

Digital Apartheid: An Ethnographic Account of Racialised HCI in Cape Town Hip-Hop

Gary W. Pritchard

Culture Lab,
Institute of Ageing and Society,
Newcastle University, UK
gary.pritchard@ncl.ac.uk

John Vines

Culture Lab,
School of Computing Science,
Newcastle University, UK
john.vines@ncl.ac.uk

ABSTRACT

We describe findings from a 15-month ethnography of hip-hop performers in Cape Town, South Africa. Mobile communications and social media are hugely important to the development of these performers' careers, opening access to collaborators, production tools, audiences and distribution channels. This group go to extraordinary lengths to gain and maintain access to these technologies, often by exploiting their social capital through musical and ethnic networks. We document that even after nearly twenty years of democracy, a ridged separation along racial lines persists, which can be seen in all areas of life including access to and proficiency in digital technologies. We illustrate how hip-hop performers harness these divisions both on and offline in order to distinguish themselves from other artists. Our research raises a number of implications for post-colonial computing, highlighting difficulties related to discontinuous access, and how international preconceptions of identity and authenticity emerge as a consequence of the increased use of communication technology.

Author Keywords

Hip-Hop; South Africa; Identity; HCI4D; Racial Inequality; Music-Making.

ACM Classification Keywords

K.4.m [Computers and Society]: Miscellaneous;

INTRODUCTION

In this paper we describe an in-depth ethnographic study of hip-hop performers, or 'heads', in Cape Town, South Africa. Hip-hop in this region is a very precarious career path with little financial gain. Despite this, many show an enormous enthusiasm to continue, largely because participation in the art form brings immense sociability and intrinsic enjoyment. Their working lives are distinguished from those found in non-creative fields by having an ill-defined division between paid and unpaid work. Most performances—such as parkjams (Figure 1)—are



Figure 1. MC Jaak performs at a parkjam.

spontaneous and artists play for free. Their labour also does not adhere to the usual conventions that guide more orthodox professions, like stability, set working hours and a visible occupational ladder to climb.

The creation and consumption of music has become an important subject area for HCI. Much of this work has either explored professional contexts of musical performance (e.g. [1,17]), consumer practices (e.g. [21,33]) and the design of new interfaces that support musical expression or creation (e.g. [3]). We add to this burgeoning canon by exploring the everyday practices of a group that are neither musical professionals (in the strictest sense) nor typical consumers.

In recent years there has also been rapid growth in HCI research exploring 'development' contexts. A lot of this has examined the introduction and appropriation of ICT and mobile technologies within nations that, until recently, did not have the infrastructure to support them [5,35]. Much of this work has looked at the ways mobile communications can be used as a public information source (e.g. [9]). Cape Town in particular has been the site of a large amount of research. Specifically, authors have looked at mobile phone use [14,22,36], place specific computing [24,34] and the design of virtual environments for storytelling [20]. As a number of authors have argued at length, however, the 'ICT4D' agenda is problematic in that it reinforces social divisions [13,19]. Dourish and Mainwaring [13] have taken this further, asserting that HCI as a discipline embodies a colonial attitude where diversity and plurality is

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purposefully excluded in technology design. We are sympathetic to these concerns and believe that the developed/developing dichotomy often employed in HCI as a mode of categorisation is unsuited to a fieldwork site like Cape Town, which has both a highly sophisticated industrial base and a majority of residents experiencing a low standard of living.

We begin by examining the socialisation process where people come to be understood as hip-hop heads. Social gatherings are fundamental here, affording novices the opportunity to listen and interact with more established musicians and network with others to form crews and instigate new musical collaborations. We highlight that mobile communications and social media have become increasingly important to Cape Town heads in recent years, providing opportunities to establish and maintain collaborations, communicate with audiences and access production tools and global distribution channels. While mobile phones and personal computers are increasingly common across the city, we reveal how our participants go to extraordinary lengths to gain and sustain use of these devices. Finally, we illustrate how hip-hop heads continually find themselves in tension with a desire to seek international audiences while retaining qualities that are ‘authentically’ Cape Town. We contribute to ongoing research into post-colonial computing by highlighting how in Cape Town hip-hop, cross-cultural interactions in social media are often in conflict with a desire to disseminate local meanings and identities. We conclude with a number of implications for future research, adding to prior work on discontinuous access to Information and Communication Technologies (ICTs), and technologies that support the global communication of local understandings of identity and authenticity.

