**Mission #2 – Muhammad Hassan – Final Project**

**Analysis of the Problem:**

One of the problems at Super Fun Park is the management of their own employees. Because the Human Resources department doesn’t have a centralized way of keeping a track of all the employees in different departments, their responsibilities and schedules, the employees feel that their work is not being noticed OR they are not paid properly OR they are over-burdened with responsibilities.

**Proposal:**

To figure out what is the problem among employees, the first part of my proposal to solve this problem is to use employee cards along with finger-print technology to check-in and check-out. This step will help the human resources department in keeping a track of all the employees, their timings and the number of hours they will work each day, similarly week. The finger-print technology will ensure that there is no human error/foul play involved in keeping a track of the number of hours’ employees work every week.

The second part of the proposal which involves creating a DBMS requires us to do some art work first which I will do below:

A) What does the Human Resources department want to know of an employee?

Salary

Health Plan

Status (Part/time or Full time

Promotions Since Hired

Supervisor Information

Responsibilities

Sick Days

Employer ID

Retirement Plan

Department

Hiring Date

#Of Hours Supposed to Work

Designation

B) What does Zippy Mouse want to know of Super Fun Park?

Departments

Total Number of Part Time and Full Time Employees

Total Number of Employees

Information of Employees

Sum of Salaries of Employees

Information of Managers

C) What history is important of the employee?

Salaries before Promotion

Sick days taken

Check in/Check out history

Count of sick days in a calendar year

# of Hours Worked in a week

D) What is important to the accounting department?

# of hours billed for salary purposes

Every week’s salary

Salary rate

Looking at the above presented art-work, we can create a DBMS Schema as the following:

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Zippy mouse and the office of the CEO will have access to every entity but most important to them will be:

**Super Fun Park --** (**NameOfDepartment**, No. OfEmployees, FullTimeEmployees, PartTimeEmployees, Manager, ManagersEmplID) -- Primary key = Name of Department ||

**Employees** --(**EmplID**, Status (Fulltime/Part-time), Department, Designation, HiringDate, PromotionsSinceHired, Salary, HealthCarePlan, RetirementPackage, SSN, D.O.B., Address, Manager’sEmplID) – Primary Key = EmplID || Foreign Key = Department REFERENCES SuperFunPark.NameOfDepartment

Below mentioned 3 entities will be used by every department along with Human Resources department to solve the mentioned issues in this mission. The entity \**department name\** represents information of every respective department and every department will have one of their own which only they will be able to access apart from the office of Zippy Mouse.

***\*Department Name\** --** (**EmplID**, FirstName, LastName, Status, Designation, Responsibilities, Manager’sEmplID). Every department has their own table which the managers can use to keep a track of how many employees they will have, what responsibilities they have and everything related to that. Primary Key = EmplID || Foreign Key = EmplID.Employees.

**Employee History –- (EmplID**, #OfHoursPerWeek, #OfHoursWorked, SickDays, **Week#**) || Primary Key =(EmplID, Week#) || Foreign Key = EmplID.EmployeeInformation.

**Employee Timeline –-** (**Date**, **EmplID**, Check-in, Check-out, HoursWorked, Meal-time, SickDay) || Primary Key = (Date, EmplID) || Foreign Key = EmplID.EmployeeInformation

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The above-mentioned DBMS will have some of the following properties and solve the following issues:

* EmplID will be the unique identity number given to employees in this scenario. It will serve as a gateway to the information of the employees in every table. In the entity \**Super Fun Park\*,* ‘Name of Department’ will be the primary key.
* Employee Timeline will be synchronized with Employees card and the fingerprint scanning technology. If the employee is calling in sick, then the Department will access the employee timeline entity manually and edit the information manually.
* Employee History will be used to observe the number of hours Employee has been working every week, count the number of sick days along with keeping a track of their check-in and check-out timings.
* We can see how many Employees are working under a single Manager by using Managers EmplID in the Employee table.
* The \**Department Name\** table will help the human resources department of Super Fun Park to make decisions of whether to hire new employees or not.
* The \**Department Name\** table will also help the human resources department to keep a track of how many times an Employee has been promoted and what was the last time they got promoted.
* Using the Employees table and the Department table, human resources department will be able to keep a track of whether the Employees are over-stressed or not.
* Using the entities Human Resources has access to, they will be able to solve the following problems along with many others:

1. How often people are calling out sick.
2. How many hours are they working.
3. How many responsibilities does every employee has. Too many, too few or moderate.
4. Who is coming in late regularly.