investigating views on app permissions, in –app purchases and differences in attitudes and behaviours across different app genres. This section also explores suggestions around ideal forms of regulation relating to apps.
5.	Vox pops with parents	Film vox pops with parent(s)
6.	Kids: apps and regulations	This section seeks to understand the role of apps from the perspective of the children living at home. In particular this section seeks to understand behaviours around apps such as usage and types as well as whether young people see differences between apps and the internet, alongside identifying any particular app based concerns they may have.
7.	Vox pops with kids	Film vox pops with parents
8.	Vox pops and wrap up	Final questions, issue incentives and wrap up session.

Time	Introduction	Notes
5 mins	- Thank participants for agreeing to take part - Confirm that in total the interview will last a maximum of 90 mins - Kantar Media as independent company - No right or wrong answers – if we use any terms you may be unfamiliar with then let us know - Confirm format – whole family being interviewed together then parents separately, kids separately then back together for 'final thoughts' - Stress that the point of separate interviews is NOT to catch parents/ children out with their responses. - IF PROFESSIONALLY FILMED: inform families how this will work – filmed interview + some 'set pieces' to camera - IF VOX POPS: explain that this will involve responding to 3 or 4 'quick-fire' questions to camera. **Warm up:** Ask each family member to introduce themselves and tell what their favourite piece of 'media' technology is (e.g. smartphone, tablet, TV, games console etc.).	
15 mins	**Technology and apps overview**	
	Ask participants to refer to pre-task to help facilitate the following discussion ASK PARENT(S): In the pre-task we asked you to note down which app based devices you have, who in the house uses them, and where. Could you talk me through what you noted down? Probe on: **If certain technology is only used by children OR parents**: Why is that? Which devices? **If used in different rooms**: By whom? Why is that? Does it vary depending on device? ASK ALL: Are there any 'rules' in the home around how some or all of the app based devices are used? What are these? Why? Who made that decision? Who in the house thinks they know the most about apps? Why is that? What do others think? Do you agree? ASK PARENTS: Who is the decision maker when it comes to deciding on who is allowed to use the [ADD IN DEVICES MENTIONED ABOVE]? Why is that?	**Filming instructions** If **VOX POPS**: Ask family to do few 'set piece' shots for photos of how and where they would normally use the devices (e.g. 'watching' tablet on the couch, kids using smartphone/ tablet, Smart TV screen showing apps etc.). **If PRO FILMED:** In addition to filming the interview Ask

	ASK FOR EACH APP DEVICE OWNED, what was the reason for purchase? Moderator note: If cost is mentioned, record this and move on to probe on the following: y • Perception of brand/ operating system – what do you know/ have heard about different operating systems? Did this impact upon your purchasing decision • Range of apps available/ particular types of apps • Reputation for being safe (e.g. no viruses, malware etc.) • Reputation for being trustworthy with personal details/permissions • Reputation for being reliable (apps not crashing/ not requiring excessive user maintenance) • Reputation for being child friendly (e.g. allow children to use without worrying about problems/ risks to device/ user) • Good user experience For each of the above ask why this was/ was not a consideration in the purchasing decision? Did child/ren have a say in the decision? If so, what role did they play? Why is that? Probe specifically on: • Knowledge of child/ren in the house • 'Pester power' – did the child/ren mention a specific model? **Deprivation exercise:** As part of the pre-task we asked you to imagine what life would be like if you were unable to access apps. ASK KIDS: How would you feel if you could not use apps? Why is that? What would you miss most? Why is that? If you could think of one word to describe life without apps what would that be? ASK PARENTS: How would you feel about this? Why is that? What would be the biggest advantages/ disadvantages? If you could think of one word to describe life without apps what would that be?	family to re-create a couple of scenes around how they use device (e.g. using the tablet, using smartphone etc.)

