Providing Equal Access to ICTs for Rural Communities: A User-Centred Design Perspective

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ABSTRACT

The eBario pilot project has demonstrated a people-centred approach in providing ICTs to an isolated rural community in Bario, Malaysia. By engaging the community prior, during, and after the deployment of ICTs, Bario now has access to telephones and the Internet, and are applying ICTs to enhance their livelihood. The project has been acknowledged at the local and international level as a successful bridging-the-digital project. In this paper, we will provide a perspective from the human-computer interaction area..

1.0 Introduction

In this paper we describe the project, its implementation and impact on the community. We then provide a short discussion of the project from a user-centred design perspective.

1.1 Bario

Bario is a remote rural community, located on the island of Borneo, close to the border between Kalimantan and Sarawak, Malaysia. Flying to Bario, is the only practical way to get there. There is no road, and a land expedition requires a river journey plus an additional 14-day-long trek across forested mountains. Bario comprises 12 longhouses which are homes to 1,000 people. The majority of the people are Kelabits, one of the smallest ethnic groups in Sarawak, and are mainly farmers.

While there were many communities in Sarawak that satisfied the criteria for choosing a rural remote location, Bario was selected because of its *isolatedness.* In addition, it has basic infrastructure (no 24-hour electricity supply) and no telecommunication service. Given its remoteness, the catch-phrase was that *if you could successfully implement such a project in Bario, you can do so anywhere.*

1.2 eBario Project

The eBario pilot project was conceived as a research project by Universiti Malaysia Sarawak (UNIMAS). By applying a people-centred/participatory approach, the project aims to deploy the Information and Communication Technologies (ICTs), empower and train the Bario community to apply ICTs in improving their livelihood. Participants in this project include a multi-disciplinary research team, the Bario community, Government, private industries, and schools. The project costs USD213,000 (about USD213 per person in Bario) of which 13% went towards transportation costs; everything (computers, furniture, satellite dishes, batteries, solar panels) had to be flown in.

2.0 Project Implementation and Adoption

The project was implemented in 2001, and realised a computer laboratory in the Secondary school equipped with 16 computers and Internet access. A telecentre equipped with 10 computers and Internet access was realised in 2002. Prior to the deployment of the ICTs, computer literacy training was conducted based on the training-of-the-trainer method. Interested members of the community, teachers and secondary school students were instructed using this method.

At the telecentre, the main users are the lodge operators using email to communicate with their potential clients, and members of the various committees using word-processors to type up the minutes of meetings or official letters. The community members that are advanced-in-age are also using emails, albeit, a staff member at the telecentre acts as the intermediary to access their email accounts. The senior citizens are keen users of email given that they are able to keep in touch with their families and see pictures of their grandchildren who are living outside Bario. The telecentre charges both locals and visitors for the use of the computers. The money collected thus far average between USD160 and USD266 a month. Given that the telecentre is run by volunteers, and uses solar power to run the computers, this collection is considered the first steps towards achieving a sustainable model.