

High Level Architecture Design and Data Flow

Diagram & Component Level Design

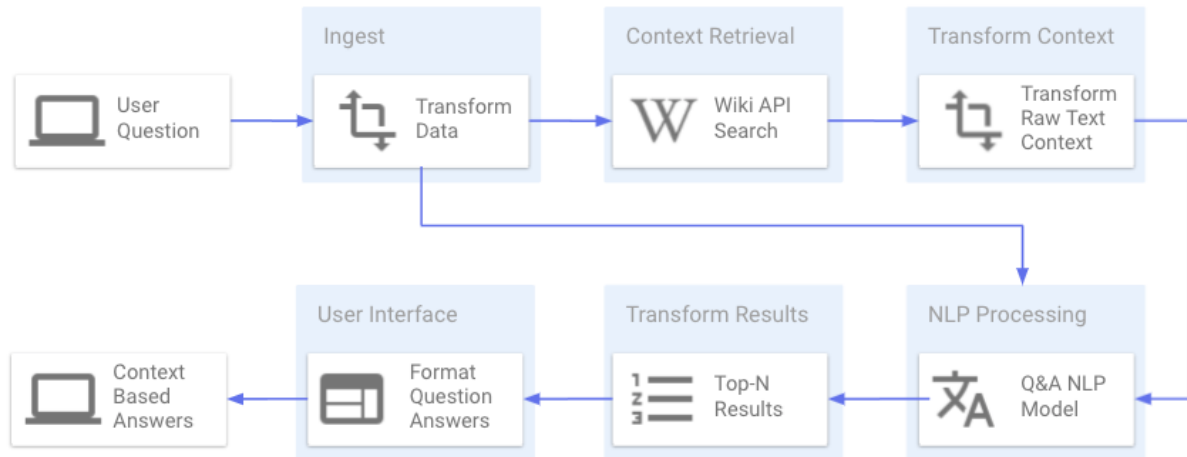
Project Team Members- Avinash Ramesh, Charu Cheema, Cory Randolph
Project Team Name- Insight Finders

CMPE 256 - Fall, 2021
11/17/2021



High-Level Architecture & Data Flow

The high level Architecture for this system along with the data-flow diagram can be seen below.



Data Flow

1. User Input (Natural Language Text of user question)
2. Ingest (Natural language data transformed to improve search results and reduce noise)
3. Context Retrieval (Wikipedia API tool to search various contexts)
4. Transform Context (Raw page text is transformed into an input format for the NLP model)
5. NLP Processing (Takes in the user's question and the context retrieved from Wikipedia and applies a state-of-the-art Question & Answering NLP model to generate answers)
6. Transform Results (Results of the NLP model stacked and the Top-N results are transformed)
7. User Interface (Formatted results are put into a user interface system)
8. Context Based Answers (Final results presented to the user in a nice user interface)

References

- <https://web.stanford.edu/class/archive/cs/cs224n/cs224n.1174/reports/2749028.pdf>
- <https://chatbotslife.com/chatbot-qa-implementing-chatbot-solution-the-chatc-group-49acef43aaa9>
- <https://medium.com/@christophberns/using-crisp-dm-to-predict-car-prices-f15eb5b14025>
- <http://web.stanford.edu/class/cs224n/project/default-final-project-handout.pdf>
- https://web.cse.ohio-state.edu/~bair.41/616/Project/Example_Document/Req_Doc_Example.html
- <https://towardsdatascience.com/bert-to-the-rescue-17671379687f>