TECHNOLOGY USE IN SOUTH AFRICA

Over the past decade, South Africa has seen a rise from 18% to 60% of people over sixteen owning their own mobile phone [22]. Computer and Internet use has not been as widespread, however. In 2009, a study revealed that a mere 15% of households own a working computer, with only 5% having Internet access [29]. Although numerous government initiatives have aimed to create greater access to ICTs [26], provision remains monopolised by a small white middleclass [6]. Castells has argued that the limitation of access to digital technologies in many parts of the world has engendered a clear digital divide and, more provocatively, a ‘technological apartheid’ [11, p.93]. Technological inequality in Cape Town is compounded further by a wide education gap [8]. The vast majority of government (non-fee paying) schools do not have access to computers, and those that do offer little more than ‘drill-and-practice’ lessons where students continuously repeat simple IT tasks [26]. Those individuals not experienced with computers are challenged with learning visual conventions that they are unfamiliar with [35]. This has created a situation where young white people enjoy a duel

advantage over their black and coloured peers, being exposed to rich technological environments both at school and in their home.

However, we must offer caution in the use of the figures presented above. South Africa is in a process of great technological change with access increasing on a daily basis. As will be noted, during the conduct of our research we observed the appropriation of several new technologies and an increasing use of mobile phones. It should also be noted that figures authors use to depict technology use are almost exclusively provided by household surveys (as in [29]). Those living in townships, and especially the so-called ‘illegal settlements’ that surround Cape Town, are notoriously difficult to measure. These numbers also fail to acknowledge that many people use a mobile phone even if they do not own one (as in [32]).

STUDYING SOCIAL LIFE IN CAPE TOWN

Cape Town is unique among South African destinations. Located at the most south-western tip of the continent, the Mother City (as it is locally known) distinguishes itself by having a unique racial makeup where—unlike the rest of the country—black people are not in the majority (accounting for only 27% of the population, compared to 79% nationwide) with whites (18% instead of 10%) and coloured people (54% compared to 9%) having a greater share of the population [29]. **Error! Reference source not found.**, p.10] (note we explain our use of racial terminology in the next section).

The more even demographic split has facilitated the racial fragmentation of the Cape Town hip-hop community. This makes the local scene stand apart from others in the country, like those found in Johannesburg and Port Elizabeth that are less racially fractured and monopolised by black performers.

A number of apartheid legacies endure in Cape Town, with a continuation of the socio-economic stratification, geographic division and racial tension found in earlier periods. Racial groups also think of themselves as fundamentally different, with in-group identity having evolved over a long period of time. This separation is continually reinforced by differences in languages spoken, with black people predominantly speaking isiXhosa, coloured people Afrikaans, and whites English.

This separation also affects the amount of economic capital artists from each race can draw upon in their hip-hop activities. For instance, we found that white and coloured people were more likely to DJ or write graffiti, which entails a continual financial outlay for the purchase of vinyl and aerosol cans. The harsh levels of inequality also means that those from lower income groups (typically blacks) also carry the extra burden of securing things others take for granted like food and public transport as a prerequisite to artistic activity. The inequality typically therefore works to

give coloured and white performers greater power and autonomy in pursuing their artistic endeavours.

The lead author spent 15 months in Cape Town participating and observing the everyday and professional experiences of hip-hop performers. This extensive fieldwork allowed the researcher to become immersed in the local scene. Much of this time was spent socialising, working with and accompanying rappers (or MCs) in their various musical pursuits. During the ethnography, over 80 musical performances were attended as well as numerous recording and rehearsal sessions. The lead author also co-hosted a weekly hip-hop radio show. Overall, sustained and meaningful contact was established with 67 individual respondents, and in-depth semi-structured interviews with 20 of them at the end of the research period. Most research participants lived in the townships that surround Cape Town and the vast majority were young males (60 out of 67 were under 30 and only 5 were females). This distortion represented the composition of the local hip-hop scene. In terms of main hip-hop activity, 43 defined themselves as MCs, 11 as DJs, 4 as graffiti writers, 4 as producers and 5 as musical entrepreneurs.

In ethnography, there is a requirement for the researcher to carefully examine how the researcher's social positionality and broader power relations impact upon the research process. It needs to be noted therefore that the lead researcher's identity as a young, white, heterosexual Englishman affected interactions with research participants. While on some level, insider status could be claimed on age, sexuality and gender grounds, the prevailing issue of race made him an outsider.

