

Claim Request

Detailed Design

Project Code:

Document Code: Detailed Design\_v0.9

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Approval Page   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  | |  |  | | Prepared by : | FPT Technical Lead | | Signature: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |  | |  | Date: | \_\_\_\_ /\_\_\_\_ / \_\_\_\_ | |  |  | |  |  | | Reviewed by : | FPT Technical Architect | | Signature: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |  |  | | Date: | \_\_\_\_ /\_\_\_\_ / \_\_\_\_ | |  |  | |  |  | | Approved by: |  | | Signature: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |  |  | | Date: | \_\_\_\_ /\_\_\_\_ / \_\_\_\_ | |
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Revision History

| **SNO** | **VERSION** | **DATE** | **AUTHOR** | **SUMMARY OF CHANGE** |
| --- | --- | --- | --- | --- |
|  | v0.8 | 17:00 7/3/2019 | TramTLN | Complete |
|  | V0.9 | 11:11 8/3/2019 | TramTLN | Insert Introduce  Update Project Name  Update technical and tool  Delete some design table method of classes  Add entity Claim Request Detail |
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# Introduction

This is the Detailed Design document Mock Project\_Claims Request\_v0.9.

## Purpose

The purpose of this document is to define the Detailed Design for Mock Project\_Claims Request\_v0.9.   
It helps programmers have a better overview of the system and avoid errors in the implementation process. The detailed design was created as a model design to help programmers step by step to complete the product

## Scope

The Detailed Design document focuses on the base level and critical modules/parts :

* Security Design
* Form Design
* Claim Request
* Project Information Request
* Staff Information Managerment
* Schedule Jobs

## Definitions, Acronyms and Abbreviations

|  |  |
| --- | --- |
| **Acronym** | **Reference** |
| DTO | Data Transfer Objects |
| BUS | Business Logic Layer |
| BA | Business Analyst |
| QA | Quality Assurance Engineers |
| PM | Project Manager |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## References

|  |  |
| --- | --- |
| **Last Update** | **Reference** |
| 10:48 3/2/19 | Mock Project\_Claims Request\_v0.9 |
| 1:40 3/6/19 | Mock project\_Claim Request\_Kick-off |
| 8:46 3/5/19 | Template\_Detailed Design\_vx.y |

## Tool

* Visual Studio 2015-2017
* SQL Server 2012-2014
* GitHub Desktop

## Technical

* C#.NET Frameword
* Design patten: 3 layer with MVC as Presentation layout.
* Entity Framework 6
* Identity Sample 2.2
* Jquery 1.10.2
* Bootstrap 4.

# Detailed Design



## Security Design

### Custom Permission Levels

Custom permission levels are created for specific requirements that the standard SharePoint permission levels cannot fulfil. The custom permissions are at Site Collection level.

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Name** | **Base Permission Level** | **Description** |
| 1 | Claimer | Limited Access | Claimer can view ,create, update and cancel claim request , delete draft  Claimer can’t delete claim requests , |
| 2 | Admin | Full Control | Admin has full control in system |
| 3 | Approver | Limited Access | Approver can view , reject , approve , return claim requests |
| 4 | Finance | Limited Access | Finance can paid , download claim requests |

### SharePoint Group

All SharePoint groups are created by code in feature activation. User will manually insert and update membership later.

| **No** | **Group Name** | **Description** |
| --- | --- | --- |
| 1 | Claimer | Group of Staff ( Ex : BA , Development , Tester ) |
| 2 | Admin | Group of people are system admin |
| 3 | Approver | Group of PM , BL |
| 4 | Finance | Group of Finance |

### User Groups & Permissions

This section describes assignment permission(s) for each group.

| **No** | **Group Name** | **Permission(s)** |
| --- | --- | --- |
| 1 | Claimer | **Create** Claim Request ,  **Update** Claim Request ,  **View** Claim Request ,  **Submit** Claim Request,  **Cancel** Claim Request |
| 2 | Admin | **Full Control** This level includes all available SharePoint permissions. |
| 3 | Approver | **View** Claim Request ,  **Reject** Claim Request ,  **Approve** Claim Request ,  **Return** Claim Request |
| 4 | Finance | **Paid** Claim Request  **Download** Claim Request |

