CPSC 332 Term Project

Simple University DB

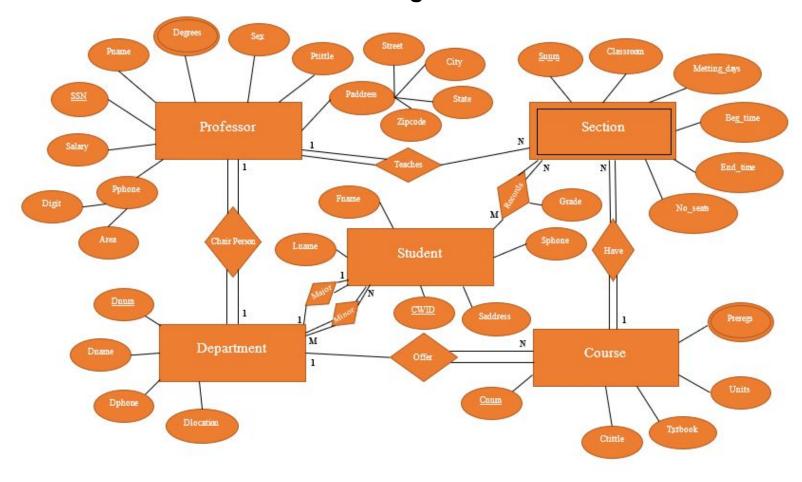
Group Members:

Steven Duong - 7085 Jeffrey Lo - 4563 Angel Soto - 5721

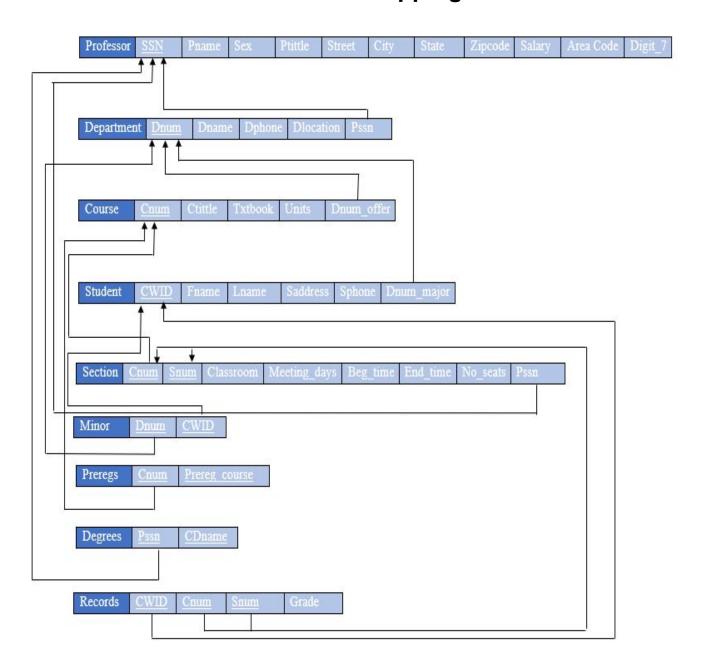
Implemented on Account:

cs332a44 http://ecs.fullerton.edu/~cs332a44/

ER Diagram



Relational Mapping



Source Code:

TableCreation.sql

```
/* Create Tables*/
CREATE TABLE PROFESSOR
      Professor SSN numeric(9) not null,
      Professor Name varchar(20) not null,
      Professor Street varchar(30) not null,
      Professor City varchar(20) not null,
      Professor State char(2) not null,
      Professor_Zip numeric(5) not null,
      Professor Phone Area numeric(3) not null,
      Professor Phone Number numeric(7) not null,
      Professor Sex enum('M', 'F') not null,
      Professor Title enum('Dr.', 'Mr.', 'Ms.', 'Mrs.') not null,
      Professor Salary numeric(6) not null,
      primary key(Professor_SSN)
);
CREATE TABLE DEGREE
      Degree Owner SSN numeric(9) not null,
      Degree_Name varchar(25) not null,
      Degree School varChar(30) not null,
      primary key (Degree Owner SSN, Degree Name),
      foreign key(Degree Owner SSN) references PROFESSOR(Professor SSN)
);
CREATE TABLE DEPARTMENT
      Department Number numeric(5) not null,
      Department Name varchar(25) not null,
      Department Phone numeric(10) not null,
      Department Location varchar(10) not null,
      Department Chair Person numeric (9) not null,
      primary key(Department_Number, Department_Chair_Person),
      foreign key (Department Chair Person) references PROFESSOR (Professor SSN)
);
CREATE TABLE COURSE
      Course Department Number numeric(5) not null,
      Course Number varchar(10) not null,
      Course Title varchar(50) not null,
      Course_Textbook varchar(50) not null,
      Course Units tinyint not null,
      primary key(Course Number),
      foreign key(Course Department Number) references DEPARTMENT(Department Number)
);
```

```
CREATE TABLE PREREQUISITE
      Course Id varchar(10) not null,
      Prereq Course varchar(10) not null,
      primary key(Course Id, Prereq Course),
      foreign key(Course Id) references COURSE(Course Number),
      foreign key(Prereq_Course) references COURSE(Course_Number)
);
CREATE TABLE STUDENT
      Student CWID numeric(10) not null,
      Student FName varchar(20) not null,
      Student LName varchar(20) not null,
      Student Address varchar(60) not null,
      Student Phone numeric(10) not null,
      Major numeric(5) not null,
      primary key(Student CWID),
      foreign key(Major) references DEPARTMENT(Department Number)
);
CREATE TABLE MINOR
      Minor Dept numeric(5) not null,
      Minor Student CWID numeric (10) not null,
      primary key(Minor_Dept, Minor_Student_CWID),
      foreign key(Minor_Student_CWID) references STUDENT(Student_CWID),
      foreign key(Minor Dept) references DEPARTMENT(Department Number)
);
CREATE TABLE SECTION
      Section Number numeric(5) not null,
      Section_Course_Number varchar(10) not null,
      Section Professor SSN numeric(9) not null,
      Classroom varchar(10) not null,
      Meeting_Days char(7) not null,
      Beg Time varchar(10) not null,
      End Time varchar(10) not null,
      Seats numeric(3) not null,
      primary key (Section Number, Section Course Number),
      foreign key(Section Course Number) references COURSE(Course Number),
      foreign key(Section_Professor_SSN) references PROFESSOR(Professor_SSN)
);
CREATE TABLE ENROLLMENT
      Enrollment CWID numeric(10) not null,
      Enrollment_Section_Number numeric(5) not null,
```

```
Enrollment_Course_Number varchar(10) not null,
    Grade enum('A','A-','B+','B','B-','C+','C','C-','D+','D','D-','F') not null,
    primary key(Enrollment_Section_Number, Enrollment_CWID,
Enrollment_Course_Number),
    foreign key(Enrollment_Section_Number) references SECTION(Section_Number),
    foreign key(Enrollment_CWID) references STUDENT(Student_CWID),
    foreign key(Enrollment_Course_Number) references COURSE(Course_Number));
```

