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Software Design Documentation

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# INTRODUCTION

The Design Document will provide an overview of the goals of the program and design considerations.

# SYSTEM OVERVIEW

The program will act as a management system for school classrooms of various sizes using a user interface in order to manage the class grade book, attendance, and seating chart. The program will also produce various printed reports of the managed areas. The program will utilize a database and the functions of windows will be held within their own classes, this will allow modifications to be made in the future as well as the ability to build additional functions into the program.

# CONTEXT

The purpose of this program is to provide a simple all-in-one solution for teachers to better track student progress.

**GOALS**

To design a simple user interface to allow teachers and other administrators to manage classrooms and generate reports.

**GOALS AND MILESTONES**

Successfully deploy program based on approval standards of users with minimal bugs.

**January 31** - Completed login screen and successful connection to database upon login

**February 7** - Implement SQL statements necessary for displaying accurate classroom data

**February 17** - Completion of initial prototype of program

**April 7** - Deployment of alpha build for testing and debugging

**April 26** - Present completed program for final review and deployment

# DESIGN CONSIDERATIONS

The program will address and be designed around the following considerations.

**Database**

The program will utilize MSSQL to store data on students, grades, attendance, and seating as input by the user. The database will be normalized to the Third Normal Form.

**Security**

The program will utilize a consistent username format for each individual user. Each user will enter a password adhering to the set guidelines. Passwords will be able to be recovered and reset via email.

There are three levels of security permissions which are Instructor, Academic Officer, and Administrator.

**Distribution**

The program will be distributed with a standalone installer.

**Reporting**

The program will produce multiple printable reports that are HTML based.

**Gradebook**

The program gradebook will track each student's grades and produce a final grade based on the instructors assigned percentages.

**Classes**

Classes of any subject and as many classes as needed can be input into the system. Class sizes will be restricted to 5, 10, or 20 students.

**Attendance**

The program will allow the user to manually input or randomly assign seats. The program will also allow the user to input and keep track of student attendance.