

# Mobile Devices and Apps for Extension Education

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## Abstract

Land grant universities provide information and educational programs to clientele, including the general public, farmers, and homeowners. Typically, this has been done through conferences, grower meetings, commodity meetings, field days, extension bulletins, and websites. With the changing technology in communications, mobile devices have become crucial tools for disseminating information. The objective of this paper is to describe some of the ways tablets, smartphones, and apps are used in extension education.

Keynote is an iPhone/iPad/iPod touch app to create and deliver oral presentations. With the Keynote Remote app, an iPhone or iPod touch can be used as a remote control to control a Keynote presentation running on an iPad. Zapd, an iOS app website builder, was used to create the mobile website "Micro-hydroponics" about noncirculating hydroponic vegetable systems. RSS news readers and news aggregator apps (Feedly, Pulse, and Zite) help find articles, websites, and videos about cutting edge technological developments in horticulture which are disseminated to extension personnel and clientele. Mind mapping apps (SimpleMind+) create mind maps of the topics that will be covered in a presentation. Through demonstrations and hands-on activities, clientele learn about QR (quick response) codes and generate them using websites (TAG.CX) or mobile apps (QRS+). Clientele used mobile devices with QR code readers (i-nigma) to scan QR codes to get relevant information to supplement discussions. In conclusion, the use of mobile devices for extension education is expected to continue to expand rapidly in the foreseeable future as extension personnel and clientele obtain mobile devices, apps, and receive training.

## Introduction

Mobile devices, such as smartphones and tablet computers (tablets), are increasingly being used to complement the use of laptops and desktop computers. In some instances, mobile devices are replacing computers for specific tasks.

Their small size makes these handheld mobile devices portable and convenient to carry and use. They are powerful, have an array of software, and their touch screen makes them easy to use.

Mobile apps (applications) are software that run on mobile devices such as smartphones and tablet computers. There are over 868,000 apps available for download in the US App Store (Apple Inc.) (148Apps.biz, 2013) for iOS devices, covering a gamut of topics. Many apps are free, whereas others have a cost associated with them.

With the rising importance of mobile devices in everyday life, we are also seeing their expanding use in agriculture and horticulture (Cunha et al., 2010; Delgado et al., 2013). The diverse range of software applications for these devices make them powerful tools for education (Hlodan, 2010), extension (Drill, 2012), and research activities (Young, 2011).

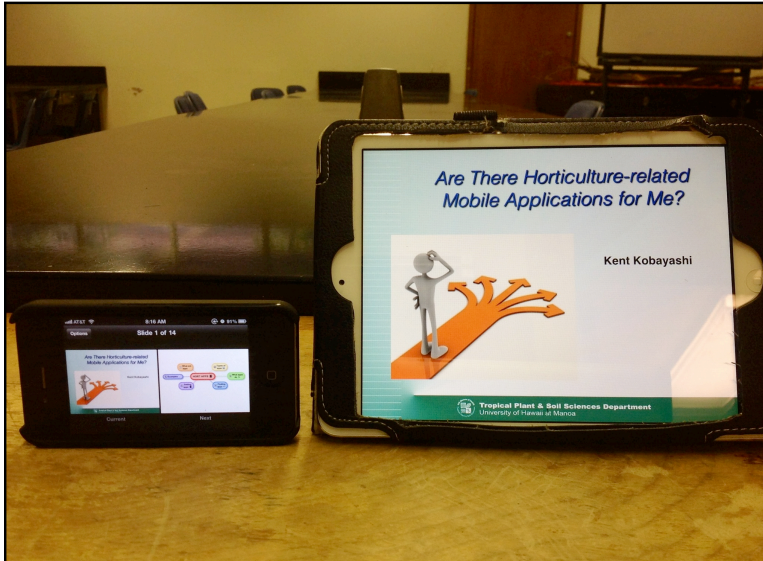
Land grant universities provide information and educational programs to clientele, including the general public, farmers, and homeowners. Typically, this has been done through conferences, grower meetings, commodity meetings, field days, extension bulletins, and websites. With the changing technology in communications, mobile devices have become crucial tools for disseminating information. The objective of this paper is to describe some of the ways tablets, smartphones, and apps are used in extension education.