CreateRecords.sql

```
/* Add Records here */
/* 3 - PROFESSORS */
INSERT INTO PROFESSOR (Professor SSN, Professor Name, Professor Street, Professor City,
Professor State, Professor Zip, Professor Phone Area, Professor Phone Number,
Professor Sex, Professor Title, Professor Salary)
VALUES (000000001, "Shawn Wang ", "800 N State College Blvd", "Fullerton", "CA",
92831, 714, 8881235, 'M', "Dr.", 120120);
INSERT INTO PROFESSOR (Professor SSN, Professor Name, Professor Street, Professor City,
Professor_State, Professor_Zip, Professor_Phone_Area, Professor_Phone_Number,
Professor Sex, Professor Title, Professor Salary)
VALUES (000000002, "Christopher Ryu", "800 N State College Blvd", "Fullerton", "CA",
92831, 714, 8881236, 'M', "Dr.", 200000);
INSERT INTO PROFESSOR (Professor_SSN, Professor_Name, Professor_Street, Professor_City,
Professor_State, Professor_Zip, Professor_Phone_Area, Professor_Phone_Number,
Professor Sex, Professor Title, Professor Salary)
VALUES (123456789, "Barbara Liskov", "800 N State College Blvd", "Fullerton", "CA",
92831, 714, 8881234, 'F', "Ms.", 105500);
/* DEGREES for Professors */
/* Professor - Shawn */
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000001, "PhD Computer Science", "NJ Institute of Technology");
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000001, "MS Computer Science", "Fudan University");
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000001, "BS Mathematics", "Xiamen University");
/* Professor - Ryu */
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000002, "PhD Computer Science", "University of Houston");
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000002, "MS Computer Science", "University of Houston");
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (000000002, "BS Computer Science", "University of Houston");
```

```
/* Professor - Barbara */
INSERT INTO DEGREE(Degree_Owner_SSN, Degree_Name, Degree_School)
VALUES (123456789, "PhD Computer Science", "Stanford University");
INSERT INTO DEGREE (Degree Owner SSN, Degree Name, Degree School)
VALUES (123456789, "MS Computer Science", "Stanford University");
INSERT INTO DEGREE(Degree_Owner_SSN, Degree_Name, Degree_School)
VALUES (123456789, "BA Mathematics", "UC Berkley");
/* 2 - Departments */
INSERT INTO DEPARTMENT (Department Number, Department Name, Department Phone,
Department Location, Department Chair Person)
VALUES (00001, "Computer Science", 6572783700, "CS-522", 000000002);
INSERT INTO DEPARTMENT (Department Number, Department Name, Department Phone,
Department Location, Department Chair Person)
VALUES (00002, "Computer Engineering", 6572785987, "E-100G", 123456789);
/* 4 - Courses */
INSERT INTO COURSE(Course_Department_Number, Course_Number, Course_Title,
Course Textbook, Course Units)
VALUES (00001, "CPSC-332", "File Structures and Database Systems", "Fundamentals of
Database Systems, 7th Edition", 3);
INSERT INTO COURSE (Course Department Number, Course Number, Course Title,
Course Textbook, Course Units)
VALUES (00001, "CPSC-481", "Artificial Intelligence", "Machine Learning and AI, 5th
Edition", 3);
INSERT INTO COURSE (Course Department Number, Course Number, Course Title,
Course Textbook, Course Units)
VALUES (00001, "CPSC-335", "Algorithm Engineering", "Fundamentals of Algorithms, 8th
Ed", 3);
INSERT INTO COURSE (Course Department Number, Course Number, Course Title,
Course Textbook, Course Units)
VALUES (00002, "EGCP-311", "Technical Writing for Engineering", "Technical Writing,
10th Edition", 3);
/* Prerequisites */
INSERT INTO PREREQUISITE(Course_Id, Prereq_Course)
VALUES ("CPSC-332", "EGCP-311");
INSERT INTO PREREQUISITE(Course Id, Prereq Course)
VALUES ("CPSC-335", "EGCP-311");
```

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INSERT INTO PREREQUISITE(Course_Id, Prereq_Course)
VALUES ("CPSC-481", "CPSC-332");
INSERT INTO PREREQUISITE(Course Id, Prereq Course)
VALUES ("CPSC-481", "CPSC-335");
/* 6 - SECTIONS */
INSERT INTO SECTION(Section Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (13321, "CPSC-332", 000000001, "E-202", "MW", "12:30pm", "1:45pm", 50);
INSERT INTO SECTION(Section Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (13322, "CPSC-332", 000000001, "CS-302", "MW", "2:30pm", "3:45pm", 30);
INSERT INTO SECTION(Section Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (13351, "CPSC-335", 000000002, "CS-110", "TTh", "10:00am", "11:15am", 40);
INSERT INTO SECTION(Section Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (14811, "CPSC-481", 000000002, "CS-110", "TTh", "11:30am", "12:15pm", 40);
INSERT INTO SECTION(Section Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (23111, "EGCP-311", 123456789, "E-302", "TTh", "10:00am", "11:15am", 30);
INSERT INTO SECTION(Section_Number, Section Course Number, Section Professor SSN,
Classroom, Meeting Days, Beg Time, End Time, Seats)
VALUES (23112, "EGCP-311", 123456789, "E-302", "TTh", "12:00pm", "1:15pm", 30);
/* 10 - Students */
/* CS Students */
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (9494949494, "Jeffrey", "Lo", "101 Nutwood Ave. Fullerton, CA 92831",
9491011207, 00001);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (1234567890, "Steven", "Duong", "101 Nutwood Ave. Fullerton, CA 92831",
9491019876, 00001);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (1234512345, "Angel", "Soto", "101 Nutwood Ave. Fullerton, CA 92831",
7141010406, 00001);
```

