**# Data Flow Diagram (DFD) for Capstone-Mini**

## **Level 0: Context Diagram**

### **Overview:**

The **Capstone-Mini System** consists of multiple functionalities such as Show/Hide Text and Fetch API Data. Users interact with the system to perform various actions, and the system processes these requests dynamically.

**Entities & Processes:**

* **User:** Interacts with different features (Show/Hide Text, Fetch API Data).
* **Capstone-Mini System (Process 1.0):** Manages user interactions and data handling.
* **External API/Data Store (Data Store):** Stores and provides API data for fetching.

+-----------------------+

| User |

+-----------------------+

|

v

+-----------------------+

| Capstone-Mini System |

| (Process: 1.0) |

+-----------------------+

|

v

+-----------------------+

| External API / Data |

+-----------------------+

## **Level 1: Detailed Breakdown**

### **Processes Breakdown:**

1. **Process 1.1 - Show/Hide Text:** The user clicks a button to toggle text visibility.
2. **Process 1.2 - Fetch API Data:** The system retrieves data from an external API and displays it to the user.
3. **Process 1.3 - Data Storage & Retrieval:** The system saves fetched API data for caching and retrieves previously stored data when needed.

+-----------------------------+

| User |

+-----------------------------+

|

v

+--------------------------------+

| Process 1.1 - Show/Hide Text |

+--------------------------------+

|

v

+--------------------------------+

| Process 1.2 - Fetch API Data |

| (External API Interaction) |

+--------------------------------+

|

v

+--------------------------------+

| Process 1.3 - Data Storage & Retrieval |

| (Cache / Database) |

+--------------------------------+

### **Data Flow:**

1. The **User** interacts with the system (clicking buttons, fetching data).
2. The **Capstone-Mini System** processes the request:
   * **Show/Hide Text:** Toggles visibility of content.
   * **Fetch API Data:** Requests data from an **external API** and displays it.
   * **Data Storage & Retrieval:** Stores frequently used API responses for faster access and retrieves data when needed.
3. If applicable, data is stored/retrieved from the **External API/Data Store**.

**Benefits:** Provides interactive UI elements for better user experience. Efficiently fetches and displays API data. Optimizes data retrieval with caching for improved performance.