**Week #5 Rajvee Shah (SUID: 595294631)**

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**Project Proposal**

**Student Expense Track Database Management System**

**Business description**

Syracuse University is a private institution which consists of diverse students enrolled from all over the world. The university has a number of on campus stores wherein the students can purchase various commodities like books, clothing, grocery, electronics and other stuff which are required for educational purposes. One of the types of stores of paramount importance to a student’s academics are the bookstores.

Syracuse University has two bookstores, one at the Schine Center and another one at Slocum center. These bookstores get a heavy footfall at any point of the day, which means a lot of purchase history is recorded in the bookstore database. The bookstore is a repository of all the purchases of each student. But there isn’t any system which enables students to remotely keep a tab on their bookstore purchases.

**Problem statement**

As mentioned before, whenever a student makes a purchase at the bookstore, the store has the entire student purchase history of the student. The student, however, is not availed of the same. This becomes a hassle for the student who makes a purchase at the bookstore, sometimes unaware that the very item he/she is purchasing has already been purchased in the near past.

**Proposed solution**

Here, we are going to build and implement a central system, from the student’s perspective, so that the student can keep a track of all his/her expenses made during the particular academic year. This system will help the student to avoid the redundancy of buying the same product in the future. The students will be able to access their expenses by logging into the system with the help of their SU credentials.

By defining and joining the various entities, we will be able to display all the expenses of the student in a single place. This will be very helpful to the students in terms of managing their expenses at the bookstore and would give them all the information they need on a single database. It would be as easy as a click of a button.

For this, we will need to jot down a set of unambiguous business rules so that an entity-relationship diagram can be modelled. Based on the ER model, a data relationship diagram can be deduced. The business rules can be defined as:

1.     Purchaser should be a student of Syracuse University.

2.     He/she must have a valid SUID.

3.     Purchase should only be made in the SU Bookstore.

4.     Must have a minimum transaction of $5 every time.

5.     Purchases must be made during the semester.

6.     Mode of payment should be only cash or card.

**Users**

The primary users of our system are the university students. The students will have access rights as decided by the database architect.

* Student

All rights to view all details about expenditure made in the bookstore as well an update if any required.

* Parents

By using the student’s login credentials, parents can view their ward’s bookstore purchases.

**Potential entities and attributes**

1. **Student**

* SUID (Primary Key)
* First Name
* Last Name
* Email address
* Degree
* Major

**2.) Purchase**

* Purchase ID (Primary Key)
* Purchase Value
* Purchase date
* Product Name
* Product quantity
* SUID (Foreign Key)
* Bookstore ID (Foreign Key)

**3.) Bookstore**

* Bookstore ID (Primary Key)
* Bookstore Name

**4.) Expenditure Track**

* Month Name (Primary Key)
* Academic Year
* Bookstore Name
* Transaction Value
* SUID (Foreign Key)

**5.) Parents**

* Parent ID (Primary Key)
* Parent First Name
* Parent Last Name
* Month Name (Foreign Key)
* SUID (Foreign Key)