When conducting extensive fieldwork, data collection and analysis are not completely separate processes. Analysis in this study began when the researcher made judgments as to what to document in his fieldwork diary [2]. Following fieldwork in Cape Town, all audio recordings were transcribed verbatim. The data corpus included 20 in-depth interviews, 436 pages of field diary notes, 624 photographs, 89 pages from social media websites and cultural artifacts such as advertising, music videos and album artwork. Following from Glaser and Strauss [15], our data analysis was guided by coding textual (at sentence to paragraph level) and visual data, which guided the formation of 5 higher-level themes [30]. Excerpts of coded data were then reassembled to illustrate the themes and provide a rich narrative to the presented data [15].

A note on racial terminology

During fieldwork we became highly sensitised to the contested issues of racial terminology. The use of racial language in South Africa, and Cape Town specifically, is a complicated and contested matter and in this paper we use the terms 'black', 'white' and 'coloured'. Such vocabulary is necessary here because our informants employed them and they also represent key identities for South Africans. The term 'black' is used to signify people who were classified

during apartheid as 'native', 'black' or 'African'. 'Coloured' refers to people mainly from the Western Cape, who are a mixed racial group and who do not fit into any other category easily. Some are descendants of the indigenous Khoi and San who inhabited the region before the arrival of Europeans, others are descended from slaves, kidnapped from Indonesia, Malaysia, India and other parts of Africa by the Dutch, and more are mixed race. 'White' is used to refer to people who were classified as 'European' or 'white' during apartheid.

THE LIVES OF HIP-HOP HEADS IN CAPE TOWN

Hip-hop is a cultural movement that emerged in socially marginalised black and Latino neighbourhoods in New York City in the late 1970s. The music began when DJs started making 'beats' by looping small portions of songs emphasising a percussion pattern on two turntables and an MC or Master of Ceremonies would rhyme in time with the sound [28]. It consists of four main elements: MCing (often referred to as rapping), DJing or turntablism, graffiti art and break-dancing. Hip-hop has progressed to become one of the most popular musical cultures in the world. Cape Town is regarded as the birthplace of the South African hip-hop movement, having emerged there in the 1980s [27]. Due to this relatively long history, local heads regularly align themselves to 'old school' hip-hop that is in opposition to more contemporary commercial and mainstream styles. Someone who participates in or has a devoted interest in at least one of the four elements of hip-hop (MCing, DJing, breakdancing and graffiti) along with a keen appreciation of the musical and cultural heritage is referred to as a 'hip-hop head' or simply a 'head' [28].

In the following sections we present key extracts from interview transcripts and fieldwork diaries compiled during this ethnography. We discuss how our participants became 'hip-hop heads' and how they maintain and build their careers through developing musical collaborations, accessing new audiences, appropriating the means to record and distribute their music. We also document their continual struggle to remain authentically Cape Town while attempting to reach international audiences.

Becoming a hip-hop head

A number of participants spoke about how they developed their skills at an early age, with many being influenced by international artists:

Uno: I'd just imitate my favourite MCs basically, you know. Because 'Common' was like my favourite, when he came out, so everything that I write about sort of revolved around him, you know, I always like imagined myself in his shoes and stuff.

Others learnt and developed their rapping abilities through informal instruction by more established local artists who deliberately sought to pass on to young people the beliefs, values, norms and technical abilities that will allow them to function as members of a hip-hop community. Julian



Figure 2. Garlic Brown, Lolo and Midus experimenting with new material around a computer in their home.

described how: “It’s training, you become their little trainee! They show you how it is done...and that’s, I guess, how you get into a culture.” Most learning, however, occurred through peer tuition amongst people of similar skill levels. A common practice was to “spit rhymes” (rap) in each other’s company and improvise lyrics in a very sociable way. Social gatherings would frequently turn into spontaneous rehearsals. Within these informal rehearsal spaces the materials within the vicinity would often be appropriated to support lyrical experimentation. On such an occasion Lolo spontaneously played a basic beat on a home computer with which he and other local MCs could practice over (Figure 2).

In this interacting phase, informal public and semi-public social settings where young people congregate provide the arenas for further socialisation. Gathering spaces like bars, shebeens (illicit township pubs) and people’s homes are important to young people in South Africa because of chronic unemployment and a longstanding subordination in the political and education system. Unlike formal musical instruction, the intention is not to learn music per se but, through a plethora of complementary practices, learn about, listen to and make music. Listening, practicing and performing all happen simultaneously and learning is essentially a social activity.

