

UPCC

Analysis Model

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Revision Control

History Revision:

Revision Date	Person Responsible	Version Number	Modification
10/20/17	Ciana Lim	1.0	Initial Document. Added purpose, audience, system name, description of the system, definitions of UpdateCurriculumUI, SelectCurriculumUI, ManageCurriculumsController, AddCurriculumController, DeleteCurriculumController, and SelectCurriculumController
10/24/17	Rayven Ely Cruz	2.0	Added definitions of InputPassedSubjectsUI, ViewPossibleSubjectsUI, InputPassedSubjectsController, CheckRequirementsController, ViewPossibleSubjectsController, and ViewUnitsAndStandingController.
10/26/17	James Gabriel Abaja	3.0	Added definitions of Curriculum, Subject, and Student entity classes. Added definitions of ManageCurriculumsUI, UpdateCurriculumController, AddSubjectController, EditSubjectController, and DeleteSubjectController.
10/27/17	Ciana Lim	4.0	Added the Class Diagram.
11/14/17	Ciana Lim	5.0	Edited the Class Diagram.

Purpose:

The purpose of this document is to model the data that the system will be using, to detail the functionalities based from the use-cases of the system, and to present a high-level description of the user-interface of the system through functionalities present in the user-interface. It will aid developers in understanding the system requirements.

Audience:

The target audience of this document are the developers who are interested in continuing and extending the project, users who are interested in how the system works, and the professor handling the course.

Description: The UPCC system allows UP Diliman students under the BS Computer Science (BS CS) program to select the curriculum they're currently following. They can also input the subjects they've already passed, and view the subjects they can take afterwards. The system also allows administrators to manage the curriculums by adding, editing, and deleting curriculums, and subjects.

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classDiagram
    class UpdateCurriculumUI {
        <<boundary>>
        public void enterNewName(String name)
        public void enterSubjectCode(String classCode)
        public void enterDescription(String description)
        public void enterRequirements(List prereq, bool isJS, bool isSS)
        public void enterUnits(int units)
        private void submitCurriculumName(String name)
        private void submitSubject(String year, String classCode, String description, List prereq, List coreq, bool isJS, bool isSS, int units)
    }
    class AddSubjectController {
        <<control>>
        public void addSubject(Subject x)
    }
    class EditSubjectController {
        <<control>>
        public void editSubject(Subject x)
    }
    class DeleteSubjectController {
        <<control>>
        public void deleteSubject(Subject x)
    }
    class Student {
        <<entity>>
        private Curriculum selectedCurriculum
        private int totalUnits
        private List passedSubjects
        private List canBeTakenSubjects
    }
    class UpdateCurriculumController {
        <<control>>
        public void updateCurriculum(Curriculum x)
        public void updateCurriculumName(String name)
    }
    class ManageCurriculumsUI {
        <<boundary>>
        public void enterCurriculumName(String name)
        public void enterCurriculumSubjects(List subjects)
        private void submitCurriculum(Curriculum x)
    }
    class ManageCurriculumsController {
        <<control>>
        public void addCurriculum(Curriculum x)
        public void updateCurriculum(Curriculum x)
        public void deleteCurriculum(Curriculum x)
        public void selectCurriculum(Curriculum x)
    }
    class AddCurriculumController {
        <<control>>
        public void addCurriculum(Curriculum x)
    }
    class DeleteCurriculumController {
        <<control>>
        public void deleteCurriculum(Curriculum x)
    }
    class SelectCurriculumUI {
        <<boundary>>
        public void markCurriculum(Curriculum x)
        private void setCurriculum(Curriculum x)
    }
    class SelectCurriculumController {
        <<control>>
        public void selectCurriculum(Curriculum x)
    }
    class InputPassedSubjectsUI {
        <<boundary>>
        public void markSubject(Subject x)
        public void unmarkSubject(Subject x)
        public void inputDescription(int units)
    }
    class InputPassedSubjectsController {
        <<control>>
        public int markSubject(Subject x)
    }
    class CheckRequirementsController {
        <<control>>
        public List checkSubjects(int passedUnits)
    }
    class DisplayPossibleSubjectsUI {
        <<boundary>>
        public void displayPossibleSubjects(int subjects)
        public void displayUnits(int units)
        public void displayStanding(int units)
    }
    class ViewPossibleSubjectsController {
        <<control>>
        public void viewSubjects(int canBeTakenSubjects)
    }
    class ViewUnitsAndStandingController {
        <<control>>
        public void unitsAndStanding(int units)
    }
    UpdateCurriculumUI --> AddSubjectController
    UpdateCurriculumUI --> EditSubjectController
    UpdateCurriculumUI --> DeleteSubjectController
    UpdateCurriculumUI --> UpdateCurriculumController
    UpdateCurriculumController --> Student
    ManageCurriculumsUI --> ManageCurriculumsController
    ManageCurriculumsController --> AddCurriculumController
    ManageCurriculumsController --> DeleteCurriculumController
    ManageCurriculumsController --> SelectCurriculumController
    SelectCurriculumUI --> SelectCurriculumController
    SelectCurriculumController --> InputPassedSubjectsController
    InputPassedSubjectsUI --> InputPassedSubjectsController
    InputPassedSubjectsController --> CheckRequirementsController
    CheckRequirementsController --> DisplayPossibleSubjectsUI
    DisplayPossibleSubjectsUI --> ViewPossibleSubjectsController
    DisplayPossibleSubjectsUI --> ViewUnitsAndStandingController