## Form Design

The table below lists all forms with form type for this application:

|  |  |  |
| --- | --- | --- |
| View Name | View Type | Remarks/Justifications |
| UserLayout | Layout | This is layout file for user |
| Claims | Partial View | Use for display claims filter by some criteria |
| CreateClaim | View | Create new claim in this view |
| MyClaim | View | Fill draft, pending approve… claims in this view |
| Detailed | View | User can view and update in this view |
| ForMyVetting | View | Display claims status |
| ApprovedOrPaid | View | Display claims approved or paid for Approval |
| Approved | View | Display claims with status is “Approved” |
| Paid | View | Display claims with status is “Paid” |
| Staff | View | Display Staffs for administrator |
| StaffDetail | View | Display a Staff detail |
| StaffUpdate | View | User can update a Staff in this view |
| StaffCreate | View | User can create a new Staff in this view |
| Project | View | Display Projects for administrator |
| ProjectDetail | View | Display a Project detail |
| ProjectUpdate | View | User can update a Project in this view |
| ProjectCreate | View | User can create a new Project in this view |

|  |
| --- |
| Color note |
| Layout group |
| Partial view group |
| Claimer group |
| Approver group |
| Finance group |
| Staff view group |
| Project view group |

## Claim Request

### List Description

* List name: Claim Request
* Attachment: Enabled
* List template: Custom List
* List permission: Break permission from parent. Assign permission to this list:

| **No** | **Group Name** | **Permission(s)** |
| --- | --- | --- |
| 1 | Claimer | * Create new claim * View claim * Update claim * Submit * Cancel claim |
| 2 | Approver | * View claim * Approve claim * Return claim * Reject claim |
| 3 | Finance | * View claim * Paid claim * Download claim |
| 4 | Administrator | * View claim |

### List Columns

1. **ClaimRequest**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Label** | **Field Name** | **Data Type** | **Mandatory** | **Description** |
| None | ClaimId | Int | Yes | Primary key, identity |
| Staff Id | StaffId | Varchar(max) | Yes | Foreigkey to Staff |
| Project Id | ProjectId | Int | yes | Foreigkey to Project |
| None | ApproverId | Int | yes | ApproverId of this claim |
| Remarks | Remarks | Text | No | Remark for this claim |
| Status | Status | Varchar(20) | yes | Status for this claim |
| None | AuditTrail | Text | yes | Audit Trail of this claim request |
| Approved Date | ApprovedDate | DateTime | no | Approved Date of this claim request |
| Submitted Date | SubmittedDate | DateTime | yes | Submitted Date of this claim request |

* **ClaimRequestDetail**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Label** | **Field Name** | **Data Type** | **Mandatory** | **Description** |
| None | ClaimDetailId | Int | Yes | Primary key, identity |
| Date | Date | Date | Yes | Date |
| From | From | DateTime | Yes | Start time of actual working hours |
| To | To | DateTime | Yes | End time of actual working hours |
| Total No. of Hours | TotalNoOfHours | decimal | Yes | Total working hours |
| Remarks | Remarks | Text | No | Remarks for each recorf |
| None | ClaimRequestId | Int | Yes | Foreigkey to ClaimRequest |

### List View

* **Create Claim (form)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Label** | **Field Name** | **Mandatory** | **Description** |
| ProjectId | ProjectId | yes | Dropdown list Project |
| Role in Project | RoleInProject | no | Input text |
| Date | Date | yes | Input date |
| Day | Day | No | Input text |
| From | From | yes | Input date |
| To | To | yes | Input date |
| Total No Of Hours | TotalNoOfHours | yes | Input number |
| Remarks | Remarks | No | Texarea |
| Button Create |  |  | Button Create new Claim |
|  |  |  |  |

