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IST 659- Project Design Report

Project Summary:

This project focuses on designing a database for the Syracuse University Food Services. Currently, SU Food Service offers many services on campus for students and staff of Syracuse University. I am primarily focusing on solving the problems of dining halls which are across every corner of the campus.

The system will store the information about different dining halls, commercial and student employees working there, their shifts/timings and number of hours they worked at their workplace, also it will show information about dropped shifts and picked shifts such Who dropped the shift? Why he/she dropped the shift? What is the time of dropped shift? Where was the shift? Who picked up the shift?

Student employees and commercial workers have different shifts that they need to be picked up according to their schedule. Thus, there is an absence of a system where these students have to physically be present to pick these shifts up. Moreover, every time a student wants to sub or pick a shift he has to mail the SU Food Service Management. Thus, everything is manual and there is no level of customization to this data.

For this, we need to develop a database application that will change the process of sub shifts. Through this application, the student employees who are willing to drop their shift can upload their shift details and reason on the application which can be accessed by management and student employees. As a result, this will eliminate the huge number of emails that all student employees receive. So, if a student wants a sub shift he can directly login to the application and see what shifts are available. This will eliminate the cumbersome of sub shift mails that popup on students mail ids.

The report comprises of the database requirement in form of business rules, relationship between the various entities and attributes and fully attributed relational data models (ERD). The report also addresses the major queries and information that may be required by various users of this system.
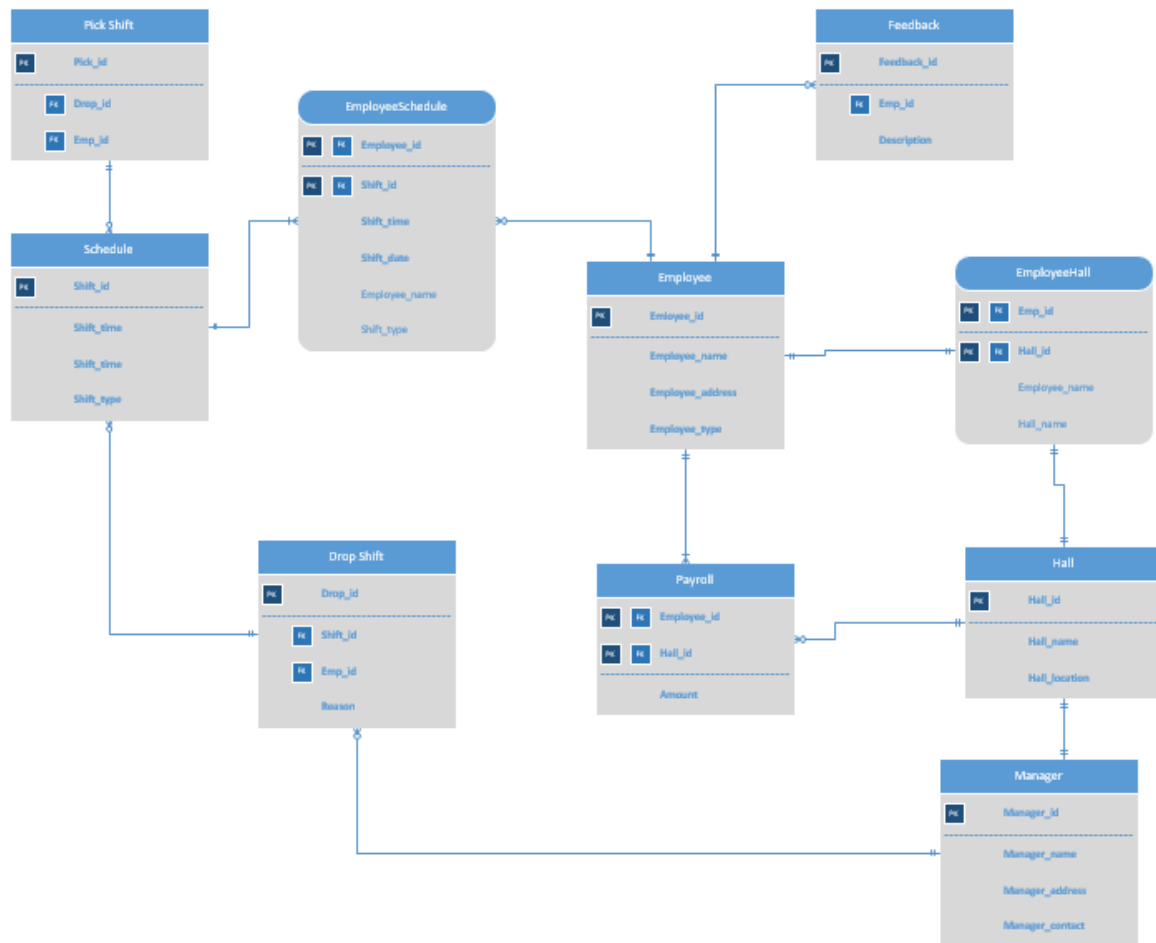
Entities and Attributes:

Objects	Description
1. Dining Hall	Can be any dining hall across the campus
a. Hall_id	Primary Key uniquely identifies the hall
b. Hall_name	Name of Hall
c. Hall_location	Location of Hall
2. Employee	Employees working at respective dining halls
a. Emp_id	Primary Key uniquely identifies the employee
b. Emp_name	Name of the employee
c. Emp_address	Address of the employee
d. Emp_contact	Contact of the employee
e. Emp_type	Type of employee, Commercial or student employee
3. Manager	Manager of respective dining halls
a. Manager_id	Primary Key uniquely identifies the manager
b. Manager_name	Name of the Manager
c. Manager_contact	Contact of the manager
4. Schedule	Schedule of the Employee
a. Shift_time	Timing of the Shift
b. Shift_type	Type of Shift
5. Payroll	Type of payroll happening to employee

a. Hall_id	Foreign Key, primary key for the employee payment
b. Emp_id	Foreign Key, primary key for the employee payment
c. Amount	Amount the employee got via pay checque or direct deposit
6. EmployeeHall	Which hall does each employee work
a. Emp_id	Foreign Key identifies the employee
b. Hall_id	Foreign Key identifies the hall
7. EmployeeSchedule	Schedule of Employee
a. Shift_id	Primary Key, Uniquely Identifies Shift
b. Shift_date	Date of Shift
c. Shift_type	Type of Shift
d. Emp_id	Identifies the employee
8. Drop Shift	Shift Dropped by Employees
a. Drop_id	Primary Key uniquely identifies which shift is dropped
b. Shift_id	Foreign Key identifies the shift
c. Emp_id	Foreign Key identifies employees
d. Reason	Reason for dropping the shift
9. Pick Shift	Shifts that are picked or available
a. Pick_id	Primary Key uniquely identifies which shift are picked or available
b. Shift_id	Foreign Key identifies shift
c. Emp_id	Foreign Key identifies employees

10. Feedback	Feedback given by employee
a. Feedback_id	Primary Key uniquely identifies feedback
b. Emp_id	Foreign Key uniquely identifies employee
c. Description	Description of feedback

ERD:

Business Rule:

1. Every user login must be either manager, commercial or student employee
2. An employee should be a commercial or student employee who is affiliated with university.
3. An employee must have at-least two shifts in a dining hall.
4. A student employee can work no more than 20 hours.
5. Mode of payroll with the student could be only direct deposit or cheque.
6. An employee can drop a shift two weeks prior to dropped shift date
7. Manager will approve the drop shift request before it is available for pick-up
8. An employee can write feedback about its own workplace.

Major Data Questions:

1. How to store the number of employees working in a particular dining hall?
2. How many students are working at a particular time in the hall?
3. How many students are working in more than one hall?
4. How many hours a particular employee is working?
5. What are the shift timings?
6. What is the schedule of the employee?
7. How to make sure the reason for dropping the shift is true?
8. How to make sure the feedback is submitted by employee working at particular dining hall?