Creative Design: Exploring Value Propositions with Urban Nepalese Children

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Abstract. Interactive technologies are being introduced into urban children's lives in developing countries. It is critical that these children have an active voice in the process of developing such technologies. Towards these aims we describe the research goals, process and outcomes for an action research project. The overarching goal of the research is to investigate and better understand how edutainment-based interactive technologies might change or improve the lives of urban Nepalese children, their families and their communities. In this paper, we describe the preliminary phase of the research in which in which we design and run a creative design workshop with Nepalese children.

Keywords: action research, empathic design, design for developing countries, participatory design for children.

1 Introduction

Involving children in developing countries in the design of interactive technologies can improve the likelihood that applications and products will address challenges and needs faced by these children, their families and communities. However, children's ideas and input must be carefully elicited to ensure they accurately reflect real opportunities and inform the production of viable solutions. In this short paper, we present our action research approach to a creative design workshop for urban Nepalese children. The focus of the research is to elicit and capture value propositions about how challenges and needs in urban Nepalese children's lives may be improved through edutainment-based interactive technology. In line with action research, our intention is to lay the foundation for a lasting relationship between the research participants and researchers. We will also obtain information that can be represented in child-personas and used in subsequent design and evaluation of edutainment applications for this audience (see [1] for information on this type of child-persona development).

2 Research Goals

The primary goal of the research is to elicit and understand issues of importance to Urban Nepalese children that may be enabled, enhanced or augmented with

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edutainment-based interactive technologies. Specifically, we aim to determine one to three ways that interactive technology applications may improve urban Nepalese children's lived experiences informed by the children's own reflections. We also aim to compile a set of personas that can be used to inform the design of working prototypes once the research team returns to Canada.

In order to support an action research paradigm, our approach includes several goals related to relationship building and the processes of working with children in a developing country. One goal is to create an ongoing bridge between our research team (which may include Canadian children) and the Nepalese children we are working with, developing relationships intended to strengthen the impact and efficacy of our research. Another goal is to enable Nepalese children to participate in a creative process of ideation and expression in ways that they find meaningful and authentic. A meta goal related to these two goals is to better understand the challenges of participatory designing with children in developing countries.

Preliminary Research Process

The research process will begin with several key activities working directly with Nepalese children on our first visit. Building on the outcomes of this preliminary process (outlined below), we will determine the next phase of the research.

The preliminary process of working with the Nepalese children will begin with a survey to determine language background, education level, and technology experience in order to better customize our initial workshop and future research phases. Data from these surveys will be used to organize a participatory design workshop for eight to sixteen Nepalese children aged eight to twelve. The main outcome for the workshop is a shared understanding of issues that are important to the children, families and communities of the workshop participants, as well as an understanding of which of these issues could be addressed with edutainment-based interactive technologies.

The workshop will begin with a relationship building exercise. The activity will involve each participant and researcher telling the group about the best and worst part of a typical school or work day, what they want to do when they grow up, and something they think the other cultural group wouldn't know about their community or culture. The process will involve the group taking turns talking, and/or drawing part of the answer with simple art materials. This activity is an important step to begin finding common ground between ourselves, local helpers, and workshop participants, and to set the stage for the creative and discursive group activities that will follow.

The second workshop activity will involve working in small groups to discuss challenges and needs from children's daily lives. We will spark conversation and seed reflection using information from the previous relationship building exercise. We will also look for commonality between children (e.g. who else has faced this challenge?). Children will be especially encouraged to discuss challenges that relate to an issue of importance to them in their personal lives.

The third workshop activity will involve an interactive technology demonstration. We will show several iPad edutainment applications (e.g. a literacy game, a memory/matching game, an art application) with a focus on the activities and experiences that interactive technology can provide. For example, we will discuss how these technologies can enable kids to learn new things, to communicate with others across the world, and it can be used to express ideas. The final workshop activity will involve working in small groups to ideate how interactive technology might be used to enhance children's lives based on a challenge or need they expressed in the second activity. We will guide each group to express and capture the essence of their idea with a visual storyboard. These storyboards may involve drawings, collage (cutting and pasting pictures), photos and words that express how the challenge or need might be addressed. The children will leave with paper (and/or digital) post-cards with follow-up questions, which they will be asked to work on later and mail (or email) to us. This may help transition the relationship from a face to face one to a remote one.

After the workshop, we will summarize 1-3 key ideas that emerged from the children's participation in the workshop. We will also use observations and information from all the activities to design a set of basic child-personas. For example, information about children's daily lives, challenges, needs and ideas about how they would like to use interactive technologies will be included in the personas. We will also capture children's ideation and design process in order to better understand the challenges of participatory design with children from developing nations. This will complete the preliminary phase of the research.

3 Research Challenges

Our creative design workshop is informed by participatory design practices developed by the author and others for working with children (e.g. [1, 2]). The workshop design is also informed by practices from empathic design and experience design [3]. The workshop is intended to enable workshop participants to express themselves through a structured creative process. The workshop structure includes key "triggers" that support the elicitation of propositions that are both empathetic to the lives of participants and aligned with possibilities afforded by interactive technologies. Our approach is also consistent with Wright and McCarthy's discussion of designing with a dialogical understanding of empathy that embraces both the designer's goals and perspectives, while enabling expression and understanding of the participant's perspectives [6].

One of the key workshop challenges cited in previous literature is the unequal power differential between adults and children. This may be heightened by cultural differences. Inadequately addressing this challenge will hinder building an effective design relationship [2, 5]. We have structured the workshop to build on an initial relationship building activity by repeating some of the relationship-building structure in subsequent activities (e.g. sharing personal stories, drawing/using pictures to represent ideas). We will also use activities that children are already familiar with (e.g. sharing stories from their lives, creating pictorial representations of ideas) rather than asking them to work with new technologies or new forms of expression.

Further challenges identified in the literature are that children often try to satisfy the expectations of adults and have difficulty expressing their own ideas in co-design processes [4]. In general, this is a result of being given too little structure and having too few boundaries within which to work. We will address this challenge by following a well-structured creative process of context setting, problem identification, opportunity and constraint setting, and ideation.

4 Research Outcomes

The workshop outlined here is intended to create a bridge between the research team and the child workshop participants, which may be built on with future work. It provides the workshop participants with an active voice in articulating their needs and issues of importance; a supportive creative process in which to express those needs; and an introduction into an active role in interactive technology development. The workshop participants will also benefit from being exposed to a creative design process and to forms of interactive technology that may be new to them (e.g. iPad) and which may be more feasible options for personal, family and community computing than traditional desktop based systems. The workshop will enable us to better understand the daily lived experiences of the participants, capture these in personas, and come away with potential avenues for technology applications. The preliminary phase will set the stage for a working relationship between the research team and the child participants. It will provide several seed ideas for ways that interactive technologies can improve urban Nepalese children's lives. Another key outcome will be a rough cut of a set of child-personas, focusing on abilities, needs and experiences that can be used in future design.

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