**TaskIT**

**Task Management System**

A project submitted to

**UKA TARSADIA UNIVERSITY**

in partial fulfillment of the requirements for the degree of

**Master of Science**

in

**Information Technology**

for

**5 Years Integrated M.Sc. (IT)**

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**CERTIFICATE**

This is to certify that **VIRAJ THAKKAR (201806100110094) and Khyati Patel (201806100110053)** Have submitted project entitled **“TaskIT: Task Management System”** as the partial fulfillment for the award of the degree of Master of Science in Information Technology for 5 Years Integrated M.Sc.(IT) in 2020 – 2021.

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# **1.Introduction**

## **1.1 Problem Definition**

For any organization their client is most important. Client needs regular updates on the status of work and it’s very important for the team to incorporate all the additional input given by the client in the project. but whenever there is a team working on the projects the synchronization of the work becomes very important. there is a lot of communication flowing between the team members and thus there is clear need of a system which eases the flow of the communication from higher levels to the working team. there are times when there are no proper records of the task assignment, who is completing them , whether it is completed or not? or is there any problem in completing them. This ultimately results in poor services to the client.

Thus, TaskIT aims to resolve all the above problems with its robust architecture which is suitable for any industry to manage its workflow.

## **1.2 Initial Requirement Document**

|  |  |
| --- | --- |
| Title of the project | TaskIT : A Task Management System |
| Stakeholders involved in capturing requirements | Institute Faculties, Project Guide |
| Techniques used for requirement capturing | Interviewing, Brainstorming |
| Name of the person along with designation | - |
| Date | August, 2021 |
| Users of the system | Employees, Stakeholder of the projects |
| Version | 2.0 |
| Consolidated list of initial requirements: | |
| 1. The user shall be able to register themselves into the app and login via the credentials they used. 2. A user can create a project and thus act as a project manager. 3. Project manager shall be able to other users as team members. 4. Project manager shall be able to add the tasks. 5. Project manager shall be able to add task description with its completion deadline. 6. Project manager shall be able to view given task and team members. 7. Project manager shall be able to assign task to team members. 8. Team members and project managers shall be able to view all created tasks under the project. 9. Team members completing the task assigned to them shall be able to mark it as complete 10. Team members shall be able to add new tasks. 11. Team members shall be able assign tasks to other team members. 12. Team members shall be able to reassign tasks given to them to other team members 13. When tasks become overdue team member should get a notification alert. 14. Upcoming deadline tasks shall be highlighted. 15. Overdue tasks shall be highlighted in different section. 16. Team member shall be able to search from the tasks. 17. Team members shall be able to filter and sort the task on parameter like deadline priority, assigned to them, assigned to themselves. 18. Project Manager shall be able to view Project Wise and member wise task status/completion. 19. Project Manager shall be able to view Project Completion status in graphs. 20. In case any team members is removed then task allocated to them should be marked as unallocated. | |

## **1.3 Project Objective**

TaskIT: Task Management System is to help any medium to large organizations who have defined procedure to carry out the particular task and have definite numbers of team members together contributing to the ultimate product. It aims to convert all the manual and tedious workflow of the project into digital forms. thus, it provides the facility for easy tracking of the project status. it makes more accountable to the project manager and team members as all the logs are kept from starting of the project to end. The ultimate motive of the TaskIT is to smoothen the communication between the team, thus making sure that all the problems are resolved asap, leaving no point untouched.

This system enables a user to create a project dashboard, add their team members and assign the tasks to each other. The most important feature of this system that it clearly helps the user to priorities the tasks keeping the manager in loop.

TaskIT Manages extensive information about the project, its tasks, team members and allocation of task among team members. thus it results in easy generation of reports that depict the project completion status.

## **1.4 Product Scope**

The core goals of the system are limited to the following tasks.

-Creation of a project

-Add Team members to the project

-Add tasks of the projects with its description and deadline

-Assignment and reassignment of task witin the team members and project manager.

-flag the overdue tasks and notify users.

-Sort/Search/Filter tasks

-Report of completion.

The scope of system is limited from medium to large organizations who have team members work together in the single project. This system is designed to incorporate large number of projects where users work as team members or project managers depending on the project. it is designed to carry out the complete workflow of the project and keep all the stakeholders in the loop.