15 mins	PARENT(S) ONLY INTERVIEW: Household use of apps	
	Read out: We would now like to talk to you in a bit more detail on your views on apps and in particular your attitudes and behaviour towards their use, as well finding out about your views on how apps are currently regulated. But before this, we asked you to keep a diary of the different apps you used. IF USE APPS: What apps did you find yourself using most frequently? Did this surprise you? Why is that? IF OWN DEVICES BEYOND SMARTPHONE: Did your find you accessed apps differently/ different apps across your other app enabled devices? Why is that? **Paid apps** • How often, if at all, do you buy apps? • Do you allow your kid/s to buy apps? Why is that? • Do you have different expectations from apps you pay for compared to free apps? If so, what are these different expectations? Why do you have different expectations? Where do you download apps from? • Official App store (e.g. ITunes, Google Play etc.) • Other app providers (e.g. Amazon) • Other sites? – which ones (e.g. if iPhone has been jail broken) IF DOWNLOAD FOR KID/S: What apps have you downloaded for your kid/s? Whose decision was it to download these apps (e.g. child request v adult decision). Moderator note: For the following questions please identify differences, if any, by age, if household has children of different ages and why these differences exist How, if this is the case, do you and your kids use apps differently? Does this apply across all devices? Why is that? How much freedom would you say you allow your kid/s when it comes to using apps? What do you allow them to do? Is there anything they are not allowed to do? IF YES, what and why? Probe on: • Permission to download apps • Access to device passwords to allow app downloads • In-app purchasing • Content	**IF PRO FILMED**: Film whole interview

	Is there any differences in the freedom you allow your kid/s with using apps compared to using the internet? If so, what are these differences? Why is that? Do these differ depending on what device they are using? Why is that? IF 'RULES' IN PLACE: How do you think your kid/s feel about these rules? Do they agree with them? How do you monitor these 'rules'? IF NOT USING APPS What, if anything, do you know about apps? Is there a particular reason that you do not use apps? If so, what? Why? Is using apps something you envisage doing in the future? Why is that? What would need to change for you to use apps? Why is that?	
20 mins	**PARENT(S) ONLY INTERVIEW: Concerns and regulation**	
	Thinking about apps generally would you say that you, as a user, have any concerns about them? IF YES: What is the concern/s? Can you talk me through that in more detail? And thinking as a parent, do you have any concerns or worries about apps? IF YES – what is the concern/s Why is this a concern/ why are these a concern? If not raised unprompted in the above discussion ask directly about the following issues. FOR EACH PROBE ON CONCERNS FOR SELF AND CONCERN FOR KID/S **App genres/ content** - Any particular genre of app that you have concerns with? - IF YES: what is it that concerns you? Why is that? - IF NO: Would you say you trust all apps' content? Why do you say that? **App Permissions (apps requesting to access to your personal data/ phone features) [APP STIMULUS STATEMENTS]** How would you feel if an app requested permission to have access to your: - Access to camera/photos/ microphone	IF PRO FILMED: Film whole interview

- Address book/ contacts
- Calendar
- GPS location
- Full administrative control
- Ability to make calls and send texts
- Browser history

For each, ask/ observe whether they understand the terms? What do they THINK it means? Does your view apply to certain types of apps or all apps? Why is that?

Thinking about the apps that you have, are you aware of what permissions you have granted?

IF ALLOW CHILDREN TO DOWNLOAD APPS:

- How do your children react to permissions? Is this something you think they are aware of? Why is that?

- Are you aware of being asked permissions when downloading an app?
- How much attention do you pay to the app permission requests? Why is that?

In app purchases:
- Have you ever downloaded an app that includes in-app purchasing? Were you aware before you downloaded that this feature was included? How did you react?
- Do your child/ren have experience of using these apps? Do you have any specific rules around these? Why/ why not?
- Does your opinion vary according to whether app is free or paid? For you? For your child/ren?

Thinking about apps generally, who, if anyone, should be responsible for monitoring/ filtering their content?
Probe on:
- Self/ parents
- App makers
- Operating system
- Third party regulator
- No regulation

Why do you say that? Does that apply to all apps or only certain types? IF YES: Which ones? Who should be responsible?

	Based upon your experience, do you have any suggestions, if any, as to how apps could/ should be regulated in the future? What would this involve? Why do you say that?	
10 mins	**PARENT VOX POPS**	
	- What are the biggest advantages that apps provide? - What, if anything are the main concerns you have about apps? - Who, if anyone, should be responsible for regulating the content of apps? - If you could change one thing about apps, what would this be?	**VOX POPS:** In addition to prompts provided – if any interesting points raised in interview please ask participants to repeat point to camera. If two parents present then get a mix of individual and both speaking to camera
20 mins	**KIDS ONLY INTERVIEW: Apps, use and regulation**	
	Moderator note: If kid/s are younger and you think they would benefit from the parent being present in the interview then allow for this. For older children, ideally we would like to speak to them independently so please ask the parent where would be a suitable place to do the interview. Refer to earlier conversation about device use: Out of all the different devices you can use apps on, which one is your favourite? Why is that? What is your favourite app/ favourite apps? Why these ones? Which apps do you use the most? Why is that? How do you download apps? Is this something that you do yourself? Does someone else do it for you? IF YES, who is that? IF PARENTS DOWNLOAD APPS FOR KID/S: Are there any 'rules' about the type of apps you are allowed to use? If so, what does this involve? What do they allow you to have? What apps are you not allowed to use? Why? IF DOWNLOAD APPS ON OWN: How much attention do you pay to the permissions screens when you have downloaded	IN HOME STIMULUS SHOWCARDS

