

Executive Summary

Initially we started out building a website that would function as a one stop shop for a student to see everything associated with their account. They would be able to see their classes, add and delete classes, and see the balance of their account as well as make a payment. As we moved through the steps we made a few changes to the scope of the website.

One change we decided to implement was that we removed the Payments entity from the website. We also took out a Professor entity because they both didn't really fit into the project the way we initially thought.

Another change we decided to make was to restructure how we had the connection between student accounts and classes. Initially we had this set up with an Enrollment entity that would connect the student with a class. We also had a Student_Account entity that had other account information. The feedback we got on this explained how this was confusing. So we decided to remove the Enrollments entity and make the student to class connection in Student_Account.

We also made a change to the Search page. We got some feedback that the search bar wasn't working. As we were working through this issue we decided that implementing two drop down tabs would allow the user to search by subject and then term to find classes that they would be able to add. This allowed us to simplify the search and eliminate any chance of typos from the user. It allowed us to control the search a little better.

Some more feedback we got was that there wasn't a way to INSERT into each table. We decided to solve this by creating an Admin page. This page allows an administrator to create classes, add students, connect a student to an account, create terms and subjects. The student is the typical user and they will only be interacting with their classes and possible new classes. We needed to have an Admin that could update all the information that the student would need.

We decided to remove some attributes such as account_amount_due, account_total_credit from Accounts and class_student_total from Classes because we were able to display such data on a client-side page by simply writing SQL functions like COUNT() and SUM().

Project Step 7 - Final Portfolio Assignment

Url: <http://access.engr.oregonstate.edu:9777/>

Section 401 Group 49

Team Members: Anthony Nice, Kyeong-nam Kim

Project Title: School Enrollment Management System

Project Description:

This website will be used to help students to enroll for classes and check their amount due for tuition. The student will be able to see how many classes he/she is currently enrolled in. The student will also be able to see his or her account information. They will be able to look up what their amount due for tuition ex: \$4,000 will be displayed as a tuition for 8 credits in the term. Each class will have a maximum of 75-300 students depending on the class. Each individual student will have between 0-4 classes and each subject will have at most three classes in each term. The website will be set up to service 500-1000 users per day.

a) Project Outline and Database Outline

- Students: enroll in classes.
 - student_id: int, not NULL, AUTO_INCREMENT, PK
 - email_address: varchar(255), not NULL
 - f_name: varchar(255), not NULL
 - m_name: varchar(255)
 - l_name: varchar(255), not NULL
 - mobile_number: varchar(255), not NULL
 - Relationship
 - A student can have one account.
 - 1:1 relationship between Students and Accounts.

- Accounts: keeps track of total number of classes and amount due for classes.
 - account_id: int, not NULL, AUTO_INCREMENT, PK
 - student_id: int, FK
 - Relationship
 - An account is owned by one student.
 - An account has many details
 - M:M relationship between Accounts and Classes implemented by a junction table, Account_Details.