### **Keynote and Keynote Remote**

Similar to Microsoft PowerPoint, Keynote is an Apple software for creating presentations. It is available as mobile apps, enabling the iPhone and iPad to also create presentations. Using an iPhone, iPad, or iPad mini for presentations is convenient due to the light weight and ease in holding and carrying these devices during a presentation. This allows the instructor to walk around the classroom, facilitating mingling among the students and increasing teacher-student interaction. The mobile devices are connected to a projector via an adapter and a VGA cable.

Another method for presentations is to the use of Apple TV, a digital media device that allows using a projector to show presentations on an iPad. The projector and iPad are linked wirelessly using AirPlay. In addition, a software such as Reflector, which runs on a Macintosh laptop, can be used for presentations if an Apple TV device is not available. The laptop is connected to the projector via a VGA cable. Using AirPlay, the iPad is wirelessly connected to the laptop, and what appears on the iPad then appears on the laptop and projector.

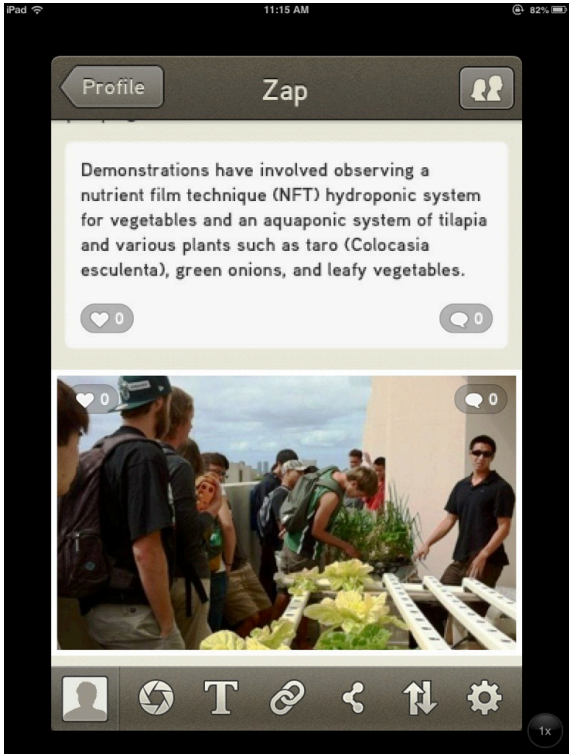
Keynote Remote is a mobile app that can be used on an iPhone to enable it to be used as a Bluetooth remote control unit for an iPad. The iPad is set up to run the Keynote presentation. The iPhone is used as a remote control (Figure 1).



**Figure 1.** Using an iPhone, running the Keynote Remote app, to control a Keynote presentation on an iPad. Swiping the iPhone screen advances the slide. Note: a preview of the next slide can be seen on the iPhone.

