**Report about best devices in PC, best operating system and suitable programming languages.**

**System Name:**

* **Best Devices**

**Servers: to handle with the large amount of tasks’s data and user’s data, we will use servers like DELL, IBM or CISCO**

**Computers: for working on the task and manage them**

**We will need computer (personal computers “Desktop computer” or “portable computer”) with Requirements**

**Minimum Requirements:**

**CPU: Core i3 7th gen**

**Ram: 8GB DDR4**

**Mother board: HP or Lenovo or Gigabyte GM31 combo**

**GPU: 2GB**

**Maximum Requirements:**

**CPU: Core i5 7th gen**

**Ram: 16GB DDR4**

**Mother board: HP or Lenovo**

**GPU: 4GB.**

**Best Software Apps:**

**Net Support: for the manager to control and see the task and**

**File Management and screen sharing**

* **Best Operating System**

**Windows: it is widely use around the word and good for office applications, friendly UI specifically (windows10/windows11).**

**Mac OS: it is popular for its security and it’s friendly UI.**

**Linux: Open source free and has a lot of versions**

**You can optimize anything on it.**

* **Suitable Programming Languages**

**C#: use OOP, good for desktop application, well for web applications and console apps.**

**Python: for developing desktop apps and web applications**

**Java: for web developing, Machine learning**

**Java: script: for web developing web sites logic, Machine learning**

**HTML: for developing web apps**

**SQL “Structured Query Language”:**

**To create the data base and develop it**

**Design of an integrated system (Class diagram)**

Users

+User\_id (int)

+User\_name(string/nvarchar(50))

+User\_password(string/nvarchar(8))

+User\_role(string/nvarchar(50))

+(ADD)+// manager

+(Insert )+// manager

+(Update)+// manager/employees

+(Delete)+//for manager

Each employee have one or more than one task the manager can do the CRUD Ops on the tasks.

Tasks

Task\_id(int)

Task\_title(string/nvarchar(50))

Task\_description(string/nvarchar(100))

Task\_status(string/nvarchar(20))

Task\_user\_id(int)

**Testing**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test case ID** | **Test case description** | **Test Steps** | **Test Data** | **Expected Result** | **Actual Result** | **Pass/Fail** |
| 1.1 | Test the log in function with  Valid values | Enter valid user name and valid password | User name  “Mohamed”  Password  “101” | Log in successful | Log in successful | **PASS** |
| 1.2 | Test the log in function with  No values | Click on the log in button without data | No data | Error message  “Fill data fields” | Error message  “Fill data fields” | **PASS** |
| 1.3 | Test the log in function with  invalid values | Enter invalid user name or invalid password | User name  “Mohsen”  Password  “500” | Error message  “invalid user name or password” | Error message  “invalid user name or password” | **PASS** |
| 2.1 | Test The Add function  With all valid values | Enter the valid values | Task title  “Task5”  Task description  “Des F Task5”  Date  “1999-02-02”  Employee name  “Ahmed” | Add successful | Add successful | **PASS** |
| 2.2 | Test The Add function  With NO Value | Enter No Value  And click on the add  Button | No data | Error message  “Fill data fields” | Error message  “Fill data fields” | **PASS** |
| 3.1 | Test select function | Select a row form the grid | Select row number 2 | Row selected | Row selected | **PASS** |
| 4.1 | Test delete function  With no task selected | Click on the delete button without task selected | Now data selected | Error message  “please select a task to delete” | Error message  “please select a task to delete” | **PASS** |
| 4.2 | Test delete function  With a selected task | Select a task and click on the delete button | Select a task from the grid | Delete successful | Delete successful | PASS |
| 5.1 | Test Update function  With no task selected | Click on the Update button without task selected | Now data selected | Error message  “please select a task to Update” | Error message  “please select a task to Update” | **PASS** |
| 5.2 | Test Update function  With a selected task | Select a task and click on the Update button | Select a task from the grid | Update successful | Update successful | PASS |