```
INSERT INTO STUDENT(Student CWID, Student FName, Student_LName, Student_Address,
Student Phone, Major)
VALUES (1010101010, "Allen", "Turing", "400 Nutwood Ave. Fullerton, CA 92831",
7144001234, 00001);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (1111111111, "Steve", "Wozniak", "400 Nutwood Ave. Fullerton, CA 92831",
7144004444, 00001);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (222222222, "Charles", "Babbage", "400 Nutwood Ave. Fullerton, CA 92831",
7144009876, 00001);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (333333333, "Elizabeth", "Feinler", "400 Nutwood Ave. Fullerton, CA 92831",
7144003333, 00001);
/* CE Students */
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (1234567891, "John", "Smith", "123 Nutwood Ave. Fullerton, CA 92831",
9491231234, 00002);
INSERT INTO STUDENT (Student CWID, Student FName, Student LName, Student Address,
Student Phone, Major)
VALUES (1234554321, "Mary", "Sue", "123 Nutwood Ave. Fullerton, CA 92831", 9491234321,
00002);
INSERT INTO STUDENT(Student_CWID, Student_FName, Student_LName, Student_Address,
Student Phone, Major)
VALUES (888888888, "Tim", "Berners-Lee", "123 Nutwood Ave. Fullerton, CA 92831",
9491238888, 00002);
/* CE Minors */
INSERT INTO MINOR (Minor Dept, Minor Student CWID)
VALUES (00002, 1010101010);
INSERT INTO MINOR (Minor Dept, Minor Student CWID)
VALUES (00002, 222222222);
INSERT INTO MINOR (Minor Dept, Minor Student CWID)
VALUES (00002, 1111111111);
INSERT INTO MINOR(Minor Dept, Minor_Student_CWID)
VALUES (00002, 9494949494);
```

```
/* CS Minors */
INSERT INTO MINOR(Minor_Dept, Minor_Student_CWID)
VALUES (00001, 8888888888);
INSERT INTO MINOR (Minor Dept, Minor Student CWID)
VALUES (00001, 1234554321);
/* 30 - Enrollment */
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (9494949494, 13321, "CPSC-332", 'B');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (9494949494, 13351, "CPSC-335", 'A-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (9494949494, 14811, "CPSC-481", 'A');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234567890, 13321, "CPSC-332", 'A');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234567890, 13351, "CPSC-335", 'B-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234567890, 14811, "CPSC-481", 'B+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234512345, 13321, "CPSC-332", 'B+');
INSERT INTO ENROLLMENT(Enrollment_CWID, Enrollment_Section_Number,
Enrollment Course Number, Grade)
VALUES (1234512345, 13351, "CPSC-335", 'A-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234512345, 14811, "CPSC-481", 'B');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1010101010, 23111, "EGCP-311", 'B+');
```

```
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1010101010, 13351, "CPSC-335", 'B-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1010101010, 14811, "CPSC-481", 'C+');
INSERT INTO ENROLLMENT (Enrollment_CWID, Enrollment_Section_Number,
Enrollment Course Number, Grade)
VALUES (2222222222, 23111, "EGCP-311", 'D+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (2222222222, 13351, "CPSC-335", 'B');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (222222222, 14811, "CPSC-481", 'A');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1111111111, 23111, "EGCP-311", 'C');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment_Course_Number, Grade)
VALUES (1111111111, 13351, "CPSC-335", 'B-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1111111111, 14811, "CPSC-481", 'B+');
INSERT INTO ENROLLMENT (Enrollment_CWID, Enrollment_Section_Number,
Enrollment Course Number, Grade)
VALUES (8888888888, 23111, "EGCP-311", 'D');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (8888888888, 13322, "CPSC-332", 'C+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (8888888888, 14811, "CPSC-481", 'A-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234567891, 23111, "EGCP-311", 'D');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment_Course_Number, Grade)
```

```
VALUES (1234567891, 13322, "CPSC-332", 'B+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment_Course Number, Grade)
VALUES (1234567891, 14811, "CPSC-481", 'A-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234554321, 23111, "EGCP-311", 'C');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234554321, 13322, "CPSC-332", 'B-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (1234554321, 14811, "CPSC-481", 'C+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (3333333333, 13351, "CPSC-335", 'A-');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (3333333333, 13322, "CPSC-332", 'D+');
INSERT INTO ENROLLMENT (Enrollment CWID, Enrollment Section Number,
Enrollment Course Number, Grade)
VALUES (3333333333, 14811, "CPSC-481", 'A');
PHP Query Excerpts:
studentLookup.php
//Student Info Query
$StudentQuery = "SELECT Student_FName, Student_LName, Student_Address, Student_Phone,
D1.Department Name as Major Name, D2.Department Name as Minor Name
                        FROM STUDENT, DEPARTMENT D1, DEPARTMENT D2, MINOR
                        WHERE Minor Student CWID = Student CWID
                        AND D1.Department Number = Major
                        AND D2.Department Number = Minor Dept
                        AND Student CWID =" .$ POST["studentCWID"];
. . .
//Academic History Info
$AcadHistQuery = "SELECT Course Title, Enrollment Course Number,
Enrollment_Section_Number, Grade
                    FROM ENROLLMENT, COURSE
                    WHERE Enrollment_Course_Number = Course_Number
                    AND Enrollment_CWID =" .$_POST["studentCWID"];
```

. . .

courseLookup.php

. . .

