**University Catalog Management System Version 2.0**

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# Abstract

The following document focuses on the University Catalog System and explores enhancements that can be made to the already existing application during the fall 2014 semester. The feasibility document serves to introduce the purpose and scope of the project.

Throughout this document we will begin to explore enhancements that can be made to this software system along with any requirements and/or time constraints associated with each problem.

Chapter 1 will introduce the University Catalog System and provide key information with regards to the overall background as well as the problem we are trying to resolve. Next we will look at the current V1.0 system and explore its limitations and constraints in order to exploit meaningful areas that can be enhanced through bug fixes and by adding new functionality.

Chapter 3 of this feasibility study will focus on the project plan which will detail how we will be approaching this project over the semester. Through this we will also explore the roles for each member, the software, and hardware resources used in order to define a breakdown of how the project work will be distributed. The appendixes will provide miscellaneous information that details meetings, cost matrices, feasibility matrices, and a project schedule.

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# Introduction

## Problem Definition

The University Catalog System is currently in a working state however there exists several possible enhancements that can be made in order to greatly increase the productivity of student and advisers who would use the system. Additional features such as flowchart analysis, enhanced user functionality, user interface enhancements, and solid documentation are considered some of priorities associated with this project.

Currently catalogs are recorded through physical catalogs distributed to advisers and made available to students online as a PDF. However this is not a very dynamic approach to documenting data such as degree paths. By moving the catalogs online users will have increased search capabilities in finding information relevant to their majors. In addition to creating a good user experience for students, we also plan to focus on the advisers and how this system can benefit their everyday needs. Advisers sometimes need to quickly be able to switch between catalogs and search for various degrees and degree tracks. Having a single platform that could archive previous and display current catalogs will provide a dynamic experience for all users.

An additional user group we plan to enhance is an administrator or lead adviser profile. These users will have the ability to grant access to users and approve proposed catalogs. This online catalog system will facilitate access for all user groups and provide a quick and interactive system for the displaying of degree information across all departments.

## Background

During the fall semester we plan to enhance he University Catalog System is an application intended for students and advisers which would allow them to quickly view degree paths and a description about each course. The catalog system acts as a virtual encyclopedia for degrees at FIU enabling users to view previous year’s catalogs.

Currently the catalog system is displayed in the following format.

Within each degree program information with regards to the number of credit hours, and a brief description is included.

## Definitions, Acronyms, and Abbreviations

### Definitions:

|  |  |
| --- | --- |
| **User** | Any general person who uses the system |
| **Student** | A student at FIU who can access the catalog systems to explore different degree paths. |
| **Adviser** | Registered user with credentials. Adviser acts as a point of contact for students when they have questions with regards to their courses. |
| **Administrator** | Registered user with credentials. User has elevated privileges and can give access to other users. |
| **Lead Adviser** | Registered user with credentials. Users will acts as administrators. |
| **Catalog** | Catalog is a publication issued by the university each year that documents all degrees offered and their courses required for graduation. |
| **Major** | A major is a student’s desired focus of study. |
| **Degree** | Associates, bachelors, masters, or doctorate level of education. We are focusing on undergraduate. |
| **Electives** | Courses that are not required by the degree program but allow students to explore additional interests within their major. |
| **Required** | Classes that are required for a specific degree program. |
| **Sciences** | Classes that are a focus on the core science topics such as physics. |
| **Lower Division** | Lower division classes refers to a student’s first 60 credit hours |
| **Upper Division** | Upper division classes refers to classes that are in the core of degree program. Typically they are the last 60 credit hours. |
| **Degree Granting Department** | A general governing body at FIU that is authorized to offer classes that teach the topics required for graduation with a undergraduate degree. |

### Acronyms:

|  |  |
| --- | --- |
| **FIU** | Florida International University |
| **Yii Framework** | Yes it is |
| **PHP** | PHP: Hypertext Preprocessor |
| **HTML** | Hypertext Markup Language |
| **CSS** | Cascading Style Sheets |
| **JS** | JavaScript |
| **UCMS** | University Catalog Management System |

**V2.0** Version 2.0

**GUI** Graphical User Interface

**CIS** Computer and Information Sciences

**MVX** Model View Controller

### Abbreviations:

**DB** Database

**Admin** Administrator

## Overview of document

Throughout this document we will explore the requirements for this projects in addition to the technology we will be using to implement certain features. This document will act as the foundation for the enhancements of the existing project. Over the next chapter we will begin to explore the current system and the current system constraints that we are looking to provide solutions too.

