**IT Applications Database System**

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**Abstract:**

Previous research has focused on the development of different IT based application database systems in order to improve user accessibility and data records. This paper specifically focusses on developing different IT based applications for the backend databases such as User management, Role management, Application inventory management, Application support, license inventory management, license allocation, hardware inventory management, infra support and the backup management. In addition, this paper also describes how to configure the above-mentioned applications, how to maintain the above-mentioned applications and how to report the above-mentioned applications for future inquiries and usage. Lastly, this paper also explains the significant role of using Major user views and Use cases. Major user view includes different columns such as data, access type, Team lead, Manager, Support, User and the HR. Out of these columns, the column data provides the most important information about the different entity types and their attributes. The use cases explain about the association between different entities and their attributes. In addition, since use cases are used to predict different association and relationships, they are also considered when predicting relationship occurrence between different entities.

**Mission Statement:**

The purpose of the IT Applications database system is to maintain the data we generate and provide information that helps our client to efficiently manage their application and patch management processes.

**Mission Objectives:**

To configure applications on user manager

To configure applications on role management

To configure applications on application inventory management

To configure applications on application support

To configure applications on license inventory management

To configure applications on license allocation

To configure applications on hardware inventory management

To configure applications on infra support

To configure applications on backup management

To Maintain (add, update, and delete) data on user manager

To Maintain (add, update, and delete) data on role management

To Maintain (add, update, and delete) data on application inventory management

To Maintain (add, update, and delete) data on license inventory management

To Maintain (add, update, and delete) data on license allocation

To Maintain (add, update, and delete) data on hardware inventory management

To Maintain (add, update, and delete) data on infra support

To Maintain (add, update, and delete) data on backup management

To report on on user manager

To report on role management

To report on application inventory management

To report on application support

To report on license inventory management

To report on license allocation

To report on hardware inventory management

To report on infra support

To report on backup management

To track the status of application inventory management

To track the status of license inventory management

To track the status of license applications

**Major User Views:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl.no | **Data** | **Access type** | **Manager** | **Team Lead** | **Support** | **User** | **Hr** |
| 1 | **User Management** | Configure |  |  |  |  | **X** |
| Maintain |  |  |  |  | **X** |
| Query |  |  |  |  |  |
| Report | **X** |  |  |  | **X** |
| Request |  |  |  |  |  |
| Buy/Procurement |  |  |  |  |  |
| 2 | **Role Management** | Configure |  |  |  |  | **X** |
| Maintain |  |  |  |  | **X** |
| Query |  |  |  |  |  |
| Report | **X** |  |  |  | **X** |
| Request |  |  |  |  |  |
| Buy/Procurement |  |  |  |  |  |
| 3 | **Application Inventory Management** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement | **X** |  |  |  |  |
| 4 | **Application Support** | Configure |  |  | **X** |  |  |
| Maintain |  |  |  |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement |  |  |  |  |  |
| 5 | **License Inventory Management** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement | **X** |  |  |  |  |
| 6 | **License Allocation** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement | **X** |  |  |  |  |
| 7 | **Hardware Invetory Management** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement | **X** |  |  |  |  |
| 8 | **Infra Support** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** | **X** |  |
| Buy/Procurement | **X** |  |  |  |  |
| 9 | **Backup Management** | Configure |  |  | **X** |  |  |
| Maintain |  |  | **X** |  |  |
| Query |  | **X** |  |  |  |
| Report | **X** | **X** |  |  |  |
| Request |  |  | **X** |  |  |
| Buy/Procurement |  |  |  |  |  |

