# Bachelor's Thesis

# COMPUTER SCIENCE DEGREE

# University of Barcelona

# Faculty of Mathematics

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# ANALYSIS STUDY OF A CONTENT MANAGEMENT SYSTEM AND THE CREATION OF AN APPLICATION BASED ON CONTENT MANAGEMENT

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# Abstract

The following documentation is focusing on a particular Content Management System, know as the Adobe Experience Manager (AEM) framework. The empirical part consists in extending the existing AEM framework, by developing new templates, components, client libraries, workflows and validations, with the ultimate purpose of building a Java web application (Wikipage) for the University of Barcelona. The theoretical part presents the framework, the development environment setup and guides the reader through the installation, configuration and use of AEM.

A particular segment of technologies for web applications, Content Management Systems (CMS), have recently gained particular relevance, as they facilitate the management of wide variety of content by non-technical users. Although some of these CMS systems also provide support for the development of more complex web applications to be based on them, they principal goal is to facilitate end-users with an abstraction layer of the technological details, allowing them to focus on content creation and management on the web portal, at the same time drive engagement between users.

AEM identifies itself as a "digital experience management solution that helps business deliver compelling content across experiences — such as web, mobile, and the Internet of Things (IoT)". [Adobe.com] As a CMS, AEM offers great flexibility, modularity and user friendly interfaces.

The outcome of this work consists of AEM Wiki for the University of Barcelona students and faculty members. The primary features of this Wiki are: (1) easily editable content, (2) default templates for page creation, (3) user authentication, and (4) automatic jobs and approval workflow. The administration interface is relatively simple: the main navigation bar has different tabs for specific functions such as Manage Pages, Manage Assets, Inbox Notifications and Manage Users. Using the implemented features the users can easily create an unlimited number of fully customizable pages.

Building a Wiki for the University of Barcelona is just an example of how the AEM framework can be used. Nevertheless, using the same project, with the same features created, the outcome could be totally different. Due to the flexibility the project setup offers, the same platform could be used to create a website for the university, presenting all the different faculties, study programs, conferences and events; or a traveling blog exposing traveling experience, images and videos.

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Keywords: Content Management System (CMS), Adobe Experience Manager (AEM)