	an app [STIMULUS SHEET]? Do you read this information? Why is that? IF NO, Why not? What sort of information do you think it might tell you? IF USE INTERNET: What differences if any do see between apps and using the internet? IN HOME STIMULUS SHOWCARDS: Please look at these options on this card. Have a read through then complete it by ticking agree or disagree • Apps are different from the internet • Apps are the same as the internet • I feel safer using apps that I do using the internet • I feel safer using the internet than I do using apps • I feel safe using both the internet and apps • I feel unsafe using both the internet and apps • My [personal details (e.g. my name, age, online activities etc.) are more secure in an app than they are on the internet • My personal details (e.g. my name, age, online activities etc. are more secure on the internet than they are on an app • My personal details (e.g. my name, age, online activities etc.) are secure in both the internet and apps Do you have any particular worries or concerns when you use apps? If so, what are these? If something like this happened how would you deal with it? Why would you deal with it that way?	
10 mins	**VOX POPS WITH KIDS**	
	• What is your favourite app/ apps and why? • What differences, if any, do you think there is between using apps and the internet	**VOX POPS:** In addition to prompts provided – if any interesting points raised in interview please ask participants to repeat point to camera.
10 mins	**WHOLE FAMILY: WRAP UP**	
	ASK ALL: Do you think your behaviour/ attitudes to apps will change in the future? Why is that? ASK ALL: Is there anything around using apps that could	**VOX POPS:** Where key points are made, ask

	change to enhance you or your family's experience of using apps? If YES, what would that involve? Why? If NO, what are apps doing well now that provide an enhanced experience?	participants to repeat to camera for vox pops.
5 mins	WRAP UP	
	Any questions Issue incentives Close	

Appendix C: Paired teen depths discussion guide

45114064 Apps Environment

Discussion guide for paired teen depth interviews

Length: 60 mins

Times: TBC

Objectives:

- To understand how 15 – 17 year olds are engaging with technology, specifically with apps across different devices.
- To understand levels of understanding and perceptions around different operating systems.
- To identify attitudes and behaviours towards apps as well as any particular concerns this group has about apps and how they work or engage with them.

Summary

1. Introduction	
2. Attitudes and behaviours to technology	This section explores the various ways in which the teens are engaging with different technologies, with a focus on app based smart devices. This section will explore how, what and where they use the devices they have access to/ own, as well as identifying similarities and differences across different devices, if applicable.
3. App use	This section investigates the relationship teens have with apps – which ones they are using (or allowed to use), what they are allowed and not allowed to do in relation to apps, which apps are their favourites and why, how they are using different apps (including awareness around permissions) as well as their awareness and perceptions of differences between apps and browsers.
4. Perceptions of Operating Systems	This section specifically explores attitudes to different operating systems through using tasks and stimulus to make this relevant to the teens. This section will identify any particular biases or presumptions the teens have about different operating systems and/ or app stores
5. App concerns	This final section will explore the issue of any potential concerns around apps with teens. What stories do they hear around apps? This section will also identify any behaviour around what they do and do not do with apps and what, if anything, should be done to enhance their experience of using apps.
6. Vox pops	
7. Wrap up	Final questions, issue incentives and wrap up session.

