



## **Statistic-to-Go: Elaborating Tools for Teaching and Learning Statistics in Mobile Devices**

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Mobile learning is the acquisition of knowledge using mobile devices like tablet PCs, personal digital assistants, and cellular phones. The main advantage of mobile learning over traditional learning is that it allows the user to study in anyplace at anytime.

This paper presents important advances on our project "Statistic-to-Go", whose general objective is to design tools for mobile learning of statistics using cellular phones equipped with Java ME (micro edition). For this purpose, six MIDlets (i.e. Java ME programs) have been designed as described below. Students can load these MIDlets in their cellular phones in order to complement their learning of statistics.

The first MIDlet allows visualizing a histogram, a frequencies polygon, or a bar chart, according to the type of random variable that is being processed. The second MIDlet calculates several summary measures for a data set like maximum and minimum values, quartiles, deciles, interquartile range, average, median, mode, standard deviation, and variance. The third MIDlet obtains the Pearson regression coefficient,  $r$ , the determination coefficient,  $r^2$ , the linear regression equation, and the corresponding graph. The fourth MIDlet calculates Pearson's and Fisher's coefficients of asymmetry, and Fisher's coefficient of kurtosis. The fifth and sixth MIDlets permit sending and receiving archives from and to cellular phones equipped with Java ME.

Additionally, we have written the users manual where we describe 1) the installation of the software in the cellular phone, 2) the handling out of every one of the MIDlets and how to use them in order to improve their learning process.

Our future work includes the design of MIDlets to complement the teaching and learning of inferential statistics.