Mobile technology in secondary education: utilizing the Android development environment to teach Texas Paleontology

Abstract
The purpose of this project was to create an Android phone application that could be used to teach Texas Paleontology in a secondary school classroom. Since experienced teachers have reported that many students who do not have personal computers at home still have their own cell phones, the concept of using mobile devices for science education is very attractive to educators. In order to test out this idea the project had to include not only a mobile app, but also a webquest to help seamlessly integrate that app into Earth Science curriculum. To begin the project, I developed the Texas Paleontology webquest as a frame for the cell phone integration. In this activity the students are required to create their own field trip to explore relevant paleontological locations in Texas. They are required to document their field trip using Google Maps. These field trips could eventually be used to enhance the Android Application. The development of the Android Application represents the majority of this project. It was designed to be an app that can either stand alone or work with the Texas Paleontology webquest. In order to create this application I had to learn the XML and JAVA programming languages and become familiar with the Eclipse Integrated Development Environment and the Android Software Development Kit. The results of the project can be downloaded from the Android Market by searching for "Texas Paleontology." This report not only includes a description of how the application could be integrated into the classroom, but also an instruction guide for how to create an Android Application in a similar way. As cell phone technology becomes even more prevalent it is likely that more educators will want to utilize mobile application development in their own classrooms. This report provides a starting point for accomplishing this integration.

Department
Science and Mathematics Education

Subject
Android
App
Application
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Where Does a Paleontologist Work? Most paleontologists are faculty members in the geology departments of colleges and universities. Geological Oceanographers use geophysical technologies to examine the makeup of the ocean bedrock and the natural processes of rock movement. Often times referred to as and Geophysical Oceanographers as well. 

What Does a Geological Oceanographer Do? Technology in the guise of apps is helping those looking for some newness in the universe of learning. In addition to the feel of novelty, apps add an element of fun and involvement to the learning process. Through games, puzzles or other challenging tasks, app learning stimulates the brain cells to actively metabolize the input unleashing a new perspective.

Parent-teacher communication. Mobile app learning is one among the wisest choices of utilizing your free time actively. If a child has lots of leisure time, it can be utilized to learn something new with the help of a learning app. Entertainment guaranteed without wasting time. There are apps that help teachers to plan teaching materials. App based learning allows teachers and parents more time to discuss lesson plan for better interactive classes. Technology is playing a major role in education and certainly, it is evolving each day. From hanging projectors to iPads, it is essential not only to figure out what’s emerging next, furthermore where it all began. Nowadays, we have technological tools to annunciate knowledge to students across the globe. The idea behind the “Flipped Classrooms” is flipping traditional teaching ways by giving instructions outside of the classroom and utilizing the time in school as the place to do homework. For instance, the Khan Academy, a non-profit online tutorial, which provides educational videos with complete curricula in maths and other subjects. Back in 2010, this method was not so popular and we had regular classrooms with traditional teaching methods. Technology in education is the biggest change in teaching we will ever see. For years, policy makers, teachers, parents and students alike have been weighing the potential benefits of technology in education against its risks and consequences. Mobile technology in classrooms is a must-have if students want to be prepared for almost any career today. Student achievement may be boosted if they have the means to continue working on projects outside of the classroom. The cons. Technology is not meant to replace the teacher. Rather, the idea is to create a flexible learning environment that breeds innovation. It shifts the classroom experience from the ‘sage-on-a-stage’ approach to a more collaborative learning environment.