

Rachelle Bass
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CS 340, Project Step 7, Project Documentation
Project Title: **studentsandtutors.edu**
Project Group 29

PROJECT URL: <http://flip3.engr.oregonstate.edu:17771/>



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Executive Summary

From start to finish we made multiple changes to our project. Most of these changes were brought about due to the feedback we received from classmates and grading comments. A few of these changes were made by simply reflecting on the website and discussions we had as a group. The major changes we made to our project along with the reason the changes were made are described in chronological order.

The first change to our project came about as a result of the feedback we received from Andrew Jung, the TA grading our step 2 assignment. Mr. Jung pointed out that, per project requirements found in the project guide, there had to be a nullable one-to-many relationship in our project. At this point in the project, we did not have any nullable relationships. We discussed this as a team and found that it made the most sense to make the relationship between appointments and both studentID and tutorID nullable. The database outline was then updated with this change.

With the spotlight now being on nullable verses required data, our next change did not come from any specific feedback but simply from the realization that validation checks for form submission fields related to attributes that cannot be null would need to be implemented. With this new awareness, the code was modified to ensure that non-nullable relationships were enforced. For example, the form adding new students into the database would not submit, and an error message would pop up, unless a subject was also selected for that student as was required according to our database outline. This type of form validation was repeated throughout our website for adding new tutors, subjects and appointments.

As we began working on the step 4 assignments, it started to become clear that, based on how we set up our website, we did not really have a clear purpose for one of our intersection tables, the StudentsTutors table. While contemplating this conundrum, we received a comment on the review assignment from another classmate, Yi Chang Liao, stating, “..do you really need these three intersection tables: StudentsTutors, SubjectsStudents and SubjectsTutors?” Our own group discussions along with Yi Chang Liao’s comment helped us determine that the StudentsTutors relationship was not really necessary for our database and, instead of contriving a use for it, we removed it. This still left us with the requisite number of relationships required by the project guidelines.

Removing the StudentsTutors table was the last major change made to our project. The bulk of the changes made to the project since then have involved adding information in the content of the page for users in order to help make the site more user friendly. For example, through steps 5 & 6, we have received feedback that appointments can be made on the website in which both the student and the tutor are left as null. As this was a conscious decision on our part, additional information was added to the appointment page explaining why this feature exists and how to use it.

CS 340 TEAM EVALUATION FORM (Project Step 7)

RATE YOUR TEAMS PERFORMANCE USING THE SCALE BELOW.

1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

Group number	Project Group 29	
Name of group team members:	Rachelle Bass Donovan Howe	
SCALE AND COMMENTS	RATING	ADDITIONAL COMMENTS
HOW PREPARED WAS YOUR TEAM?	4	Our team stayed up-to-date and in sync with the requirements and deliverables for this project.
HOW RESPONSIVE & COMMUNICATIVE WERE YOU BOTH AS A TEAM?	4	Both team members were responsive within a few hours of all requests for meetings, changes, or updates. Regular communications and meetings made this possible
DID BOTH GROUP MEMBERS PARTICIPATE EQUALLY	4	Yes, both team members applied themselves equally to the success of this project.
DID YOU BOTH FOLLOW THE INITIAL TEAM CONTRACT?	4	Yes, our original contract's flexibility facilitated progress on this project over multiple communication modalities, and allowed us to be agile and responsive.

Are there any suggestions for improvement for your team and what are your goals moving forward?
(Better communication, follow the contract better, modify the initial team contract, more contribution, etc?)?

We feel our team was effective - if we were to continue this project, our original team contract and work style would afford us the opportunity to develop robust features and expand the scope of this project. Hopefully we will be able to continue to communicate on other work while in the College of Engineering.

Project and Database Outlines

a) PROJECT OUTLINE

There has always been a need for supplemental help outside of the traditional classroom in the form of qualified tutors. Additionally, with the onset of the COVID pandemic in March of 2020, there was much made of the learning deficits that would result in schools being temporarily closed down and the stilted learning many associate with impersonal online classrooms and assignments. In this new environment, access to additional help for struggling students is more necessary than it has ever been previously. The barrier that many students come up against in this quest for further academic help is the inability to easily find and connect with qualified tutors in their subject of choice.

