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Rapidly evolving Internet infrastructure requires appropriate tools to leverage the potential that it offers. Content Management Systems (CMS) have to be powerful and flexible enough to store, process and present the great volume of data with varying structure and sources. CMS administration part which is the face of CMS from the user's perspective has to meet various criteria, e.g. clear layout, rich functionality and ability to extend.

In the thesis under consideration we will study how the Magnolia CMS has used the Vaadin application framework to build the AdminCentral - the CMS administrative part that meets the aforementioned criteria. The topics covered include an overview of the technology stack used in the project implementation and the roles of the different frameworks with an emphasis being put on the role of Vaadin. The architecture of Magnolia 5 AdminCentral module is discussed in the Chapter 5. The custom frameworks for communication within the module and for decoupling of the functionality are considered and explained there. The key parts of the project implementation are highlighted in the Chapter 6.

In the final part of the thesis we will examine the process of a custom module creation for Magnolia 5 AdminCentral (a so called app) and also discuss the potential ways to improve the current version of the system.

Keywords: Vaadin, Google Web Toolkit, GWT, Magnolia CMS, Java, J2EE