Penan’s Oroo’ Short Message Signs (PO-SMS): Co-design of a Digital Jungle Sign Language Application

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Presentation content

- Indigenous Language preservation
- Research context
- Oroo’: secret jungle sign language
- Oroo’ documentation
- Oroo’ digitalization
- Co-design of Oroo’ app with Youth
From Namibia to Borneo
Collaboration
Languages are major carriers of culture and worldviews.

Languages can be sustained only if used in every day’s life.

Digital documentation often not accessible or attractive to indigenous communities.

Connecting indigenous people, via their own traditional forms of communication has not been prominent in current trends of innovation and technology design.
Context: Borneo island
Context: Reaching the community
Context: Partner Community

- 113 Households with 500+ population
- Church, Primary School, Health clinic
- No electricity but piped water
- Semi Nomads
Context: Project Collaboration

Telecentre since 2009
Forest walks with Garen

“If you don’t know about your origin [forest], you are not a Penan”
Understanding Knowledge Patterns

Toro: A journey to the forest

- Collecting livelihoods... food and medicine etc.
- Activity based platform for knowledge transfer between elder and younger ...hunting techniques, making hut, fishing, characteristics of the plants etc
- Loss of knowledge;
  - Rapid change in the way of Penans’ life
  - Reluctance of elders to transmit IK to uninitiated youth
We are from the same group. I’m alone, very very hungry and I have only water to survive. I am going to the river in this direction. Follow me and if you have anything to eat please bring
Oroo’: the Sign Language of Penan

- Sophisticated Signage Language of the Penans
- The signages made out of rainforest materials, such as twigs, branches, and leaves
- Extremely flexible and constructed on the spot
- Through different combinations of the elements new meanings could then be constructed
Connection
**Stage 1. Hypothesis Formation**

- **Needs Assessment**: Do we need to preserve Oroo’ language?

**Stage 2. Documentation**

- Analysis
- Compilation of Oroo’ list
- Database
- Confirmation with experts team
- Demonstration
  - Photo and videos
  - Drawings

**Stage 3. Digitalisation and Preservation**

- Community
  - Tourism Products
  - Handicrafts
  - Oroo’ Tangibles
- Software Engineers
  - Oroo’ Treasure hunt
Objects: Branch, twig or stick

Interpretation: This symbol used to tell Penan people that we are friends. The whole picture bring out the meaning of I am your friend and I am hungry.

Rules: Bend the twig or stick into two equal length.

Sign: Oroo’ sign collection
Oroo sign categorisation
Oroo’ Tangibles and Oroo’ Adventure game
• Elders concerned about lack of knowledge and interest by the youth in the language
• Youth drawn towards technology-driven communications.

→ Thus the idea of an Oroo’ messaging app arouse within the discussions in the village.
→ Co-design with Youth agreed
# Persona creations

| Vasper     | Rebecca                          | Clarisse                           |
|------------|----------------------------------|------------------------------------|
| 26 years   | 18 years old                     | 25 years old                       |
| Camera Man | Volleyball                       | Working at Bario                   |
| From Long Lamai | Singing                     | Love Long Lamai                    |
| So handsome| Friendly                         | From Long Lamai                    |
| Like Jungle Trekking | Hillary’s friend | So friendly                        |
| Funny Guy  | Working at the Telecentre        | Very Kind                          |
| Friend of us | From Long Lamai                | So pretty                          |
| Love Long Lamai and Jungle | Loves creating handicraft | Hard work                          |
| Skinny man | Loves surfing internet          | Know how to cook                   |
| Hardworking man |                          | Like fishing and singing          |
| Creative man |                                | Friend with Erna, Shida, Azlyn     |
| Christian man |                               |                                   |

| Damon      | Cassandra                        | Alavick                            |
|------------|----------------------------------|------------------------------------|
| 20 years old | 40 years                        | 42 years old                       |
| Pastor     | Handicraft                       | Boat driver                        |
| Football   | Housewife                        | Tourist guide                      |
| Fishing    | Kind person                      | Reading Bible                      |
| Reading    | Loves to swim                    | Kind and ugly man                 |
| Friendly   | Strict mother                    | Garren’s friend                    |
| Vincent Friend |                            | From Long Puak                     |
|            | Hardworking lady                 | Working at clinic Long Banga       |
|            | Love Long Lamai                  |                                   |
|            | Backup singer in church          |                                   |
Within less than 15 minutes 89 sms texts created one third in Malay and the rest in English.

Sample sms:
“What are you doing?”
“Let’s meet at the river”
“what do you mean?”
Creating new signs
New Signs created
Sign categorisation

- Activities: waiting, fishing, meeting, pick nick, going
- State: are you hungry? hungry, not hungry, are you fine?, fine, not fine
- Objects: house, plane
- Living beings: person, monkey, boar, friends
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