On the flip side of this situation, are the many professional teachers who are incredibly knowledgeable in their field of study and are in search of a way to translate their skills into additional income. According to [pewresearch.org](https://www.pewresearch.org), almost one in six teachers in the United States work a second job to bring in additional income. Many of these teachers would prefer to have a tutoring gig as their second job but have not found the platform that easily allows them to connect with the students that are in need of their skillset. Enter, studentsandtutors.edu.

The purpose of our website is to facilitate the introduction of struggling students to qualified tutors who can assist them in their subject of choice. It also enables scheduling of these tutoring sessions through a quick and easy user interface. This website ensures students can get the additional help they need to succeed in their courses while allowing tutors to find employment with opportunities that meet their skills in the Dallas area. [Studentsandtutors.com](https://studentsandtutors.com) serves approximately 1,000 visitors a day and is able to meet the needs of both our educators and pupils by maintaining a database of over 10,000 students and 1,000 qualified tutors specializing in a large variety of subjects.

Visit the **Students** page to see a list of students, or register as a student.

See the **Tutors** page to find a list of tutors, or register as a tutor.

On the **Subjects** page you can find a list of subjects we offer, and request new subjects.

Visit the **Appointments** page to see and schedule appointments.

All entities/tables listed below were implemented in this project (4 entities, 2 relationship tables)

b) DATABASE OUTLINE (by entity)

i) Students

- 1) Records the details of Students who need Tutors, and records the Tutors currently associated with Students
- 2) Attributes
 - (a) `studentId`, int, auto_increment, unique, not NULL, PRIMARY KEY
 - (b) `firstName`, varchar(50), not NULL
 - (c) `lastName`, varchar(50), not NULL
- 3) Relationships
 - (a) M:M Students->Subjects (`studentId` is an FK inside of SubjectsStudents intersection table)
 - (b) 1:M Students->Appointments (`studentId` is an FK inside of Appointments)

ii) Tutors

- 1) Records the details of Tutors available to Students, and records the Students currently associated with Tutors
- 2) Attributes
 - (a) `tutorId`, int, auto_increment, unique, not NULL, PRIMARY KEY
 - (b) `firstName`, varchar(50), not NULL
 - (c) `lastName`, varchar(50), not NULL
- 3) Relationships
 - (a) M:M Tutors->Subjects (`tutorId` is an FK inside of SubjectsTutors intersection table)
 - (b) 1:M Tutors->Appointments (`tutorId` is an FK inside of Appointments)

iii) Subjects

- 1) Records the different Subjects that Students and Tutors should be associated with for potential Appointments
- 2) Attributes
 - (a) `subjectId`, int, auto_increment, unique, not NULL, PRIMARY KEY
 - (b) `subjectName`, varchar(50), not NULL
- 3) Relationships
 - (a) M:M Subjects->Students (`studentId` is an FK inside of SubjectsStudents intersection table)
 - (b) M:M Subjects->Tutors (`tutorId` is an FK inside of SubjectsTutors intersection table)
 - (c) 1:M Subjects->Appointments (`subjectId` is an FK inside of Appointments)