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Boundary Classes:

Class Name	Description
ManageCurriculumsUI	This interface allows the authenticated users (i.e. administrators) to add, edit or delete curriculums inside the system.
UpdateCurriculumUI	This interface allows the administrator to update the name of the curriculum, or to add, edit, or delete a subject from the curriculum. It allows the administrator to input a new name for the curriculum, or to input a subject code, its description, requirements (i.e. prerequisites, corequisites, rules), and the corresponding number of units, and sends the data to UpdateCurriculumController to update the name of the curriculum, or to add, edit, or delete a subject from the curriculum.
SelectCurriculumUI	This interface allows the Student user to select a curriculum in which he/she will follow, which will then send the selected curriculum to SelectCurriculumController to set the curriculum of the Student.
InputPassedSubjectsUI	This interface allows the Student user to mark the subjects from the list. The marked subjects will then be sent to InputPassedSubjectsController which will update the list of subjects passed by the Student user.
ViewPossibleSubjectsUI	This interface allows the Student user to view the subjects that he/she can take.

Control Classes:

Class Name	Description
ManageCurriculumsController	This is the umbrella controller for functionalities that involve adding, updating, or deleting a curriculum from the system.
AddCurriculumController	This controller is in charge of adding a new curriculum to the system, where the curriculum has its name, and a list of subjects under it.
UpdateCurriculumController	This is the umbrella controller for functionalities that involve adding, updating, or deleting a subject from the system, particularly from the curriculum. This controller is also in charge of updating the name of the curriculum.
AddSubjectController	This controller adds the subject inside the selected curriculum along with its subject code, description, units, and other requirements such as prerequisites and corequisites.
EditSubjectController	This controller updates all the necessary attributes of the subject that needs to be updated.
DeleteSubjectController	This controller deletes the particular subject from the system.
DeleteCurriculumController	This controller is in charge of deleting a curriculum from the system.
SelectCurriculumController	This controller is in charge of setting the curriculum that the Student user will follow.
InputPassedSubjectsController	This controller is in charge of marking the subjects that the Student user input.
CheckRequirementsController	This controller is in charge of checking which subjects the Student user can take given his/her passed subjects and updating the list of subjects that the Student user can take.
ViewPossibleSubjectsController	This controller is in charge of displaying the list of subjects that the Student user can take.
ViewUnitsAndStandingController	This controller is in charge of displaying the total number of units and the standing of the Student user.

Entity Classes:

Class Name	Description
Curriculum	The Curriculum is a group of subjects for a given program. It can be identified by its name, which in this case is the year it was modified/created, and the course. For this project, only the curriculums for the BS Computer Science program are included. A Curriculum can be added, edited, or deleted from the system.
Subject	The Subject represents a subject inside a particular curriculum. It has a subject code, short description, prerequisites, corequisites, and its corresponding units. Like the Curriculum class, this can also be added, edited.
Student	The Student represents a user using the system which is not the admin, i.e. the student. It has the student's selected curriculum, the total units obtained by the student from the subjects they have entered, his/her passed subjects, and the subjects that he/she can take.