Like & Dislike Button Component Documentation

**Overview**

The **Like & Dislike Button Component** is a React-based interactive UI element that allows users to express their reaction to a post by either liking or disliking it. The component tracks user interactions, updates counts dynamically, and persists data using local storage.

**Features**

* **Like & Dislike Reactions**: Users can like or dislike a post with real-time UI updates.
* **State Management**: Uses React's useState for managing likes, dislikes, and user reaction.
* **Local Storage Integration**: User reactions persist even after a page reload.
* **Prevents Rapid Clicks**: Implements a short delay to prevent multiple rapid clicks.
* **Smooth Animations**: Uses framer-motion for enhanced UI transitions.
* **Dynamic UI Updates**: Buttons highlight based on user selection.

**Component Structure**

**1. LikeDislike Component**

This component handles state management, user interactions, and UI updates for like and dislike buttons.

**2. Post Component**

Wraps the LikeDislike component inside a post container.

**3. App Component**

Renders the LikeDislike component inside the main application layout.

**Functional Requirements**

**1. Post Display**

* A post container with static text, e.g., *"This is an amazing React tutorial!"*

**2. Like & Dislike Buttons**

* Two buttons: **Like** (👍) and **Dislike** (👎)
* Displays the count of likes and dislikes dynamically.

**3. State Management**

* **likeCount** → Stores number of likes (default: 0)
* **dislikeCount** → Stores number of dislikes (default: 0)
* **userReaction** → Stores user reaction (1 for like, -1 for dislike, 0 for neutral)

**4. Behavior on Button Clicks**

**Like Button Click**

* If not liked before → **Increase** likeCount by 1
* If previously disliked → **Decrease** dislikeCount by 1 and **Increase** likeCount by 1
* If clicked again (unlike) → **Decrease** likeCount by 1

**Dislike Button Click**

* If not disliked before → **Increase** dislikeCount by 1
* If previously liked → **Decrease** likeCount by 1 and **Increase** dislikeCount by 1
* If clicked again (undislike) → **Decrease** dislikeCount by 1

**5. UI Updates**

* The like and dislike counts update dynamically next to the buttons.
* The active button is visually highlighted.

**Expected Behavior**

1. **Initial State**: Post loads with 0 Likes and 0 Dislikes.
2. **User Clicks Like** → 1 Like, 0 Dislikes, Like button highlighted.
3. **User Clicks Dislike** → 0 Likes, 1 Dislike, Dislike button highlighted.
4. **User Clicks Dislike Again** → 0 Likes, 0 Dislikes, Both buttons reset.

**Constraints**

* Uses useState for real-time updates.
* Uses useEffect for storing and retrieving reactions from local storage.
* Prevents multiple rapid clicks using a 500ms delay.
* Ensures smooth animations using framer-motion.
* Responsive design adapts to different screen sizes.

**Bonus Features**

✅ **Local Storage Support** → Reactions persist after page reload.  
✅ **Prevents Rapid Clicking** → 500ms delay prevents unintended multiple clicks.  
✅ **Smooth Transitions** → Animated number updates & reaction messages.  
✅ **Feedback Messages** → Displays *"You liked this post!"* or *"You disliked this post!"* messages.

**Conclusion**

The **Like & Dislike Button Component** enhances user engagement by providing interactive feedback and ensuring a smooth, persistent experience with local storage. This component is optimized for modern React applications with intuitive state management and dynamic UI updates.