

STATISTICS IN THE CLASSROOM ON TOUCH-BASED SMART PHONES

Technology in Practice strand

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Abstract

Smart phones have become truly ubiquitous and are used by students to communicate and network almost continuously. However, despite their potential, computational power and ease of use they have not become commonplace in the classroom. In this paper I describe how the statistical package *StatCrunch Mobile*, which runs on any smart phone with an HTML5-compatible web browser, was used to support a college-level introductory Statistics class and investigate the advantages and disadvantages over a more standard setup such as a graphing/statistical calculator or a laptop/tablet with suitable software.

I describe the user interface, design principles and usage patterns of *StatCrunch Mobile* and explore the suitability of the touch interface of a smart phone for this application. The reference phone given to all students was a Nokia Lumina 900 with Windows Phone 7, but several students preferred their own iPhones or Android phones. Data was collected from 28 undergraduate students from mixed backgrounds who used their smart phone with the *StatCrunch Mobile* application during most classes and exams. Students were able to quickly and flexibly conduct statistical analysis on the fly which reinforced statistical concepts learned in class and allowed students to better interpret the output of statistical computations and procedures. Average scores in tests and exams were better than in past, comparable classes and the use of a device that students use on a daily bases anyway reduced the learning curve and increased student satisfaction.

In future work this project could be expanded to include data collection using the smart phone, which then could be analyzed immediately right from the phone. This would create a more hands-on and real-world approach to statistics than in traditional courses.