**Smart Recreational Center System for Lamar University.**

One of the important USP’s for Lamar University is its famous Sheila Umphrey recreational center.

The following procedure needs to be followed by any Patron, who wants to enter the rec center.

1. He needs to provide the Lamar Id card to the person at the Reception.
2. The employee will enter the patron’s id number.
3. In order to avail the benefits, the patron has to either be a Lamar student, an employee or have purchased an independent pass to enter the center.
4. The person should also have paid a recreational fee.
5. For people coming to the rec. center for the first time, they have to sign a mandatory waiver.

Once the person enters, if he wants to use any of the rec center equipment’s, he has to provide his ID card at the equipment desk and take whatever equipment he wants. The same equipment would be registered under his name, till he returns it back. The equipment’s that are loaned to the patrons, are registered on the person’s account, until they have been returned.

**Current System Overview**

The current software used by the recreational center is very obsolete. The current drawbacks of it are: -

**At the reception: -**

1. The employee at the reception has to manually enter the person’s number, during peak hours, this causes a long waiting queue.
2. There’s no photo of a patron, sometimes, even the id card does not have photos, this could lead to a different person entering into the center, with the identity of someone else.
3. The user interaction of the system is also very poor.
4. It is difficult to find out whether the recreational fee has been paid by the patron or no, patrons may end up taking unnecessary advantage of that.

**Equipment Desk: -**

1. The equipment’s have no proper numbers, so it is very difficult to have a count of the items in the inventory.
2. It is a very tedious task to add equipment’s on a patrons account if he/she is opting for more than one. For e.g. if a person wants to play pool, it is very unlikely that the person would just opt for the pool balls set, he would take the sticks and the triangle along with it as well. But to do the same task, the employee has to select the pool ball first, then go back, select the sticks, go back and then select the triangle. It becomes very tedious and frustrating for the employee.
3. Another scenario is, if a person has taken badminton set first, now he wants to return it and take ping pong set, the employee now has to enter the details of the patron, take off the badminton set, enter the patrons number again, add the racquets, go back and add the birdies after that. This can be frustrating at times.
4. There is no log or even a check out or a check in time for any equipment.

**Employee management system.**

There’s a complete different online software for the employees to have an access to their shifts.

The employer, initially assigns shifts to the employees. The employer can also make other shifts available which can be picked up by the employees manually. The employee can later add, or remove the shifts from the system. (Note: - The employees cannot work for more than 19.5 hrs. a semester, also it is the employee’s responsibility to assure that the shift he has dropped is picked by someone else or he still has to work the shift). Consider a scenario that the employer has made Monday 8-10 pm shift available for the whole semester. If a certain employee wants to pick up that shift, he has to manually pick up, say 21 shifts which are available on all Mondays of the semester.

Employees at the rec center are supposed to follow certain rules and guidelines. For every rule that the employee doesn’t follow or makes mistakes, he gets a point on his name and a write-up. Many a times, its unknown to the employees that they have got write-ups on their names, so they have no idea about the points accumulated on their name which would lead to a certain disciplinary action.

**Objective of the project.**

The main objective of the project would be to integrate all three modules of the recreational system viz. the reception counter, the equipment desk and the employee management system. This would be a web based application. I would be comfortable in designing this project in asp.net with the backend of MySQL. This system would overcome the drawbacks of the previous system.

It would include: -

1. At the reception counter, the id card of the patron would be scanned, which would save the time the employee would take to manually enter the person’s information in the system.
2. As soon as the card is scanned, it would pull up all the information about the patron, viz. whether he has signed the waiver, paid the rec fee, previous entries in the system etc. This would require us to integrate the student account with the system.
3. It would always great if the equipment were assigned with a barcode or a number, so as to keep a track of the equipment and the equipment number borrowed by the patron. It would also save the time required by the employee to manually enter the item. The good part about having an equipment number would be that we would know how many times a particular equipment has been borrowed, so that we know when to replace it.
4. Sometimes, the patron forgets to return the equipment (normally towels), if the item is not returned before the system closes, the patron gets charged for it, to overcome this, say if the particular item hasn’t been returned with 6 hrs, the person would receive a mail informing about the same, through which he could return the item back in case he has forgotten, which would avoid him being charged for the same.
5. The employee management would also be integrated in this system, so the rec sports doesn’t have to use a different system. The employees would have an options of picking up multiple shifts in a row. If any employee has more than 19hrs in a week, he would not be allowed to pick up more shifts. Employee could also receive notifications about their upcoming shift.
6. Employees would have options to view their write-ups and points through this system, so that they can take proper measures accordingly.
7. Alternatively, we could also keep a track of many other data for e.g. During what time of the day did the center have more visitors? what time of the semester the center had most public etc.

**Difficulties that can be encountered while designing this project**

Integrating the rec system with the employee management and the student account can be a herculean task.

Few difficulties that could be encountered are: -

This is going to be a web based system, so it can be accessed from anywhere, but the reception, front desk and the equipment desk needs to be accessed from specific systems only. Designing the same could be challenging.

In the employee management system, if an employee has 19 hours, he cannot pick up more shifts. Consider an employee wants to drop Monday 8-10 shift and pick up Tuesday 12-2 shift, he cannot do so if he already has 19 hours. So in order to pick up the 12-2 shift he has to drop the 8-10 shift first, it has to be picked up by someone else and then he can pick up the Tuesdays shift, if another employee picks up the Tuesdays shift then it could be a major drawback.