* **Edit Claim (form)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Column Label** | **Field Name** | **Mandatory** | **Description** |
| Staff Id | StaffId | yes | Input hidden |
| ProjectId | ProjectId | yes | Dropdown list Project |
| Role in Project | RoleInProject | no | Input text |
| Date | Date | yes | Input date |
| Day | Day | No | Input text |
| From | From | yes | Input date |
| To | To | yes | Input date |
| Total No Of Hours | TotalNoOfHours | yes | Input number |
| Remarks | Remarks | No | Texarea |
| Button Save |  |  | Button Save Claim |
| Button Submit |  |  | Button submit Claim |

* **My Claims > Draft.**

Type view: View display list Claim

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| ViewDetail |  | Button ViewDatail |
| Submit |  | Button Submit |
| Edit |  | Button goto view Edit Claim |
| Cancel |  | Button cancel |

* **My Claims > Pending approval.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| ViewDetail |  | Button ViewDatail |
|  |  |  |

* **My Claims > Approved.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| paid |  | Button ViewDatail |
|  |  |  |

* **My Claims > Paid.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| ViewDatail |  | Button ViewDatail |
|  |  |  |

* **My Claims > Rejected or Cancelled.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| ViewDetail |  | Button show popup detail Claim |
|  |  |  |
|  |  |  |

* **Claim for Approval > For my Vetting.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| Total Claim Amount | TotalClaimAmount |  |
| Approve |  | Button Aprroved |
| View Detail |  | Button show popup detail Claim |

* **Claim for Approval > Approved or Paid.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| Total Claim Amount | TotalClaimAmount |  |
| View Detail |  | Button show detail Claim |

* **Claim for Finance > Approved**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| Total Claim Amount | TotalClaimAmount |  |
| Paid |  | button paided |
| View Detail |  | Button show detail Claim |

* **Claim for Finance > Paid.**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Claim Id | ClaimId | Table claim |
| Staff Name | StaffName | Table staff |
| Project Name | ProjectName | Table project |
| Project Duration | ProjectDuration | Table claim |
| Total working hour | TotalWorkingHour | Table claim |
| Total Claim Amount | TotalClaimAmount |  |
| Dowload |  | Button Dowload |
| View Detail |  | Button show detail Claim |

### Class List

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Name Space** | **Class Name** | **Description** |
| 1 | DTO | ClaimRequest | Describe Claim Request Entity |
| 2 | DTO | ClaimRequestDetail | Describe records of Claim Request |
| 3 | Responsitory | ClaimRequestResponsitory | Inherite Responsitory<ClaimRequest> |
| 4 | Responsitory | Responsitory | Generic Class |
| 5 | Responsitory | ClaimRequestDetailResponsitory | Inherite Responsitory<ClaimRequestDetail> |
| 6 | BUS | ClaimRequestService |  |
| 7 | BUS | ClaimRequestDetailService |  |
| 8 | Controller | ClaimRequestController |  |
| 9 | Commond | Enum ApproveType | Approve/Return/Reject/Paid/Cancel |
| 10 | Commond | ClaimStatus |  |

### Class Methods

##### ClaimRequest class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | ClaimId |  |
| 2 | String | StaffId |  |
| 3 | Int | ProjectId |  |
| 4 | Int | ApproverId |  |
| 5 | string | Remarks |  |
| 6 | string | Status |  |
| 7 | string | AuditTrail |  |
| 8 | DateTime | ApprovedDate |  |
| 9 | DateTime | SubmittedDate |  |
| 10 | Virtual ICollection< ClaimRequestDetail > | ClaimRequestDetails |  |

##### ClaimRequestDetail class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | ClaimDetailId |  |
| 2 | Date | Date |  |
| 3 | DateTime | From |  |
| 4 | DateTime | To |  |
| 5 | decimal | TotalNoOfHours |  |
| 6 | string | Remarks |  |
| 7 | Int | ClaimRequestId |  |
| 10 | Virtual ClaimRequest | ClaimRequest |  |

##### ClaimRequestDetailService class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | int Update | ClaimRequestDetail claimRequestDetail  List<string> error |  |
| 3 | Bool Validate | ClaimRequestDetail claimRequestDetail,  List<string>error |  |
| 4 | IEnumerable GetByClaimRequestIdAndStaffId | Int claimId  String staffId  List<string> error |  |

