Lab 1 – NGAGE Product Description

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October 23, 2017
Version 1.4

Lab 1-NGAGE
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1 Introduction

The lack of student involvement and engagement in campus communities, events and organizations can negatively impact a student’s academic performance. Due to the lack of available resources needed to succeed, there are many things that complicate the lives of today’s college students, most notably; not being engaged on campus, academic difficulty, unfamiliarity of what the area offers, and living arrangements.

1.2 Problem Characteristics

Approximately 20.4 students were expected to enroll in a college/university; and the reality of this according to statistics is that 41% of those enrolled this semester will not receive a degree due to various factors (NCES). The lack of student involvement and engagement in campus communities, events, and organizations can negatively impact academic performance. Due to the lack of knowledge of the available resources needed to succeed (difficulty finding involvement opportunities, tutoring, entertainment, suitable housing), many college students do not get the most out of their college experience. In addition to this, many of ODU’s students are not originally from the 757 area, therefore not familiar with the area such as local restaurants, grocery stores, and concert venues—such as the Norva in our case. This further heightens the risk of students not returning to the university following their first semester at ODU. The ODU Housing and Residence Life department has proven that students who are what the university defines as engaged, have higher rates of retention and are more likely to complete their degrees.

2 NGage Product Description

Team Silver’s objective, through implementing NGage across campus, is to provide students at ODU a vehicle to connect more with the campus and be informed—which in conjunction will increase engagement. This in turn will theoretically increase retention rates at ODU. In order for NGage to be successful in fulfilling the team’s goal, the team must-

1) NGage must be accessible to any ODU student with an internet browser.
2) NGage must have regularly updated information in order to provide accurate information to users.
3) Users must be able to view information pertinent to their memberships on campus via live news feed.
4) Users must be able to publish content, under organizations if they are members
5) NGage must contain accurate tutoring center locations & hours.
6) NGage users must be able to research local housing in the surrounding area. 7) NGage must provide event listings in a timely fashion.
8) NGage must be regulated by administrators according to university standards.
2.1 Solution Method

NGage is a web application that is proposed by ODU’s CS411 Silver group, designed to increase student engagement and success across the board at Old Dominion University by attacking several areas that are problematic to students and solidifying the information for university students in one centralized location. The four areas we look to address include student organizations, tutoring resources, community events, & local housing. NGage is an informative resource - users will not be able to register or sign up for any of the aforementioned services. By addressing these areas, we look to increase engagement and foster a positive sense of connection/belonging among the student body. There is no other platform/service that provides all-encompassing resources to students the way NGage will. The closest available resource students have is Monarch link, which is notoriously difficult to navigate not always updated depending on the organization. NGage will combine positive aspects of Monarch Link (targeting of ODU students, organizations and events relevant to them), and combine it with a live newsfeed that users will be able to customize based upon their specifications. NGage looks to provide all of the aforementioned services in one centralized location, in an easy to navigate web application that one can use to find information as needed in regarding to non-academic aspects of ODU (with the exception of tutoring center location and hours which will be provided).
2.3 Key Product Features and Capabilities

NGage, will serve as an informative database of organizations, local events, tutoring information, and local housing information. Users will have the option to access content as is, or create accounts which they will be able to customize with memberships so that information pertinent to them will be posted to their personal newsfeed. Users with accounts will be able to personalize their account, akin to social media platforms (profile pic, short bio, etc). Users who have organizations registered under their names shall be able to post upcoming events, pictures of previous events, as well as leadership information and meeting hours. Obtaining an organization account will be regulated as to keep out malicious groups or intent and have a degree of accountability in regards to university standards. Account users will be able to view this information as it is released if they are members of the organization in question. Users can join an organization by requesting membership on the org’s home NGage page. NGage will provide an all-encompassing service that integrates aspects of Monarch Link, Twitter (primitive news feed), FaceBook (primitive accounts), and university announcements.

2.4 Major Components (Hardware/Software)

NGage is a simple web application that can be accessed on any device capable of internet connection (desktop, laptop, tablet, smartphone). Figure 2 illustrates the major components required to create and access the NGage platform.
3 Identification of Case Study

The primary purpose of the NGage web application is to increase student engagement here at Old Dominion University. To measure the success of the NGage platform, student retention will be measured from year to year and compared to previous data obtained from ODU Student Engagement and Enrollment Services (SEES). A primary goal will be to increase the rate of retention from year to year by 15% within 3 years of implementation on campus. Users of the web application will also be asked to complete an evaluation on whether or not they feel as if NGage has made it easier for them to find the resources that they required in order to become successful on campus.

3.1 User

Students (ODU specifically) are the primary target audience of the NGage web application, although later the NGage platform can be applied to other campuses across the nation, with information pertinent to each student population and locale. Students will use the application to look up campus organization information, tutoring resources, local events, and housing information in the area.

3.1.1 ODU Organizations

ODU student organizations will use the platform to post information about themselves (leadership, meeting times, upcoming events) to help students find out who exactly the organization is, and what it is that they do.

3.1.2 Other colleges

Other universities will be able implement the NGage platform on their own campuses as noted before once it has been refined according to feedback gathered from ODU. The information on the web application will vary according to the location, the University of Maryland’s NGage application will contain their campus organizations, their tutoring resources, upcoming events in the College Park, MD area, and housing offerings near the UMD campus.

3.1.2 Parents

Parents as users will be able to assist their students in finding engagement opportunities but primarily in regards to housing. Parents play a large role in helping students find housing and the NGage platform will further supplement the parent in that aspect.