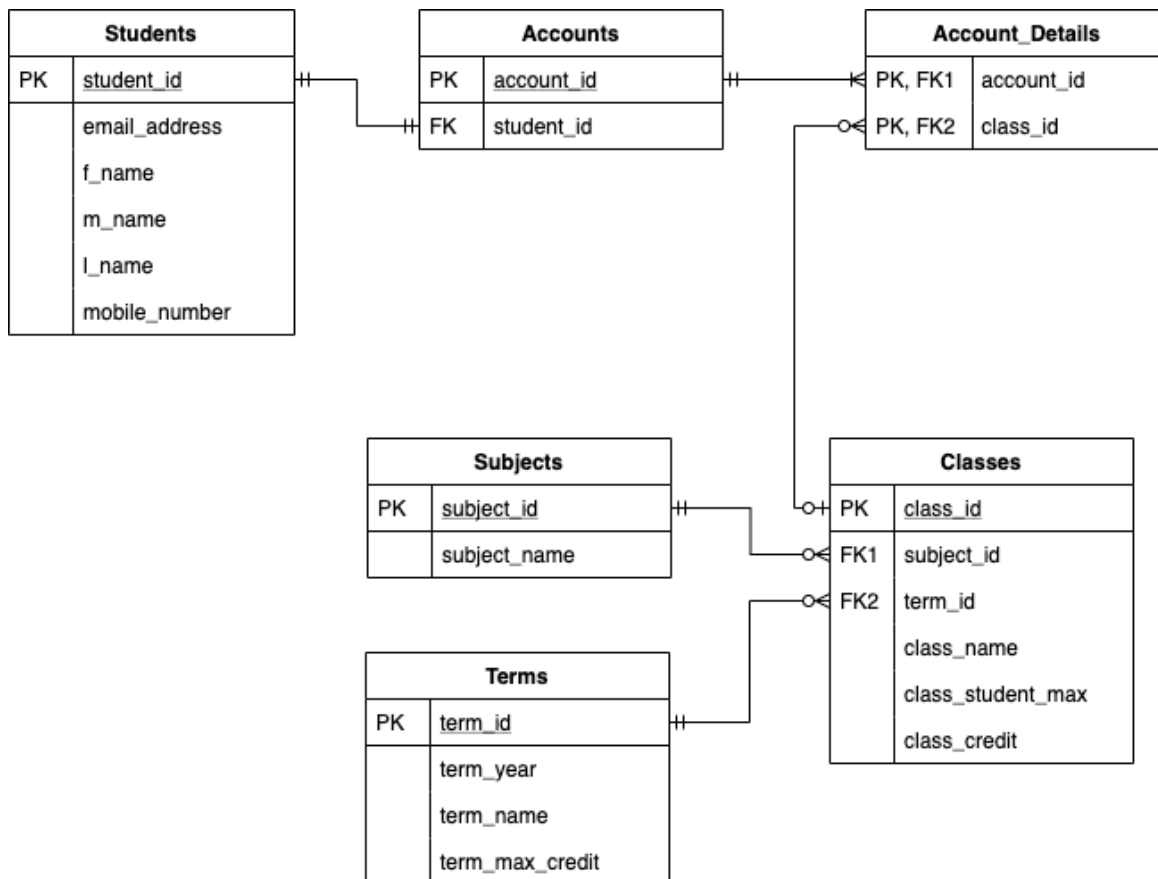
- Account_Details: bridges Accounts and Classes.
 - account_id: int, PK, FK1, not NULL
 - class_id: int, PK, FK2, not NULL
 - Relationship
 - This entity is a bridge for M:M relationship between Accounts and Classes.
 - A student's account can have zero or many classes.
 - A class is taken by zero or many accounts.
 - 1:M relationship between Accounts and Account_Details
 - 0:M relationship between Classes and Account_Details

- Classes: keeps track of class's information.
 - class_id: int, AUTO_INCREMENT, not NULL, PK
 - subject_id: int, FK1
 - term_id: int, FK2
 - class_name: varchar(255)
 - class_student_max: int, not NULL
 - class_credit: int, not NULL
 - Relationship
 - A class is taken by zero or many accounts.
 - M:M relationship between Accounts and Classes implemented by a junction table, Account_Details.
 - A class is related to one course.
 - A class is related to one term.

