REACH: Enabling Single-Handed Operation on Large Screen Mobile Devices

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ABSTRACT

Categories and Subject Descriptors

H.2.8 [**Database Management**]: Database Applications

General Terms

Algorithms, Design, Experimentation, Performance

Keywords

Data analytics

1. INTRODUCTION

There is an unprecedented rise in popularity of large screen mobile phones with scree sizes greater than 5 inches. The benefits of larger screens and a larger battery life being the primary drivers of user adoption, however, these larger devices are difficult if not impossible to use with one hand and pose usability issues for demographics with smaller hands (especially women). The existing solutions to this include on screen functions that the user can activate to bring the screen content closer to the user's thumb. These methods however, introduce extra steps in the user's interaction with the device and can be cumbersome. We propose "Project Reach".

By placing force sensors all around the rim of the phone, we can sense how the user is holding the phone and when they are straining their thumb to reach a corner. Using this information we can shift the UI closer to the operating finger. The force sensors can also be used to interact with the phone in other scenarios, for example swiping on the sides of the phone could scroll pages, or increase/decrees volume etc. With this project we intend to build the hardware, formulate UI design changes, and do basic user testing to validate our ideas.

2. RELATED WORK

CSC2525 '14 UofT, CA

3. REFERENCES