Chapter 4.17
OpenLaszlo:
Developing Open Rich Internet Applications for Mobile Learning Environments

Chris Moya
Open University of Catalonia, Spain

ABSTRACT

Programming a rich Internet application (RIA) in any Web environment is the goal of Laszlo Systems. The open source software, OpenLaszlo Presentation Server, allows a user to run, on any device, applications that blend to perfection a user-centered design. It facilitates development from the basic levels such as creating forms, menus and other components for a website, up to high-level tasks like focusing on the attention of the user, to easily create, for example, an e-commerce website, a full management back office or a trip booking site, all this using animations comparable to those created with proprietary software.

INTRODUCTION

In this chapter we will introduce, develop, deploy, and execute applications made with OpenLaszlo to be run on mobile devices. We are not going to develop apps for a unique device, so everything developed will run on almost any device equipped with an Internet browser. Although there are ways to run these applications off-line, we will upload them into a web server to make the user experience friendlier and more intuitive. OpenLaszlo is an incredible open source way to make rich applications run with no device restrictions.

The simplicity of its language, its versatility, and the potential of applications generated within this framework make OpenLaszlo a serious po-

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tential competitor in the market of applications for mobile phones.

In this section, we will deal with basic aspects of this language based on XML and JS, from the installation of the software within a Linux distribution, to the aspects of programming in this language, and to the best ways for a programmer to feel comfortable creating high level applications. We will also show how to develop code in OpenLaszlo in an efficient way within an environment in which, as we will see, no application of proprietary software will be necessary.

History

Laszlo Presentation Server was set up in 2001 by a team of 20 developers coming from Apple, Adobe, Macromedia, Allaire, Excite and Go companies. Trying to get involved in the web business, two years later the platform was released as Open Software with the goal of having a free and open framework to create web based RIA applications.

Nowadays, OpenLaszlo has a community with hundreds of developers that are using this software to create incredible web applications and even lending a hand in coding the next releases of OpenLaszlo. When Adobe's Flash emerged, a revolution was started. Before that, designing and developing apps were two different worlds and nobody was expecting this barrier to disappear. Adobe's Flash was released and this scenario changed.

Developers were capable of "seeing" how their work would appear in the final version and, at the same time, designers were introduced to code, making the barrier vanish. After some releases of Adobe's Flash, swf web applications were well designed and coded, making flash content almost essential in any web page that wanted to give users the pleasure of a rich web experience.

Laszlo Systems wanted to take part and give users the chance to make the same content without depending on any plug-in software and, of course, totally free. As a result, we have a huge number of applications created with OpenLaszlo that are at least as good as Flash applications.

At the beginning of OpenLaszlo, the results of our applications were files with the.swf format. We know of the existence of open source players of this type, but let us be honest, we were all using the Flash Player by Adobe, at that time Macromedia. As a matter of fact, it was installed in 90% of computers worldwide as it was the best player of.swf files. Therefore, OpenLaszlo was really an application which depended on another piece of software (Flash).

Ever since OpenLaszlo 4.0, we have been able to obtain compiled codes in DHTML, so all the applications, events and animations that we generate, which were before dependent on the Flash player, now become scripts which will be compiled and executed natively on any browser; that is, we will obtain the same result in an open source manner.

Another strong point of OpenLaszlo executed as DHTML is that, by means of next generation mobiles (iPhone, HTC...), it allows us to execute natively applications which were previously developed on the.swf format. By using OpenLaszlo-DHTML, they will become excellent platforms for the use of our applications.

We are aware of the latest progress of applications in FlashLite by Adobe, but we are not looking at this now, as this solution would correspond to the development of proprietary software.

Let us not forget that now, at the beginning of the year 2010, there are certain aspects of these systems which are still obscure for developers. One of these points is the difference existing in the performance of browsers such as Safari (Apple) or Chrome (Google), and whether they are used on mobile devices or on personal computers. Differences such as the maximum memory size of scripts or the speed of the execution of scripts may have effects on the applications developed for these devices.

We may also find problems, with very specific devices, restricted to the brand, for instance,