**Course Management**

**System**

**Design Document**

Group 07

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# Document Change Control

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| --- | --- | --- | --- |
| **Version** | **Date** | **Authors** | **Summary of Changes** |
|  | 1/4/2018 |  | Tables for class diagrams added |
|  | 1/4/2018 and 7/4/2018 |  | Class diagrams added |
|  | 5/4/2018 |  | Architecture diagram added |
|  | 3/4/2018 |  | Intro and major design decisions added |

# Document Sign-Off

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# Introduction

## Overview

This SDD covers the architecture of core components in the system showcasing project structure and flow.

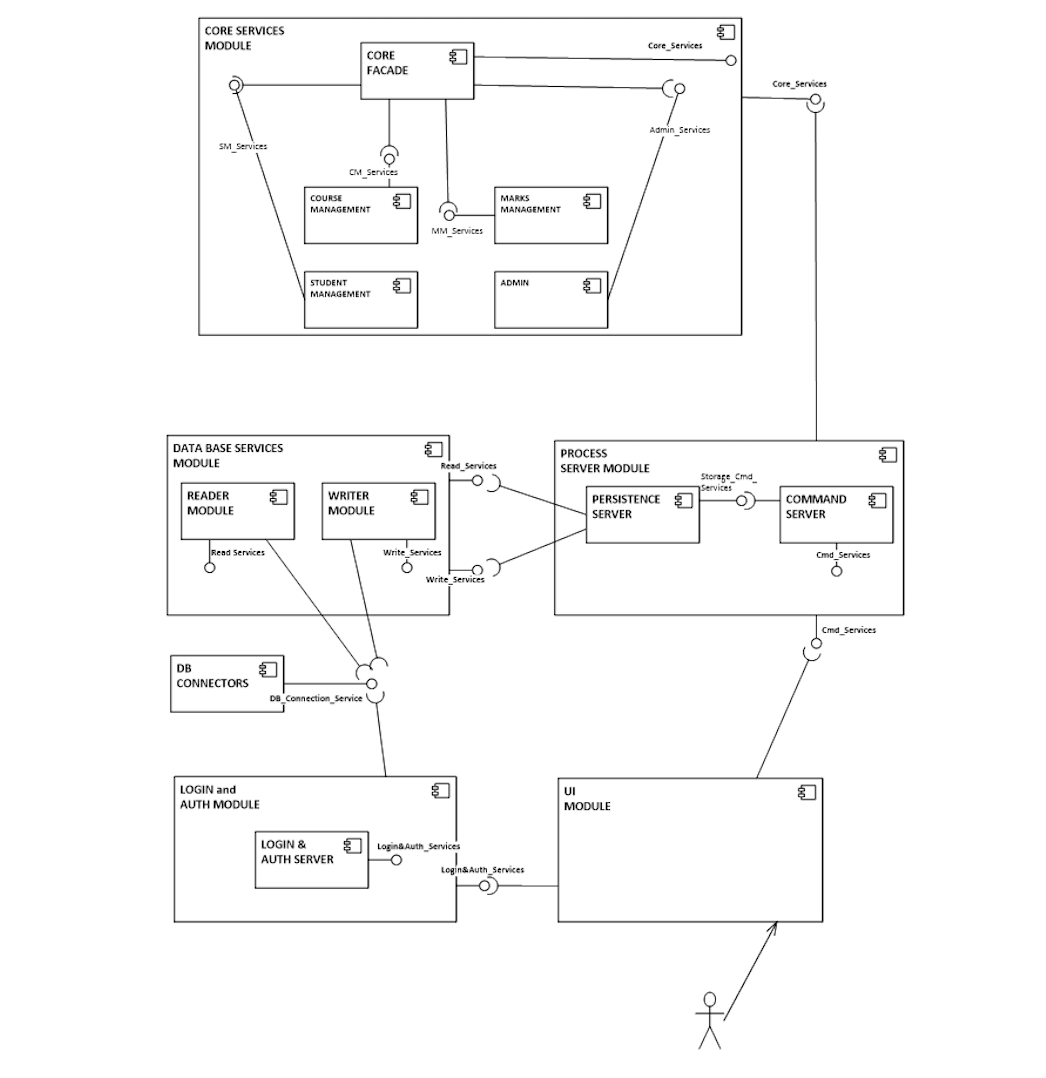
## Resources - References

# 1.SRS for design decisions

# 2.Architecture ProvidedMajor Design Decisions

- Each user has his/her operations all in one class.

