UNA Advising System

Deployment Plan

Version 1.0

Revision History

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Deployment Plan

# Introduction

This document details the purpose, scope, and deployment plan for the UNA Advising System as developed by Team 5 for CIS 615.

## Purpose

The purpose of this software is to create a system for advising and registration that may be utilized by the students, advisors, registrars, and administrators at the University of North Alabama.

## Scope

The scope of this project covers four users including Advisee, Advisor, Registrar, and Administrator. The scope is also limited to the online MBA program at the University of North Alabama.

Advisee: This project will all Advisees to view their degree plan, view their schedule, view the institutional course schedule, add/drop classes, and view their Advisor’s contact information. Other Advisee tasks, such as paying for courses, will be outside the scope of the project.

Advisor: Advisors will be able to view Advisee’s degree plans and schedules, add/drop classes for Advisees, view the institutional course schedule, and request for courses to be added to the schedule or that prerequisites be overridden. Other Advisor tasks, such as changing an Advisee’s major, will be outside the scope of this project.

Registrar: Registrars will be able to view and edit degree plan templates, input Advisor and course/instructor information (including the institutional course schedule for the semester), and manage Advisee records and information. Other Registrar tasks, such as updating an Advisee’s transcript each semester, will be outside the scope of this project.

Administrator: Administrators will be superusers that have access and authority to do any of the tasks that the other users can do. Additionally, they will be able to run various queries and generate reports from the system. Other administrative tasks will be outside the scope of this project.

## Definitions, Acronyms, and Abbreviations

Advisee: A student that is assigned to and Advisor. May add/drop classes to their own Schedule and view this Schedule at any time.

Advisor: A UNA employee that is responsible for advising Advisees and registering them for classes.

Institutional Course Schedule: A list of courses available during the given semester.

Registrar: A UNA employee that is responsible for updated degree plans, transcripts, and Institutional Course Schedules each semester.

Schedule (for Advisee): A list of courses that been added to an Advisee’s schedule and have not been dropped. This list is empty initially and may remain empty or become empty again.

Student: A person that has been, is, or will be enrolled in courses at UNA.

Team 5: Any specific member of our company, “UNA Team 5”, or to refer to the company collectively.

UNA: The University of North Alabama.

## Overview

This document begins with a list of all documents referenced elsewhere in the Deployment Plan. Then, it proceeds to detail the deployment plan including responsibilities of UNA and Team 5 members and schedule/timeline for the project. Next, it discussed the various resources required for the project ranging from facilities to hardware, and so on. In this section, the plan also references all the software, support, and documentation that will be delivered to UNA upon completion. Lastly, a discussion on the training that will be provided and a rough timeline for training is provided.

# References

[This subsection provides a complete list of all documents referenced elsewhere in the **Deployment Plan**. Identify each document by title, report number (if applicable), date, and publishing organization. Specify the sources from which the references can be obtained. This information may be provided by reference to an appendix or to another document.]

# Deployment Planning

[Describe all activities performed in deploying the product to the customer. Activities include planning, beta testing, preparing items to be delivered, packaging, “shipping”, installing the product, training, and support.]

## Responsibilities

[Identify the responsibilities of both the customer and the development team in preparing for deployment. Of particular relevance in this section is the description of the Student’s involvement in acceptance tests and the process to handle any discrepancies.]

## Schedule

[Describe the schedule and milestones to conduct the deployment activities. Deployment milestones need to conform to the project milestones.

Take into account the following Deployment workflow details:

* Planning the Deployment
* Developing Support Material
* Managing Acceptance Tests
  + Acceptance Testing at the Development Site
  + Acceptance Testing at the Deployment Site
* Producing the Deployment Unit
* Managing the Beta Program
* Managing Product Mass Production and Packaging
* Making the Product Accessible over the Internet]

# Resources

The **resources** are required to carry out the project tasks. They can be people, equipment, facilities, funding, or anything else capable of definition (usually other than labor) required for the completion of a project activity. The lack of a resource will therefore be a constraint on the completion of the project activity. Resources may be storable or non-storable. Storable resources remain available unless depleted by usage and may be replenished by project tasks which produce them. Non-storable resources must be renewed for each time period, even if not used in previous time periods.

Resource scheduling, availability and optimization are considered key to successful project management

Allocation of limited resources is based on the priority given to each of the project activities. Their priority is calculated using the Critical path method and heuristic analysis. For a case with a constraint on the number of resources, the objective is to create the most efficient schedule possible - minimizing project duration and maximizing the use of the resources available, the below mentioned list has resources and their sources required to carry out the planned deployment activites.

* Traditional Project Management. - Toggl
* Software Requirements Management. - aNimble
* Software Development Kits and Software Quality. Java Runtime environments (JRE)
* Rich Interface Application – HTML5
* Unified Modeling Language. - Visual paradigm
* Database Development. - Postgres Database
* Java Software Development.-Node.js

## Facilities

Disciplined software implementation principles, planning, and resources for systems build-up provide effective testing to be conducted in a development facility for a software and system integration environment. Software released under configuration management control is described in a defined and documented Configuration Management Plan (CMP) to provide the necessary requirements for software implementation inside integration facilities.

In the early stages of software design and development this project, a Secured Development Facility (DF) with good network connectivity is established for software development activities. This facility is used for preparation of software prior to delivery, the facility also has an effective way to test traffic loads on software products.

