## Objective

Development of Employee Maintenance System used for maintenance of an employee details in an organization.

## Abstract of the project

This project is aimed at developing Online Employee Maintenance System. This is an Intranet based application that can be accessed throughout the organization and this is a web based application that can be accessed over the web. This system can be used to search for Employees based on search condition, add individual employee, modify an existing employee details and display all employee details across locations within an organization. Employees can apply for leave and the leave record will be updated and can be approved/rejected by manager. This is an integrated system that contains both the user (Employee) component and the Admin component

## Functional components of the project

Following is a list of functionalities of the system. Wherever, the description of functionality is not adequate, you can make appropriate assumptions and proceed.

There are two categories of people who would access the system viz. employee & Admin. Each one of them would have some exclusive privileges (for e.g. Employees can just search an employee details based on search condition.)

1. Admin should be able to
   * Login to the system using his/her credentials
   * Add individual employee details by accepting all the field values from end user as listed below and inject the values into database table if data are valid else display an appropriate error messages.
     + Employee ID has to be a 6 digit number (with no decimals) and cannot start with a ZERO (Cannot be empty)
     + First and Last name should be alphabets, with initial uppercase only (Cannot be empty)
     + Date of joining and Date of birth need to undergo regular date validation (DD-MMM-YY) - (Cannot be empty)
     + The date of joining should be > Date of birth and the employee’s age has to be >=18 and <= 58 as an eligibility criteria for employment
     + Department name values has to be populated from database into a dropdown list (Cannot be empty)
     + Grade has to be one of the following values: (Cannot be empty)
       1. M1
       2. M2
       3. M3
       4. M4
       5. M5
       6. M6
       7. M7

This should be in a dropdown list

* + - Designation can be alphabets limited to 50 characters: (Can be empty)
    - Gender has to be one of the following values: (Cannot be empty)
      1. Male
      2. Female
    - Basic should be numeric only and the basic has to be validated against a salary band for each grade
    - Marital Status can be one of the following values: (Cannot be empty)
      1. Single
      2. Married
      3. Divorced
      4. Separated
      5. Widowed
    - Home Address (Can be alphanumeric and optional)
    - Personal Contact Number (Can be alphanumeric and optional)
    - The employee ID of manager should be stored against each employee. Admin can assign or modify the Manager for each employee.
  + Modify Employee details:
    - Based on existing employee id, display the following fields First Name, Last Name, Department, Grade, Designation, Basic Salary, Marital Status, Home Address, Personal Contact Number in an editable mode.(validation should be taken care for the change in basic salary if there is change in the grade)
  + Display all employee details:
    - Employee details either display in single page or easy to use provisions (like previous, next, first, last) should be provided to navigate between records. Display should be limited to 10 records per page
    - Display details in the below given tabular format

**<<First>> <<Next>> <<Previous>> <<Last>>**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| <<ID>> | <First Name> | <Last Name> | <Department> | <Grade> | <Designation> |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1. Employees/User should be able to
   * Login to the system using his/her credentials
   * Search an employee details based on any of the fields - ID, First Name, Last Name, department, Grade, Marital Status. The following fields are provided to enable the user specify the search conditions:
     1. ID(Can provide wild card search)
     2. "First Name" (Can provide wild card search)
     3. "Last Name" (Can provide wild card search)
     4. Wild card search (? / \*)
        1. ? for a character
        2. \* for n characters
     5. Department (Can choose one or more department at a time – Multiple choice)
     6. Grade (Multiple choice)
     7. Marital Status (Multiple choice)

The results will be filtered and displayed following the same display rules as the display all employee details requirement.

* + Apply for leave :

1. An Employee is eligible for 12 casual leaves per year.
2. This can be availed at any time.
3. When an Employee is logged in he or she should be able to apply for leave.
4. The status of leave should be 'applied'.
5. Manager of the employee can approve or reject the leave and appropriately status should be updated as 'approved' or 'rejected'.
6. Once approved, the balance should be updated in db.
7. If leave is not approved, it gets automatically approved after 3 days

**Suggested Stack:**

1. **JAVA Track:**

* Java 8
* Angular 6+
* Maven
* Spring Boot 2.x
* SpringREST
* Spring Data JPA
* Postman
* Oracle/Postgres
* JUnit 5/Mockito
* Sonarqube
* JACOCO

1. **.NET Track**

* C#
* Asp.net
* EntityFramework
* Angular 6+
* MSBuild, MSTest/NUnit,
* SQL/MySQL/Oracle/Postgres