iv) Appointments

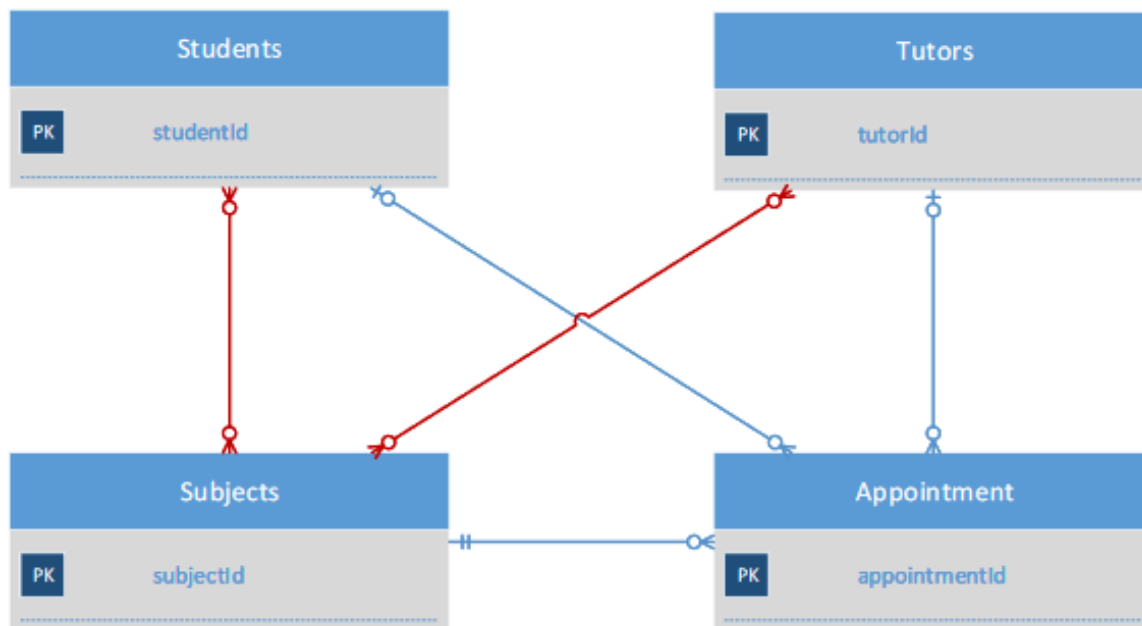
- 1) Records Appointments between Students and Tutors and their attributes; Appointments can only have 1 Student, 1 Tutor and 1 Subject
- 2) Attributes
 - (a) **appointmentId**, int, auto_increment, unique, not NULL, PRIMARY KEY
 - (b) **studentId**, int, FOREIGN KEY
 - (c) **tutorId**, int, FOREIGN KEY
 - (d) **subjectId**, int, not NULL, FOREIGN KEY
 - (e) **dateTime**, datetime, not NULL
- 3) Relationships
 - (a) M:1 Appointments->Students (studentId is an FK inside of Appointments)
 - (b) M:1 Appointments->Tutors (tutorId is an FK inside of Appointments)
 - (c) M:1 Appointments->Subjects (subjectId is an FK inside of Appointments)

