**Data Flow Diagram (DFD) for Random Quote Generator**

**Project Description**

The Random Quote Generator is a React-based web application that displays a random motivational quote when a user clicks the 'Get Quote' button. The system selects a quote from a predefined list and updates the UI dynamically.

**Level 0 DFD (Context Diagram)**

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

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 | External Entities |   
 | - User |   
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 | Quote Generator (1.0) |   
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 | Data Store: Quotes List |   
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**Explanation:**

• **External Entity (User):** The user interacts with the Quote Generator by clicking the button.

• **Process (Quote Generator):** The system selects a random quote and updates the UI.

• **Data Store (Quotes List):** Stores predefined quotes used in the application.

**Level 1 DFD (Detailed Breakdown)**

The Level 1 DFD further decomposes the Quote Generator process into sub-processes, showing how user interactions trigger state updates and UI rendering.

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 | External Entity: User |  
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 | Process 1.1: Click Button |  
 | (Get a Quote) |  
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 | Process 1.2: Select Random Quote |  
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 | Data Store: Quotes List |  
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 | Process 1.3: Update UI |  
 | (Display Quote) |  
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**Explanation:**

1. **Process 1.1 (Click Button - Get a Quote):** The user clicks the button to generate a quote.

2. **Process 1.2 (Select Random Quote**): The system picks a random quote from the predefined list.

3. **Process 1.3 (Update UI - Display Quote):** The selected quote is displayed in the UI.

**Data Flow**

• The User clicks the 'Get Quote' button.

• The system selects a random quote from the predefined list.

• The selected quote is displayed in the UI.

**Additional Notes**

• This DFD represents a React-based Random Quote Generator using useState for state management.

• The system can be extended by integrating an API to fetch quotes dynamically.