Groups that socialise together sometimes developed into “crews”. Being a member of a crew is seen as a useful route to connecting with other members of the scene, where artists gradually learn more and more about the accepted rules of the culture. Macho describes how forming a crew early on in his hip-hop career helped him develop as an MC: “We’ve been coming on a long time... we formed few crews back in high school...and then that slowly evolved the MCing”. As individuals begin to spend more time with others involved in hip-hop, their experiences begin to connect them to a wider social network of local heads and the next stage is performing at open mics or parkjams. Open mics are usually incorporated in live hip-hop shows in Cape Town and involve a host inviting audience members to perform. Uno describes how performing at

open mics and parkjams allowed him to learn and develop as an MC:

Uno: I heard about these joints [hip-hop venues], you know, I started attending them, seeing cats killing it and I was very inspired to be like them, you know, I should do this one day you know. So I started practicing my lyrics and sharpening up my freestyles...Started performing in 2003 by myself, I was a solo cat, turning up to open mics. I usually went up to open mics and parkjams and stuff, you know, there was this open mic session which was held by Archetypes [a respected local crew]. So that’s where I started rhyming and learning basically, as an MC.

Open mics and parkjams facilitate further socialisation, providing the opportunity to perform in front of crowds and create solidarity among performers. These venues are the only spaces where non-established MCs can play to large audiences. After gaining experience here and acquiring greater knowledge about what is regarded as ‘good’ and ‘authentic’ hip-hop, the final stage in the musical development of a hip-hop head is performing on the bill of live public shows that people pay to see.

Making records

Making a recording is a high priority for the hip-hop musicians of Cape Town. It provides the opportunity to promote their music and the possibility of a revenue stream from selling CDs. It is also regarded as a rite of passage, something that has to be done if they and others are to regard them a legitimate MC.

Music recordings can be divided into those that take place in professional studios and those recorded in the home. Although there are numerous professional studios available to rent in Cape Town, the high costs prohibit most from using them. In the absence of finance, opportunities to record in a professional environment are dependent upon affiliation to a record label or close association with a successful producer. Although MCs value independence, engagement with various organisations is often regarded as necessary in progressing a musical career. The following quotes from Ben Sharpa illustrates that even if the label is small and the owner an old friend, flirtation with a record company is rarely carried out enthusiastically:

Ben Sharpa: I suppose it’s inevitable that I sign [for a record label]. It’d take me eight months to do everything they can do for me. So although I’m underwhelmed, I’ll sign.

For less talented or rookie MCs, these spaces remain elusive. If a professional studio is out of financial reach, as it is for most local black and coloured artists, the next best option is to gain access to someone’s home studio. Although the equipment is less professional, advances in technology mean that a good, if slightly inferior, standard of recording can be accomplished. If the proprietor of a home studio is not well known to the performer, one

strategy is to network and get on friendly terms with him. People with their own studio were typically white aspiring producers who often consented to free recording sessions on the precept that the work would be collaborative. This usually means that the MC would have to rhyme over the producer's self-composed beats, even if he thought them "wack" [artistically of low merit].

One afternoon, MC Midus took us to an apartment block where there was a white sound-engineering student from a wealthy family called Dan who had his own recording facilities. Midus spent the first hour rhyming over Dan's beats before asking for a couple of takes using his own. Later, it was realised that this was the primary reason why he was there. While Midus could choose from his own crew's beats and the ones Dan made, most MCs find it difficult to secure these backing instrumentals. Like the practice of recording in a studio, securing original beats usually requires close contact with a producer. Sometimes money exchanged hands for this commodity but this was unusual because crews have little financial resources to draw upon. While it is possible for MCs to compose their own backing instrumentals, most are discouraged by the expense and expertise required.

As we described in the opening section, access to material resources in Cape Town are intimately tied to ethnicity, and this is not different for access to the technology and equipment required for music production. Furthermore, for those that are able to attain access, they regularly are neither adept nor confident in using them. Jaak makes reference to this:

Jaak: When I was with Function Three [hip-hop crew], we borrowed a cousin's Casio keyboard thingy and he could play, could play a couple of beats and top of the keyboard there was like a drum pad...I used to bang out the beats...with this new technology, I wasn't that clued up to the musical program I didn't know how to work that, so for this album, I thought: "Yo, you need to school a brother". So he got me...all the software, I bought myself a PC.