##### ClaimStatus class

|  |  |  |
| --- | --- | --- |
| **No** | **Propeties** | **Description** |
| 1 | Const string DRAFT = “Draft” |  |
| 2 | Const string APPROVED = “Approved” |  |
| 3 | Const string REJECT = “Reject” |  |
| 4 | Const string PAID = “Paid” |  |
| 5 | Const string PENDING\_APPROVAL = “Pending Approval” |  |

##### Responsitory class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | IQueryable<>GetAll |  |  |
| 2 | void Insert | T item |  |
| 3 | void Update | T item |  |
| 4 | void GetById | object id |  |
|  | Void Save |  |  |
|  | Void BeginTransaction |  |  |
|  | Void CommitTransaction |  |  |
|  | Void RollbackTransaction |  |  |

##### ClaimRequestService class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Ienumeratior<>GetAll |  |  |
|  | Ienumerator GetMyClaimByOneOrMoreStatus | string staffId,string status, List<string> error | Return list Claim in current user with one or more status  Input parameter is one or list of Status |
| 2 | Int Insert | ClaimRequest claimRequest,  String ICollection<ClaimRequestDetail> ClaimRequestDetails,  List<string> error |  |
| 3 | int Update | ClaimRequest claimRequest  List<string> error |  |
| 4 | Int ApproveRequest | Int claimId  ApproveType approveType  String CurrentUser | Update claim request with action type Submit/Approve/Return/Reject/Paid/Cancel  Add into Audit train: ApproveType by <<current user name>> on <<current date time>>. |
| 5 | ClaimRequest GetById | Int claimId  List<string> error |  |
| 6 | Bool Validate | ClaimRequest claimRequest  List<string>error |  |
| 7 | Void Download | List<string>error |  |
| 8 | Ienumerator GetByOneOrMoreStatus | String Status | Input parameter is one or list of Status |
| 9 | Void SendMail | List<string>error  String emailFrom  String emailTo  String subject  String body |  |
| 10 | Void AppendAuditTrail | String CurrentUser |  |

##### ClaimRequestController class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Index |  | Show dashboard to:  My Claims > Draft.  My Claims > Pending approval.  My Claims > Approved  My Claims > Paid  My Claims > Rejected or Cancelled  Claim for Approval > For my Vetting  Claim for Approval > Approved or Paid  Claim for Approval > Approved  Claim for Approval > Paid |
| 2 | MyClaimDraft |  | Return partial view |
|  | MyClaimPendingApproval |  | Return partial view |
| 3 | MyClaimPaid |  | Return partial view |
| 4 | MyClaimRejectedOrCanceled |  | Return partial view |
| 5 | ClaimForApprovalForMyVetting |  | Return partial view |
| 6 | ClaimForApprovalApprovedOrPaid |  | Return partial view |
| 7 | ClaimForApprovalApproved |  | Return partial view |
| 8 | ClaimForApprovalPaid |  | Return partial view |
| 9 | CreateClaims | Get:  Post: ClaimRequest | Return Create View |
| 10 | UpdateClaims | Get: ClaimRequestId  Post: ClaimRequest | Return this View |
| 11 | SubmitClaim | Get: ClaimRequestId | Redirect to this view  Update status of Claim is Pending Approval  Update SummitedDate is today  Using ET1 to send email to Approver |
| 12 | ApproveClaim | Get: ClaimRequestId | Redirect to this view  Update status of Claim is Approved  Update Approved is today  Using ET2 to send email to Financer an ET3 to Creator |
| 13 | ReturnClaim | Get: ClaimRequestId | Redirect to previous view  Update status of Claim is Draft  Update Approved is today  Using ET2 to send email to Creator |
| 14 | RejectClaim | Get: ClaimRequestId | Redirect to previous view  Update status of Claim is Rejected |
| 15 | PaidClaim | Get: ClaimRequestId | Redirect to previous view  Update status of Claim is Paid |
| 16 | CancelClaim | Get: ClaimRequestId | Redirect to previous view  Update status of Claim is Cancelled |
| 17 | DownloadClaim |  |  |

