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COM 529 Research Strategies & Methods

Research Proposal:
$100 Laptop & The Next Billion Digital Creators

ABSTRACT

The following research proposal provides a comprehensive strategy to create an ethnographic documentary to determine how primary school-aged children in developing countries are using the social media tools embedded in the XO Laptop.

PROJECT SUMMARY

Introduction

Nicholas Negroponte, former director of MIT's Media Lab, founded the non-profit organization One Laptop per Child (OLPC) in January 2005. His main goal was to bring educational tools to school-aged children in developing countries with the hope that they would become both learners and teachers. Negroponte set out to create a durable, affordable and 'green' laptop to be distributed to primary schools throughout the developing world. This computer is called the XO Laptop.

Context

Nearly two billion children in the developing world[1] are inadequately educated. One of every three children in developing countries does not complete education beyond the fifth grade. Unfortunately, global barriers such as race, gender, age, language, class,

1 Although there is not a clear convention on how to define a developing nation we will refer to the 2008 International Monetary Fund World Economic Outlook classification system retrieved on June 9, 2008 from http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/groups.htm#oem

economics and gender prevent children from gaining a complete education. OLPC was founded to combat these barriers to education and to encourage children to "explore, experiment, and express themselves."[2]

While the XO prototype was a break-through in computer design, OLPC now faces an uncertain future. Many of the original founders have left the organization, mass-orders have failed to materialize, and many companies have developed competing computers with an aggressive commercial market approach that Negroponte says undermines his humanitarian efforts. Yet OLCP has started developing the XO-2 with controversial changes such as replacing the open-source interface Sugar with Windows. We believe that in order for OLPC to gain focus of their mission and public support (a critical factor in the success of any humanitarian effort), they need to obtain a deeper understanding of the XO's impact in developing countries.

Problem Statement

Extensive research and field tests to monitor how children use the XO-1 Laptop, and how this tool benefits their education, has not been carried out. Is the XO successfully fulfilling OLPC's vision of transforming uneducated children into both learners and teachers? This question needs to be investigated in order to determine the efficacy and future of the XO. We believe in OLPC's mission and the power of the XO to revolutionize the third world. Negroponte has laid the foundation of this noble cause and now thorough research needs to be conducted in order to ensure that the program is reaching it's maximum potential.

Hypothesis

An ethnographic documentary on children using the social media tools embedded in the XO Laptop will help OLPC improve the design of their innovative technology. The resulting documentary will help to gain public support because it will provide a compelling story that will engage the public. This support is necessary for OLPC to lead the way in revolutionizing education for the poorest children of the world.

Our goal is to provide a clear understanding of how this device is being used in real context. In doing so, we will provide insight into the XO's strengths and weaknesses.

2 OLPC Mission, retrieved on May, 9 2008 from http://wiki.laptop.org/go/The_OLPC_Wiki

These results should be the main driver for OLPC's decisions on design and distribution.

Contents

This proposal contains the following information:

- A detailed description and analysis of our project and why it is necessary to pursue this research.
- A comprehensive plan of work outlines how we will pursue proving our hypothesis.
- Qualifications of the researchers executing this research.
- An estimated budget to effectively execute this research proposal
- An annotated bibliography citing potential sources we will use to support our research.

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PROJECT DESCRIPTION

Rationale and Significance

Industrialized nations are more dependent on an interactive information economy than ever before. Developing nations struggle to compete within this economy because they lack the necessary tools and education. As a result, billions of people fall into a perpetual plague of isolation and poverty. The XO Laptop has the potential to help remedy or slow this crisis by providing children with a learning tool that does not depend on infrastructure or the traditional learning structures. Rather, it relies on a child's independent intuition and curiosity to pursue their own education.

The XO Laptop is built upon the core philosophy of Constructionism: learn by doing. Constructionism is a philosophy of education that was developed by Seymour Papert in the 1960s where children learned by 'doing and making' in a public guided, collaborative process. By incorporating interactive software tools to assist with writing, composing, video production, photography and software development, the XO strives to enable children to become positive, contributing members of their communities.

We believe that by better understanding the impact of the computer within context, we can help fulfill OLPC's purpose "to ensure that all school-aged children in the developing world are able to engage effectively with their own personal laptop, networked to the world, so that they, their families and their communities can openly learn and learn about learning."

We are only at the very beginning stages of understanding the impact of this new technology, and clearly OLPC will not be the only player providing educational tools for the developing world. Therefore, any organization that is pursuing similar objectives to the OLPC can benefit from this documentary as well.