Most of the black performers met during the fieldwork did not have the R1500 (approximately \$170US) needed to enrol in college (although there is no regular salary for hip-hop artists, the income of research participants ranged from R0 to R10000 pa). This caused a deficit in the technical knowledge available to this group. This all impacted upon the sound quality of many of the recordings produced by the underground artists. Despite this, the relative poor quality of songs produced in home studios was sometimes not regarded as a disadvantage. Many fans expected them to be like this and, in some sense, made the recordings more 'authentic' (an issue we return to later). This provided frustration to some producers, who had higher expectations:

Arsenic: They're [hip-hop fans] expecting bad quality presentation, bad quality of the CD and bad quality

overall, so I wanted to sort of break that, that perception that people had and some crews were just like "I'm an MC' you know?" Quality was the last thing on their mind...you know.

While producers were fundamental in the music-making process, they did not engage in live performance (unless they were also a DJ). The next section focuses on this aspect of creative practice that was fundamental to most of the heads encountered during fieldwork.

Finding collaborators and audiences

Access to personal computers and mobile phones have supported Cape Town heads in a range of networking and communication practices. The proliferation of these technologies has allowed them to communicate more effectively and cheaply to people within and outside their local musical scene. Haupt [16] observes how websites such as 'baobab Connections' has facilitated connections between youths with an interest in hip-hop and enabled young Cape Town performers to participate in competitions. In particular, we noted how social media has provided the opportunity to connect with like-minded others all over the world, providing the opportunity to enter into collaborative projects that transcend immediate proximity. While traditionally, membership to hip-hop crews was strictly bounded by locality, Internet access has allowed a number of crews to expand their membership to include those living abroad. The Internet has also enabled some groups to continue collaborating with members spending time outside the country:

Arsenic: It's myself, Arsenic; um Bromine and this guy Selenium. Bromine is working in the States for a while, now but like, when he comes back here he's sorted you know and then he's gonna start you know with his production again and stuff.

Social media has also become hugely important to hip-hop heads for reaching out to audiences and supporting their entrepreneurial activities. Like many musicians, a number of informants have set up YouTube profiles and channels in order to upload their latest tracks and videos. Some of the more renowned groups uploaded documentaries on the filming of videos and recording of new tracks. As with many musical artists worldwide [12], Facebook and MySpace were used as a promotion tool for forthcoming shows and releases. Frequently, our sample would "blanket bomb" 'friends' and 'connections' on social networks in order to disseminate information about upcoming events. The following message was posted on Facebook:

Whats good People!. The first regular bi-weekly event "BASIC TRAINING" kicks off this. Fri 30th October. SPINNING WAX: Solarize 21:00-22:30; Nastie Ed 22:30- 00:00; Raiko 00:00-02:00. HOSTS: Jaak; Rattex.R30 will get you in. Also, don't forget, there's just over a week to go until we launch our regular bi-weekly Friday night club session. Hip Hop like it's supposed to

be done with DJ Raiko at the controls fresh from his Euro tour with Ben Sharpa!

Social media was used to directly communicate information to those following an artist or crew's profile. However, occasionally heads would attempt to instigate a two-way discussion with fans, particularly if in need of assistance:

CRISIS ON A SUNDAY: How do you upload your own track on Myspace? I tried... Please help.

There were also instances where black artists would strategically engage in acts of code-switching. Code-switching occurs when a person changes between two or more languages [7]. There were many instances where black performers would switch between English when posting mass-communications about upcoming performances with fans or requesting technical support, and isiXhosa when posting about meet-ups in the townships. These code-switching activities would often be used to ensure legibility only to certain groups of collaborators and crew-members, and was in a sense a boundary making strategy on a publically viewable website.

While social media was mostly used to communicate with local fans, there were also examples of their music being discovered by new, global audiences. In the following extract, Uno describes how initial contact online with European booking agents eventually led to a German tour.

Uno: No, well, it's not that it's [Germany] my favourite country, you know, to go to and like there are many other countries that I like, even the US, the real Japan and all of those you know, but ... since we've been living in this area, we came across these websites, like Myspace.com and we sort of networked over there, met a few people and they happened to be in Germany. I got a huge response from Germany...More than any other country, you know.

Despite great financial restrictions, there was a feeling among our participants that having a web presence put them on a more even footing with artists operating elsewhere. It allowed them to collaborate with previously inaccessible international artists, reach new audiences, and on occasion be invited to perform in Europe and the United States.

