**Data Flow Diagram (DFD) for Basic Counter App**

**Project Description**

The Basic Counter App is a simple React-based application that allows users to increase or decrease a counter value. The system processes user interactions, updates the counter value in state, and re-renders the UI accordingly.

**Level 0 DFD (Context Diagram)**

The Level 0 DFD provides a high-level overview of the system, illustrating how the User interacts with the Counter App and how the data flows between the system and its data store.

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**| External Entities |**

**| |**

**| - User |**

**+-----------------------+**

**|**

**v**

**+---------------------------+**

**| Counter App |**

**| (Process: 1.0) |**

**+---------------------------+**

**|**

**v**

**+---------------------------+**

**| Data Store: Counter State|**

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**Explanation:**

**• External Entity (User):** The user interacts with the Counter App by clicking buttons.

**• Process (Counter App):** The system processes user actions (increment/decrement).

**• Data Store (Counter State):** Stores the counter value and updates it when changes occur.

**Level 1 DFD (Detailed Breakdown)**

The Level 1 DFD further decomposes the Counter App process into sub-processes, showing how user interactions trigger state updates and UI re-renders.

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**| External Entity |**

**| (User) |**

**+-----------------------+**

**|**

**v**

**+----------------------------+**

**| Process: 1.1 - Click Button |**

**| (Increment/Decrement) |**

**+----------------------------+**

**|**

**v**

**+----------------------------+**

**| Process: 1.2 - Update State |**

**| (Modify Counter Value) |**

**+----------------------------+**

**|**

**v**

**+----------------------------+**

**| Data Store: Counter State |**

**+----------------------------+**

**|**

**v**

**+----------------------------+**

**| Process: 1.3 - Render UI |**

**| (Display Updated Count) |**

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**Explanation:**

**1. Process 1.1 (Click Button - Increment/Decrement):** The user clicks a button to change the counter.

**2. Process 1.2 (Update State - Modify Counter Value):** The system updates the counter value in React state.

**3. Process 1.3 (Render UI - Display Updated Count):** The UI re-renders to reflect the new counter value.

**Data Flow**

• The User clicks the Increment/Decrement button.

• The Counter App updates the Counter State.

• The updated count is displayed in the UI**.**

**Additional Notes**

• This diagram follows React's state management using the useState hook.

• You can extend this DFD by adding persistence (e.g., storing count in local storage or a database).