DFD for Counter-App

Level 0: Context Diagram

1. **External Entity: User**

   o   Interacts with the app by clicking buttons to increment or decrement the counter.

2. **Process: Counter App**

   o   Handles the logic for incrementing and decrementing the counter.

   o   Updates the displayed count based on user input.

3. **Data Store: State (count)**

   o   Stores the current value of the counter.

4. **Output: Displayed Count**

   o   Shows the updated counter value to the user.

Level 1: Detailed DFD

1. **User Input**

   o   The user clicks the **Increment** or **Decrement** button.

2. **Process: Handle Button Click**

   o   If the **Increment** button is clicked:

     ▪   The increment function is triggered.

     ▪   The count state is updated: count = count + 1.

   o   If the **Decrement** button is clicked:

     ▪   The decrement function is triggered.

     ▪   The count state is updated: count = count - 1.

3. **Data Store: State (count)**

   o   The updated count value is stored in the component's state.

4. **Process: Render Updated Count**

   o   The component re-renders with the new count value.

   o   The updated count is displayed in the <h1> tag.

5. **Output: Displayed Count**

   o   The user sees the updated counter value on the screen.

Flow of Data

1. **User → App**: User clicks a button (Increment/Decrement).

2. **App → State**: App updates the count state based on the button clicked.

3. **State → App**: App re-renders with the updated count value.

4. **App → User**: Updated count is displayed to the user.

Diagram:

```
+-------------------+        +-------------------+        +-------------------+
|      User         |        |   Counter App     |        |   State (count)   |
|                   |        |                   |        |                   |
|   Click Button    | ---->  |   Handle Click    | ---->  |   Update Count    |
|   (Increment/     |        |   (increment/     |        |   (count + 1 or   |
|   Decrement)      |        |   decrement)      |        |   count - 1)      |
|                   |        |                   |        |                   |
+-------------------+        +-------------------+        +-------------------+
                                      |                            |
                                      v                            v
                             +-------------------+        +-------------------+
                             |  Render Updated   | <---- |   Updated Count   |
                             |  Count            |        |   (from State)    |
                             |                   |        |                   |
                             +-------------------+        +-------------------+
                                      |
                                      v
                             +-------------------+
                             |  Displayed Count  |
                             |  (to User)        |
                             +-------------------+
```