While social media had become very important to the career development of our population, limited Internet access often caused problems. This was often more of a frustration for those who work with them, however, than it was for the heads themselves. For example, record company owners frequently bemoaned the fact that although mobile phone use was widespread among artists, very few would regularly have credit available or the power to answer or respond to calls. Furthermore, as most heads accessed social media either through mobile phones or Internet cafes, opportunities to communicate with peers, audiences and respond to important messages were limited:

Damien: They had the review in the back [of the magazine] and said, "we can't get hold of him, the phone's off, his MySpace is down". That's so typical, they wanted to do a piece on him and the only thing they could put in the piece was about how they can't get hold of him.

Performances and distribution

While actual music production might require expensive equipment, live performances in Cape Town regularly involved artists turning up at concerts with a CD of backing beats that could be played on the venue's sound system. Also, traditional and orthodox musical knowledge, like the ability to read and write musical notation is not required for young, aspiring MCs who want to participate in spontaneous ciphers (where rappers take turns to rhyme over a beat) at social gatherings.

The money and social network required to stage a successful show in Cape Town means that it is out of reach for many of the, predominantly black, MCs. For these rappers to get a public platform, they had to either attend open mics or "piggy back" on a gig organised by someone else. One evening Ra (an MC from the Eastern Cape) demonstrated how important performing was when he walked four miles just to borrow R10 (approx. \$1) from his brothers, in order to gain entry into an open mic event. His brothers thought he was mad because he had not eaten in two days but still wanted to borrow money so he could perform. When MCs attended concerts where they were not on the line-up, they often approached organisers about the possibility of performing one or two tracks at the start of the event. Through the course of his five year hip-hop career, Lee Urse had become well known for rapping at other people's shows, calling himself 'the ultimate gatecrasher' and keeping his backing beats with him at all times. This was one strategy of performing without being exposed to any financial risk and was also open to people who were not established enough to attract large crowds.

When asked what the biggest challenge of being an MC was, most made reference to the difficulty they had in distributing or disseminating their work. The importance of getting people to listen to their music often superseded a financial incentive. On one occasion MC Uno took to the stage during a gig and pleaded with the audience to illegally copy his CD and give it to their friends in order to make him more widely known. A common practice was for artists to personally 'burn' CDs of their music and distribute them widely at hip-hop events. Others were enthusiastic about the distribution potential of mobile phones.

Jaak: The cell phones has become the new duke box, I mean the new ghetto blaster from where I'm from, everybody, you see the teenagers is pumping Isaac Mutant. I'm even distributing my stuff in Paarl on cell phones!

Local artists also experienced great difficulty in dealing with retailers. Meetings with a wide variety of shop owners and workers revealed that they knew very little about the underground Cape Town scene. This means that when local groups approach them, they are unlikely to order any of their merchandise. A further reason was that most local artists did not have a publishing contract so their CDs did not have barcodes. When shops did take copies, it was on a sale-or-return basis, and some of MCs expressed frustration in getting paid once their CDs were sold. If the CDs were sold, the owners rarely re-ordered. DPlanet, the CEO of a local hip-hop label, argued regularly with the management of these outlets and could not understand why they did not want to support the local scene, even where there was an (albeit small) market for their products. This created a situation where physical copies of music from Cape Town artists became very hard to obtain unless you personally knew the musician. These conditions meant that artists were forced to sell copies of their music personally, either approaching people on the street or at hip-hop shows.

A strategy that was only beginning to emerge during fieldwork was for artists to release an album for free on the Internet and ask people to pay what they thought it was worth. 100% of the proceeds go to the artist, while the songs are licensed under a Creative Commons Attribution Non-commercial Share Alike license. Terror MC became a local pioneer of this method after releasing his 'Street Life' album on it and selling more copies than previous albums sold through more traditional channels.

'Making it' internationally

Finally, it was also revealed how the notion of authenticity is negotiated both locally and internationally. Authenticity is a particularly contentious issue for heads when engaging in artistic endeavours across geographical and cultural boundaries. Valuations made by casual listeners and fans are often very different from those made by hip-hop heads. The general understanding among Cape Town artists is that there is an expectation from foreign audiences for them to look, dress and sound distinctly 'African'. In informal conversations, the European manager of a successful crew (Driemanskap) told me that international booking agents have told them that they could perform in European festivals if they brought on board an African backing band. The group's frontman resented this patronising discourse and exclaimed: *"What do they want from me? I'm from the urban jungle not the fucking jungle"*. Things that can be identified as expressions of 'Africanness' or 'blackness' by an international audience cause some to consciously alter their musical performances. The following artist admitted to incorporating a marimba band in his act for this very reason:

Lolo: ... I feel like for us to expand to get anywhere or get outside the country, we are going to need to solidify our thing with the marimba band...which has been happening for like the past four weeks now, you know.