# Architecture



**CM\_Services**

Offering Factory

Create Course Object

Attach evaluation entities for course

Attach evaluation strategies for course

Attach Instructor to Course

**SM\_Services**

Enroll student in course

Print record for student

Select and change notification preference

**Marks\_Services**

Add Mark

Final

Midterm

Assignments

Calculate Final Mark

**Admin\_Services**

Start System

Stop System

Read course file

**Login&Auth\_Services**

Login

Login Server

**Data\_Base\_Services**

Read from file

Write to file

**DB\_Connection\_Service**

Read from File

Write to file

# Detailed Class Diagrams

## UML Class Diagrams

**Class: System Status**

|  |  |
| --- | --- |
| Start | Which starts the system so that users other than the admin can use the system |
| Stop | Which stops the system, and thus prevents users other than the admin from using it. |
| Is Started | Checks if the system is started or terminated |

**Class: Student Operation**

|  |  |
| --- | --- |
| Enroll | This method let’s a logged in student add a class to their record (enroll in a class), only if the student is allowed to enroll in that class |
| Print course marks | This method lets a logged in student print the course marks when provided with a course id |
| Print course record | This method lets a logged in student print the course record when provided with a course id |
| Choose Notification Preference | This method allows a logged in student choose what notification preference he/she wants |

**Class: Login Server**

|  |  |
| --- | --- |
| Add user | This method allows the system to add a student to the system so that when a student is added he/she can login and perform operations |
| Encrypt | This method is used so that when the students are being added to the system or when they are logging into the system, their passwords are encrypted. |
| Is Valid | This method takes an ID and a password and checks to see if what’s entered exists as a user that is allowed to log in to the system. |
| Get Instance | This method simply returns an instance of the class login server, which is a file with all users that are allowed to log in |

**Class: Administrator Operation**

|  |  |
| --- | --- |
| Change personal info | This method when invoked by the administrator allows the admin to change his/her name, surname, and date of birth. |
| Start system | This method allows the administrator to start the system so that other user can use it |
| Stop system | This method allows the administrator to stop the system, and thus prevents anyone else from using the system |
| Read course file | This method allows an admin to read a course file which when a course file is read adds them to the system so that they are able to login to the system. |

**Class: Instructor Operation**

|  |  |
| --- | --- |
| Add Grade | This method allows an instructor to add a grade for a student when provided with a student id, course, evaluation entity, and a mark. |
| Calculate Final grade | This method allows an instructor to calculate the final grade for a student when provided with a course and a student. |
| Print Course Record | This method allows an instructor to view any course record he/she is teaching when provided with a course ID. |

**Class: Login Page (class for UI)**

|  |  |
| --- | --- |
| Login | This method allows any user to login to the system if they areallowed to. |

**Class: Administrator Pages (class for UI)**

|  |  |
| --- | --- |
| Admin menu | This method when invoked displays the operations that an admin can perform. |
| Change personal info | This method when invoked calls the change personal info method in the administrator operation class |
| Read course file | This method when invoked calls the read course file method in the administrator operation class. |
| Return to menu | This method displays the operations that an admin can perform again. |

**Class: Student Pages (class for UI)**

|  |  |
| --- | --- |
| Student menu | This method when invoked displays the operations that a student can perform. |
| Print course record | The print course record method when chosen by the student calls the print course record in the student operation class. |
| Choose notification status | The choose notification status method calls the choose notification preference in the student operation class to allow the student choose a notification preference. |
| Enroll course | The enroll course method calls the enroll method in the student operation class to allow the student logged in to enroll in a course if he/she is eligible to do so. |
| Return to menu | This method displays the operations that a student can perform again. |

**Class: Instructor Pages (class for UI)**

|  |  |
| --- | --- |
| Instructor menu | This method when invoked displays the operations that an instructor can perform. |
| Print class record | The print class record when invoked calls the print class record method in the instructor operation class to display the record of class he/she is teaching |
| Add grade | The add grade method when invoked calls the add grade method in the instructor operation class to let the instructor add a grade for a student. |
| Calculate student final grade | The calculate student final grade method calls the calculate final grade in the instructor operation class to let the instructor calculate the final grade if all the entities have submitted grades. |
| Return to menu | This method displays the operations that an instructor can perform again. |

**Class: System User Pages (Instructor Pages, Administrator Pages, and Student Pages extend this class)**

|  |  |
| --- | --- |
| Initialize | This method creates the frame of fixed size |
| Change my password | This method is the method that allows students, instructor or administrators to change their password through an interface |

**Class: Register (this is the same class as the one provided, but some return type names have been changed for the purposes of this project)**