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1. Complete Source Code : Submitted

2. Documentation : Submitted

3. Setup Instructions

Provide clear steps for users to set up the project. For example:
Instructions to Include:

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1. Prerequisites:

- Install dependencies:

```
pip install pandas sentence-transformers transformers weaviate-client streamlit
```

Install and run **Weaviate**:

```
docker run -d -p 9090:8080 semitechnologies/weaviate:latest\
```

2. Data Preparation:

- Place personal finance data.xlsx in the working directory.
- Run:

```
python generate_qna.py
```

3. Upload Data:

- Upload Q&A pairs to Weaviate:

```
python upload_to_weaviate.py
```

4. Run Chatbot:

- Start the chatbot UI:

```
streamlit run chatbot_ui.py
```

4. Testing Scripts

You need to formalize testing scripts. Example test cases:

Testing Retrieval:

Save this as test_retrieval.py

```
from rag_response import retrieve_from_weaviate
```

```
def test_retrieval():
```

```
    queries = ["How much did I spend on snacks?", "What is my income for  
January?"]
```

```
    for query in queries:
```

```
        print(f"Testing query: {query}")
```

```
        results = retrieve_from_weaviate(query)
```

```
        assert len(results) > 0, "No results retrieved!"
```

```
test_retrieval()
```

Testing End-to-End Chatbot:

Simulate user inputs:

```
from rag_response import generate_response
```

```
def test_chatbot():
```

```
    queries = ["How much did I spend on food last week?", "What did I  
receive from Dad?"]
```

```
    for query in queries:
```

```
        print(f"User Query: {query}")
```

```
        response = generate_response(query)
```

```
        print(f"Bot Response: {response}\n")
```

```
test_chatbot()
```

5. Example Conversations

Examples:

Query: "How much did I spend on snacks last week?"

Bot: "The total amount spent on Food (Snacks) is \$185.00."

Query: "How much did I spend on food last week?"

Bot: "The total amount spent on Food (Snacks) is \$80.00.."

Query: "How much did I spend on Food on 2021-01-01?"

Bot: "The total amount spent on Food (Snacks) is \$40.00."

Query: "How much did I spend on Snacks on 2021-12-14?"

Bot: "The total amount spent on Food (Snacks) is \$115.00."

6. Fine-Tuning Datasets

- The fine-tuning dataset is generated dynamically from the personal finance data.
- It is saved as qna_pairs.json.

7. RAG Knowledge Base

- Used **Weaviate** as the knowledge base.
- Q&A pairs have been stored with **custom embeddings**.
- Used Sentence transformers