Time	Introduction	Notes
5 mins	- Thank participants for agreeing to take part - Confirm that in total the interview will last a maximum of 60 mins - Kantar Media as independent company - No right or wrong answers – if we use any terms you may be unfamiliar with then let us know **Warm up:** Ask each teen what the last app they used was and what rating they would give this out of 10.	
5 mins	**Attitudes and behaviour to technology**	
	[READ OUT] we are really interested in finding out more about how you use different technology, and would like you to tell us what you use these for. Moderator note: check specification for the teens you are speaking to in terms of device use/ ownership and ASK BOTH Can you tell me the different types of technology you have at home that allow you to go on the internet? Probe on: - PC/ laptop - Smartphone - Tablet - Smart TV - Games console Which of these devices do use to access apps? Which do you own? Which do you borrow? Who do you borrow them from? <u>IF MORE THAN ONE</u>: What is your favourite? Why is that? Do you agree with each other? If YES are reasons the same? If NO, what is the other preferred device? Why? Imagine you were not able to use your favourite device. How would that make you feel? Why is that? What would you not be able to do? What word or words would best describe how you think you would feel if you were unable to use your device?	
25 mins	**App use**	
	What is your favourite app(s)? Which apps do you use most often? Probe on: How often it is used on a day-to-day basis	

- Why it is a favourite app – what makes it appealing?
- How often their 'favourite' app changes?

<u>FOR USERS OF MORE THAN ONE DEVICE:</u> Does your favourite app differ depending upon what device you are using? IF YES: why is do you prefer X app on this device and Y on the other device?

What role do your parents play when it comes to apps? Do they allow you to download what you want or do they have any rules in place?

FOR THOSE WHO DOWNLOAD APPS=

How do you decide which apps to download?
Probe on:
- Word of mouth among friends/ family
- Word of mouth from other sources (e.g. media/ social networks/ newspapers)
- App store browsing v's searching for specific apps
- Reviews – how important/useful are these
- Whether app is free or paid
- Whether app is from a known brand/ provider
- Device – different approaches to apps across different devices?
- Device – different approaches to apps across different devices?

What makes a good app? What would it need to include?
Probe on the following for sense of importance:
- Popularity among friends
- Being able to connect with my friends
- Being able to personalise the app
- Easy to use
- Feels safe to use (e.g. Viruses, Malware)
- Feels that I can trust it with my personal details
- [Feels secure – does not crash/ need re-installed]

For each prompt, ASK: Why is that important/ not important? Is it something you have previously thought about with apps that you use? Why do you say that?

Thinking about personal security with apps, do you do any of the following when using an app?
Probe on:
- Hide my identity
- Do not upload photos showing my face
- Do not upload videos showing my face

	• Do not give out my real name • Do not use apps that look 'risky' • Log out of apps when I am not using them • Anything else Where do you download apps from? • App store • Third party store (e.g. Amazon) • Other sites? IF DOWNLOAD APPS: Have you ever downloaded an app that needed paying for? If YES: how do you decide whether to pay for an app? What encourages you to pay for an app? If NO: What, if anything, would encourage you to pay money for an app? **App Permissions** When you download an app, it sometimes asks you for permissions. [SHOW PERMISSONS SCREEN GRABS] Are you aware of ever seeing anything like this when you download an app? IF YES: do you read this information? Does it influence how you use the app? IF NO: what do you think it might be telling you? What makes you say that? Moderator note: the following task involves a sorting exercise where participants need to think about in terms of how they react when prompted for the following permissions when downloading an app. Issue participants with permissions show cards and ask them, as a group to sort these into three piles – 'allow', 'never allow' and 'unsure' How would you feel if an app requested permission to have access to your: • Access to camera/photos/ microphone • Address book/ contacts • Calendar • GPS location • Full administrative control • Ability to make calls and send texts • Browser history For each, ask what they understand by the term and what they think the permission is asking for. Thinking about the apps that you have, are you aware of	SHOW PERMISSONS STIMULUS

what permissions you have granted?

FOR THOSE WITH RESTRICTED PARENTAL ALLOWANCE TO DOWNLOAD

What do your parents allow you to do when it comes to apps?
Probe on:
- Pick which ones I would like to download
- Allow me to download some apps but not others – if YES: which ones? Why is that?
- Stop me from using certain apps – If YES: which ones? Why is that?

Are there any rules in place around how you are allowed to use apps? How do you feel about those? Do you find it easy to follow these rules? Why is that? Do you follow these rules? Do these rules differ across the different devices you use? If so, in what way are the rules different? How do you feel about that?

ASK ALL

Do you have different expectations for apps that are free compared to those that are paid? Do your views on ownership of the app differ depending on whether it is free or paid? Do you have apps that you would want to keep if you changed phone/OS – what apps and why keep them, why not?
Probe specifically on any perception differences around :

- Feels safe to use (e.g. viruses, malware etc.)
- Trust with personal details/permissions
- Reliable/stability – does not crash/ need re-installed
- Does not try and get me to pay money for in-app features
- Trustworthy/ secure payment facility
- Good user experience

App v's browser

We are now going to talk about how apps compare to using the internet through a browser
What differences do you think there are between apps and websites? Which do you prefer? What does it depend on? Why is that?