Why an Ethnographic Documentary

Ethnographic films are an emerging research method recognized for their ability to provide rich contextual information. They also provide unexpected insights that focus groups and user-labs are unable to show. They combine the power of storytelling techniques from film studies and the social research methods derived from

anthropology. In a 2007 article from The Daily Telegraph, Stephen Hoare discusses how big brands like Unilever and Procter & Gamble are increasingly using this research method because:

> "what the subject didn't do or nearly did can often reveal far more about their inner motivations than what's happening in the surface. If you ask me how often do I make coffee I would say 'ever day'. But if you were to film me then you might find that quite often I help myself to my wife's tea in the morning. Even though I have a percolator and ground coffee, I'm usually too lazy to make myself a cup"

An ethnographic documentary will enable us to monitor a child's interactions with the XO Laptop in their cultural context. This ethnographic documentary will produce the most accurate results of how users are interacting with the XO Laptop. By observing a diverse pool of test subjects, we will be able to see the XO through their eyes and determine their needs. Most of the data in this study will be gathered from in-person observation, audio/video observation and interviews, and will be qualitative.

Other research methods like surveys or user-labs would not only be inaccessible, but would fail to provide the type of rich insight we are seeking. Surveys rely on the ability of the subject to interpret the questions and user-labs require sophisticated infrastructures that are likely unavailable in many developing countries. They also build an artificial environment that can be rather intimidating for children. User-labs are good for answering specific design questions rather than for obtaining insight into the normal behavior of people. With this project we want to observe and understand how children are using the computer in their natural context. Hence, the need of a method that allows us for extended observation and interaction.

Ethnographic documentaries are indeed qualitative and subjective, but they are no less significant and relevant to research. Social researchers like Sarah Pink (2004, 2006, 2007) have written extensively on how to approach such issues and strengthen visual research by merging academic standards such as acknowledgement and documentation of the process, an approach she calls "reflexivity". Additionally, in an interview with Scott Macklin, CTO of the University of Washington Department of Education, he describes the importance of documenting the process of filming as way to making the film as rigorous as any traditional research method. He also spoke of how his latest film is serving as an education tool. The interview is available at: http://mcdm.wordpress.com/2008/06/08/documentaries-for-research/

When doing ethnographic documentaries with children, one must take additional measure to ensure permissions, observe protection clauses from the country and the originating country, and maintain ethical standards to protect children from any form of exploitation. We will be sure our intentions are clear and will obtain permission from children and their caregivers before proceeding with this documentary.

Windows vs. Sugar

We intend to base our study on the XO-1 and the Sugar OS because we believe this open source OS provides more engaging social media tools then Windows. Additionally, XO-2 with Windows will not be available until 2009, so presently we believe it is more relevant to focus on the XO-1.

We recognize that Windows is the de-facto standard in computing worldwide. However, this operating system is not specifically designed for learning as Sugar was. Hence the importance of documenting children's interactions with Sugar rather than with Windows

Plan of Work

Our plan is to comprise two small-scale ethnographic documentaries in two countries that were not piloted by OLPC. Choosing two countries not piloted by OLPC will provide us with unbiased research. First, we will work to gain access to two schools in these developing regions. Once access has been granted, we will visit these countries to observe our test subjects in their natural environment. The final output of our research will be presented in documentary format to be broadcast primarily via Internet to engage as many people as possible.

Based on our interview with Scott Macklin, we estimate that we will spend four to six weeks in each location, which will total two to three months of travel. An additional six to eight weeks of editing will be necessary. We estimate that the entire project will be completed in six months.

I. Pre-Production

1. Choose two developing countries not piloted by OLPC one country in Central America and another in Southeast Asia. Our initial targets are Nicaragua or Guatemala and Vietnam. These are three countries not piloted by OLPC but strongly consider adopting the XO into their educational curriculum
2. Target two schools in each of two select countries to perform an ethnographic study of school-aged children interacting with the XO
3. Establish contact prior to travel to secure school cooperation and permission to work with children
4. Set up a blog to record updates and serve as pre-promotion

II. Production: Ethnographic Documentary

1. Select 3 to 4 children (between the ages of 8 and 12) to work with based on discovery interviews at selected schools
2. Observe these children interacting with XO
3. Observe these children interacting with their families and in their environment to determine how the XO fits into their culture
4. Interview children, teachers and family to establish testimony to see how this computer has impacted their lives
5. Request children to share their media production files (photos, videos, software, etc.) and explain their process for producing content on the XO
6. Maintain the blog throughout this process to engage people in our research

III. Post-Production

1. Six to eight weeks to edit the documentary and overdub narration and translation
2. Produce trailer

III. Distribution & Final Presentation

1. The final documentary will be primarily distributed through online video distribution channels which will enable us to engage a larger audience
2. We will pursue other broadcasting opportunities with WTV, PBS and other educational broadcasting channels
3. The analysis and final conclusions of our work will be written in a research report for publication

