School Management System

Search Staff/Student Details

Design Document

# Purpose

The document illustrates the design of search student/staff details module.

# For the Associates:

Associates should refer the following documents to understand the screen design and the high level design.

* CaseStudyScreenDesign.doc – Ilustrates the screen design the associates to follow for developing the application.
* CaseStudyMasterDesign.docx – Ilustrates the class hierarchy, flow sequence , packaging details and exception handling mechanism for developing the application.

# Database Design

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| --- | --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key | Foreign Key |
| STUDENT  \_INFO | STUDENT\_ID | Column is used for storing student register number | varchar2 | 5 | Yes |  |
|  | STUDENT\_NAME | Column is used for storing student name | varchar2 | 30 | No |  |
|  | DATE | Column is used for storing the student’s date of birth. | date |  |  |  |
|  | GUARDIAN\_TYPE | Column is used for storing the guardian type | char  Values can be ‘G’ or ‘P’ |  |  |  |
|  | GUARDIAN\_NAME | Column is used for storing the guardian name | varchar2 | 30 |  |  |
|  | ADDRESS | Column is used for storing the student address | varchar2 | 50 |  |  |
|  | COUNTRY\_ID | Column is used for storing the id of the country. | varchar2 | 5 |  | Yes  COUNTRY\_INFO |
|  | CONTACT\_NO | Column is used for storing the student contact number | number | 10 |  |  |
|  | MAIL\_ID | Column is used for storing the student mail id | varchar2 | 30 |  |  |
|  | GENDER | Column is used for storing the student gender | char  Values can be ‘M’ or ‘F’ |  |  |  |
|  | STANDARD | Column is used for the storing the student standard | Varchar2 | 3 |  | Yes  FEES\_INFO |
|  | STANDARD\_CATEGORY | Column is used for the storing the student standard category | char  Values can be ‘P’ or ‘S’ or ‘H’ |  |  |  |
|  | TRANSPORT | Column is used for storing the transport facility selection | char  Values can be ‘Y’ or ‘N’ |  |  |  |
|  | NET\_FEES | Column is used for storing the fees payable by the student | number | (7,2) |  |  |

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| --- | --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key | Foreign key |
| COUNTRY\_INFO | COUNTRY\_ID | Column is used for storing countryid | varchar2 | 5 | Yes |  |
|  | COUNTRY\_NAME | Column is used for storing the storing the country name | varchar2 | 25 |  |  |
|  | STATE\_NAME | Column is used for storing the state name | varchar2 | 25 |  |  |

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| --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key |
| STUDENT\_MARK\_PRIMARY | STUDENT ID | Column is used for storing student id | varchar2 | 5 | Yes |
|  | ENGLISH\_MARK | Column is used for storing the english subject mark of the student | Number | 3 |  |
|  | HINDI\_MARK | Column is used for storing the hindi subject mark of the student | Number | 3 |  |
|  | SCIENCE\_MARK | Column is used for storing the science subject mark of the student | Number | 3 |  |
|  | MATHS\_MARK | Column is used for storing the maths subject mark of the student | Number | 3 |  |
|  | TOTAL\_MARK | Column is used for storing the total mark of the student | Number | 3 |  |
|  | AVERAGE\_MARK | Column is used for storing the average mark of the student | Number | 5,2 |  |
|  | GRADE | Column is used for storing the student grade | Char  Values can be ‘A’ or ‘B’ or ‘C’ or ‘F’ |  |  |

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| --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key |
| STUDENT\_MARK\_SECONDARY | STUDENT ID | Column is used for storing student id | varchar2 | 5 | Yes |
|  | ENGLISH\_MARK | Column is used for storing the english subject mark of the student | Number | 3 |  |
|  | HINDI\_MARK | Column is used for storing the hindi subject mark of the student | Number | 3 |  |
|  | SCIENCE\_MARK | Column is used for storing the science subject mark of the student | Number | 3 |  |
|  | SOCIAL\_MARK | Column is used for storing the social subject mark of the student | Number | 3 |  |
|  | MATHS\_MARK | Column is used for storing the maths subject mark of the student | Number | 3 |  |
|  | TOTAL\_MARK | Column is used for storing the total mark of the student | Number | 3 |  |
|  | AVERAGE\_MARK | Column is used for storing the average mark of the student | Number | 5,2 |  |
|  | GRADE | Column is used for storing the student grade | Char  Values can be ‘A’ or ‘B’ or ‘C’ or ‘F’ |  |  |