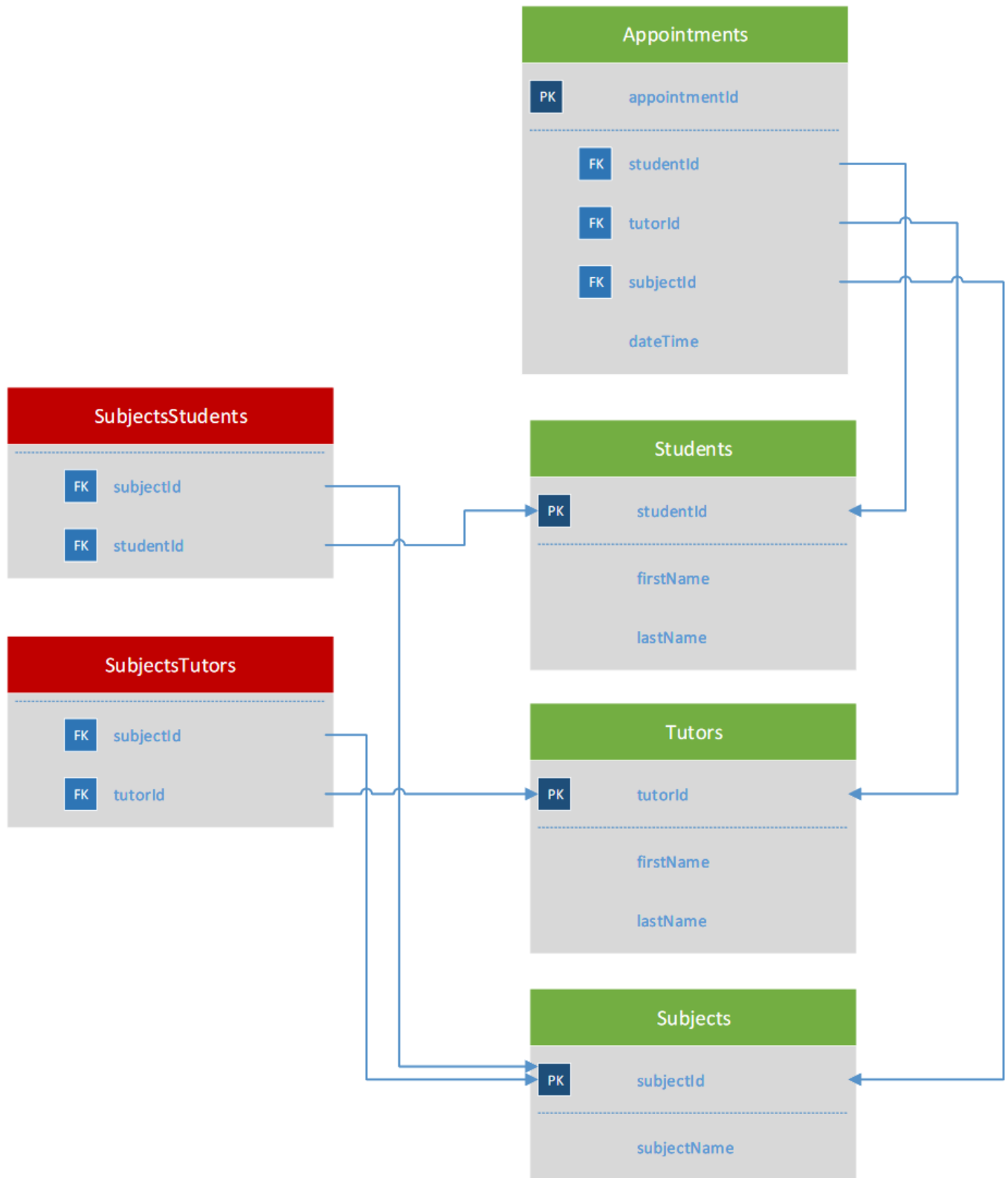
v) SubjectsStudents (Intersection Table)

- 1) Records the M:M relationship between Subjects and Students
- 2) Attributes
 - (a) **subjectId**, int, not NULL, FOREIGN KEY
 - (b) **studentId**, int, not NULL, FOREIGN KEY

vi) SubjectsTutors (Intersection Table)


- 1) Records the M:M relationship between Subjects and Tutors
- 2) Attributes
 - (a) **subjectId**, int, not NULL, FOREIGN KEY
 - (b) **tutorId**, int, not NULL, FOREIGN KEY





UI SCREENSHOTS

1. Home page (READ for database summary, CREATE, etc. for reset button)

 studentsandtutors.edu

[Home](#) [Students](#) [Tutors](#) [Subjects](#) [Appointments](#)

Welcome to studentsandtutors.edu!



The purpose of our website is to facilitate the introduction of struggling students to qualified tutors who can assist them in their subject of choice. It also enables scheduling of these tutoring sessions through a quick and easy user interface. This website ensures students can succeed in their courses while allowing tutors to find employment with opportunities that meet their skills in the Dallas area.

Visit the **Students** page to see a list of students, or register as a student.

See the **Tutors** page to find a list of tutors, or register as a tutor.

On the **Subjects** page you can find a list of subjects we offer, and request new subjects.

Visit the **Appointments** page to see and schedule appointments.

On each page, use the  button to update, or use the  button to delete an entry.

