Student Information Management System

Software Project Management Plan

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CS3420 Software Engineering

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# Introduction

## Project overview

The purpose of this project is to develop a software product that will assist universities in organizing student data. In addition, students will also be able to access their information to keep track of grades and registered classes. The Student Information Management System will allow students to view their student ID, name, registered courses, exam grades and GPA. In addition, administrators will be able to view, add, and modify student ID, name, registered courses, exam grades and GPA. Students will only be allowed to view their own information.

## Project Deliverables

The complete product will be delivered on April 30th, 2017.

## Reference Materials

Object‐Oriented & Classical Software Engineering, 8th edition, Stephen R. Schach

Database Systems, 4th edition, Thomas Connolly, and Carolyn Begg

## Definitions and Acronyms

|  |  |
| --- | --- |
| SIMS | Student Information Management System |
| Software | The programs and other operating information used by a computer. |
| GUI | Graphical User Interface |
| Database | A structured set of data held in a computer, especially one that is accessible in various ways. |
| User | Any person, student or teacher that actively engages with the software |

# Project Organization

## Process Model

Our team will follow the full waterfall cycle for this project.

## Organizational Structure

The development team consists of Brian Campos, Ben Herrera, Christina Havel, and Mark Stenmark. We will utilize the Synchronize-and-Stabilize team approach.

## Roles and Responsibilities

All team members will work together to analyze and design the database and GUI. Christina will construct the documentation artifacts during each process. Ben will implement the analysis artifacts. Brian and Mark will implement the design artifacts. Mark will construct the database. Ben and Brian will construct the GUI. Brian is also constructing the test cases for the product. Christina will implement the sequence diagram and collaboration diagram with the help of Ben and Brian.

# Managerial Process

## Resource Acquisition Plan

Github will be downloaded and installed on each team member’s personal laptops, as well as SQL Server Management Studio. ArgoUML will also be installed to create all diagrams. All other resources are already available to us.

## Project Staff Training Plan

Team will need to do self-study on database systems. We will also attend workshops throughout the project to gain more knowledge on the use of Github.

## Staffing Plan

Ben and Brian will be needed for programming and testing in the last 3 weeks. All team members are needed in the first 2 months for research, analysis, and design. Mark is needed for 2 weeks for database design and implementation. The last 3 weeks Mark will be managing the final steps of the programming, testing, and implementation. Christina will be needed throughout the entire project for document management and organization of artifacts.

# Work Plan

## Work Activities and Schedule Allocation

|  |  |
| --- | --- |
| Week 1, 2 | Determine requirements artifacts |
| Week 3, 4 | Determined analysis artifacts, produced analysis artifacts, and presented progress to client |
| Week 5 | Produced Software Project Management Plan |
| Week 6, 7 | Began and produced design artifacts |
| Week 8-12 | Built database, classes and implemented each class in software. Tested and debugged as necessary. Revision of documents as necessary |

## Resource Allocation

All team members will be responsible for the progress through the requirements, analysis, and design phases of the development. Ben and Brian will be responsible for the GUI. Mark will be responsible for the database. Christina will be responsible for updating documentation and artifacts throughout the lifecycle. All team members will assist in data uploading and algorithms for the software product.

## Control Plan

All major changes to the software will be reported to Christina, and then subsequently updated in the documentation and diagrams. Team members will meet weekly to share progress and any issues that occurred.

## Risk Management Plan

Because student information is held in this product, extensive testing will need to be done to ensure privacy. Passwords for both students and administrators will be required, but we must also verify that no student has access to any other student’s data.

# Technical Process Plans

## Process Model

The Unified Process will be used for this product.

## Methods, Tools, and Techniques

The workflows of the Unified Process will be used to complete work. Visual Basic will be used for the implementation of the GUI. SQL Server Management Studio will be used for the backend database.

## Infrastructure Plan

We will utilize ArgoUML to create all diagrams for the development of the product.

## Product Acceptance Plan

We will achieve acceptance by following the Unified Process workflows.

# Supporting Process Plan

## Testing Plan

Testing will be done through NUnit in the testing workflow.

## Documentation Plan

Documentation will be created and updated throughout the lifecycle as changes are made and milestones are reached.

## Quality Assurance, Reviews, and Audits Plan

Each team member will test each other’s implementations to promote egoless programming. Extensive product testing will be done through NUnit to ensure complete functionality.

## Problem Resolution Plan

Major problems will be reported immediately to the team to ensure quick resolution. Any minor problems will be reported at the weekly team meeting.

# Additional Plans

## Security

Users will be required to have a strong password. Students will not be allowed to view any information except their own.

## Training

Training will occur at delivery using a group presentation.

## Maintenance

No corrective maintenance will be performed after delivery.