## Hardware

1. **OS:** Windows 7 with SP1; Recommended*:* Windows 10
2. **CPU:** Intel or AMD processor with 64-bit support; Recommended*:* 2.8 GHz or faster processor
3. **GPU:** NVidia GeForce GTX 1050 or equivalent; Recommended*:* NVidia GeForce GTX 1660 or Quadro T1000
4. **Disk Storage:** 20 GB of free disk space
5. **Monitor Resolution:** 1280x800; Recommended*:* 1920x1080
6. **Internet:** Internet connection required for software activation
7. Internet Explorer 11 or later
8. Google Chrome 44 or later

## The Deployment Unit

The detailed statement of Deployment Unit work categorized into seven (7) major implementation tasks. A summary of each task is provided below.

1. Task 1 - Project Initiation and Planning: it is regarding the project kick-off and management.

2. Task 2 – System, Interface, and Data flow Design: Regarding the developing and detailing of the plans for designing the System to meet the needs of Student Advising system software. This includes the design of the interfaces and data flow.

3. Task 3 - System Development / Configuration: it is regarding the development and/or configuration of the System to meet Student Advising system software’s needs through execution of the designs created in Task 2. This includes the development of the interfaces and data flow.

4. Task 4 – System Testing: it is regarding the testing of the System developed/configured in Task 3 to ensure that it meets the needs of ASR.

5. Task 5 – Project Training: it is regarding the training of ASR staff in using the new System.

6. Task 6 – Deployment: it is regarding the deploying of the new System into production.

7. Task 7 – Implementation Closeout: : it is the expectations regarding the process of concluding implementation.

### Support Software

Software tools are used to accomplish and investigate the business processes, document the development process of the software and optimize all the processes, by using these tools in the software development process, the outcome of the projects will be more productive. Using the development tools, a developer can easily maintain the workflow of the project.

**GitHub** is a powerful collaboration tool and development platform for code review and code management. With this GitHub, the users can build applications and software, manage the projects, host the code, review the code

**Node.js** is an open source, cross-platform and JavaScript run-time environment that is built to design a variety of web applications and to create web servers and networking tools.

**Microsoft Azure** is a cloud computing service that is used for designing, deploying, testing and managing web applications or hybrid cloud applications through Microsoft’s global network of data centers.

**SoapUI** is an open-source web service testing application for service-oriented architectures and representational state transfers. Its functionality covers web service inspection, invoking, development, simulation and mocking, functional testing, load and compliance testing

**PostgreSQL**, also known as Postgres, is a free and open-source relational database management system emphasizing extensibility and technical standards compliance. It is designed to handle a range of workloads, from single machines to data warehouses or Web services with many concurrent users

### **Support Documentation**

The Functional Design Document, including at a minimum:

1. Rules definition’s

2. Details on the requirements supported by the Student advising System software.

3. Reporting capabilities and prebuilt reports

4. User profiles and security role permissions

5. System functionality traceable back to the Requirements Traceability Matrix

6. System overview diagrams illustrating which system components provide what functionality, linking back to the workflows, use cases, and functional requirements

7. A maintainable list of workflows mapped to business processes and use cases mapped to System requirements

8. User interface screens for the system

9. A comprehensive list of functional specifications to implement the functionality required

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The Testing Strategy deliverable, which shall, at a minimum, include:

1. The test methodology to be employed for overall system testing

3. Identified strategies for each type/level of Project testing: a. Unit and integration testing b. System testing c. End-to-end testing d. User acceptance testing e. Performance and load testing f. System regression testing g. Security testing h. Test Scripts

Backup and recovery procedures will be included to ensure that the Student advising system software can continue to operate in the event of an unexpected destruction of hardware, software, or communications through System failure, disruption of connectivity or natural disasters (these procedures and operations may differ depending on the proposed system delivery model, but shall still be addressed) o Arrangements for backup hardware or processing sites; off-site data storage; schedule for creation of backup media; and detailed recovery procedures for all anticipated types of disasters o Document proposed escalation plans that specify the necessary points of contact and decision-making authority at ASR o Restoration sequencing of the System implemented as a result of this Project/program

### **Support Personnel**

The Plan shall include the scope of support services documented in the Student Advising System software,

1. Level 1 – This is the initial support level responsible for basic student issues. The goal of Level 1 support is to gather the Student’s information and to determine the Student’s issue by analyzing the symptoms and figuring out the underlying problem. Level 1 will typically handle straightforward and simple problems while using a knowledge management tool. The goal for Level 1 is to generally handle 80% of the user problems before finding it necessary to escalate the issue to a higher level

2. Level 2 – This is a more in-depth technical support level than Level 1, and the staff are more experienced and knowledgeable with the use of the system. Support is often provided for bug fixes, custom reports, etc., which require configuration and/or technical expertise. If new problems are encountered and resolved that have not previously been documented in a knowledge management tool, Level 2 support resources are often responsible to develop and post instructions in the knowledge management tool 3.

Level 3 – This level represents an escalation to Proposer personnel responsible for the support of the software (or hardware, if applicable). Level 3 support resolves complex issues related to configuration and/or technical issues with the software. As is the case with Level 2 support, new problems that are encountered/resolved and have not previously been documented in a knowledge management tool are the responsibility of Level 3 support resources to develop and post instructions in the knowledge management tool The Proposer will use a help desk issue management software suite to collect and track all issues submitted to the Proposer for production support.

# Training

[Describe the plan and inputs for training the end users so they can use and adapt the product as required.]