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SPECULATIVE PROVOCATION THROUGH ACTIVITY-CENTRED DESIGN

Physical Computing & Interaction Design Studio
Reflective Report

Social Provocateurs
David Jeffs l s4428088

d.jeffs@uq.net.au

June 12th 2018

ABSTRACT

Speculative designs are often designed and then analysed through a pseudo-user-centric approach. Through the development of two speculative design pieces using a user-centred approach, this report explores how an activity-centred analysis is better suited to understanding the research question of “How does the situated knowledge of different generations influence the speculative design of a communication concept?”. This is achieved by examining the data gathered from the user-centric design activities and mapping the data to Engeström’s activity theory model. These mappings are then used to form an argument that the contradictions inherent within activity theory can be used to support the provocation being designed for. It is hoped that this report will provide impetus for further research into developing a framework for speculative design analysis.

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1. INTRODUCTION

Communication is a fundamental aspect of the human condition, and at its core it is the reproduction of a message at one point, that has been produced at another point (Shannon, 2001). Modern design theory grounded in the positivist notions of objectivity and relativism points towards the use of user-centred design as the default process of design. User-centred design supports Weberian methodological individualism. This report looks to a post-Kantian activity-centred approach that challenges this Weberian approach when examining speculative concepts.

This report examines the role that situated knowledge has in forming the post-Kantian understanding and shows how an activity-centred approach can be used for the analysis of speculative designs. This analysis is based on two speculative designs produced by the Social Provocateurs which looked to provoke a reflection on the differences between two generations interactions with communication technologies. The Social Dial combines social media platform Facebook with the archaic technology of a rotary phone. The Twitter Tapper combines Twitter with a morse-code machine. The research question aimed to be addressed is “How does the situated knowledge of different generations the speculative design of a communication concept?”.

With a gradual shift to a post-Kantian understanding, the final section of this report looks at how the contradictions formed within these speculative designs, and inherent within the activity theory model, end up supporting the provocation that was initially aimed for using a user-centric approach.

2. BACKGROUND SURVEY

Previous research into the design of technologies for different generations show a tendency to identify generations based upon age (Kwok-Wing & Kian-Sam, 2015; Van Volkom, Stapley, & Amaturo, 2014). Whilst the analysis of social media is largely focused on sociological issues (Correa, Hinsley, & de Zúñiga, 2010), usability (Treem & Leonardi, 2013), and societal issues (Boulianne, 2015), the research

regarding a confluence of influences surrounding the analysis of speculative designs does not cover communicative practices.

2.1 SPECULATIVE ACTIVITY-CENTRED DESIGN

Speculative design is a form of design that moves away from the consumer and usability focused of traditional design, into one which is used to speculate, or imagine, on the possibilities of the future. It is a form of design that is used to provoke debate and discussion on the direction that design is itself (or society) is heading. It was first proposed by Dunne et. al. 2013 in 'Speculative Everything' as an extension of their 'critical design' posits, by looking into the future.

Speculative Design looks to move outside of the technological progress, and be critical of the world we live in, in terms of the values, functions, and expectations.

However, whilst the academic literature surrounding speculative design looks towards a post-Kantian approach, there is no current discussion on the analysis approach. The User-centred design has its basis around Weberian methodological individualism with a focus on aspects such as user cognition, user usability, and user attention to tasks. Whilst there are considerations of the sociological aspects of design, at its core the fundamental unit of analysis of each of these is the individual.

This is in contrast to activity-centred design which is based on activity theory, as discussed below.

2.2 ACTIVITY THEORY

Activity theory provides a conceptual socio-cultural framework which rejects Weberian methodical individualism and takes the object-oriented, artefact-mediated collective activity system as its unit of analysis (Y. Engeström, Miettinen, Theory, & Punamäki, 1999). At its core it looks to examine the 'activity', which is stated as the objective interaction between an actor, and objects in the world. This is supportive of the post-Kantian approach of speculative design.

The Engeström (1987) activity theory model identifies several elements as shown in figure 1. This focus has been chosen due to the extension upon Leontiev's model with an inclusion of 'community' or collective action, which can be directly correlated with the social practice described by situated knowledge.