## Project Infomation Request

### List Description

* List name: Project
* Attachment: Enabled
* List template: Custom List
* List permission: Break permission from parent. Assign permission to this list:

| **No** | **Group Name** | **Permission(s)** |
| --- | --- | --- |
| 1 | Claimer | - No Action |
| 2 | Approver | - No Action |
| 3 | Admin | - Create, View, Update Project Information |
| 4 | Finance | - No Action |

### List Columns

**Project list columns**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Label** | **Field Name** | **Data Type** | **Mandatory?** | **Description** |
| Null | ProjectId | Int | Yes | Index |
| Project Name | ProjectName | Nvarchar(100) | Yes | Project’s name |
| Duration | Duration | Decimal | Yes | Estimated total worked hours |
| Start Date | StartDate | DateTime | Yes | The day project’s started |
| Complete On | CompleteOn | DateTime | Yes | The day project's closed |
| Budget | Budget | Decimal | Yes | Estimated amount for project |
| Null | ProjectStatus | Text | Yes | Status of project ( opened,closed) |
| Description | Description | Text | No | Project's description |

**ProjectStaff list columns**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Label** | **Field Name** | **Data Type** | **Mandatory?** | **Description** |
| ProjectID | ProjectId | Int | Yes | Foreign Key of Project table |
| StaffID | StaffId | Nvarchar(max) | Yes | Foreign Key of Staff table |
| Null | Status | Nvarchar(20) | Yes | Status should be “Working/Worked” |
| Null | AddOn | DateTime | Yes | The time that Staff was added to project |
| Null | ModifiedDate | DateTime | No |  |
| Role In Project | RoleInProject | Nvarchar(30) |  |  |

### List View

* **Configurations > Project Information**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Project Name | StaffName | Table project |
| Project Code | ProjectCode | Table project |
| Duration | Duration | Table project |
| From | From | Table project |
| To | To | Table project |
| PM | StaffName | Table staff |
| Edit  ViewDetail |  | Button Edit(go to View Edit Project)  View Detail(show popup detail project) |
|  |  |  |

* **Configurations > Create Project**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Project Name | StaffName | Input required |
| Project Code | ProjectCode | Input required |
| Duration | Duration | Input required |
| From | From | Input date required |
| To | To | Input date required |
| Project Manager | StaffId | Dropdown list staff |
| Developers | Developers | Select multiple choice |
| Testers | Developers | Select multiple choice |
| Technical Consultancy | Technical Consultancy | Select multiple choice |
| Technical lead | TechnicalLead | Select multiple choice |
| BA | BA | Select multiple choice |
| QA | QA | Select multiple choice |
| Button Create |  | Button create |

* **Configurations > Edit Project**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Project Name | StaffName | Input required |
| Project Code | ProjectCode | Input required |
| Duration | Duration | Input required |
| From | From | Input date required |
| To | To | Input date required |
| Project Manager | StaffId | Dropdown list staff |
| Developers | Developers | Select multiple choice |
| Testers | Developers | Select multiple choice |
| Technical Consultancy | Technical Consultancy | Select multiple choice |
| Technical lead | TechnicalLead | Select multiple choice |
| BA | BA | Select multiple choice |
| QA | QA | Select multiple choice |
| Button Save |  | Button Save |

### Class List

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Name Space** | **Class Name** | **Description** |
| 1 | DTO | Project | Describe project infomation |
| 2 | DTO | ProjectStaff | Describe staff in a project |
| 3 | Responsitory | ProjectResponsitory | Inherite Responsitory<ProjectStaff> |
| 4 | Responsitory | ProjectStaffResponsitory | Inherite Responsitory<ProjectStaff> |
| 5 | BUS | ProjectService |  |
| 6 | BUS | ProjectStaffService |  |
| 7 | Controller | ProjectsController |  |
| 8 | Commond | RoleInProject |  |

### Class Methods

##### Enum RoleInProject

|  |  |  |
| --- | --- | --- |
| **No** | **Propeties** | **Description** |
| 1 | Const string PM =”PM” |  |
| 2 | Const string QA=”QA” |  |
| 3 | Const string TechnicalLead=” Technical Lead” |  |
| 4 | Const string BA=”BA” |  |
| 5 | Const string Developer=”Developer” |  |
| 6 | Const string Tester=”Tester” |  |
| 7 | Const string TechnicalConsultancy=”TechnicalConsultancy” |  |

