

Music in Households in the Digital Economy

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1. Background

Much has been written about how the digital economy can transform people's lives; change the relationships among individuals and society through the growing and constantly changing ecosystem of ICTs and applications [9]. Digital music, as one of the key cogs of the digital economy is a useful lens through which we can understand such transformations. For example, people can now consume music in diverse ways. Besides computers, people can also use portable devices such as mp3 players or their phones to listen to music. Social media and Web 2.0 in general have also accelerated music's diffusion and access through various online channels. Besides consumption, these technologies afford people opportunities to interact with digital music in different ways: to archive, share, collaborate around, or even to make music.

Households are sites where such interactions with music are on the rise. As a setting whereby individuals cohabit under the same roof, the household is "the next bigger thing on the social map after an individual" [1]. This makes it a useful micro-site to examine the transformative effects of music. After all, music is "part of the basis of our social experience; it is a resource in actual formation of social reality" [5] and can influence how we construct and order our social lives [7]. Under certain circumstances, music can foster social cohesion [4]. On occasions, music in the home can be a source of tension or conflict, for example over the 'appropriate' use of media technologies [8], or the jockeying to control sonic spaces in order to assert one's identity and sense of self [10]. In families, adolescents badge their identities through musical tastes, often to distinguish themselves from the rest of the family. Self-exclusion can arise, withdrawing from the family's social life in private consumption through headphones or behind bedroom doors [6]. Given this, the aim of this work is to understand how sociality within a household can be transformed by music, especially within the current digital economy and its technological infrastructure.

2. Related literature

Digital music, especially within the context of the home has not received much attention within HCI. This may perhaps be partly influenced by the emergence and popularity of mobile digital music players – such as the iPod - where digital music listening is celebrated as being private and also as being out-and-about and on-the-go [2]. The body of work on iPod digital music listening has primarily focused upon individuals' music consumption, their experiences and how they manage their soundworlds within the

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urban space [3]. Besides, exploring novel means for consuming and interacting with digital music, most efforts in HCI deal with digital music primarily as a content management and retrieval problem. While Volda et al [11] surface some the social practices around digital music sharing albeit in an organizational context. But what will this influence look when our interactions with it takes place under the same roof and often in close proximity, with people of different relationships and varying degrees of bond? Furthermore, what does this influence look like in a time when music are becoming so easily accessible, and interactions with music via technologies can take so many shapes and forms?

Thus, this work follow-up on O'Hara & Brown's [7] concerns for the social and collaborative potential of music. However, it extends their efforts by considering the influence of more recent technological development, such as Social Media and Web 2.0. In turn we hope that this understanding can better inform future design and developments of the digital economy and associated technologies; technologies that can enrich the experience of music in the household whilst having the potential to foster participation and collaboration, and in the process supports closer social ties within the home.

3. Approach

This understanding requires a rich and contextualized understanding of people's experiences of music in the household. We used qualitative methods to study people's experiences of music in households. Five households (H1 - H5) were recruited (see table 1). The study lasted between 2-3 weeks per households. After the initial interview, participants were given a diary to record their experiences with music in the households, a set of themed postcards to jot down thoughts and experiences. At the conclusion of the study, a second interview is carried out when collecting the diaries and postcards. Not everyone in every household participated in the study. They were either too young, away for employment or for studies.

Table 1. Details of participating households

	size	inhabitants and (age)	participants
H1	4	Andy -dad (34), Joan - mum (31) Otis (4) & Stirling (1)	Andy & Joan
H2	2	Gary (49) & Feng (33) gay couple	Gary & Feng
H3	4	Siva- dad (41), Laila - mum (38) Mahit (10), Tanu (8)	Laila & Mahit
H4	3	university students: Alex (29), Mary (28) & Asya (30)	Alex & Mary
H5	4	Janet -mother (45), Zul -son (19), Angie (15) & Shaz (5)	Janet, Zul and Angie

4. Sociality and Music interactions

Alone but often with others

Even when individuals use music in households to support work by setting the mood and pace such as writing, reading, composing, painting, doing homework and so on, such acts are often inherently social. Technology appears important in supporting this sociality. Andy, a musician, uses YouTube to also explore ideas for his arrangements of song covers. Despite this individual pursuit, this act is inherently social, with an awareness of others in mind. Because he sees his family as his muse, even when choosing songs online to do covers, he would often think of his family, as to whether they would like it. After all, when he is done, they are the first who will listen to it.

