**Data Flow Diagram for SearchApp**

Level 0(Context Diagram):

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| External Entity: User |

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| User Input (Search Query)

V

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| Search Application |

| (Process: 1.0) |

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| Search Results

V

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| External Entity: User |

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Explanation:

* Shows the user providing search input to the application.
* The "Search Application" processes the input and returns search results to the user.

Level 1(Decomposition of Process: 1.0):

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| External Entity: User |

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| User Input (Search Query)

V

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| Process: 1.1 - |

| Debounce Input |

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|

| Debounced Query

V

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| Process: 1.2 - |

| Perform Search |

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| Search Results

V

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| External Entity: User |

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Explanation:

* "Debounce Input": This process takes the user's input and applies a debouncing mechanism (using useEffect and setTimeout) to avoid making frequent search requests as the user types.
* "Perform Search": Once the input is debounced, this process would typically make an API call or perform a search operation based on the debounced query. In your current code, this is simplified to just display the debounced query, but in a real-world application, this is where the actual search logic would reside.

Key points

* This DFD highlights the debouncing mechanism as a key part of the data flow.
* It shows how user input is transformed into a debounced query before being used for the search.
* In a real-world application, the "Perform Search" process would typically involve interaction with a backend or external API to fetch actual search results.
* This DFD provides a clear representation of the data flow in your debounced search application, making it easier to understand the process and identify potential areas for improvement.