##### Project class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | ProjectId |  |
| 2 | String | ProjectName |  |
| 3 | Decimal | Duration |  |
| 4 | DateTime | StartDate |  |
| 5 | DateTime | CompleteOn |  |
| 6 | Decimal | Budget |  |
| 7 | String | ProjectStatus |  |
| 8 | String | Description |  |
| 9 | Virtual ICollection<ProjectStaff> | ProjectStaffs |  |

##### ProjectStaff class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | ProjectId |  |
| 2 | string | StaffId |  |
| 3 | string | Status |  |
| 4 | DateTime | AddOn |  |
| 5 | DateTime | ModifiedDate |  |
| 6 | string | RoleInProject |  |
| 7 | Virtual  Project | Project |  |
| 8 | Virtual Staff | Staff |  |

##### ProjectService class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | GetAll | List<string> error | Returns all project |
| 2 | GetById | ProjectId  List<string> error | Call method GetProjectById in DAL |
| 3 | Insert | Project project,  IDictionary<string,string> staffIds,  List<string> error | staffIds is list of staff in specific role in project |
| 4 | Update | ProjectID,  Project updateObject,  List<string> error | Edit project’s information |
| 5 | Delete | projectId  List<string> error |  |
| 6 | GetAllStaffByProjectId | projectId  List<string> error | Returns all staff in a specified project |

##### ProjectStaffService class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Update | ProjectStaff projectStaff  List<string> error | Status of staff in the project has been changed |
| 2 | ProjectStaff GetByProjectIdStaffId | int projectId,  string staffId,  List<string> error |  |
| 3 | Bool Validate | ProjectStaff projectStaff,  List<string>error |  |
|  |  |  |  |

##### ProjectController class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Index |  | Display all project |
| 2 | Create |  | Redirect to Create View |
| 3 | Create | Project project  FormCollection  formCollection | Insert new project, call method Insert from ProjectService class  FormCollection containt list string of list staff in this project, separate by “,”. In view side, it is input type hidden  Each StaffId is saved as a new record. |
| 4 | Configuration | ProjectId | Redirect to Configuration View |
| 5 | Configuration | Project project | Use Edit method of ProjectService class |
| 6 | ProjectInformation | ProjectId | Redirect to ProjectInformation View |
| 7 | Close | ProjectId | Changes specified project’s status to “Closed” and redirect to Index View |

## Staff Infomation Management

### List Description

* List name: Staff
* Attachment: Enabled
* List template: Custom List
* List permission: Break permission from parent. Assign permission to this list:

| **No** | **Group Name** | **Permission(s)** |
| --- | --- | --- |
| 1 | Admin | Full Permission(Edit, Create, Update, Delete) |
| 2 | Claimer | No Permission |
| 3 | Approver | No Permission |
| 4 | Finace | No Permission |

### List Columns

* Table Name: Staff

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lablel | Field Name | Data Type | Mandatory | Description |
| Staff ID | StaffId | Varchar(max) | Yes | Primary key( To allow select user )  ForeignKey to UserId of Identity |
| Staff Name | StaffName | Varchar(200) | Yes |  |
| Email Staff | Email | Varchar(50) | No |  |
| Salary Staff | Salary | Decimal | Yes |  |
| Card Number | Card\_Number | Varchar(50) | No |  |
| Job rank Id | JobRankId | Int | Yes |  |
| Department ID | DepartmentId | Int | Yes |  |

* Table Name: Department

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lablel | Field Name | Data Type | Mandatory | Description |
| Department ID | DepartmentId | Int | Yes | Primary key( To allow select user ) |
| Department Name | DepartmentName | Varchar(200) | Yes |  |
| Description | Description | Text | No |  |

* Table Name: Job Rank

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Lablel | Field Name | Data Type | Mandatory | Description |
| Job Rank ID | JobRankId | Int | Yes | Primary key( To allow select user ) |
| Job Rank Name | JobRankName | Varchar(200) | Yes |  |
| Description | Description | Text | No |  |