Moderator note: For the next task, give word cards (showing the terms below)to participants and ask them to discuss

APP V BROWSER STIMULUS

	between them what things they would use an app for rather than a website and vice versa. Ask them to sort into piles of 'App; 'website' 'both' For each decision made, discuss with both teens why they would do that.

TASK: Convenience aside, Is there anything you do online where you would be more likely to use an app, a website, or both? Use the following cards and split them into 3 piles – tasks you would normally do on an app/ tasks you would normally do on a website/ tasks you would do on both/ I don't do this

Probe on:
- Using social networking
- Playing games on my own
- Playing games with someone else
- Doing homework
- Watching TV/ catch up TV
- Find out information (e.g. cinema times/ news)
- Uploading photos/ videos
- Using instant messaging

IF USE MORE THAN ONE APP BASED DEVICE: Do these choices change when thinking about a different device? If YES, why is that?

Do you/have you ever play/ed on apps that require you to pay money to go further in the game? If YES – which ones? Was it a free app or had you paid to download it? Have you ever paid to go further in the game? Can you talk me through that? What happened? Did it ask you for password details etc.? Would you do it again? IF NO: Would you ever do this? Why is that?

What kind of thing, if any, do your friends say about these types of apps? | |
| **10 mins** | **Operating systems** | |
| | We would now like to get your views on differences between iPhone, Android, Windows and Blackberry phones.

Have you heard of these different types of phone? What words would you use to describe the ones you have heard of?

Moderator note: For the next exercise we would like the participants to attach a series of words to different operating systems. Using the laminate images for each operating system (including images of phones) and the accompanying | OPERATING SYSTEM ICONS STIMULUS

OPERATING |

	word pack of the bulleted terms listed below, please ask the teens to complete this exercise as a pair EXCEPT TEEN PAIR 4 (the 2 x 17 year olds in Manchester – please ask the two teens in this session to do the exercise individually. Take pictures of each of the variants created)	SYSTEM WORDCARDS
	Task: please use these different words to tell us what you think about using apps on different phone types (iPhone, Android, Windows, and Blackberry). You can use the words more than once.	
	Moderator note: please prompt and define terms relating to safety and security if necessary in line with those used in the 'app use' section of the document.	
	- Safe - Not safe - Secure - Not secure - Expensive - Affordable - Easy to use - Difficult to use - Better for uploading music - Better for watching videos - Better for communicating with my friends - Better for playing games - Better user experience - Reliable - Unreliable - Popular - Not popular	
	Moderator note: For each operating system, ask participants to explain their choices and to highlight where there was any disagreement with their friend	
	What would you say your favourite type of phone and/or OS is? Why is that?	
	FOR THOSE WHO USE A TABLET – would you use the same words to describe the tablet you use as you did with the same type of smartphone? Why is that? Is there anything better or worse on the tablet compared to your phone? Why do you say that?	
	FOR THOSE WITH DIFFERENT SMARTPHONE OPERATING SYSTEMS	
	Moderator note: Ask each teen to say why their smartphone	

	is better/ preferable to that of their friend's device. What 3 or 4 things do they think makes their smartphone stand out? Use the following probes if necessary: • Number/ range of Apps available to use • Views of peer group to different operating systems • Phone safety and security • Phone features (e.g. camera, memory, screen resolution) • Phone functions (e.g. battery life, screen size) • If either of you could change the smartphone you use, would you? If so, what would you change it to? Why?	
10 mins	**Concerns**	
	Have you ever experienced any issues/ problems with apps? IF YES: • What were these issues/problems? • What, if anything? Did you do about this? • Who, if anyone, did you or your parent/ guardian contact? Probe on awareness and use of reporting functions and Operating System cancellation policies. Have you ever experienced anything on an app you would consider inappropriate? If so, what was that? How did you react? Why did you react in that way? If not, what would you consider to be inappropriate content for an app? Why is that? We would now like you to think about the internet. Compared to apps, do you have any particular concerns or worries about using the internet?? If YES: What are these? Why is that? Do you do anything in particular to keep protect yourself when using apps? Probe on: • Hide my identity • Do not upload photos showing my face • Do not upload videos showing my face • Do not give out my real name • Do not use apps that look 'risky' • Log out of apps when I am not using them • Anything else	

	What, if anything, could apps do or improve to make it a better user experience for you? What would that involve? Why do you say that? Do you have any final thoughts on anything relating to apps?	
5 mins	WRAP UP + VOX POPS	
	Any other questions? What one thing would you miss most if you were unable to use apps for a week? What would you do if you had a problem with an app? How would you deal with it? What things make an app a good app? Thinking about apps and websites – do you use these differently? [moderator note – refer to earlier discussion to prompt on this area) Remember to collect pre-task documents. Close	

Appendix D: Age ratings stimulus

Version A [Apple App Store[6]]

Rating	Description
4+	Contains no objectionable material.
9+	May contain mild or infrequent occurrences of cartoon, fantasy or realistic violence, and mild or infrequent mature, suggestive, or horror-themed content which may not be suitable for children under the age of 9.
12+	May contain frequent or intense cartoon, fantasy or realistic violence, mild or infrequent mature or suggestive themes, mild or infrequent bad language, and simulated gambling which may not be suitable for children under the age of 12.
17+	May contain frequent and intense realistic violence, unrestricted internet access, frequent and intense mature, horror, and suggestive themes; also strong sexual content, nudity, strong language, alcohol, tobacco, and drugs which may not be suitable for children under the age of 17. Whenever an app of this rating is requested for download, a message will appear, verifying if a user is 17 or older, and asking to confirm the purchase for this reason.

Version B [Google Play]

Rating	Description
Everyone	Applications in this category should not collect user's location data or contain objectionable material. Applications should not share user content or include social features.
Low Maturity	Applications in this category may include instances of mild cartoon or fantasy violence or other potentially offensive content. Applications may collect user location data for the purpose of providing location specific information or otherwise improving the user experience, but should not share the data with other users. Applications may include some social features but should not focus on allowing users to find and communicate with each other
Medium Maturity	Applications in this category may include sexual references; intense fantasy or realistic violence; profanity or crude humor; references to drug, alcohol and tobacco use; social features and simulated gambling. Applications may collect user location data for the purpose of sharing or publishing with the user's consent
High Maturity	Applications in this category may focus on or include frequent instances of sexual and suggestive content; graphic violence; social features; simulated gambling; and strong alcohol, tobacco and drug references. Applications may collect user location data for the purpose of sharing or publishing with the user's consent

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[6] The marketplace brands for each age ratings format were not revealed to participants.

Version C [BlackBerry]

Rating	Description
Adult (18+)	Includes adult content
Mature (17+)	Show general, teen, and mature items
Teen (13+)	Show general and teen items
General	Show items suitable for all ages

Version D [Windows]

Rating	Description
3+	These apps are appropriate for young children. There may be minimal comic violence in non-realistic, cartoon form. Characters should not resemble or be associated with real life characters. There should be no content that could be frightening, and there should be no nudity or references to sexual or criminal activity. Apps with this age rating also cannot enable features that could access content or functionality unsuitable for young children, such as uncontrolled online sharing of information (such as that described under the 12+ ratings category).
7+	Apps with this age rating have the same criteria as the 3+ applications, except these apps can include content that might frighten a younger audience and can contain partial nudity, as long as the nudity doesn't refer to sexual activity. This rating should only be used for apps appropriate for children.
12+	Apps with this age rating can contain increased nudity of a non-sexual nature, slightly graphic violence towards non-realistic characters, or non-graphic violence towards realistic human or animal characters. This age rating might also include profanity, but not of a sexual nature. Also, apps with this age rating or higher may allow for uncontrolled: (i) access to online social networks, or (ii) sharing of personal info with third parties, including other gamers or online acquaintances.
16+	Apps with this age rating can depict realistic violence with minimal blood, and they can depict sexual activity. They can also contain drug or tobacco use and criminal activities, and more profanity than would be allowed in a 12+ app.
18+	Apps with this age rating may contain intense, gross or specific violence, blood or gore which is only appropriate for an adult audience, in addition to content that is appropriate for a 16+ app.
Adult	Content that is intended for adults-only audiences, and apps that have received an adults-only rating by a ratings board, cannot be listed or sold in the Windows Store unless the app is a game, is rated by a third party ratings board, and otherwise complies with the certification requirements.