**RIPHAH INTERNATIONAL UNIVERSITY**

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**Data Structures and Algorithms**

**Fall 2024**

**To-do List (Task Management)**

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**Project Team**

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# Artifact # 1 Project Proposal

**Introduction of the Project**

**Project Title:** To-do List (Task Management)

**Introduction:**

This project aims to develop software that will be able to sort tasks efficiently. The actions performed on the tasks will be add, remove, edit, mark tasks as complete and prioritize tasks. This will provide a system for the user to streamline their daily tasks more efficiently and effectively. The system will be using data structures to optimize the addition and retrieval of tasks and make the process faster.

**Problem Statement:**

In today’s fast paced world, it is very hard for the users to streamline their daily tasks. This ends up in missed deadlines and incomplete tasks. The existing systems are either very complex to use, or they lack the basic features of task management. Thus, there is a need to provide a robust and user-friendly system to the users.

**Proposed Solution:**

This system will provide a clean and user-friendly interface for the user to keep track of their day-to-day tasks. The system will be using data structures like linked-lists, priority queues and stacks. The system will provide the user with the ability to add, delete, edit, prioritize and complete their tasks The application will also enable users to categorize tasks based on priority levels, deadlines, and status (completed or pending). Additionally, the application will send reminders for tasks approaching their deadlines, ensuring users stay on top of their schedules.

**Scope of the Project:**

This project will focus on developing a software for individuals. The application will target desktop platforms and may be extended to mobile platforms in future iterations.

**Modules:**

*Manage Tasks*

*Manage Priorities*

*Manage deadlines.*

*Manage Status.*

*MAnage File.*

**Modules Description:**

The modules will be performing the following tasks.

***| Manage Tasks***

*This module provides add, edit, delete, search, and complete tasks options to the users.*

* *Add Task*
* *Delete Task*
* *Edit Task*
* *Mark as Delete Task*

***| Manage Deadlines***

*This module helps users set deadlines for tasks and receive notifications when deadlines are approaching.*

* *Add deadline*
* *Edit Deadlines*
* *Delete Deadlines*
* *Notify User*

***| Task Prioritization***

*This module helps users to sort their tasks based on the urgency and importance.*

* *Set Priorities*
* *Sort Tasks.*

***| Manage Status***

*This module helps users to add or update status of their tasks.*

* *Update Status*
* *Display Status*

***| Manage File***

*This module helps users toadd any task they want to a file in order to secure them.*

* *Add to File*
* *Display From file*
* *Clear File*