Student Outcomes (StOut)

End of Semester Report

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# Introduction

Currently, the Computer Science department tracks accreditation outcomes for ABET in a system called AbOut which has been an ongoing student project in various classes. This project has some very useful features and can help make the 6-year reporting cycles much easier, but this system has some critical flaws that prevent it from being extended to handle more departments or more metrics. The goal of this project is to create a system similar to AbOut that could easily be extended to fit more departments and cover more of the outcome reporting needs.

# Deliverables

The project calls for a series of documentation as well as a functioning system to be delivered. The documentation includes: Software Requirements Specification (SRS), Software Design Document (SDD), Software User Manual (SUM) and conceptual diagrams. The system will also be accompanied by sample data files, and a testing suite to ensure not only the ability to do automated testing, but to show what data is used by the system in various circumstances.

# Requirements Reference

All requirements for this system can be found in the SRS that will be delivered with the system. However, a brief description of users and their roles that impact this system is described below. Permissions can be cross referenced between the SRS and the Create, Read, Update, or Delete (CRUD) Matrix.

## Administrator

Administrators of the system are meant to be able to manage either a specific program or the overall running of the system. Due to this goal, administrators should be able to manage faculty and program coordinators within their assigned programs. They will also be able to generate reports and look over analytical data.

## Program Coordinator

Program coordinators are the ones that have been put in charge of gathering and overseeing the process of accreditation for the program. This will include managing both metrics and outcomes used by the program, ensuring that faculty are entering data in a timely manner with reminders and cutoffs, and generating reports. Program coordinators should also be able to tie classes to these outcomes and metrics to ensure that the correct data is tracked on a course by course basis.

## Faculty

The main priority for faculty access to StOut is the ability to enter outcome data either by student or by course into StOut. This data is then taken from its raw form and processed to generate reports that will be used towards the end goals of accreditation. This process should be streamlined, to minimize the amount of time entering data and encourage continued use of the system.

# Constraints

There are two primary constraints on the system. These constraints are ease of use and runtime system requirements. A recurring concern at all levels of elicitation was that the system should help limit the amount of time it takes to gather data and generate reports to help faculty and program coordinators work on accreditation for as little time as possible, but still get the best possible output. In addition to ease of use, the other constraint on the system will be what server environments are available to run the system. This server environment will inform both the runtime system requirements and how much of the system should pre-process data.

# Conceptual Designs

The two primary conceptual designs for the system are the system architecture diagram and the entity relationship diagram. These contain the designs for the system interactions and layout and the database design respectively.

# Schedule and Budget

The project is a two-semester senior project. As of the time of the writing of this report, the work listed under Fall 2017 is either complete or underway. All other work to get to a working and properly documented system will be completed, and has been outlined, in Spring 2018. As this is a student software project that should be able to run on existing Computer Science Department servers, there is no budget for this project outside of time input.

## Fall 2017

The Fall semester was primarily focused on elicitation of requirements as well as writing documentation such as the CRUD matrix, the SRS, and the conceptual design to leave artifacts of the design process. These artifacts will help both the implementation of the system in the Spring, but will also serve to help guide future groups that may use or update the system.

## Spring 2018

The upcoming Spring will be focused on the actual implementation and testing of the system. During this there will be time dedicated to ensuring that all critical code is being covered by continuous integration testing, as well as unit testing. There will also be time to continue writing the SUM, and test the system and documentation with stakeholders of the system. The system should be in a maintainable and extensible state by the end of the spring semester. This will include working on enhancements that have been requested that are not currently listed as high priority to provide a working system.

# Further Reference

All documents that have been created and the system progress can be tracked at <http://gitlab.cs.mtech.edu/tbrooks/student-outcomes> by anyone who has access to the repository. This is the location that tracks current issues as well as holding up-to-date and historical records of all documents created for this project. Access to the project repository can be requested by contacting the team members or the mentor, Jeff Braun.