# **2.Overall Description**

## **2.1 Product Perspective/ Environment Description**

#### **2.1.1 Hardware Interface/Hardware Specification**

* Any Android Mobile/Tablet Device
* A working internet connection to deploy and use in production (not in development process)

#### **2.1.2 Software Interface/ Software Specification**

* Android Studio with Android SDK, JAVA JDK and JRE (Development Purpose)
* Android Device Emulator

# **3. System Specific Requirements**

## **3.1 Functional Requirement**

These are statements of services the system should provide, how the system should react to

particular inputs, and how the system should behave in particular situations. It specifies the

application functionality that the developers must build into the product to enable users to

accomplish their tasks

* **Manage User Login and Registration**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | Users(Team members and Project Leader ) can login into the system | Login Page |
| FR2 | Users will be able to change their password | Change Password Page |
| FR3 | Users shall be able to self-register themselves into the application | Registration Page |
| FR4 | Users shall be able to reset password in case they forget | Forget Password Page |

* **Manage Organization**

|  |  |  |
| --- | --- | --- |
| RN | Description | Comments |
| FR1 | Any user can create its own organisation | Create Organisation Page |
| FR3 | Team Leader can add other users as team members in their organisation | Add Team Members page |

* **Manage Projects**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | Under Organisation Project Leader can create a Project | Create Project Page |
| FR2 | Team Leader can update the details of the project like Name , Client, Description, Start and End Dates | Edit Project Details Page |

* **Manage Team Members**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | Team Leader can add or remove any team members from project at any point of time. | Project Member page |
| FR2 | Project Leader should be able to view all the details of team members | Project Member Page |
| FR3 | Project Leader should be able to view other project team members assigned to. | Project Member Page |

* **Manage Tasks Details**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | Project Leader and Team member should be able to add a task under the project. | Add/Edit Task Page |
| FR2 | Project Leader and Team member should be able to add/update task description for each task. | Add/Edit Task Page |

* **Manage Task Assignment**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | Project Leader should be able to allocate already created task to the team members. | Task Edit Page |
| FR2 | Project Leader should be able to add/update deadline to the task | Task Edit Page |
| FR3 | Team members and project leaders should be able to mark any task as completed | Task Edit Page |
| FR4 | Team members can reallocate their task to other team members. | Task Edit Page |

* **Manage Tasks Search,Filter and Sorting**

|  |  |  |
| --- | --- | --- |
| **RN** | **Description** | **Comments** |
| FR1 | All the task should be sorted date wise (generation/deadline dates) | Task List Page |
| FR2 | All the overdue tasks should be highlighted | Overdue Page |
| FR3 | Notification should be sent when deadline is overdue | Notification |
| FR4 | Project Leader should be able to view status of completion of tasks | Project dashboard |
| FR5 | Project Leader should be able to view status of completion of project | Project dashboard |
| FR6 | Graphical representation of status should be there | Project dashboard |
| FR7 | Team members should be able to filter task project wise. | Task List Page |

## **3.2 Non-Functional Requirement**

Non-Functional Requirements define the needs in terms of performance, security, design constraints, maintainability and portability.

**Usability**

The system provides a help and support menu in all interfaces for the user to interact with

the system. The user can use the system by reading help and support.

**Security**

The system provides username and password to prevent the system from unauthorized access. Only authorised users should be able to login the system provided a valid username and password. Only logged in user should be able to alter the information.

**Ease of use**

Considered the level of knowledge possessed by the users of this system, a simple but quality user interface should be developed to make it easy to understand. The UI designed should be depicting the complete workflow of the project. Colours and fonts should be used very effectively to give maximum functionality to the user.

**Error Handling**

Error should be considerably minimized and an appropriate error message that guides the user to recover from an error should be provided. Validation of user’s input is highly essential

# **4. System Design**

## **4.1Database schema**

Login(LoginID[PK], Username, Password, Role)

FD: Login-> Username, Password, Role

UserMaster(UserID[PK], FirstName, LastName, E-mail, PhoneNo., Organization)

FD: UserMaster-> FirstName, LastName, E-mail, PhoneNo., Organization

Organization(OrganizationID[PK], Name, PhoneNo., E-mail, City)

FD: Organization-> Name, PhoneNo., E-mail, City

ClientMaster(ClientMasterID[PK], Name, PhoneNo., E-mail, City)

FD: ClientMaster-> Name, PhoneNo., E-mail, City

ProjectMaster(ProjectMasterID[PK], Name, ClientID[FK], Description, StartDate, EndDate)

FD: ProjectMaster-> Name, ClientID[FK], Description, StartDate, EndDate

ProjectTeamAllocation(ProjectTeamAllocationID[PK], ProjectID[FK], MemberID[FK])

FD: ProjectTeamAllocation-> ProjectID[FK], MemberID[FK]

TaskMaster(TaskMasterID[PK], GeneratedBy[FK], TaskDescription, GeneratedDate, ProjectID[FK])

FD: TaskMaster-> GeneratedBy[FK], TaskDescription, GeneratedDate, ProjectID[FK]

TaskAllocation(TaskAllocationID[PK], TaskID[FK], AllocationDate, AllocationBy[FK], AllocatedTo[FK], DedlineDate, Status)

FD: TaskAllocation-> TaskID[FK], AllocationDate, AllocationBy[FK], Allocated[FK], DedlineDate, Status

## **4.2Data Dictionary**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Login | | | | |
| Fieldname | Datatype | size | constraint | Description |
| LoginID | Int |  | Primary Key | Unique identity to every user |
| UserName | Varchar | 50 | Unique | Not Null | Unique username to use during login |
| Password | Char | 50 | Not Null | Credential used to login |
| Role | Char | 20 | Not Null | Defines login role like  ADMIN/PROJECT LEADER/ TEAM MEMBER |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UserMaster:- | | | | |
| Fieldname | Datatype | size | constraint | Description |
| UserID | Int |  | Primary Key | Unique ID of every user |
| First Name | Varchar | 50 | Not Null | Defines name of the User |
| Last Name | Varchar | 50 | Not Null | Defines name of the User |
| E-mail | Char | 50 | Unique | Not Null | Email ID of user |
| Phone No | Char | 10 | Unique | Not Null | Phone Number of user |
| Organization | Varchar | 50 | Unique | Not Null | Organisation User belongs to |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Organization:- | | | | |
| Fieldname | Datatype | size | constraint | Description |
| OrganizationID | Int |  | Primary Key | Unique ID of organisation |
| Name | Varchar | 50 | Not Null | Name of Organisation |
| Phone No | Char | 10 | Unique | Not Null | Phone Number |
| E-mail | Char | 50 | Unique | Not Null | Email ID of organisation |
| City | Char | 50 | Not Null | City location of Organisation |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ClientMaster | | | | |
| Fieldname | Datatype | size | constraint | Description |
| ClientID | Int |  | Primary Key | Unique ID of client |
| ClientName | Varchar | 50 |  | Name of Client |
| Clientphone | Char | 10 | Unique | Not Null | Phone Number of client |
| ClientMail | Char | 50 | Unique | Not Null | Email of Client |
| ClientCity | Char | 20 | Not Null | City location of client |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ProjectMaster | | | | |
| Fieldname | Datatype | size | Constraint | Description |
| ProjectID | Int |  | Primary Key | Unique ID of the project |
| ProjectTitle | Varchar | 50 | Unique | Not Null | Title of the project |
| ClientID | Int |  | Foreign Key | Defines project belongs to which client |
| Description | Varchar | 100 | Not Null | Description of client |
| StartDate | Date |  | Not Null | Start of the project |
| EndDate | Date |  | Not Null | End of the project |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ProjectTeamAllocation | | | | |
| Fieldname | Datatype | size | constraint | Description |
| AllocationID | Int |  | Primary Key | Unique ID of allocation |
| ProjectID | Int |  | Foreign Key | Defines Project ID |
| MemberID | Int |  | Foreign Key | Defines which members belongs to this project |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TaskDetails | | | | |
| Fieldname | Datatype | size | Constraint | Description |
| TaskID | Int |  | Primary Key | Unique ID of the task |
| GeneratedbyID | Int |  | Foreign Key | Defines which member generated the task |
| TaskDesc | Varchar | 100 | Not Null | Description of the task |
| Generatedate | Date |  | Not Null | Date of generation of the task |
| ProjectID | Int |  | Foreign Key | Define task belong to which project |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TaskAllocation | | | | |
| Fieldname | Datatype | size | Constraint | Description |
| TAllocationID | Int |  | Primary Key | Unique ID of allocation |
| TaskID | Int |  | Foreign Key | Defines which task is allocated |
| AllocationDate | Date |  | Not Null | Date on which task is allocated |
| AllocationBY | Int |  | Foreign Key | Member who allocated the task |
| AllocationTO | Int |  | Foreign Key | Member whom task is allocated to |
| Deadline | Date |  | Not Null | Deadline of the task |
| Status | Char |  | Not Null | Shows Status of completion of the task |