```
$CourseQuery = "SELECT Course_Number, Course_Title, Section_Number, Professor_Name,
Classroom, Meeting Days, Beg Time, End Time, (Seats-COUNT(Enrollment CWID)) as
'SeatsAvailable'
                    FROM COURSE, ENROLLMENT, SECTION, PROFESSOR
                    WHERE Enrollment_Section_Number = Section_Number
                    AND Professor_SSN = Section_Professor_SSN
                    AND Course Number = Section Course Number
                    AND Enrollment_Course_Number = '".$_POST["courseNum"]."'
                    GROUP BY Section Number";
professorLookup.php
$FindProf = "SELECT Professor_Title, Professor_Name, Classroom, Meeting_Days,
Beg Time, End Time
                          FROM PROFESSOR, SECTION
                          WHERE Section_Professor_SSN = Professor_SSN
                          AND Professor_SSN =" .$_POST["professorSSN"];
. . .
gradeCount.php
$GradeQuery = "SELECT Grade, COUNT(*) as 'Count'
                        FROM ENROLLMENT, COURSE, SECTION
                        WHERE Course Number = Section Course Number
                        AND Enrollment_Course_Number = Course_Number
                        AND Enrollment Section Number = Section Number
                        AND Section_Number = '".$_POST["sectionNum"]."'
                        AND Course_Number = '".$_POST["courseNum"]."'
                        GROUP BY Grade;";
```

13

Interfaces/UI Screenshots

Home Screen:



Professor Queries Tab:

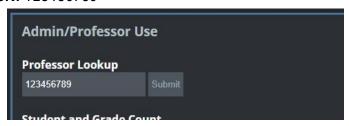


Student Query Tab:

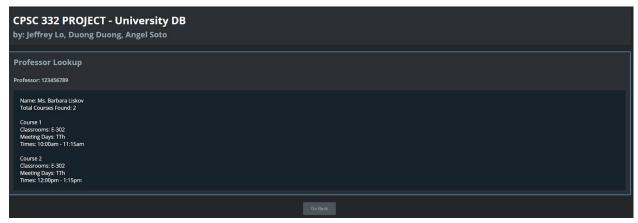


Sample Query UI

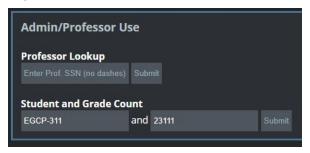
Professor Query - Professor Lookup Input - Professor SSN: 123456789



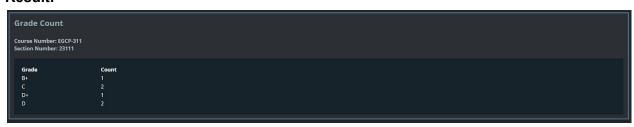
Result:



Professor Query - Professor Lookup Input - Course Number: *EGCP-311* Input - Section Number: *23111*

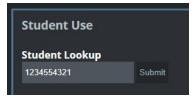


Result:

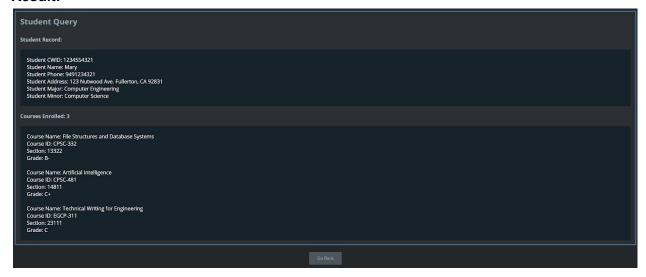


Student Query - Student Lookup

Input: 1234554321

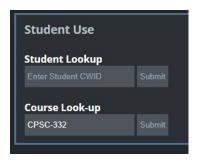


Result:



Student Query - Course Lookup

Input: CPSC-332



Result:

