



Playing digital games in Khayelitsha

Research conducted by the Cape Innovation and Technology Initiative and 67 Games,
as part of the Serious About Games Initiative

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1. Introduction

Across the globe, 2.2 billion people regularly play video games on their phones, consoles and personal computers¹. The proliferation of mobile technology and free to play monetisation models has ensured that games are more accessible than ever before and that they are no longer the exclusive purview of young, white men who identify as ‘hardcore’ gamers. Instead, diverse audiences are consuming games in diverse ways. While global trends - such as the popularity of online multiplayer games - can be identified across disparate contexts, gaming is by no means a homogenous experience. The technology that players have access to, as well as their behavioural patterns, is determined by particular socio-economic realities.

In South Africa, where conditions of inequality define everyday life, games are played in a variety of ways. While the consumption patterns of more affluent South Africans ensures the continued growth of the country’s traditional gaming sector², there are also gamers who have limited access to traditional gaming infrastructure³. A deeper understanding of these diverse gaming practices is vital not only for accessing potentially underserved markets, but also for ensuring that games aimed at social impact are developed in line with the experiences of gamers in resource constrained communities.

In November 2016, Serious About Games launched a competition challenging digital content developers to create games that would allow residents of the Western Cape to reimagine how their communities work. During the competition, participants were encouraged to engage with marginalised young people through pop ups and feedback sessions. This process drew attention not only to the significant impact that user engagement has on game design, but also to the lack of resources documenting the gaming practices of young people in resource constrained communities⁴. While studies such as *PWC’s Entertainment and Media Outlook 2017 - 2021* provide a high-level overview of market trends, it does not offer insight into the ways in which diverse young people access and consume digital games.

In response, the Cape Innovation and Technology Initiative (CiTi) - in collaboration with 67 Games - set out to address this knowledge gap through primary research conducted in Khayelitsha. The following report sets out the questions that guided our investigation, as well as the methods that were used to gather and analyse data. Following that, we discuss the research findings and offer some key takeaways for game designers, government and NGO stakeholders, and academics. Given the preliminary nature of the research, the report is intended to be read as part of an ongoing investigation and a starting point for future research.

2. Research questions

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On the one hand, the research process undertaken by CiTi and 67 Games was intended to understand if, how and why young people in resource constrained communities play digital games. On the other hand, it also presented an opportunity to investigate how young people in these same communities respond to serious games. Our research was therefore guided by two key questions, namely:

1. *How do young people (aged 18 - 35) in a marginalised community in South Africa play digital games?*
 - a. How do young people access digital games?
 - b. What gaming behaviours are observable among this group?
 - c. Why do young people choose to play digital games?
2. *How do young people (aged 18 - 35) in a marginalised community in South Africa respond to serious games?*
 - a. Do players return to a menu of serious games?
 - b. Do players enjoy serious games?
 - c. How much time do players spend engaging with the menu of serious games?
 - d. Which serious games are played for the longest period of time?

3. Methodology

At the outset, Khayelitsha - one of the largest townships in South Africa⁵ - was chosen as the research site. This is due to the fact that both CiTi and 67 Games have established relationships with individuals and organisations based in the area, and have prior experience working there. The Khayelitsha Bandwidth Barn - managed by CiTi - is a hub for township tech entrepreneurs, and served as a venue for some of the research activities.

In order to better understand local player behaviour, a survey was conducted among young people in Khayelitsha. CiTi developed a self-administered, anonymous questionnaire which was distributed at a youth event hosted by Violence Prevention Through Urban Upgrading (VPUU) on 25 November 2017. The questionnaire included three sections, namely demographics, access to technology and gaming behaviour. During the event, fifty-five young people completed the questionnaire.

On 12 February 2018, the survey was followed up with a World Café session during which twelve young people from the same community shared their gaming experiences. This method of facilitation offered a means of creating a hospitable space where participants could openly discuss how they play digital games, and why. During a World Café session, participants are asked to break into small groups that move between tables where a host facilitates a conversation around a particular topic or question. As Jorgenson and Steier note, the World Café method uses a 'highly structured process of movement to create flexible and coevolving networks of conversations'⁶. While CiTi set the context for the discussion at the outset, VPUU

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leaders offered to act as hosts during the session, ensuring that participants could engage with one another in Xhosa. This allowed for a more comfortable, open conversation. In closing, participants discussed - in plenary - the key points that emerged out of their smaller group conversations.

In order to address the question of how young people in resource constrained communities respond to serious games, 67 Games developed a menu of curated serious games and installed these on computers at two Students' Health and Welfare Centres Organisation (SHAWCO) facilities. Young people visiting the Groova Park market over weekends were also exposed to serious games through an arcade cabinet built by 67 Games. The following games were included in each menu:

SHAWCO computers

- 90 Second Portraits
- Sort the Court
- Mr Blue
- Superbugs

Groova Park arcade cabinet

- There's a Monster for Everyone
- Town Builder
- Pull Out of Gangster
- Memory Racer

At both sites, data was collected through a system tracking whether or not a player was a new or returning user, the preferred difficulty setting of the player, and the time spent on each game. 67 Game also supplemented this data with observations and informal interviews.

4. Participant demographics

The key criteria determining the selection of participants for this research was area of residence and age. Given that the research was supported by the Department of Economic Development and Tourism, who have a particular interest in the experiences of young people, participants ranged between the ages of eighteen and thirty-five. Of the fifty-five respondents who completed the gaming behaviour questionnaire, the majority of respondents (53%) are twenty-five and younger. 98% of participants are black, with only 2% (one participant) identifying as coloured. 49% of participants are male, and 51% female. 86% of participants indicated that they are single, and the highest number of participants (24%) indicated that they have five dependents.

Despite relatively high levels of education among respondents - with 55% indicating that they have a secondary education, and 40% indicating that they have a tertiary education - 48% are unemployed seeking a job. Of those who work, 57% of respondents earn between R500 and R1500 per month. These demographics are also representative of the young people who

participated in the World Café session, as they were recruited from this initial group of respondents.

According to 67 Games, young people engaging with the menu of serious games at the SHAWCO centres and Groova Park have varying levels of education and a basic understanding of digital technology. All participants are first language Xhosa speakers. A total of two hundred and twenty three young people played the serious games installed at these sites.

5. Findings

Local player behaviour

The questionnaires distributed at the VPUU youth event, as well as the World Café session, were designed - in part - to understand how young people in Khayelitsha play digital games. This includes an interrogation of the devices young people use, the ways in which they access digital games, the amount of money and mobile data they spend on digital games, and how frequently they play.

The data shows a significant disjuncture between the gaming experiences of young people in Khayelitsha and traditional gaming which is associated with personal computers, premium games and access to the Internet. The majority of participants (82%) indicated that they do not have a personal computer at home, and 66% do not have access to the internet at home. However, almost all participants (96%) indicated that they own a mobile device. It is therefore not surprising that 87% of participants who indicated that they play digital games do so on their mobile phones (with 11% playing games on laptops and only 2% on desktop computers).

The majority of participants (38%) access digital games by sharing game files between friends. During the World Café session, participants mentioned SHAREit - an application that allows users to share files between devices via a direct wifi connection - as their primary means of accessing digital games. 28% of participants download free games, relying on a wifi connection instead of spending their mobile data.

While a number of participants (21%) indicated that they buy games, the World Café discussion revealed a strong reluctance to spending money on games. One participant noted that spending money on games would not be a problem if they were employed. Given that they do not have a job, however, games are not a priority. This reluctance to pay for digital games informs participants' responses to various monetisation strategies. If, for instance, a game allows players to access its first levels for free, but requires payment in order to complete further levels, participants delete the application as soon as they complete free levels. One participant noted that 'even if it is very nice, when you get there you tell yourself that you have clocked the game and look for a new one' (World Café, February 2018).

The majority of participants (66%) did however indicate that they spend mobile data on playing digital games. 51% spend less than 500MB per month, and 42% spend between 500MB and

1GB per month. Mobile data is primarily used (by 84% of participants) to download games to be played offline. Very few participants (16%) will use data to play digital games online.

A World Café participant shared the following experience:

'I had another game whereby the more you play you have to use your own data for the other levels. Because of an addiction and pressure from friends I had to use my data to get to that certain level so I show them I can do it...after that I regretted it and hated [the games] to the point that I wanted to delete all of them in my phone because I ran out of data and money and I had to wait for my mother to get an airtime and data. And people I competed with are nowhere to be found.' [World Café, February 2018]

Another participant indicated that her children often spend her mobile data on games, saying:

'They can use all the data if you give them your phone, for example when those ads on the side appear they will click on yes or continue and the data will all finish and we will fight over them.' [World Café, February 2018]

The data shows that young people in Khayelitsha are most likely to access digital games via SHAREit, or by downloading free games when they have access to wifi. Participants seek out offline titles that they are able to play at home when they have no mobile data, and will avoid applications that attempt to extract their money or mobile data even if they are enjoyable.

Of participants who indicated that they play digital games, 40% do so everyday, 24% play once a week or less, and 20% play three to five times a week. For the majority of participants (42%), play sessions last between thirty and sixty minutes. The majority of participants (63%) also play digital games alone, and very few (4%) do so with friends online.

When asked what digital games they enjoy playing, 37% of participants indicated that they prefer puzzle games, 24% prefer fighting games and 17% prefer sports games. Games like Candy Crush (King, 2012), My Talking Tom (Outfit7, 2013) and Talking Angela (Outfit7, 2013) were repeatedly mentioned during the World Café session. These games are all free to play, and encourage interaction through simple mechanics. According to participants, their primary reasons for playing digital games is boredom, the need to destress and an appetite for challenge. While limited access to traditional gaming infrastructure undoubtedly shapes gaming behaviour, this is also informed by the purpose that games serve in the everyday lives of young people. Insofar as they offer an antidote to boredom, games that are easily accessible (in terms of both technology and mechanics) are preferred. As one participant notes, 'the phone is always with you, so if you have nothing to do you just take your device and play the game' (World Café, February 2018). With reference to Candy Crush, a participant noted that '[it] teaches you to be patient because you get to a stage where you can't go pass it because of time, then you have to go back again and play it until you got pass it. The more you play the game the more you become patient' (World Café, February 2018).

Engagement with serious games

The menu of serious games designed and installed by 67Games tracked players' engagement with the games mentioned in section 3 above. The data was used to draw up the following table:

	Returning	New	Rating (like, don't like)	Difficulty (easy, medium, hard)
There's a Monster for Everyone	23	21	40 like 4 don't like	1 easy 24 medium 19 hard
Town Builder	14	19	27 like 6 don't like	1 easy 25 medium 7 hard
Pull Out of Gangster	15	20	29 like 6 don't like	5 easy 22 medium 8 hard
Memory Racer	13	12	18 like 7 don't like	1 easy 16 medium 6 hard
Mr Blue	15	6	19 like 2 don't like	4 easy 15 medium 2 hard
Interview	4	1	4 like 1 don't like	0 easy 4 medium 1 hard
Sort the Court	2	14	11 like 5 don't like	4 easy 8 medium 2 hard
90 Second Portraits	3	14	12 like 5 don't like	2 easy 10 medium 5 hard
Superbugs	5	22	24 like 3 don't like	4 easy 18 medium 5 hard

67Games found that the most played game was 'There's a Monster for Everyone', which was designed by the organisation to teach players about sexuality and the fundamentals of consent in sexual relationships. The least played game was 'Interview', a game aimed at familiarising players with the interviewing process. 67Games found that games relying on typing mechanics

were not enjoyed by participants, and that familiar accents (as is found in 'There's a Monster for Everyone') enhanced players' experience.

While the higher level of literacy and hand-eye coordination among older players increased their ability to navigate the games on offer, 67Games observed that the feedback provided by various games was not sufficient to guide players. Furthermore, younger players struggled to map the controls to on screen game activity.

6. Takeaways for game designers, NGOs, researchers

While further research interrogating the gaming behaviour of young people in resource constrained communities is required, the findings of this preliminary study offer a number of key takeaways for stakeholders with an interest in games as tools for social impact.

Game developers

- **Consider resource limitations in your design** | The data shows that young people in Khayelitsha predominantly play digital games on their mobile phones, and that they rely heavily on free wifi to access digital games. While mobile data is used to download games, players are reluctant to do so. With these limitations in mind, developers must consider how young people will access their game, as well as the monetisation strategy that they will employ. Games aimed at data gathering must find creative solutions for storing and uploading information, as players have intermittent access to wifi.
- **Draw mechanics and user experience elements from familiar games** | When attempting to achieve social impact through games, developers should pay attention to the games that young people in Khayelitsha are already playing. By studying the games that are familiar to players in this context (as well as the types of games that players actively avoid), developers can identify the most effective mechanics and interface elements to use in their work.
- **Test with the target audience** | While generalised player research will aid developers in identifying gaming behaviour trends among young people in resource constrained communities (in terms of device and Internet usage, as well as preferred games), it is important that target users be consulted on a game by game basis. User testing will allow developers to create experiences that are accessible and enjoyable to their particular target audience.

NGO and government stakeholders

- **Use games to drive social impact** | The research shows that gaming is common among young people in Khayelitsha. This pastime can be leveraged by stakeholders aiming to communicate with, educate or gather data about this particular target

audience. Games offer models for learning and behaviour change that are already familiar to young people.

- **Make it fun** | While serious games are intended to achieve objectives beyond entertainment, this investigation of player behaviour shows that young people respond well to games that are enjoyable and easy to understand. By drawing on the fun elements of games already played by young people in resource constrained communities, greater impact can be achieved.

Researchers

- **Comparative analysis** | This study serves as a starting point for more rigorous and extensive research focused on the gaming behaviour of young people in South Africa. While survey data supplemented with a peer discussion proved to be effective methods for uncovering player preferences, more in depth observation of players' engagement with mobile technology is required. The study also highlights the need for a comparative analysis through which to assess the similarities and differences in gaming behaviour across disparate socio-economic contexts.