### **Website builder apps**

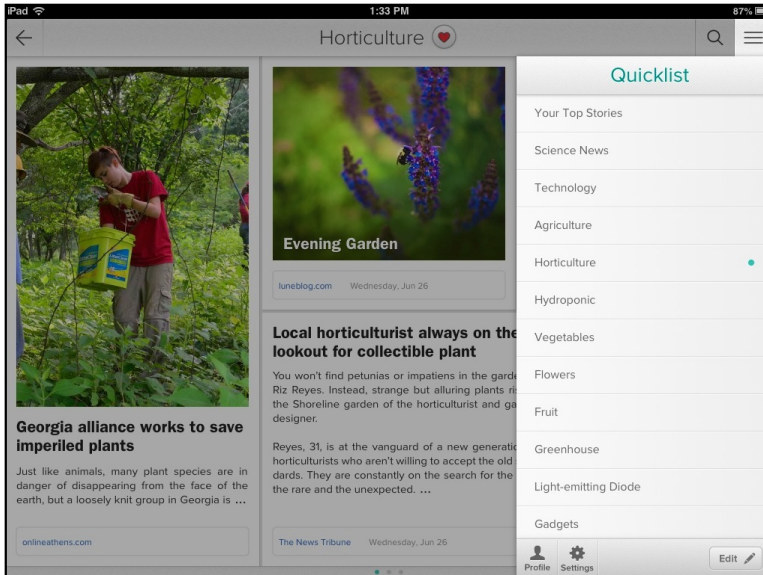
Zapd is a website builder app for creating webpages. Using an iPhone or an iPad, you can easily create a webpage by simply inserting text, images (photographs), and links (Figure 2). Other web creator apps include Weebly and Simpl.



**Figure 2.** A webpage created using the iPhone/iPad app Zapd. Text, photographs, and links are easily added to the webpage.

## **RSS news readers and news aggregators**

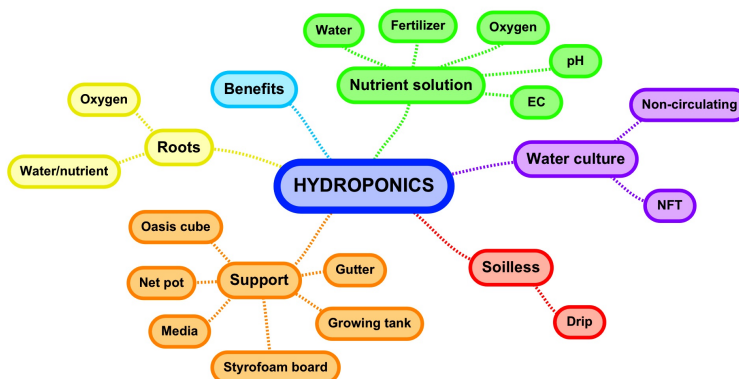
RSS (Really Simple Syndication) news readers and news aggregators are applications that can collect news articles and videos from multiple news sources and deliver them into one location for easy viewing. It eliminates the need to search the Web for specific websites to obtain news. Examples of RSS news readers and news aggregators include Feedly, Pulse, and Zite (Figure 3).



**Figure 3.** Zite news aggregator app evaluates news stories that match your interests, in this example, "horticulture". It then delivers them automatically to your iPhone or iPad.

## Mind Mapping

Mind mapping is a technique for organizing thoughts, ideas, and relationships. It starts from a central idea or topic and branches out like a spider web to related subtopics (Figure 4). Mobile mind mapping apps enable the creation of mind maps on iPhones and iPads. Mind mapping apps include iMindMap and SimpleMind+.



**Figure 4.** Mind map on hydroponics created using the iPhone/iPad app SimpleMind+. Presenting such a mind map previews a presentation for the audience.

## QR Codes

Mobile apps can be used to create and scan QR (quick response) codes (Figure 5). Scanning of QR codes provides information to the user including web links (URLs, Uniform Resource Locators), contact information, additional relevant information, text messages, and e-mail. There are many mobile apps for scanning QR codes such as i-nigma QR Code reader, QRS+ code generator/scanner, Norton Snap QR code reader, and Microsoft Tag.



**Figure 5.** QR (quick response) codes can be created and scanned using iPhone/iPad apps. When QR codes are scanned, they provide pertinent information such as links to websites, contact information, additional relevant information, and text messages.

## Conclusion

This article was limited in its scope to Apple (iPhone, Pad, and iPod Touch) products. There are also extension education related apps for other brands of smartphones and tablet computers with different operating systems such as Android and Windows 8 that were not covered in this article. The use of mobile devices for extension education is expected to continue to expand rapidly in the foreseeable future as extension personnel and clientele obtain mobile devices, apps, and receive training.

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