The use of headphones technology to listen to music can also be imbued with the social and an awareness of others. Feng, of H2 is a PhD student beams particular genres of music wirelessly from his laptop directly to his wireless headphones in order to create the *right* mental space when working on his thesis. He uses the wireless headphone so that he can still be connected with his mental-space via music when downstairs making a cup of tea. The other reason is so as not to disturb his partner Gary. He is also very aware of not disturbing the neighbors. Individuals using technologies to discover new music can often lead to acts of sharing. Zul (H5) browses YouTube to discover new music but this often leads to sharing his finds online with his friends, posting it on their Facebook walls. It is my own way of maintaining his friendship.

With others: bonding and communicating

More often, we see music as something that brings people together in households. Encouraging communication and exchange, the experiences often lead to closer relationships.

Alex and Mary, new housemates in H4, regularly play the game of ‘music dueling’. Sharing a laptop, they take turns picking songs from YouTube for each other. With the banter, surprise and laughter, this also becomes a ‘getting to know you’ time. Meanwhile, Angie, a teenager in H5 constantly has the cable TV on to access music via the music video channel. This family doesn’t have a stereo and Angie doesn’t own a laptop. Janet tolerates this constant soundtrack in the background because it keeps Angie in a good mood. Besides, Janet found that music provided a topic that can engage Angie who is normally quite moody, in conversation. On occasions when Janet perceives the content to be inappropriate, she found it easier to discuss issues of values with Angie without her feeling targeted. After all, they were discussing what Lady Gaga was singing about.

For H1, music is experienced as the *glue*. Otis the 4-year old regularly initiates the family dance by choosing and playing a CD on the home stereo. His mum Joan describes the experience as the *glue* of her family, a prized bonding time. This does not always transpire in H4. Asya is Turkish and sometimes invites her Turkish friends home to party. They play loud Turkish music with iPhone jacked into the stereo, and spoke in Turkish. This made Alex and Mary socially excluded.

Technology accidents reveal interesting insights, for example in H1. Feng, bought Gary his own wireless headphones during the research period to use at home when painting in the studio. Once, when fiddling with his headphones, Gary was surprised to hear somebody else’s music. He soon realized that he had accidentally tuned into Feng’s wireless headphone channel. Great laughter accompanied their discussion of this accident. In fact, after this discovery, they had on occasions, tuned into each other’s channel as a way of training their tacit understanding of each other by trying to sense “how he is doing” or “how he is getting on”.

4.1 Conclusion and future trajectories

These examples are just a fraction of the bigger story on the social lives of households in the digital economy. What emerges is that interactions with music in households are often inherently social in nature. While music could act as a catalyst, acting as a topic to break the ice, in a lot of instances, music itself recedes to the peripheral, acting ‘quietly’ as the social glue, a lubricant, or to reinforce rituals. Current technologies are found to afford people greater choices and means to discover, access, consume and share music. Social interactions with music within households can be more spontaneous and through connectivity, often extends beyond the physical constraints of the home. What is also apparent is people’s innate motivation to use these technologies creatively to press music into the social.

Thus, this work reveals some potential trajectories when considering the design and development of future technologies of the digital economy. One trajectory could be the development of more seamless means for people to interact with music in households so as to encourage and support sociality. Systems that supports curiosity and exploration may allow people to easily get a sense of others in the household through music, such as through overhearing, capacity to blend music from various people or even the ability to broadcast individual music playlists. Technologies for sharing could also explore more meaningful ways of music gifting. Through such explorations that hope to be able to intervene fruitfully to create a more participative and collaborative digital economy; one that is experienced as being more meaningful and fulfilling for the individual and with others.

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