Lab II - Product Specification Outline

CS 411W Lab II

Version 3.0

NGage Prototype Product Specification

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1 Introduction

NGage is a web application that allows users with a convenient and consistent resource to stay up-to-date about important aspects of college life. The purpose of NGage is to boost student retention by getting students more involved in their respective campuses. The NGage Site is broken down into four categories that will represented as tabs. The information includes topics such as tutoring, leisure activities, campus clubs, and independent residency options. The main objective of NGage is to boost campus involvement by informing students of their options in a convenient way. Ngage’s next objective is to improve help improve the retention rate. At ODU alone, 19% of freshman do not return after their first year (College Factual).

The benefit will be that the most important aspects of a student’s life can now be accessed quickly and conveniently which can lead to increased student involvement.

NGage
1.3 Definitions, Acronyms, and Abbreviations

- **Alert (email/text):** Alert messaging (or alert notification) is machine-to-person communication that is important or time sensitive. An alert may be a calendar reminder or a notification of a new message.

- **AngularJS:** a JavaScript-based open-source front-end web application framework maintained by Google.

- **Cookie:** (also called HTTP cookie, web cookie, Internet cookie, or browser cookie) a small piece of data sent from a website and stored on the user's computer by the user's web browser while the user is browsing.

- **Git:** version control system for tracking changes in computer files and coordinating work on those files among multiple people.

- **GitLab:** web-based git repository manager the includes wiki and issue tracking features.

- **Gradle:** an open-source build automation system that was designed for multi-project builds.

- **JavaScript:** a programming language commonly used in web development where the code is processed by the client’s browser.

- **MySQL:** an open source multi-user database management system.

- **ODU:** Abbreviation for Old Dominion University

- **Platform:** an integrated set of packaged and custom applications tied together with middleware.

- **Student involvement:** the amount of physical energy students exert and the amount of psychological energy they put into their college experience.

- **Ubuntu:** open-source Linux operating system.

- **Virtual machines:** an emulation of a computer system that provide functionality of a physical computer.

- **Web Application:** a client server computer program in which the client (including the user interface and client-side logic) runs in a web browser.

- **Wiki:** a website on which users collaboratively modify content and structure directly from the web browser.
1.3 Prototype Architecture Description


“Interview with Dan Zimmerman” March. 17 2017


https://nscresearchcenter.org/signaturereport8/


Office of Institutional Research


2 General Description

This product specification provides the necessary hardware and software outline, external interfaces, and abilities needed to make NGage a functional prototype. The rest of this paper is dedicated to describing hardware, software, and external interface architecture of NGage.

2.1 Prototype Architecture Description

The NGage platform requires four major components to operate efficiently and effectively. Starting with web interface itself, NGage will be portal or hub with an array of up to date information. Behind the scenes the website will have open and active connections to Social Media API’s, such as twitter. The website will also have a database to retain user data. On the front end, the user will request the NGage web application from any web enabled device. NGage will utilize cookies to optimize individual user experience.
2.1.1 **Hardware Interfaces**

The server will be the single point of hardware for the NGage platform. The website itself will be created on a virtual machine inside the server.

2.1.2 **Software Interfaces**

NGage will use the User Identification Database (UID) Interface. The database will store user data such as username and passwords. These passwords will be encrypted and stored on the database. Therefore, it will be used to manage user accounts and verify user login attempts.

2.1.3 **User Interfaces**

The user interface is the website as displayed to the user. The website interface will be a main homepage with multiple tabs. These tabs will outline main content of the website. Each tab will be click activated. Once clicked, a user will be transported to that topics’ homepage where they will receive more information.
2.1.4 Communications Protocols and Interfaces

The protocols to be used by NGage vary. There will need to be SMTP protocol associated with safe and secure emailing from the site. There will also be many IP address needed by the server to identify the NGage application via the web.