Facilities and Equipment

In order to complete this research, we will need access to the following facilities and equipment. First, we need to secure access to one school in both Central America and Southeast Asia considering incorporating the XO Laptop into their curriculum. At the moment we are looking at potential schools in Vietnam, Guatemala and Nicaragua. These countries have expressed interest in the XO Laptop but they have not been piloted by OLPC's project. Once our host locations are confirmed, we will need to acquire professional video equipment and a handful of XO-1 Laptops. In order to produce a broadcast quality professional documentary, we will need two professional digital video recording outfits including HD cameras, lighting kits, tripods and microphones. We also need two terrabyte firewire hard drives, one for editing and one for archiving purposes, as well as plenty of digital video tape. Since the XO-1 Laptop is the basis of this research, we will need 10 laptops to distribute to our test subjects for their keeping. If necessary we can revise our equipment needs to meet budget and or travel constraints.

Estimated Budget *

Below is an estimated budget for two researchers to produce this ethnographic documentary. The estimated cost accounts for three months of travel to two countries, equipment and production costs. The following figures are based on 2008 United States Dollars and are subject to change +/- 10% due to inflation.

Travel Expenses	In US Dollars
Airfare (To Southeast Asia and Central America from Seattle)	7,500.00
Accommodations	3,000.00
Food & Beverages	3,000.00
Monthly Stipend (three months)	15,000.00
Travel Insurance	500.00
Equipment	
2 HD Video Cameras	12,000.00
Camera Accessories (tripods, audio & lights)	3,000.00
Media Storage (Tape and 2 Terra byte Fire wire Drives)	1,500.00
Power adapters	200.00
Headphones for editing	400.00
10 XO Laptops	1,800.00
Production Costs	
Production insurance	1,000.00
Translation services	600.00
Total*	49,500.00

* * Total calculations are based on USD as of June 2008. This estimated budget is subject to change +/- 10% due to inflation.

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Personnel Qualifications

We are two digital media graduate students currently researching the impact of social media on communities and consumer accessible technology. Our professional backgrounds and travel experiences provide us with technical know how, storytelling and the ability to work in diverse cultural settings.

Brian Steel: Media professional with extensive audio and some documentary production skills. Brian engineered and mixed or produced 19 different albums for the Buttermilk label, as well as hundreds of records for diverse studio clientele. He has had the privilege of working with producers such as Eddie Kramer (Jimmy Hendrix), George Massenburg (Dixie Chicks) and Jack Endino (Nirvana). His documentary credits include Dedication to Preservation and Flip the Media: A Media (r)Evolution. He continues to do post-production work on various Microsoft and HTC Wireless spots and is currently pursuing more documentary experience. Brian has focused his graduate studies on content production, social media research and multimedia storytelling. Brian is well versed in using professional production equipment and digital audio/video workstations.

Adriana Gil Miner: Communication professional with nine years of experience in marketing. Adriana has developed expertise in integrating technology and visual communication to build online customer experiences that communicate, engage and market products and services. She is also bilingual, fluent in both Spanish and English. Adriana worked in AIESEC, an international non-profit, for six years. This has given her exposure to working in multicultural environments and multiple countries across the world. Adriana has focused her graduate studies on digital storytelling and on developing her research interests in how communication technology drives social order and production. Adriana has assisted in the production of the documentary Independent America: Rising from Ruins and Flip the Media: a media (r)Evolution.

Potential Funders

- MacArthur digital Learning initiative:

  Grantmaking in education seeks to explore what may be one of the most significant forces shaping student learning and educational experiences in and out of school in the 21st century: rapidly evolving new technologies. Through research, demonstrations, and innovations, the Foundation places specific emphasis on understanding the effects of this force on individual students' experiences and opportunities for learning and the environments and institutions that influence that learning.

- International Research and Exchanges Board (IREX)

  IREX is an international nonprofit organization providing leadership and innovative programs to improve the quality of education, strengthen independent media, and foster pluralistic civil society development. http://www.irex.org/programs/grants.asp

CONCLUSION

One Laptop per Child embraces the challenge of attempting to educate the nearly two billion uneducated children in the developing world. We admire OLPC's courage, passion and dedication to reducing unjust barriers to education. We firmly believe OLPC is striving to fulfill an essential need and that they are capable of fulfilling this need. OLPC is implementing their strategy effectively by introducing their product to small clusters of developing communities in the hopes of permeating more developing communities. However, we do not know how effective the XO Laptop is at solving this massive problem, because conclusive research and field tests have not been carried out. This technology needs to be thoroughly evaluated in the field in order to make sure it is fulfilling its purpose.

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