

## Chapter 4.9

# Using Learning Objects for Rapid Deployment to Mobile Learning Devices for the U.S. Coast Guard

**Pamela T. Northrup**

*University of West Florida, USA*

**William T. Harrison, Jr.**

*University of West Florida & U.S. Navy, USA*

### ABSTRACT

This chapter introduces the use of a learning objects content development tool, the eLearning Objects Navigator, (eLON™) as a strategy for creating, classifying, and retrieving reusable learning objects and reusable information objects. The use of eLON™ provides a context for rapid deployment of these SCORM-conformant packages to mobile learning devices as well as to learning management systems for a beta test with the U.S. Coast Guard Institute. Presented in this chapter is the underlying theoretical framework for the development of eLON™ as well as the specific design decisions made regarding the

deployment of PDA mobile learning devices to military personnel. Furthermore, initial results from the beta test yield positive results as well as a series of lessons learned.

### INTRODUCTION

The field of distance education continues to grow as emerging technologies present new opportunities to distribute learning anytime, anywhere. As more students choose distance learning to achieve college and career goals, universities are now faced with challenges to distribute learning using a variety of strategies to accommodate student

needs. Military students represent a large segment of many institutions in the United States through the Department of Defense off-duty voluntary education programs. Each year, approximately 300,000 service personnel enroll in voluntary education with universities making it one of the largest continuing education operations in the world (Department of Defense, 2003). As a result, universities with a strong military presence must be flexible to accommodate deployments, temporary duty, lack of Internet access, intermittent Internet access, and more. The level of flexibility required by military personnel pursuing educational degrees presents unique challenges to those who design distance learning instructional materials on university campuses. From creating blended learning opportunities to duplicative design across numerous delivery approaches, the time spent developing fully online programs and courses can easily exceed man-hours available on university campuses. Currently, the majority of higher education programs offered to the military are self-contained, nonflexible existing programs that may not meet the needs of individual service personnel that may be deployed, underway, or unable to access the Internet for an extended period of time. In an attempt to meet the need, the University of West Florida has partnered with the U.S. Coast Guard Institute and two community colleges, Florida Community College at Jacksonville and Coastline Community College to develop and beta test college level courses on a personal digital assistant (PDA). Given that few models currently exist for this mode of course development, the University of West Florida chose to develop all content using a learning objects content development tool, eLON™ for purposes of consistency and reuse across multiple delivery platforms.

Within the partnership, the community colleges agreed to offer a selection of general education courses, while UWF agreed to offer graduate level courses. For the beta test, UWF selected to

offer a 12 semester hour graduate certificate in human performance technology.

## **THE BETA TEST WITH THE U.S. COAST GUARD**

The U.S. Coast Guard Institute provided several specifications in the partnership to beta test the PDA as a viable mobile learning solution for Coast Guard personnel. The participants in the UWF study included those interested in the program area offered on PDA, including a graduate certificate in human performance technology (HPT). UWF students were recruited from several Coast Guard sectors including Key West, Islamorada, Miami, and the Yorktown Training Center. Students participating had to enroll at UWF to receive their tuition assistance or VA benefits. Students were then afforded access to all UWF student services. Since UWF is a SOCCoast Afloat institution, the programs offered had already been moved through the program approval process with other partnering institutions.

There were several restrictions placed on the selection and use of a mobile device that may be used on a Coast Guard cutter. All devices were required to have both Bluetooth and wireless disabled prior to use on a cutter for purposes of shipboard security. This presented some unique difficulties as most mobile devices offered these features with few companies or software applications in place at the time to disable both Bluetooth and wireless.

There were several design requirements that would ultimately affect the design models selected for development. We were asked to provide a bookmarking feature to enable users to pick up where they left off as many service personnel shipboard may have limited times available for study and may need to stop working at a moment's notice. With regard to access, we were required to design all materials for stand-alone use on

13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/using-learning-objects-rapid-deployment/26596](http://www.igi-global.com/chapter/using-learning-objects-rapid-deployment/26596)

## Related Content

---

### The Use of Mobile Health Applications for Quality Control and Accreditational Purposes in a Cytopathology Laboratory

Archondakis Stavros, Eleftherios Vavoulidis and Maria Nasioutziki (2016). *M-Health Innovations for Patient-Centered Care* (pp. 262-283).

[www.irma-international.org/chapter/the-use-of-mobile-health-applications-for-quality-control-and-accreditational-purposes-in-a-cytopathology-laboratory/145014](http://www.irma-international.org/chapter/the-use-of-mobile-health-applications-for-quality-control-and-accreditational-purposes-in-a-cytopathology-laboratory/145014)

### Wearables and People with Disabilities: Socio-Cultural and Vocational Implications

Damara Goff Paris and Katrina R. Miller (2016). *Wearable Technology and Mobile Innovations for Next-Generation Education* (pp. 167-183).

[www.irma-international.org/chapter/wearables-and-people-with-disabilities/149607](http://www.irma-international.org/chapter/wearables-and-people-with-disabilities/149607)

### What If Devices Take Command: Content Innovation Perspectives for Smart Wearables in the Mobile Ecosystem

Andreu Castellet (2016). *International Journal of Handheld Computing Research* (pp. 16-33).

[www.irma-international.org/article/what-if-devices-take-command/167832](http://www.irma-international.org/article/what-if-devices-take-command/167832)

### "WHOOOP There It Is": Exploring the Perceived Effectiveness of WHOOP Bands in a Varsity Team Setting

Colin D. King and Haley M. McDonald (2021). *International Journal of Mobile Devices, Wearable Technology, and Flexible Electronics* (pp. 26-48).

[www.irma-international.org/article/whoop-there-it-is/298661](http://www.irma-international.org/article/whoop-there-it-is/298661)

### Dual-Level Attack Detection, Characterization and Response for Networks Under DDoS Attacks

Anjali Sardana and Ramesh C. Joshi (2011). *International Journal of Mobile Computing and Multimedia Communications* (pp. 1-20).

[www.irma-international.org/article/dual-level-attack-detection-characterization/51658](http://www.irma-international.org/article/dual-level-attack-detection-characterization/51658)