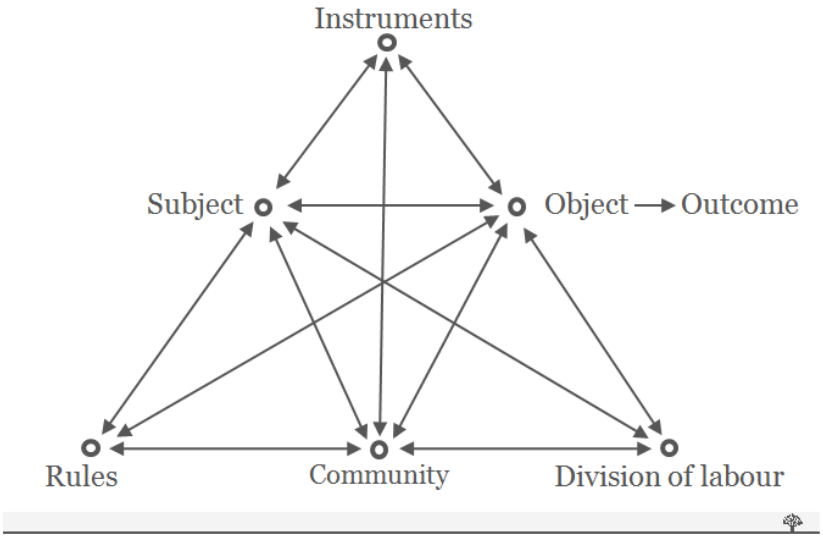

Figure 1 – Activity theory model (Image taken from (https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/activity-theory) on June 6, 2018.)

Engeström's notion of activity thus encompasses the subject, community and object, with each of these interactions being mediated by the rules, labour division, and instruments of use. The basis of analysis is on the contradictions which can occur in the continually changing activity. These contradictions can occur within a node (primary), between nodes (secondary), between existing and future forms of an activity (tertiary), and also contradictions between activity systems (quaternary)(Yrjö Engeström, 1987).

2.3 SITUATED KNOWLEDGE

Situated knowledge presents a theory of epistemological understanding that is positioned as an alternative to the phallogocentric positivist notions of objectivity and relativism.

The fundamental idea of situated knowledge is that it is one's social practices which influence one's knowledge, values and goals, rather than the reducible theory basing them in social positioning. These social practices involve a conversation between the participants involved in a situation but also of the object of consideration.

With situated knowledge being without basis in Weberian methodical individualism nor communitarianism (Stoetzler & Yuval-Davis, 2002) we can empirically apply this understanding to examine the generational differences in human-technology interactions.

As discussed above, social practices help form the situated knowledge. These practices are influenced by the activities undertaken by the community, a theme which common across generations. With the focus of this report relying on the ability

to apply definitions to a 'generation' it is interesting to note the formative nature of situated knowledge in this.

3. DESIGN PROCESS

The design process followed was largely agile in nature, with a particular focus on understanding the user early in the process, before moving onto the development of a speculative design that was grounded in the knowledge of the user research.

My role within the team was user research and user testing based, which provided me with a deep understanding of the user-centric design approach that was initially followed. This provided a deep understanding of individual users, but also the activities undertaken by them.

3.1 DESIGN INTENTIONS

The project undertaken began with a sub-consciously chosen user-centric approach, with a gradual shift towards the activity-centred approach as further design research provided more contextual depth. This user-centric approach was based largely on the sub-studio theme of social provocation which was broken down as follows:

Social: The team defined social as the relationship between two or more individuals, without a definition of how this relationship would take place.

Provocation: Provocation was defined to present a speculative design that causes the user to reflect on their own practices in some manner. However we did link this back to 'social' and looked to provoke users to reflect on their own social practices.

From the outset a user-centric approach can be seen, and this approach was sub-consciously reinforced by several assumptions made during the research phase of design. The most notable assumption was based on experiences in which familiarity influences interactional knowledge (Boger, Craig, & Mihailidis, 2013). This was used as a basis to identify two distinct user groups as the audience based upon the age (correlated to experience) of the individuals.

In the discussion below we are able to see how the user-centred design activities over time provided the author an insight to the user, but also an allowance to use activity-theory as a final analysis tool.

3.2 CONTEXTUAL INQUIRY

Contextual inquiry interviews were initially undertaken with a variety of undergraduate students, and mature aged participants. These were undertaken with the view of producing personas, a user-centric design tool.

The user-centric identification of two distinct age groups was reinforced in areas such as older generations stating that they used social media as a way to stay in contact with their children, whilst the university students stated that they used specific social medias based on what their friends were using. They used SMS technology to stay in contact with their parents.

However to link this back to the activity theory model we can see that an understanding of situated knowledge can be used to analyse the influence of the community node on the interaction. The idea of varying communication preferences depending on who is being communicated with also links back to the idea of division of labour in which a hierarchy has been established on communication method preferences.