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| --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key |
| STUDENT\_MARK\_HIGHER | STUDENT ID | Column is used for storing student id | varchar2 | 5 | Yes |
|  | ENGLISH\_MARK | Column is used for storing the english subject mark of the student | Number | 3 |  |
|  | TAMIL\_MARK | Column is used for storing the tamil subject mark of the student | Number | 3 |  |
|  | PHYSICS\_MARK | Column is used for storing the physics subject mark of the student | Number | 3 |  |
|  | CHEMISTRY\_MARK | Column is used for storing the chemistry subject mark of the student | Number | 3 |  |
|  | COMPUTER\_MARK | Column is used for storing the computer subject mark of the student | Number | 3 |  |
|  | MATHS\_MARK | Column is used for storing the maths subject mark of the student | Number | 3 |  |
|  | TOTAL\_MARK | Column is used for storing the total mark of the student | Number | 3 |  |
|  | AVERAGE\_MARK | Column is used for storing the average mark of the student | Number | 5,2 |  |
|  | GRADE | Column is used for storing the student grade | Char  Values can be ‘A’ or ‘B’ or ‘C’ or ‘F’ |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Table Name | Column Name | Column Discription | Data Type | Data Size | Primary Key | Foreign Key |
| STAFF  \_INFO | STAFF\_ID | Column is used for storing staff register number | Varchar2 | 5 | Yes |  |
|  | STAFF\_NAME | Column is used for storing staff name | varchar2 | 25 | No |  |
|  | DATE\_OF\_BIRTH | Column is used for storing the staff’s date of birth | date |  | No |  |
|  | ADDRESS | Column is used for storing the address | varchar2 | 50 |  |  |
|  | COUNTRY\_ID | Column is used for storing the country\_id | Varchar2 | 5 |  | Yes  COUNTRY\_INFO |
|  | GENDER | Column is used for storing the gender | char  Values can be ‘M’ or ‘F’ | 1 |  |  |
|  | SALARY | Column is used for storing salary | number | (7,2) |  | YES  FK  STAFF  \_SALARY |
|  | HIGHEST\_QUALIFICATION | Column is used for storing the highest qualification | varchar2 | 20 |  |  |
|  | EMAIL\_ID | Column for storing the email id | varchar2 | 20 |  |  |
|  | CONTACT\_NUMBER | Column for storing the  Contact number | Number | 10 |  |  |
|  | DESIGNATION | Column for storing the  Designation | Varchar | 20 |  |  |
|  | YEAR\_PASSED\_OUT | Column is used for storing the year of passing | Number | 5 |  |  |
|  | EXPERIENCE | Column is used for storing the experience | Number | 2 |  |  |
|  | DOJ | Column is used for storing the date of joining | Date |  |  |  |

# Required Objects, Services, and Libraries

### Value Objects:

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| --- | --- |
| **Value Object Name** | **Value Object Description** |
| StudentVO | This VO is used for transferring the student details from DAO to the BO. |
| StaffVO | This VO is used for transferring the staff details from DAO to BO. |
| MarkVO | This VO is used for transferring the student mark details from DAO to BO. |

# Technical Specifications



## Search Student/Staff screen: This screen is used by admin to search the student or staff details from the system.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Data Element** | **Control type** | **Default Values** | **Editable Field** | **Restrictions** | **Mandatory/**  **Non Mandatory** | **Data Type** | **Data Size** |
| Category | DropDown | No | No | Staff/Student | Mandatory |  |  |
| Search By | DropDown | No | No | For Student:  Standard  For Staff:  Experience,  Salary,Qualification,Designation | Mandatory |  |  |
| Values | TextBox | No | Yes |  | Mandatory | Varchar | 30 |
| Search | SubmitButton | No | No | By Clicking the button, display the searched student screen or searched staff screen based on the category and given details. | Mandatory |  |  |

On success searched student details screen or searched staff details screen should be Listed based on the given criteria.

## Searched Student Details Screen: This screen is used by admin to display the searched student details from the system based on the given criteria.

Note: Refer the section 4.0 in the Requirement Document for the field details.

## Searched Staff Details Screen: This screen is used by admin to display the searched staff details from the system based on the given criteria.

Note: Refer the section 5.0 in the Requirement Document for the field details.

## Application Components Specification:

Refer to the sequence and class diagram in the master design document for details on the components hierarchy, how they structured and integrated.

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| --- | --- | --- | --- | --- | --- |
| **Component Name** | **Method Name** | **Method input** | **Method Output** | **Description** | **Algorithm** |
| SchoolSearchDelegate | searchDetails | Category,criteria,values | boolean | This method invokes the facades and throws School and SchoolBusiness Exception. | Not applicable |
| ServiceLocator | Locate | Façade name | Façade Object | Method used for locating the appropriate façade based on the input name and return the object. Throws SchoolException when any runtime error occurs. | Not applicable. |
| SchoolSearchFacade | searchDetails | Category,criteria,values | Boolean | Method invokes the appropriate BO’s and returns the value to the screens. Handles exceptions , logs it and throws it back to the presentation tier. | Not applicable. |
| SearchBO | searchDetails | Category, criteria, values | Boolean | Method performs validations , search for the given details and invokes the DAO to retrieve the specified details from the system. Throws School and SchoolBusinessException. | Not applicable. |
| SearchDAO | retrieveStudentDetails | Category, criteria, values | StudentVO, MarkVO | This method retrives the student details from the student\_info table and appropriate mark table (based on the standard category) based on the given values. | NA. |
| SearchDAO | retrieveStaffDetails | Category,criteria,values | StaffVO | This method should retrieves the staff details from the staff\_info table based on the given values. | NA. |