### List View

* **Configurations > Staff Information**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Staff Name | StaffName | Table staff |
| Department | StaffDepartment | Table staff |
| Job Rank | JobRankName | Table JobRank |
| Salary | Salary | Table staff |
| Phone | Phone | Table staff |
| Edit |  | Button Edit |
| ViewDetail |  | Button show popup detail staff |

* **Configurations > Create new Staff (**form create new staff**)**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| Staff Name | StaffName | Input text,required |
| Department | StaffDepartment | Input text,required |
| Job Rank | JobRankName | Dropdownlist Job rank |
| Salary | Salary | Input required |
| Phone | Phone | Input |
| Button Create new Staff |  | Button |

* **Configurations > Edit Staff (**form create new staff**)**

|  |  |  |
| --- | --- | --- |
| **Column Label** | **Field Name** | **Description** |
| StaffId | StaffId | Input hidden |
| Staff Name | StaffName | Input text,required |
| Department | StaffDepartment | Input text,required |
| Job Rank | JobRankName | Dropdownlist Job rank |
| Salary | Salary | Input required |
| Phone | Phone | Input |
| Button Save new Staff |  | Button |

### Class List

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Name Space** | **Class Name** | **Description** |
| 1 | DTO | Staff | Describe Claim Request Entity. |
| 2 | DTO | Department | Description Department Entity |
| 3 | DTO | JobRank | Description JobRank Entity |
| 4 | Responsitory | StaffResponsitory | Inherite Responsitory<Staff> |
| 3 | BUS | StaffService |  |
| 4 | Controller | StaffsController |  |
|  |  |  |  |

### Class Methods

##### Staff class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | string | StaffId |  |
| 2 | string | StaffName |  |
| 3 | string | Email |  |
| 4 | string | Salary |  |
| 5 | string | Card\_Number |  |
| 6 | Int | JobRankId |  |
| 7 | Int | DepartmentId |  |
| 8 | Virtual Department | Department |  |
| 9 | Virtual  JobRank | JobRank |  |

##### Department class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | DepartmentId |  |
| 2 | String | DepartmentName |  |
| 3 | String | Description |  |
| 4 | Vitual ICollection<Staff> | Staff |  |

##### JobRank class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Data Type** | **Propeties** | **Description** |
| 1 | Int | JobRankId |  |
| 2 | string | JobRankName |  |
| 3 | string | Description |  |
| 4 | Vitual ICollection<Staff> | Staff |  |

##### StaffService class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Ienumeratior<>GetAll |  |  |
| 2 | Int Insert | Staff staff  List<string> error |  |
| 3 | int Update | Staff staff  List<string> error |  |
| 4 | Staff GetById | Staff staff  List<string> error |  |
| 5 | Bool Validate | Staff staff  List<string>error |  |
| 6 | IENumerator<Staff> GetStaffByNameOrUsername | List<string>error  String search | Return list top 5 staff |

##### StaffsController class

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Method** | **Parameter** | **Description** |
| 1 | Index |  | Return view with all staff’s information |
| 2 | CreateStaff |  | Return Create View |
| 3 | CreateStaff | Staff staff | Insert new record |
| 4 | UpdateStaff |  | Return this View |
| 5 | UpdateStaff | Staff staff | Update |
| 6 | GetStaffByNameOrUsername | String search | Return partial view is combobox of list Staff |

* 1. **Schedule Jobs**
     1. **Send reminder**
* Job name: Send Email Reminder
* Job Description: This use case allows the system to send notification emails to pending approver or pending clarification staff that require their attention.
* User: service account with appropriate permission
* Scheduler: Trigger daily at 1:00 AM
* Job parameters:

|  |  |  |
| --- | --- | --- |
| **No** | **Parameter Name** | **Values (separate** |
| 1 | Name | Send Email Reminder |
| 2 | Description | This use case allows the system to send notification emails to pending approver or pending clarification staff that require their attention. |
| 3 | Trigger | Daily at 1:00PM |
| 4 | Action | Start a program |
| 5 | Program / Script | Choose program “Send Email Reminder” |
| 6 | Add arguments | optional |
| 7 | Start In | optional |