**To-Do List App**

**Level 0: Context Diagram**

The To-Do List App allows users to add, mark, and remove tasks. The application manages state using React hooks and optionally stores data in localStorage for persistence.

**Entities & Processes**

* **User →** Interacts with the app by adding, marking, and deleting tasks.
* **To-Do System (Process 1.0) →** Handles input, updates task state, and reflects changes in the UI.
* **Local Data Store (localStorage) →** Stores and retrieves task details for persistence.

**Diagram Representation**

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| User |

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| To-Do System (1.0) |

| (React State Handling) |

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| Local Data Store |

| (localStorage) |

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**Level 1: Detailed Breakdown**

**Process 1.1 - User Input (App.js)**

* Captures user input in an input field.
* Updates newTask state whenever the user types.

**Process 1.2 - Add Task (App.js)**

* User clicks "Add Task" → Task is stored in state (tasks array).
* UI updates dynamically to reflect the new task.

**Process 1.3 - Mark Task as Completed (App.js)**

* Each task has a checkbox.
* Clicking the checkbox toggles completion status (e.g., strikethrough effect).

**Process 1.4 - Delete Task (App.js)**

* User clicks the "Delete" button.
* The task is removed from the tasks array.
* UI updates dynamically to remove the task.

**Process 1.5 - Store in Local Storage (Optional)**

* Saves tasks array in localStorage whenever a change occurs.
* Retrieves stored tasks when the app reloads.

**Diagram Representation**

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| Process 1.1 - User Input |

| (App.js - Input Field) |

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| Process 1.2 - Add Task |

| (Updates tasks array) |

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| Process 1.3 - Mark Completed |

| (Toggles task status) |

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| Process 1.4 - Delete Task |

| (Removes task from array) |

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| Process 1.5 - Store in Local |

| Storage (localStorage) |

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**Data Flow**

**User enters task →** Updates newTask state.  
**Clicks "Add Task" →** Task is stored in tasks array.  
**Task appears in UI** .  
**User marks a task as completed →** Checkbox toggles task status.  
**User deletes a task →** Task is removed from state.  
**Tasks are optionally stored in localStorage →** Retrieved when the app reloads.