3.3 USABILITY TESTING

It was in the development of the concept that usability testing was undertaken a number of times across university students, and mature aged participants. These were undertaken using a rotary phone, social media platforms, typewriters and also morse-code machines.

Within the development of the concept we once again looked back to the activity theory model to help explain the findings. It was found that the different generations had rules that they followed in their preferred forms of communication and that these rules were often mapped over to non-preferred forms as well. For example for the older generations it was found that there were several rules for the use of the rotary phone such as “calling with no answer to indicate something”, and “organising times to be able to call”. These rules dictate their interactions with the rotary phone technology. Whilst for the younger generation there were rules such as “not letting a message go ‘unseen’” and “following someone when they follow you”.

These are areas that can be clearly defined by the activity theory model yet become constraints within the user-centred design model.

3.4 USER TESTING/OBSERVATIONS

Informal user testing was undertaken in the latter parts of the design process in which users were provided with the Twitter Tapper and/or The Social Dial and feedback was taken on board. The largest of these sessions was noted at The Edge in which the activity-centred design model clearly became the analysis focus of the concept.

The previous research undertaken was reinforced particularly with the older generations understanding of the interactions required for the rotary telephone. There was additional reinforcement of the research showing that younger generations mapped their interactions with modern touch phones to the rotary phone as they were observed to touch numbers rather than dial. Whilst these perspectives are interesting from a user-centric viewpoint and fit in nicely to the ‘instruments’ node of the activity theory, the most interesting data gathered came from informal interviews after these observations. The few younger participants who knew the interaction

method for a rotary phone had been informed by parents, whilst the mature aged participants who did not know how to use it explained it through their inexposure. These link back to the idea of situated knowledge grounded in social practices, but also to the community node of the activity centred design.

3.5 CONTRADICTIONS AS PROVOCATION

From the brief identification of the outcomes leading to an activity-centred design process above we are able to see how it is in fact the activity theory model contradictions identified by Engeström (1987) that provoke the reflection being designed for. This is in contrast to the originally designed provocation based on the usability of two contrasting communication technologies.

3.5.1 CONTRADICTION 1

For individuals with interactional knowledge of rotary phones there is a tertiary contradiction with a juxtaposition between the traditional interaction and altered interaction of The Social Dial. This contradiction can be narrowed down to differences in the rules of the activity but also changes to the instrument definition as shown in figure 1. It is highlighted from The Edge exhibition where users who were aware of the initial workflow of rotary phone often questioned how the phone actually worked after the interaction. This is a provocation on the rules of interaction.

3.5.2 CONTRADICTION 2

A second contradiction occurs based on the situated knowledge that an individual has on the social media networks. This is a quaternary contradiction in which the activity of their normal interaction is altered by the restrictions of the telephone (instrument) but is largely based on the altered division of labour in which the subjects interaction with the social media community is influenced by a change to the social hierarchy. The Edge exhibition observations show this contradiction from the data recorded by individuals onto Facebook where several instances were recorded of variants of ‘hello’. This is a provocation on the role of social media.

3.5.3 CONTRADICTION 3

A secondary contradiction also occurs from the identification in the user testing session as above. This is a contradiction between the community and the object. This is due to the community understanding of the interaction formed from social practices. This inclusion of the community leads to a community reflection on the concept, as evident through the observations of participants discussing their experience with friends and family after their interaction. This is a provocation on the role of technology in every day life due to the formative nature of the social practices.

We can see from the identification of these contradictions above that the idea of generations that are defined based upon the age (and experience) of an individual are restrictive to the analysis and understanding of the design. In fact to gain a full understanding the designer needs to understand that the identification of

generations should be based on the identified contradictions which are influenced by the situated knowledge of the individuals.

4. CONCLUSION

Whilst the focus of the initial research question was intended to focus on the differences between generations, the application of the activity theory has shown that the initial definition of 'generation' by age (and experience) does not allow for an appropriate analysis. Understanding that groups can be formed by social practices explained by their situated knowledge we are able to identify activity-theory contradictions.

It is with an identification of the contradictions of rules, social media, and the role of technology that the report shows that the concept has provoked the user into reflection on the role of communication in everyday life. These provocations are not identifiable using user-centric analysis success criteria such as error rates and other quantitative metrics. Taking these contradictions further it is entirely possible to identify two groups that are based around social practices correlated with age, and from these we could look to examine the differences that the design provokes in the user.

Activity-centred design is an appropriate approach for the design and analysis of speculative designs due to the post-Kantian and systems approach that it takes. By extending the approach beyond the user, we can see how the situated knowledge of different generations does affect their interactions with the technology and the ease of communication.

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