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IST 659

Project Proposal-subitup

1. Business description:

Syracuse University along with a pioneer in education offers many on-campus jobs for students such as dining, food services, dome. Students for Community Safety (SCS) at the Syracuse University is responsible for the security of the students and oversees the safety of the residential halls. The RSA is responsible to monitor public halls by checking student ID cards and ensuring that an unauthorized person cannot enter residential halls. It keeps a track of visitors who enter the residential halls by recording their details.

2. Problem Statement:

There are students who work in RSA employed by the SCS for shifts. However, there are certain times when a student wants to drop a particular shift, in this case, they have to come to the SCS office and inform them in advance. A book is maintained in which every week, the shifts which are put for substitution are entered. Another student who wishes to take up the shift can visit the SCS office and pick up shifts. However, this entire process is done manually and consumes time, also, in times where a person might be ill or is unable to visit the office faces problems. In order to solve this problem, an automated system for maintaining shifts can be adopted which will be efficient for the entire process. There is a need for maintaining a central database for all the employees, their shifts and halls so that it is easier for both the managers and the employees who can access the details with ease.

3. Proposed solution:

As mentioned, a centralized solution for maintaining a database for all the employees, locations and shifts will be beneficial. Another person who wants to pick up a shift can access this system and pick up a shift as per his requirement. It will also be useful for the SCS who can keep a track of the employees. The proposed solution will be called subitup and will include functions for dropping shifts along with specifying the reason for the same. It will also have option to pick up the shift for another employee. It does not include a function for registering for the RSA and giving the exam online as physical verification of the employee is essential. The proposed solution is a centralized repository containing information about all the employees, their shifts, halls, payroll, managers.

The solution will be designed to answer questions:
1) How many employees are working at a particular hall?
2) What are the shift timings for a particular employee?
3) What are the number of hours a particular employee is working?
4) Is the reason for dropping a shift valid?
5) Has the student arrived for his shift?
6) Is the student receiving the pay for the number of hours he is working?
7) Has the person who picked up the shift arrived for the shift?

4. Users:

The primary users of the system will be students who are employees of the SCS and who due to certain reasons are unable to go for their shift. Also, employees who want to earn a few extra hours can also use this system to pick up extra shifts other than their permanent shifts. This system will also be used by the employers who can keep a track if someone misses their shift and to check if someone else has picked up that

shift, if not, then they can arrange for alternatives so that the shift has been covered. The system-subitup will also be used by managers for keeping a track of the employees so that all the shifts are covered. They can take actions if employees do not come for shift and can access their details. Similarly, if an employee is not available due to a particular reason, the manager can view the reason and communicate with the employee accordingly. It can be used by. both for keeping a track of the payroll and the number of hours each week an employee works for.

5. **Business rules:**
   1) Every user must be a student, employee or manager.
   2) Once a shift has been dropped, the same student cannot pick it.
   3) A student cannot be free of the shift till someone else picks it.
   4) It is allowed to drop a shift till a week prior to the shift day.
   5) A student is allowed to work a maximum of 20 hours per week.
   6) Whatever maybe the job of the student, the hours worked for a student is maintained in a single database.
   7) It is allowed to have a sick call prior to four hours of the shift.
   8) An employee is not allowed to have a no-show without informing the managers in any situation.

6. **Potential entities and attributes:**

Entity	Attributes	Description
Account	User_ID	Primary key for user
	UName	First name of user
	Utype	Specifies employee or manager
	Ucontact	Contact of user
	Uaddress	Address of user
Residential Halls	Hall_ID	Primary key for Halls
	HallName	Name of hall
	HLocation	Location of hall
	STime	Shift timing of halls
Employee	Emp_ID	Primary key for employee
	User_ID	Foreign key specifies employee
Employee Schedule	Es_ID	Surrogate key for employee schedule
	Emp_ID	Foreign key identifies employee
	S_ID	Foreign key identifies shift
Manager	M_ID	Primary key for Manager
	User_ID	Foreign key specifies manager
Shift	S_ID	Primary key for shift
	SLocation	Location of shift

	STime	Time of the shift
	SDate	Date of the shift
EmpHall	Eh_ID	Surrogate key for employee hall
	Emp_ID	Foreign key specifies employee
	Hall_ID	Foreign key specifies hall
Picked Shift	Pick_ID	Primary key for picked shift
	Es_ID	Surrogate key specifies Employee schedule
Dropped shift	Drop_ID	Primary key for dropped shift
	Es_ID	Surrogate key specifies Employee schedule
	Approved	Specifies if approved or not by manager