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Facilitating Student Mathematical Input on Mobile Devices. Preliminary report.

The Maplets for Calculus is an award-winning collection of computer applets that help students learn precalculus and calculus. The authors are in the process of adapting the applets for use on mobile devices such as phones and slates. Most of the components are readily available. However, there is no convenient way for students to enter their math formulas, either for computation or as answers to non-multiple choice (free response) questions. The existing graphical input programs are written in java and these will not work on mobile devices. We could ask the students to type in a linear input box using the syntax of MathML, LaTeX or some standard computer algebra system, but students find the syntax confusing. It is important to keep the input as natural as possible. We are developing a linear input system using syntax which is as close to natural math as possible but still preserving accurate content information. A graphical display of the input appears instantaneously below the linear input. This system will be flexible enough to allow other modes of input, specifically MathML, LaTeX, various computer algebra systems or pallet-based input. The input interface will be demonstrated and its syntax will be discussed. We welcome comments on improving the syntax. (Received February 14, 2012)