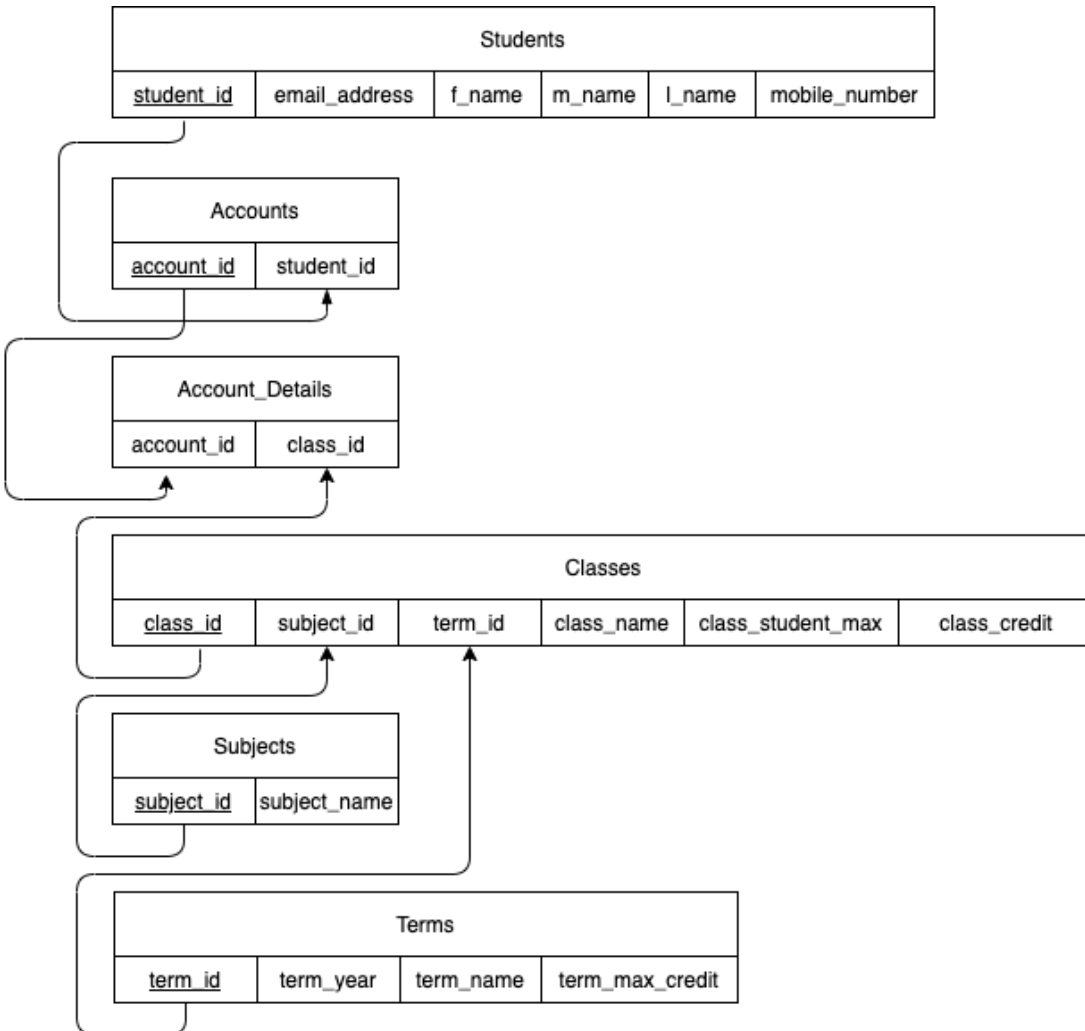
- Subjects:
 - subject_id: int, AUTO_INCREMENT, not NULL, PK
 - subject_name: varchar(255)

- Relationship
 - A subject has zero or more classes.
 - 0:M relationship between Subjects and Classes.
- Terms: is a portion of an academic year.
 - term_id: int, AUTO_INCREMENT, not NULL, PK
 - term_year: int, not NULL
 - term_name: varchar(255), not NULL
 - term_max_credit: int, not NULL
 - Relationship
 - A term has many classes.
 - 0:M relationship between Terms and Classes.

b) ER Diagram



c) Schema



d) UI Screenshots

READ/BROWSE/DISPLAY Homepage

School Enrollment Manager

Search

Class

Admin

School Enrollment Manager

Search Classes

FILTER Subjects

FILTER Terms

SELECT Subjects, Terms, and Classes

Add a Class by Email

INSERT M:M Account_Details associated with Accounts and Classes (e.g. Type 'pine' and Click Add)

Check Enrolled Classes

SEARCH Classes (e.g. Type '18' and Click Search)

Delete a Class

SELECT Subjects, Terms, and Classes

DELETE M:M Account_Details associated with Accounts and Classes

Admin Page

SELECT, INSERT, UPDATE, DELETE Classes

SELECT Account_Details

UPDATE Classes NULLable associated with Subjects and Terms

SELECT, INSERT, UPDATE, DELETE Students

SELECT, INSERT, DELETE Accounts

SELECT, INSERT, DELETE Subjects

SELECT, INSERT, DELETE Terms

READ/ADD/INSERT Class Search page

School Enrollment Manager Search Class Admin

Search Classes

Filter by Subject
Computer Science

Filter by Term
Spring 2020

Search

Search

Clear

Subject	Term	Name	Enrolled	Cap	Credit	
Art	Summer 2020	Art History	2	234	4	Add
Accounting	Fall 2020	Accounting1	1	250	4	Add
Computer Science	Summer 2020	Networks	1	230	4	Add
Mathematics	Spring 2020	Linear Algebra	2	230	3	Add