3.1.3 Local

Local venues will be able to post events on the NGage platform in order to increase awareness in the community and attract college students here at Old Dominion University. This provides supplemental engagement and will help increase profit in businesses as well help create ties between students and the extended community.
3.1.3.1 Visitors / Tourists

Visitors to the Old Dominion campus as users will be able to look up events to partake whilst on the campus; concerts at the Ted Convocation Center, sporting events, or even events such as Relay for Life or Red Cross Blood Drives.

3.1.4 Landlord/Real Estate Company

Housing providers will be able to list housing on the NGage, not directly for sale but they will be able to advertise their properties and provide information for students using the application about their communities. Tours and leases will not be provided through NGage-they will have to be conducted via a ‘third-party’ provider (the leasing entity in question). NGage will simply list potential communities for students to live in and provide reviews of the area in question.

3.2 Reason for visiting site

Users who are subscribed to memberships within student organizations to their user accounts will be provided a news-feed containing notifications from their orgs. A member or The National Society of Leadership and Success will have notifications pushed to their feed so that the user will not have to search for information. This will further facilitate engagement.

3.2.1 Browse around

Users who do not have user accounts will be able to use all of the functionality of the NGage web application, with the exception of the notification pushed to the news-feed. They will be able to search for the main four functions of the NGage platform,

3.2.2 Give reviews

Users of the NGage web platform will be able to provide reviews or communities to better assist other students on the web application in making well educated decisions in regards to. These reviews will be readily accessible to other users in a rating system very similar to Amazon. A ranking system for the community and a brief description. The purpose of the reviews is to help improve user experiences. Administration will have the ability to remove any reviews that are not beneficial or done in a malicious manner.

4 NGage Product Prototype Description

The NGage prototype is designed to demonstrate the functionality and feasibility of a centralized, informative platform created to make information regarding resources more accessible to students in a way that encourages them to be get engaged on campus.
4.1 Prototype Architecture (Hardware/Software)

Hardware must be used to host and use the web application software. The NGage prototype requires the user is operating a physical device that has access to the Internet. The Web app and accompanying database will be hosted from an ODU Linux server. The primary software is the NGage web application prototype which is created using development software IDE such as eclipse or webStorm. The user’s device must be able to run a web browser in order to access the NGage prototype.

4.2 Prototype Features and Capabilities

The prototype will serve as a small scale precursor to the final deliverable of the NGage web application. The prototype will contain a lesser number of organizations, tutoring resources, events, and housing options. The purpose of the prototype is to demonstrate the functionality of a large scale version of the program and the capabilities. The prototype, which serves as a precursor to the final deliverable, will cover the four essential areas covered as an informational database. The final deliverable will include everything that the prototype includes with the addition of a few new features such as the individual account usage and post features that were previously mentioned. Below is a table (Table 1) that outline the feature comparisons of both the prototype and final deliverable.

<table>
<thead>
<tr>
<th>Fully Functional Components</th>
<th>Real World Product</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students can search information on Organizations and grocery stores</td>
<td>Guests can use the app</td>
<td></td>
</tr>
<tr>
<td>Students can create user accounts to save their preferences and searches</td>
<td>Search information and get updates about housing on campus and near to campus</td>
<td></td>
</tr>
<tr>
<td>Organizer can manage their own Page on the site if they choose</td>
<td>Tutoring hours will be posted for each department</td>
<td></td>
</tr>
<tr>
<td>Users can post comments about their personal experience with an apartment, house, or dorm</td>
<td>A list of all clubs and organizations will be displayed with current contact information.</td>
<td></td>
</tr>
<tr>
<td>Registered user can join Organizations and R.S.V.P for events</td>
<td>Students can use the “contact us” feature to request information or sign up for email</td>
<td></td>
</tr>
<tr>
<td>Food, attractions and housing can be looked up on a map, students can copy and paste address into another service to get directions.</td>
<td>Campus events will be posted in the live feed</td>
<td></td>
</tr>
<tr>
<td>Students Direct Messaging</td>
<td>Live feed can be filtered by category</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partially Functional Components</th>
<th>Real World Product</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students can view a list of current clubs and organizations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizers can use the “contact us” form to send information they would like to see added pertaining to a club or organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments may be posted for housing only through the “contact us” feature</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizers can manage their own page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students comments and direct messaging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Join Organizations and R.S.V.P for events</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eliminated Components</th>
<th>Real World Product</th>
<th>Prototype</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1(Comparison of Prototype and Real World Product)
4.2.1 Eliminated Capabilities

The prototype will essentially have the capabilities of the non-account features. Account creation feature will not be part of the prototype as it is a more complicated piece of functionality and will require more time than we have due to time constraints.

4.3 Prototype Development Challenges

The primary developmental challenges Team Silver may face in constructing the NGage web application is time. The team is working under extremely tight time constraints, as the semester is halfway through and the final demonstration is due in early December. Having experience working with this team organization was also an issue, however Team Silver has improved its communication skills drastically since last semester. Programming experience is also an issue, a few members of the team do not know mySQL or PHP, myself included.

4.4 Risk Mitigation

The aforementioned risk can be mitigated by delegating the work to team members who are proficient in that area- for example a strong programmer should not be doing work to create tables. It is a technique in many successful industrial workplaces known as ‘Aces in their Places’. Also as team members complete their task, they are encouraged to help other team members who still are working on task. Professor Kennedy has also implemented weekly check-ins to ensure the team is working in a timely manner and completing task as they have delegated to themselves.
5 Glossary

**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.
**Student engagement:** the amount of physical energy students exert and the amount of psychological energy they put into their college experience. Old Dominion Residential Curriculum defines a student as being engaged if they attend 5 or more on-campus events a semester.

**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.
6 References


