**Data Flow Diagram (DFD) for Dynamic user interface**

**Project Description**

The Login System is a React-based web application that allows users to log in using an email and password. The system processes user input, validates credentials, and displays appropriate messages.

**Level 0 DFD (Context Diagram)**

The Level 0 DFD provides a high-level overview of the system, illustrating how the User interacts with the Login System and how data flows between the system and its authentication process.

+-----------------------+   
 | External Entities |   
 | |   
 | - User |   
 +-----------------------+   
 |   
 v   
 +---------------------------+   
 | Login System |   
 | (Process: 1.0) |   
 +---------------------------+   
 |   
 v   
 +---------------------------+   
 | Data Store: User Input |   
 +---------------------------+

**Explanation:**

• **External Entity (User):** The user interacts with the Login System by entering credentials.

• **Process (Login System):** The system processes user input and validates credentials.

• **Data Store (User Input):** Stores email and password for validation.

**Level 1 DFD (Detailed Breakdown)**

The Level 1 DFD further decomposes the Login System process into sub-processes, showing how user interactions trigger input validation, authentication, and UI updates.

+-----------------------+   
 | External Entity |   
 | (User) |   
 +-----------------------+   
 |   
 v   
 +----------------------------+   
 | Process: 1.1 - Enter Credentials |   
 | (Email & Password) |   
 +----------------------------+   
 |   
 v   
 +----------------------------+   
 | Process: 1.2 - Validate Input |   
 | (Check Empty Fields) |   
 +----------------------------+   
 |   
 v   
 +----------------------------+   
 | Process: 1.3 - Authenticate User |   
 | (Verify Credentials) |   
 +----------------------------+   
 |   
 v   
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 | Process: 1.4 - Display Message |   
 | (Success or Error) |   
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**Explanation:**

1. **Process 1.1 (Enter Credentials - Email & Password):** The user enters their login details.

2**. Process 1.2 (Validate Input - Check Empty Fields):** The system verifies if both fields are filled.

3**. Process 1.3 (Authenticate User - Verify Credentials):** The system checks if the email and password match the stored credentials.

4**. Process 1.4 (Display Message - Success or Error):** Displays either a login success message or an error message.

**Data Flow**

• The User enters email and password.

• The system validates if both fields are filled.

• If valid, the credentials are checked against stored values.

• The system displays either a success message or an error.

**Additional Notes**

• This system currently uses hardcoded credentials for validation.

• It can be extended to integrate with a backend authentication system.