**T**he project/Application I created is Called “TO DO LIST “which aims at helping people and Community to be able to write all activities they want to conduct. this application would help people to remember all activities and also help to plan ahead.

It will help the community to increase Productivity for individuals and small teams to stay organized

It will help the community to improve time management hence allows users to priotizes tasks, set deadline and track progress leading to better time management

**Features Implemented**

* **Task Creation:** The application allows users to create new tasks by clicking on the "Add Task" button in the footer. A new task appears as a panel with an index number, a text field to enter the task name, and a "DONE" button to mark the task as completed.
* **Task Editing:** Users can edit the task name by directly typing into the text field associated with each task.
* **Task Completion:** Clicking on the "DONE" button next to a task marks it as completed. The background color of the task panel changes to green, indicating its completion status.
* **Task Indexing:** Each task is assigned a unique index number that automatically updates based on the order of tasks in the list.
* **Completed Task Removal:** Clicking on the "Clear Finished Tasks" button removes all the tasks that are marked as completed from the list.
* **Visual Design:** The application uses a basic layout with different colored panels and buttons to provide a visually appealing interface.

**Challenges Faced During Development**

* **Event Handling:** Implementing proper event listeners for the buttons and text field to ensure that user interactions trigger the desired actions (adding tasks, marking them as done, editing task names, removing completed tasks).
* **List Management:** Maintaining the order and indexing of tasks as new tasks are added, removed, or marked as completed.
* **UI Design:** Choosing appropriate colors, fonts, and layouts to create a user-friendly and visually appealing interface.
* **Error Handling;** The code doesn’t include any explicit error handling mechanisms. If unexpected user input or errors occur during runtime the application might crush.
* **Scalability Considerations:** While the current implementation works for a basic to-do list, it might not scale well for a significantly larger number of tasks .

**Possible Screenshot**

[Image of the to-do list application with the following elements:

* A title bar at the top displaying "To Do List"

class TitleBar extends JPanel{

Color lightColor = new Color(252,221,176);

TitleBar(){

this.setPreferredSize(new Dimension(400,80));

this.setBackground(lightColor);

JLabel titleText = new JLabel("To Do List");

titleText.setPreferredSize(new Dimension(200,60));

titleText.setFont(new Font("Sans-serif",Font.BOLD,20));

titleText.setHorizontalAlignment(JLabel.CENTER);

this.add(titleText);

}

}

* A list area in the center containing multiple task panels
* Each task panel has three sections:
  + An index number on the left (e.g., 1, 2, 3)
  + A text field in the center where the user can enter the task name (e.g., "Write a report", "Buy groceries")
  + A "DONE" button on the right side
* A footer at the bottom with two buttons:
  + "Add Task" button on the left
  + "Clear Finished Tasks" button on the right]

Footer(){

this.setPreferredSize(new Dimension(400,60));

this.setBackground(lightColor);

addTask = new JButton("Add Task");

addTask.setBorder(emptyBorder);

addTask.setFont(new Font("Sans-serif",Font.ITALIC,20));

addTask.setVerticalAlignment(JButton.BOTTOM);

addTask.setBackground(orange);

this.add(addTask);

this.add(Box.createHorizontalStrut(20));

clear = new JButton("Clear Finished Tasks");

clear.setFont(new Font("Sans-serif",Font.ITALIC,20));

clear.setBorder(emptyBorder);

clear.setBackground(orange);

this.add(clear);

}