Figure 3. Music video shoot for 'Streets' by Rattex.

This places hip-hop heads in a zone of great tension. Within their local community they have a great expectation to act internationally—to reach new audiences and work with crews around the world. Yet in order to attract and sustain an international audience they are encouraged to act colloquially. While American products were generally regarded as inauthentic among Cape Town hip-hop heads, it is contradictory that these commodities are regarded as having more credibility among casual observers. The owner of a local hip-hop clothing label explained how he had been encouraged to make his products look 'un-African':

Julian: People told me, "what you should try and do is you should act as if your company is an international company" because people will buy it. That's the sad fact but it was very true. ...Because, they knew...local stuff didn't have the credibility.

While requests to act more 'African' were taken somewhat offensively, local performers would frequently incorporate visual imagery of Cape Town—and in particular the black townships—into their publicity material (as in Figure 3). Either on album sleeves or in music videos, these backdrops would be utilised as a stage to contextualise performance. This imagery was also used to signify social status by showing the physical environment of their neighbourhood. While our respondents wished to escape stereotypical Western-centric notions of Africanness, they also strived to perform an authentic identity.

DISCUSSION

Clearly, sustaining multiple channels of communication beyond their local community was highly valued by hip-hop heads. Many research respondents used landline and mobile telephones, social networking websites, music sharing repositories and music authoring software in order to establish collaborations, create new work and reach out to previously inaccessible audiences. In order to use these technologies, however, they had to continually make trade-offs and negotiations. We draw out two types of implications from the study that call for specific sensitivities about the infrastructural and cultural nuances

of sites such as the townships of Cape Town. First, we consider how our research highlights an enduring division between technology provision and racial groups in Cape Town. Second, we suggest directions for future social media and communication technologies that balance universality across cultural and geographical boundaries with pluralities of authenticity and identity.

The enduring digital apartheid of Cape Town

During the study it became clear that digital technologies—either mobile phones, personal computers, recording equipment or social media (and the Internet more generally)—were all increasingly important in how Cape Town heads learn and refine their craft and develop their careers. Although there was a keen desire to use these technologies, many informants experienced difficulty in accessing them. Even the research participants who could frequently draw upon their social capital in order to access these technologies often lacked the technical knowledge to use them effectively.

Issues surrounding access are not just limited to high-end technologies enabling music recording and production. Black townships have poor landline telephone provision and many homes are not connected to mains electricity. Although mobile ownership is relatively high in South Africa, many of our sample found making regular phone calls prohibitively expensive. The lack of electricity provision compounds this further by creating a situation where even if someone has credit, they might not be able to charge their phone's battery. As Wyche and Murphy [37] noted in their research on phone use in rural Kenya, our participants engaged in a set of practices and strategies to save battery power. Phones would be turned off when not needed and batteries were temporally borrowed when an urgent call had to be made. Mobile phone handsets would also be shared among friends and family members (also observed in [10]) and SMS messages were often received second, third or fourth hand in-person rather than via a mobile phone. On some occasions the researcher would have to telephone a contact in a township with a phone and ask him to walk over to someone else's house and deliver a message. At other times he would be asked to deliver messages to people in the part of the city where he lived. It was made explicit therefore that offline social networks were as crucial to receiving and delivering of electronic communications as any technological infrastructure.

One of the central tenets of the ubiquitous vision of technology is anyone can access digital information, anytime and anywhere [23]. In HCI there has been stern critiques of the naivety of this vision [4,38] and, indeed, our research participants had far from continuous access to digital technologies. Yet the fact that they did use social media and were known to have mobile phone access committed them to some of the social norms surrounding this technology, such as responding quickly and being reachable while on the move. There was a sense that they

would be punished for unresponsiveness—by either missing out on a time-sensitive deal, receiving negative comments in the media or simply by not being contacted again. This particularly impacted the black artists in our study, who formed most of the study's respondents.

Clearly, digital communications are not distributed evenly across South Africa, and our research confirmed that computers, Internet connectivity and the knowledge of how to utilise these technologies are less than ubiquitous. This is in part infrastructural. The proliferation of Internet access and mobile phones has created the false expectation that someone is always reachable (a problem also noted in other African nations [38]). While there is consideration now for what happens 'after access' [14], designers of mobile and computing technologies also need to consider ways to design for intermittent and unpredictable access. Furthermore, a lack of formal ICT education for black and coloured populations living in the townships compounds this issue further. While South Africa and Cape Town have made great strides in terms of racial inequality since the apartheid era, this division still endures in expertise related to digital technologies¹.

