

# New Interaction Tools for Preserving an Old Language

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**Figure 1** Oroo' sentence "I have left a hunted boar (or part of it) for you in this direction" a) in jungle, b) sketched by a Penan artist, c) tangibles of symbols d) made in application with tangibles

## ABSTRACT

The Penan people of Malaysian Borneo were traditionally nomads of the rainforest. They would leave messages in the jungle for each other by shaping natural objects into language tokens and arranging these symbols in specific ways – much like words in a sentence. With settlement, the language is being lost as it is not being used by the younger generation. We report here, a tangible system designed to help the Penans preserve their unique *object writing* language. The key features of the system are that: the tangibles are made of real objects; it works in the wild; and new tangibles can be fabricated and added to the system by the users. Our evaluations show that the system is engaging and encourages intergenerational knowledge transfer, thus has the potential to help preserve this language.

## Author Keywords

TUI; fabrication; capacitive tangibles; preservation of language

## ACM Classification Keywords

H.5.2 [Information Interfaces and Presentation]: User Interfaces - Interaction styles

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## INTRODUCTION

The Penan village of Long Lamai is nestled in the rainforests of Malaysian Borneo about 300km from the coast close to the Indonesian border. It is an example of a tribe that has successfully transitioned from a nomadic lifestyle to a self-reliant settled community. The village consists of about 100 families, each with their own home and gardens. Access to the village is by river: the villagers' small outboard powered boats ply the river from Long Banga, the local airstrip and hub, to Long Lamai in about 90 minutes. The village has a primary school, church, micro-hydro dam, gravity-fed running water and a telecentre. The telecentre, developed in liaison with Universiti Malaysia Sarawak, provides Internet access via VSAT (a satellite communications systems) and WiFi that is accessible in the centre of the village. A 3G mobile tower was set up recently. Many of the villagers have laptops and mobile phones.

The community settled in Long Lamai in the mid-1950's. This has brought many advantages, such as education for all children and better access to medical care. However, it has also resulted in the loss of traditional knowledge, in particular, Oroo', the focus of this project. Oroo' is the object writing [14 p25] language used by earlier generations to leave messages for each other in the jungle. The elders realized that Oroo' will be lost if they do not find ways to preserve and teach it to the younger generations.

Research engagement with the community has shown that only those over 60 who lived the nomadic life during their youth have a full command of the language [37]. This means that only a few individuals hold the key to retaining this language which is an integral part of their culture.