

1125-P5-1094 **Timothy A Lucas*** (timothy.lucas@pepperdine.edu). *Slopes: A Differential Equations Graphing Environment*.

A proper study of differential equations requires that students visualize solutions and analyze slope fields and phase planes. Although there is software that performs these functions (Maple, MATLAB or Mathematica), these programs are expensive and students must invest a significant amount of time to learn the functions and proper syntax. *Slopes* is an interactive app that I have developed with faculty and students at Pepperdine University that allows students to explore numerical methods and graphical solutions to differential equations. The name of the app originates from interpreting the derivative as slope and most activities revolve around plotting slopes. One advantage of using the app is that iPads are highly portable and feature large touch screens that allow students to view and manipulate content easily. Research based on observations of mathematics courses at Pepperdine University has shown that students are more willing to collaborate and share their results when using tablets such as the iPad (Fisher, Lucas et al. 2013). The intuitive interface of *Slopes* invites students to fully immerse themselves in the world of differential equations so that they can understand the concepts from not only algebraic, but also graphical and numerical perspectives. (Received September 14, 2016)