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Paterson 2014 Thesis Proposal

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1. Proposed title

The Application of Linguistic Knowledge to the Keyboard Layout Design for Minority Languages

1.1. Short reason for this study

Socio-technical systems are increasingly important in today's communication ecology (Whitworth & Ahmad 2013). Language development projects and language planing programs need a way to integrate linguistic knowledge, information and transmission practices into socio-technical systems if the languages used in these systems are going to be the mother tongue languages of minority language speakers. With the current rate of technological adaption it is more than feasible that systems will become more relevant than the traditional literacy reading primer (Blench 2012: 15). This requires addressing the design tension between requirements for minority language users, and the Human Computer Interaction (HCI) requirements of computing devices. This project focuses on the keyboard layout (KL); proposing that KL's are the cornerstone to truly adapting the digital content creation process to the needs of minority language users. In the context of minority language text input design specs and considerations there has been relatively little published, either for the publishing industry, linguists, or for technologists (designers and programers). The one exception is an unfinished book released in draft form by SIL's NRSI (Lyons 2001). In contrast to sparse literature supporting minority language text input, QWERTY keyboard interactions, primarily dealing with English, are well studied (MacKenzie 2002, 2007, 2013, MacKenzie & Tanaka-Ishii 2007). This current study proposes to take current practice in the HCI literature and apply it to several minority language use cases, focusing on languages which explicitly mark tone in their orthographies.

Because a speaker's choice of language is based in both social and physical environments, orthography design decisions have an overall effect on the mechanics of language expression in digital forms. Emotional responses to design - of orthography, the computer operating system, and text input method - also bear upon the language user. In the discipline of language documentation and description, text input methods may initially be developed with the needs of the researcher in mind rather than the needs of a native speaker who uses the language in everyday interactions. These existing keyboard layouts that support specific languages are rarely used by the broader minority language community, and the efficacy of many keyboard layouts is limited to linguistic analysis or researcher convenience. Linguists often bring linguistic knowledge and some of their own user expectations to the keyboard design process. They may not realize that requiring a typist to negotiate a keyboard layout to access a given character can have an impact on language-use choice, orthography development, or adherence to an approved orthography. User-centric keyboard layout design for minority language community writers/typists should be an integral part of a language development project in the twenty-first century. These considerations bring us to the following question: *At what point in the design process should this linguistic information be considered and applied, as opposed to other design criteria, so that maximal language usage is encouraged and made possible?* This study offers a framework for the linguist or language development worker to address crucial issues of keyboard layout design.

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Model of writing system description

Model of writing

Model of text input

Model of users and language users

Model of language development

Model of object hood from anthropology

A Model of Language use categories

A Model of knowledges

Model of design

Model of the Keyboard

Model of socio-technology

Model of Literacy

Model of movements

Model of technology

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Spanish Full Text
English Full Text
German Full Text
French Full Text
Italian Full Text
Igbo Full Text
Ezea Full Text
Bekwarra Full Text
Cishinini Full Text
Okphela Full Text
Mogolian Full Text
Russian Full Text
Navajo Full Text

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