**Student Details**

| Repository Name | csc104s25pid203 |
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| Registration Number | 2023-R/2022-CS-203 |

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| ***Project*** |  |
| Project Title | Project B: Faculty Workload and Resource Allocation System |
| Executive Summary | *The Faculty Workload and Resource Allocation System is a Windows Forms Application developed using C# and a relational database. It is designed to streamline the management of faculty workload distribution, track faculty requests, and allocate departmental resources efficiently. Currently, these tasks are managed manually through spreadsheets and emails, which often leads to data inconsistency, workload imbalance, inefficient resource allocation, and security risks. This project aims to automate the entire process, ensuring fair workload distribution, structured request management, and secure access control based on user roles.*  *The system will serve as a centralized platform to enhance faculty workload management by digitizing and structuring the process. It will provide role-based access, ensuring that different users, such as Department Heads, Faculty Members, and Administrative Staff, have access to specific functionalities tailored to their roles. This will help maintain a clear and organized workflow. The system will also ensure fair workload distribution by balancing courses, research supervision, and administrative duties among faculty members.*  *Additionally, the system will enable faculty to submit and track requests for resources such as board markers, stationery, and lab access efficiently. It will also improve resource allocation by assigning classrooms, labs, and consumables in a structured and transparent manner. Security will be a key focus, with a secure login system that includes authentication and authorization to protect sensitive data.*  *By replacing the outdated manual system with a modern, efficient, and secure solution, this project will help faculty and administration manage workloads and resources more effectively. It will reduce administrative burdens, improve data accuracy, and ensure a fair and transparent process for all stakeholders. This system will ultimately contribute to a more organized and productive academic environment.* |

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| ***Interface Name*** | Welcome Page |
| Figure THe initial Page which will be shown when a user open the app   |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | SignUp | Button | btnSignUP | users (username, email, password\_hash, role\_id) | | SignIn | Button | btnSignIn | users (email, password\_hash) | | Close | Button | btnClose | Nill | |  |  |  |  | |  |  |  |  |   In case of column, write column name and in case of multiple columns, write query in last column | |
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| ***Interface Name*** | Sign Up Form |
| Figure The Sign Up To generate the account     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | UserName | Label | lblUserName | None | | TextUserName | Text | textUserName | users(username) | | Email | Label | lblEmail | None | | TextEmail | Text | textEmail | users(email) | | Password | Label | lblPassword | None | | TextPassword | Text | textPassword | users(hash(password)) | | Role | Label | lblRole | None | | cmbRole | DropDown | cmbRole | users(role) | | Back | Button | btnButton | None | | Sign Up | Button | btnSignUp | INSERT INTO users (username, email, password\_hash, role)  VALUES ('[txtUserName]', '[txtEmail]', '[txtPassword]', '[cmbRole]'); | | |
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| ***Interface Name*** | Login User WinForm |
| Figure The page to login a user     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | User Email | Label | lblUserEmail | None | | None | Text | textUserEmail | users (email) | | Password | Label | lblPassword | None | | None | Text | textPassword | users(password) | | Back | Button | btnBack | None | | Log In | Button | btnLogIn | SELECT \* FROM users WHERE email = '[txtEmail]' AND password\_hash = '[txtPassword]'; | | |
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| ***Interface Name*** | Admin Winform |
| Figure THE Admin Menu     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Update Faculty | Button | btnUpdateFaculty | None | | Course Allocation | Button | btnCourseAllocation | None | | Faculty Allocation | Button | btnFacultyAllocation | None | | |
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| ***Interface Name*** | Admin Winform To Update the Faculty |
| Figure 5 TO update the Faculty   |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Add Faculty | Button | btnAddFaculty | None | | UpdateFaculty | Button | btnUpdateFaculty | None | | Delete | Button | btnDeleteFaculty | None | |  |  |  |  | |  |  |  |  | | |
| ***Interface Name*** | Faculty WinForm to request for Resource |
| Figure 6 The interface for the faculty   |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | View Courses | Button | btnViewCourses | None | | Resourses Request | Button | btnResoursesRequest | resource\_requests.status | | Track Requests | Button | btnTrackRequests | resources | | Item Name | Drop Down | cmbItemName | resource\_request.itemName | | lblItem Name | Label | lblItemName | None | | lblQuentity | Label | lblQuentity | None | | Quantity | TextBox | txtQuantity | resource\_request.quantity | | Submit Request | Button | btnSubmitRequest | resource\_requests (item\_name, quantity, requested\_by, request\_date, status) | | |
| ***Interface Name*** | Faculty Winform |
| Figure 7 Track of the Faculty Requests     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | My Requests | Label | lblMyRequests | None | | Load My Requests | Button | btnLoadMyRequests | resource\_requests (requested\_by) | | listRequests | List | listRequests | resource\_requests (item\_name, quantity, status) | |  |  |  |  | | |
| ***Interface Name*** |  |
| Figure 8 THE Head of the Departement Form Interface     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Assign Workload | Button | btnAssignWorkload | None | | Handle Requests | Button | btnHandleRequests | None | | Add Resources | Button | btnAddResource | None | | |
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| ***Head Interface Name*** | Head Faculty Requests Handle |
| Figure 9 THE Handle Requests Form Interface     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Load Requests | Label | lblLoadRequests | None | | Faculty Requests | Label | lblFacultyRequests | None | | Requests View | Data Grid View | requestsGridView | SELECT FacultyRequests.RequestID, Faculty.Name, FacultyRequests.RequestType, FacultyRequests.RequestStatus, FacultyRequests.Timestamp  FROM FacultyRequests  INNER JOIN Faculty ON FacultyRequests.FacultyID = Faculty.FacultyID  WHERE Faculty.DepartmentID = @HOD\_DepartmentID; | | |

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| ***Interface Name*** | Admin Course Allocation Form |
| Figure 1o THE Course Allocation Form Interface     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Create Course | Button | btnCreateCourse | None | | Allocate Course | Button | btnAllocateCourse | None | | View Courses | Button | btnViewCourse | None | | |

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| ***Interface Name*** | Admin Create Course Form |
| Figure 11 THE Create Course Form Interface     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Course Name | label | lblCourseName | None | | Course Type | label | lblCourseType | None | | Credit Hours | label | lblCreditHours | None | | Contact Hours | label | lblContactHours | None | | Course Name Text Box | Text Box | txtCourseName | None | | Course Type Text Box | Text Box | txtCourseType | None | | Credit Hours Text Box | Text Box | txtCreditHours | None | | Contact Hours Text Box | Text Box | txtContactHours | None | | Create | Button | btnCreate | INSERT INTO courses (course\_name, course\_type, credit\_hours, contact\_hours)  VALUES ('Course Name Input', 'Course Type Input', Credit\_Hours\_Input, Contact\_Hours\_Input); | | |

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| ***Interface Name*** | Admin View Course Form |
| Figure 1o THE Course Allocation Form Interface     |  |  |  |  | | --- | --- | --- | --- | | **UI Component Name** | **Type of UI component** | **Class Attribute name,**  **Classname, attribute name** | **Linked to which database column/table** | | Refresh | Button | btnRefresh | None | | Course View Grid | Data Grid View | None | None | | |

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| ***Business Report-1*** |  |
| *Business Report Name:* | |
| *Sample of report:* | |
| *Query to build Report:* | |

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| ***Business Report-2*** |  |
| *Business Report Name:* | |
| *Sample of report:* | |
| *Query to build Report:* | |