TESTSUBJECT	TESTTERM 2100	TEST	1	100	4	Add
	Spring 2020	TEST333	1	333	4	Add

INSERT Add Class by Email page

Add a class by email address

@oregonstate.edu Add

READ/DELETE Student Class page

School Enrollment Manager Search Class Admin

Check Enrolled Classes

Search by your Student ID(Click button not Enter)

Search Clear

Subject	Term	Class	Enrolled Students	Max Students	Credits	
Art	Summer 2020	Art History	2	234	4	Delete

SELECT/DELETE Class Delete page

School Enrollment Manager

SearchClass

Admin

Check Enrolled Classes

Search by your Student ID(Click button not Enter)

Search

Clear

Subject	Term	Class	Enrolled Students	Max Students	Credits	
Computer Science	Summer 2020	Networks	1	230	4	<div>Delete</div>
Mathematics	Spring 2020	Linear Algebra	2	230	3	<div>Delete</div>
TESTSUBJECT	TESTTERM 2100	TEST	1	100	4	<div>Delete</div>
	Spring 2020	TEST333	1	333	4	<div>Delete</div>

CREATE/READ/UPDATE/DELETE Admin page

Classes

Subject

Term

Name

Max Students Credit

Add

Id	Subject	Term	Name	Enrolled	Cap	Credit		
2	Art	Summer 2020	Art History	2	234	4	Edit	Delete
3	Accounting	Fall 2020	Accounting1	1	250	4	Edit	Delete
7	Computer Science	Summer 2020	Networks	1	230	4	Edit	Delete
11	Mathematics	Spring 2020	Linear Algebra	2	230	3	Edit	Delete
13	TESTSUBJECT	TESTTERM 2100	TEST	1	100	4	Edit	Delete
15		Spring 2020	TEST333	1	333	4	Edit	Delete

Students

First Name

Middle Name

Last Name

Email

Phone Number

Add

Id	First Name	Middle Name	Last Name	Email	Mobile		
1	Nathan	K	Kim	nathan@oregonstate.edu	000-000-2222	Edit	Delete
2	Alexis	A.	Ling	alexis@oregonstate.edu	000-000-0000	Edit	Delete
3	Serena		Cha	serena@oregonstate.edu	212-232-1252	Edit	Delete
4	Caylah		Norwood	caylah@oregonstate.edu	123-000-0000	Edit	Delete
5	Chankyu		Park	chankyu@oregonstate.edu	111-222-3333	Edit	Delete
15	Test		Chang	chang@oregonstate.edu	111-222-3333	Edit	Delete
16	Son	Min	Heung	son@oregonstate.edu	222-333-4445	Edit	Delete
18	Pine	Apple	Kiwi	pine@oregonstate.edu	000-000-0000	Edit	Delete

Accounts

Students with no account

Student Id: 15 Name: Test Chang ▼

Add

Id	Student Id	Name	Amount Due	Total Credit	
1	1	Nathan Kim	2000	4	Delete
2	2	Alexis Ling	2000	4	Delete
3	3	Serena Cha	2000	4	Delete
4	5	Chankyu Park	1500	3	Delete
5	4	Caylah Norwood			Delete
18	18	Pine Kiwi	7500	15	Delete

Subjects

Subject Name

Add

Subject Name	
Computer Science	Delete
Accounting	Delete
Art	Delete
Mathematics	Delete
English	Delete
TESTSUBJECT	Delete

Terms

Term Name

Year

Max Credit

Add

Name	Year	Max Credit	
Spring	2020	16	Delete
Summer	2020	16	Delete
Fall	2020	16	Delete
Winter	2020	16	Delete
TESTTERM	2100	20	Delete

Edit Class

Subject

Term

Name

Max Students

Credit

Edit Student Information

First Name

Middle Name

Last Name

Email

Mobile