**A List of use cases:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl.no** | **Data** | **Use Case Name** | **Actor** | **Steps** |  |  |  |
| 1 | User Management | Add User | HR | 1) Click on New Employee |  |  |  |
| 2) Enter the Employee name, Id and Designation |  |  |  |
| Update user | 1) Click on Edit Employee |  |  |  |
| 2) Edit the Employee name, id or Designation |  |  |  |
| Delete user | 1) Click on Delete Employee |  |  |  |
| 2) Select the employee and click Delete |  |  |  |
| 3) Confirm Delete |  |  |  |
| 2 | Role Management | Add Role | HR | 1) Click on  Role |  |  |  |
| 2) New window pops up , select the employee and assign him/her      to one among Manager, Team Lead, Support, User or Hr |  |  |  |
| Update user | 1) Click on Edit Role |  |  |  |
| 2) New window pops up , select the employee and change / update to different role |  |  |  |
| Delete user | 1) Click on Delete Role |  |  |  |
| 2) 2) New window pops up , select the employee and delete the current assigned role |  |  |  |
| 3) Confirm Delete |  |  |  |
| 3 | Application Inventory Management | Request New software | User | 1) Click on software Request |  |  |  |
| 2) Enter software name |  |  |  |
| 3)Click submit Request |  |  |  |
| Configure the application | Support | 1) Click on configuration/installation |  |  |  |
| 2) Click on new installation |  |  |  |
| 2) New record window pops up |  |  |  |
| 3) Enter the user ID and name |  |  |  |
| 4) Enter the Application name and Version |  |  |  |
| Maintain/upgrade the application | Support | 1) Click on configuration / installation |  |  |  |
| 2) Click on existing installation |  |  |  |
| 3) New records window pops up |  |  |  |
| 4) Enter the new version details |  |  |  |
| Number of installations | Team Lead | 1) Click on software Request |  |  |  |
| 2) Enter/ select the software name |  |  |  |
| 3) Click on total installations |  |  |  |
| 4 | Application Support | Support request | User | 1) Click on support request |  |  |  |
| 2) Enter the issue user facing and click on save |  |  |  |
| 3) Triggers an alert with Employee id  to Support tem |  |  |  |
| Fixing the issue | Support | 1) Support team fixes the issue and clicks on Employee ID ( alert) |  |  |  |
| 2)  Enter the trouble shooting steps |  |  |  |
| Updating the troubleshooting steps | Support | 1) Click on the Employee ID(alert) |  |  |  |
| 2) Delete the previously recorded trouble shooting steps |  |  |  |
| 3) Enter/update the new trouble shooting steps |  |  |  |
| issues reported by user | Team lead | 1) Click on Employee Id |  |  |  |
| 2) Click on tickets submitted |  |  |  |
| Total issues reported | Manager | 1) Click on all employees |  |  |  |
| 2) Click on tickets submitted |  |  |  |
| 5 | License Inventory Management | Add new license to the inventory | Support | 1) Click on new licnese |  |  |  |
| 2) New window pops up enter the license name, Vendor name, Vendor contact details, License quantity and validity information |  |  |  |
| 3) Click on Save |  |  |  |
| Update license inventory | Support | 1) Click on existing licenses |  |  |  |
| 2)  Select the license name, click on Edit, update the license quantity |  |  |  |
| Delete a license information | Support | 1) Click on existing licenses |  |  |  |
| 2)  Select the license name, click on delete |  |  |  |
| 3) Confirm Delete |  |  |  |
| license inventory report | Manager | 1) Click on existing licenses |  |  |  |
| 2) Click on Report |  |  |  |
| 3) A report need to be gnerated with the license name, quanity and vendor contact details |  |  |  |
| 6 | License Allocation | License file request | User | 1) Click on License request |  |  |  |
| 2) Enter the license details and click on submit |  |  |  |
| Allocate the license file | Support | 1) Click on existing licenses |  |  |  |
| 2)Select the license name user is requested and assign a license to the user. |  |  |  |
| 3) The total available license count should be reduced by 1 as soon as a license is allocated to the user |  |  |  |
| Deallocate the license file | Support | 1) Click on existing licenses |  |  |  |
| 2)Select the license name  and remove the allocated license to the user |  |  |  |
| 3) The total available license count should be increased by 1 as soon as a license is deallocated to the user |  |  |  |
| 7 | Laptop Invetory Management | New Laptop request | User | 1) Click on Laptop request |  |  |  |
| 2) Enter the lbusiness justification for the laptop request |  |  |  |
| Allocate the laptop | Support | 1) Click on Laptop inventory |  |  |  |
| 2)Select a laptop and assign that laptop serial number to the requested user |  |  |  |
| 3) Click Save |  |  |  |
| Deallocate the llaptop | Support | 1) Click on Laptop inventory |  |  |  |
| 2)Select  the user and deallocate the laptop by deleting the serial number entry |  |  |  |
| 3) Click Save |  |  |  |
| Assign different  llaptop | Support | 1) Click on Laptop inventory |  |  |  |
| 2)Select the user and update the serial number with a new number |  |  |  |
| 3) Click Save |  |  |  |
| 8 | Infra Support | New server request | User | 1) Click on server  request |  |  |  |
| 2) Select the type of server from the list - Application server , Database server |  |  |  |
| 3) Enter the server configuration details |  |  |  |
| 4) Cick on save |  |  |  |
| Servers Inventory report | Manager | 1) Click on servers Inventory |  |  |  |
| 2) Select the Inventory type - Application server , Database server |  |  |  |
| 3) Click on Generate report |  |  |  |
| Update server allocation | Support | 1) Click on server  inventory |  |  |  |
| 2) Select the type of server from the list - Application server , Database server |  |  |  |
| 3) Select  the server that has to be updated |  |  |  |
| 4) Update the user details and click on save |  |  |  |
| 9 | Backup Management | Create a Backup schedule | Support | 1) Click on backup schedule |  |  |  |
| 2) Select the server type for which the schedule needs to defined |  |  |  |
| 3) Create a schdule for the servers |  |  |  |
| 4) Click Save |  |  |  |
| Update a Backup Schedule | Support | 1) Click on backup schedule |  |  |  |
| 2) Select the server type for which the schedule needs to defined |  |  |  |
| 3) Update the schdule of the servers by changing the time |  |  |  |
| 4) Click Save |  |  |  |
| Delete the Backup schedule | Support | 1) Click on backup schedule |  |  |  |
| 2) Select the server type for which the schedule needs to defined |  |  |  |
| 3) Delete the schdule of the servers by clicking delete |  |  |  |
| 4) Click Save |  |  |  |