Our database contains:
5 Students | 5 Tutors | 10 Subjects | 6 Appointments

Admin use only! [Reset database to sample data](#) (but go ahead and push it if you want)

2. CREATE/INSERT/SELECT/UPDATE/DELETE Students page



[Home](#) [Students](#) [Tutors](#) [Subjects](#) [Appointments](#)


New Students


First Name: Last Name:











Subjects (select at least one):

- ☐ Art
- ☐ Business
- ☐ Chemistry
- ☐ Dance
- ☐ Economics
- ☐ French
- ☐ Geography
- ☐ History
- ☐ Internet Etiquette
- ☐ Jungian Psychology

Use  to update, or use  to delete an entry.

Use ☒ to confirm your update, or  to cancel your update.

 **Warning!** Deleting a student will delete all related appointments.

studentId	studentFullName	subjects		
1	Rachelle Bass	Business (2)		
2	Donovan Howe	Dance (4)		
3	Rodney Safetyfield	Art (1)		
4	Thomas Cruiseford	Dance (4), French (6), Internet Etiquette (9)		
5	Sara Braille	Art (1), Business (2), Chemistry (3)		

3. CREATE/INSERT/SELECT/UPDATE/DELETE Tutors page



[Home](#) [Students](#) [Tutors](#) [Subjects](#) [Appointments](#)



New Tutors

First Name: Last Name:











Subjects (select at least one):

☐ Art
☐ Business
☐ Chemistry
☐ Dance
☐ Economics
☐ French
☐ Geography
☐ History
☐ Internet Etiquette
☐ Jungian Psychology

Use  to update, or use  to delete an entry.

Use  to confirm your update, or  to cancel your update.

 **Warning!** Deleting a tutor will delete all related appointments.

tutorId	tutorFullName	subjects		
1	Alice Academia	Art (1), Dance (4), Internet Etiquette (9)		
2	Billy Booksmart	Jungian Psychology (10)		
3	Catherine Collegiate	Art (1), Geography (7)		
4	Danny Datapants	Business (2), Dance (4)		
5	Eileen Educated	French (6), History (8)		

4. CREATE/INSERT/SELECT/SEARCH/DELETE Subjects page

[Home](#) [Students](#) [Tutors](#) [Subjects](#) [Appointments](#)


Add a New Subject to Our Directory!


Subject: (Letters and numbers only)











Want to see if we offer a subject? Search our database!

Subject:

subjectId	subjectName
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Use the  button to delete an entry.

 **Warning!** Deleting a subject will delete all related appointments and refresh the page.


subjectId	subjectName	
1	Art	
2	Business	
3	Chemistry	
4	Dance	
5	Economics	
6	French	
7	Geography	
8	History	
9	Internet Etiquette	
10	Jungian Psychology	

[Code References](#)

5. CREATE/INSERT/SELECT/UPDATE/DELETE Appointments page

[Home](#)[Students](#)[Tutors](#)[Subjects](#)[Appointments](#)



Schedule an Appointment!



Want to set up an appointment, but not sure which student or tutor will attend? Select "--", and come back later to fill in the student/tutor using the  button next to the appointment.



Student: Select a student and/or tutor (either can be null)













Tutor:

Subject: Choose any subject (this field does not check your student's/tutor's subjects)

Date:  Time:  (e.g. 12:00 PM)

Use  to update, or use  to delete an entry.

Use  to confirm your update, or  to cancel your update.

id	studentFullName	tutorFullName	subjectName	dateTime		
1	Donovan Howe	Alice Academia	Dance	2021-03-01 12:00:00		
2	Rachelle Bass	Eileen Educated	Internet Etiquette	2021-03-02 12:00:00		
3	Rodney Safetyfield	--	Art	2021-03-03 12:00:00		
4	Thomas CruiseFord	Billy Booksmart	Jungian Psychology	2021-03-04 12:00:00		
5	--	Alice Academia	Dance	2021-03-05 12:00:00		
6	--	--	Art	2021-03-10 12:00:00		

[Code References](#)