
Native Language Text Entry Can Decrease Global Illiteracy

Tamanna Motahar

North South University
Dhaka, Bangladesh
tamanna.motahar@northsouth.edu

Abstract

To improve literacy rate worldwide, research on mobile text entry in different languages is considerably important. In this position statement, a socio-technical aspect is proposed in favor of native language text entry which can bridge the gap between connectivity and communication.

Author Keywords

Text Input; Mobile HCI; Native Language; Global Illiteracy; Global Connectivity.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

Among all economic and demographic challenges, global illiteracy is one of the major difficulty for people to embrace technology and communicate worldwide [1]. To make illiterate individuals comfortable in using technology, text entry needs to be accurate, effective and easy to learn. Especially, enabling text entry in

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

Copyright held by the owner/author(s).
MobileHCI, 2018 Barcelona, Spain.



Figure 1: A 4 years old Bangladeshi boy is learning his native Bangla alphabet through mobile learning application

someone's native language can make them communicate better.

Proposed Scenario

Low-Income Community

People with low income and from less educated communities do not use expensive and latest devices for communication [2]. Other than making phone calls, text entry and text messaging is the only way of communication for them [3]. The ability to use their native alphabet to input text on budget phones may make it easier to express their thoughts. Moreover, once they get comfortable inputting texts, they may start exploring other features of texting which will convince them to learn by themselves.

Different Regional Aspect

"Knowing your language can be so important in developing a cultural identity," says Maggie MacDonnell, a \$1 million Global Teacher Prize winner for her work on underprivileged community [4]. But to communicate with people from the different cultural region who have no common language, they must have the native alphabets for text entry with auto-translator.

Effect of Social Media

Social media has enabled people to constantly update and share their lives and experiences with their own community [5]. People with different educational and cultural background can cross the boundaries through these social networking platforms, such as Facebook, Twitter, and LinkedIn. If different language text entry is

available, people will be more intuitive and connected with other communities too.

Perspective of Elderly People

Elderly people whose native language is not English are usually not willing to learn new languages or technologies. Mostly, they get disconnected due to lack of technical knowledge. Still, they can communicate in their native languages if the option is available [6].

Child Education

Children of non-native English speaking community are forced to use different learning applications designed in English, can also learn in their native languages using the similar application if text entry in their native language is supported.

Disappearing Languages

In every two weeks, a language dies [7]. "When humanity loses a language, we also lose the potential for greater diversity in art, music, literature, and oral traditions," said Bogre Udell, a bilingual personnel who is working on a project to make the first public archive of every language in the world. As many remote languages are disappearing, having more research on text entry in different languages can eventually save those [8].

Conclusion

In this position statement, the necessity of research on text entry in native languages has been depicted. For improving global literacy rate, mobile text entry in the native language can have extraordinary impact.

References

- [1] "The Global Literacy Challenge: A profile of youth and adult literacy at the mid-point of the United Nations Literacy Decade 2003-2012", United Nations Educational, Scientific and Cultural Organization, <http://unesdoc.unesco.org/images/0016/001631/163170e.pdf>, last accessed on May, 2018
- [2] Ahmed Sabbir Arif, Sarah Fardeen, Ali Mazalek, "Mobile Text Entry Challenges among Low-Income Users in a Developing Country" in Proceedings of the 2017 IEEE International Conference On Systems, Man, and Cybernetics (SMC '17). IEEE, Washington, DC, USA, 624-629, 2017.
- [3] Victoria Rideout and Vikki S. Katz, "Opportunity for all? Technology and learning in lower-income families", a report of the Families and Media Project. New York: The Joan Ganz Cooney Center at Sesame Workshop, 2016
- [4] "The surprising reason why you should learn a local dialect instead of a global language", <https://qz.com/1086796/technology-can-now-translate-languages-for-us-but-it-misses-the-most-important-point/>, last accessed May, 2018
- [5] "6 Ways Social Media Changed the Way We Communicate", <http://circaedu.com/hemj/how-social-media-changed-the-way-we-communicate/>, last accessed on May, 2018
- [6] José-Manuel Díaz-Bossini and Lourdes Moreno, "Accessibility to mobile interfaces for older people", 5th International Conference on Software Development and Technologies for Enhancing Accessibility and Fighting Info-exclusion, DSAI 2013
- [7] "The Race to Save the World's Disappearing Languages", <https://news.nationalgeographic.com/2018/04/saving-dying-disappearing-languages-wikitongues-culture/> last accessed on May, 2018
- [8] Julia Sallabank, "Language Endangerment: Problems and Solutions", eSharp, Special Issue: Communicating Change: Representing Self and Community in a Technological World, pp. 50-87, 2010

Biography

Tamanna Motahar is a lecturer of the Electrical and Computer Engineering (ECE) department of North South University. She Completed her Masters in Electrical Engineering from the University of Alberta, Canada. Before that, she obtained another Master's in Telecommunication Engineering from North South University, Bangladesh. She graduated summa cum laude in B.Sc. in Computer Engineering from the American International University Bangladesh (AIUB). Her interdisciplinary research works are based on Human Computer Interaction (HCI), Internet of Things (IOT) and ICT4D. She teaches programming languages (C, C++), data structure and algorithm courses and Junior Design classes of CSE students in North South University. She is also mentoring several groups for their technical projects.

Related past/ current work

1. **Participated in:** "A summer school on Research Methods and Approaches to Text Entry and Other Interaction Techniques", IIT Bombay, Mumbai, India, May 21 – 25, 2018

2. **Project:** "Bornomala AR: A Bengali Alphabet Learning Experience using Augmented Reality"

It is a Bengali Language Learning Augmented Reality Application for the android OS that aims to provide a

better and easy way to learn Bengali alphabet. This application was created targeting the children of age 3 to 5 of Bangladesh, to make them more familiar with their native language.

3. **Ongoing Project:** "Typing error rate changes with the contrast of keyboard while walking"

It is a quantitative research on how typing error rate changes with the change of contrast of the keyboard while walking