Pluralities of access, identity and authenticity

We observed the ways Cape Town artists have appropriated social media as a tool of communication and dissemination of news, information and music. We have also shown how, through these channels, some performers have achieved wider national and international attention. This raises issues of identity and authenticity, specifically in the context of the use of digital technologies to communicate across cultures. We consider that this has two broad implications for future HCI research with post-colonial sensitivities.

First, it highlights how social media is often designed with little consideration to situations where multiple cultures come together. We described how hip-hop heads engaged in code-switching and alter the tone and language of their online communications in order to interact differently with specific segments of their 'friends' or 'followers'. Recent tools provided by sites such as Facebook provide users the option to automatically translate posts in foreign languages. This feature was initially designed for fan pages of brands and performers where international audiences could view information in their own language. Such features—albeit well intended—are at odds with practicing code-switching to communicate exclusively with a specific group. One way to navigate around this would be to provide authors greater discretion on whether others can translate their posts.

¹ While it is problematic to compare Cape Town to other sites in Africa, Jackson et al. [18] note a similar relationship between historical apartheid policy and contemporary technical expertise of black populations in Namibia.

Second, while ICT has supported many of our participants in reaching new audiences, in doing so they now face international preconceptions about what Cape Town hip-hop should be. This raises a wider implication about the role computing technologies play in shaping how cultures and locations are represented. Walton [34] observes how representations of townships on sites such as Flickr highlight imagery captured by international tourists that embodies certain stereotypes, which contrast sharply with the portrayals of the same location on local social media used by residents. We see similar issues arising here. In interacting with an international audience, a number of assumed qualities and features are made concrete: rappers are black men; township dwellings have corrugated steel walls and roofs; children roam the dusty streets; the marimba is widely played, and so forth. Artists are expected to embody these qualities and actively play to them.

Dourish and Mainwaring [13] argue that much of HCI—both as an enterprise of thought and creator of technical artefacts—embodies universal (and often Western-centric) claims of how the world should be portrayed. We see this in how there is often a claimed deprivation in non-Western regions and ignorance of how they can be technologically developed. At the same time, there is an expectation that regions with a degree of technological capacity must play by our rules and be connected anywhere and at anytime. These issues are particularly evident in Cape Town, which has high levels of inequality, rich cultural traditions and 11 official languages. Although there are huge benefits to the universality of the Internet, clearly there is a need for making plurality more transparent. In their study of ICT workers in Nairobi, Kenya, Wyche et al. [38] suggest visualisation tools that display levels of responsiveness from senders in locations with limited internet access. Our fieldwork highlights how these are problems of equal—and potentially greater—magnitude for the hip-hop heads, whose employment is often informal and fragile in nature. We suggest that technologies such as social media could also provide tools to highlight the infrastructural capacities of the locations people post from and inhabit—such as expected downtimes, evidence of their online activity and bandwidth capacities. Issues related to plurality go beyond these infrastructural qualities of regions however. We must also consider how virtual communion between people from diverse backgrounds offers potential to learn about unfamiliar locations and communities. In doing so, we might afford opportunities for people to still benefit from an online presence, with sensitivity towards how meaning and authenticity are understood at a local level.

CONCLUSION

We have described an ethnographic study of hip-hop artists living and performing in Cape Town, South Africa. In this we have emphasised the role digital technologies play in their musical and entrepreneurial pursuits. Key points to be taken from our work are first, that access to technology often requires tactical exploitation of social capital. Second,

although many heads frequently use social media as a way of establishing and maintaining collaborations and audiences, lack of continuous access negatively impacts upon the opportunities afforded to them. Third, while there are prevailing in technological access in Cape Town, those who are able to gain access face the problem of international preconceptions of how they should look and how their music should sound.

Although Cape Town has the unique legacy of apartheid, which has an overarching impact the city's social and cultural composition, we feel valuable research in other regions and of other cultural industries could be pursued to more fully explore the themes of racial competition and the use of language as a boundary device elicited in this paper. Specifically, this research would be most pertinent in other post-conflict and multi-ethnic areas. While the lives of Cape Town hip-hop heads are complex and distinct, many non-Western citizens share the same challenges. In highlighting these concerns, we have called for greater sensitivity to discontinuous access and for plural understandings of identity and authenticity.

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