# Feasibility Study

## Description of Current System

The current catalog system has the infrastructure in place to record catalogs and a basic user interface for displaying such information. Three levels of user accounts have been created including students, advisers, admins however not all functionality desired by each user group has been implemented.

## Purpose of New System

The new system will enhance usability with a focus on providing the necessary tools for our adviser user group. We also are looking at making key enhancements to the user interface in order to make the system more appealing to the everyday user.

Below is description of some of the tasks we are looking to accomplish over the semester:

* Implement additional features for user accounts:
  + Student:
    - Enhance user interface.
  + Advisor:
    - Propose catalogs.
    - Change old catalogs.
    - Compare catalogs.
  + Admin:
    - Activate/Deactivate catalogs.
    - Approve/Reject proposed catalogs.
    - Make changes to active catalogs i.e. change the description of a course in a study program, codes.
    - Manages the authorization for different users.
* Provide the ability to contain older catalogs in the system to use as a point of reference.
  + Show and keep catalogs based on changes, i.e., if the latest catalog for computer science was approved in 2010, when selecting any other year in the range from 2010-Present it must show the one approved in 2010.
  + Ability to compare two catalogs which will allow students and advisers to see how the course has changed and what degree path could be beneficial to the student.
* Implement or create an algorithm for the creation of flowcharts.
  + By creating a flowchart visualization we will be able to display degree information in a format that is clear and concise.
* Create a web service for the quick retrieval of catalog records from database.
  + By having a web service we will be able export XML files which will allow other programs to consume the cataloged data.
* Allow the creation of new catalogs in the system.
  + Once a catalog is approved is must become the default for that academic year. Therefore pushing the older catalog into a history section.

## 

## High-level Definition of User Requirements (must include security/privacy requirements)

## Alternative Solutions

### Description of Alternatives

### Selection Criteria (Briefly describe the feasibility criteria used in the analysis component)

### Analysis of Alternatives (refer to Appendix C – Feasibility Matrix) – you should provide a score so that the alternatives can be compared.

## Recommendations

# Project Plan

## Project Organization

### Project Personnel Organization

The team working on this project consists of two members:

* Jose Astudillo : Manager, Developer, Tester, System Designer, GUI Designer
* Christopher Sutton : Manager, Developer, Tester, Database Manager

Manager, Developer, Tester, System Designer, GUI Designer

Jose Astudillo

Manager, Developer, Tester, Database Manager,

Christopher Sutton

**Diagram 3.1.1** Team Project Organization

Diagram 3.1.1 helps us understand better how the team is organized. Each team member will be manager of the other. This means that every work done by a single team member will be revised by its manager. In addition, both members will work on the code, and testing. Each member also has different roles; for example, Jose Astudillo is the System Designer, and Christopher is the Database Manager. However, work will be revised by each other.

### Hardware and Software Resources

The following technologies have been used to build the previous catalog version:

* Yii Framework
* PHP
* HTML/CSS
* MySQL

While we acknowledge that these are already used throughout the project, we are not limiting our design or implementation to these languages and will be exploring possibilities for adding JS and JQuery.

## Identification of Tasks, Milestones and Deliverables (work breakdown)

# Appendix

## Appendix A - Project schedule (Gantt chart or PERT Chart)

## Appendix B – Feasibility Matrix

## Appendix C – Cost Matrix

## Appendix D - Diary of Meetings

|  |  |
| --- | --- |
| Diary Entry 1 | |
| Date | Wednesday, September 3rd, 2014 |
| Location | ECS 341 |
| Start | 7:00 PM |
| End | 8:00 PM |
| Attendees | * Tim Downey * Jose Astudillo * Christopher Sutton |
| Agenda | * Review the existing system * Get requirements for the project |
| Summary | * Defined tools to be used for the development * Explanation of the current system * Brief definition of the functionalities to be implement for this version of the system |
| Assigned Tasks | For both team members:   * Explore current system * Get familiar with the tools to be used. |

# References