Ranking Based Question Answering System

Agenda

- Introduction
- Related Work
- Proposed Technique and Algorithm
- Implementation
- Future Goals

Introduction

Question Answering system is an automated computer system that answers queries questioned by humans in natural language.

Related Work

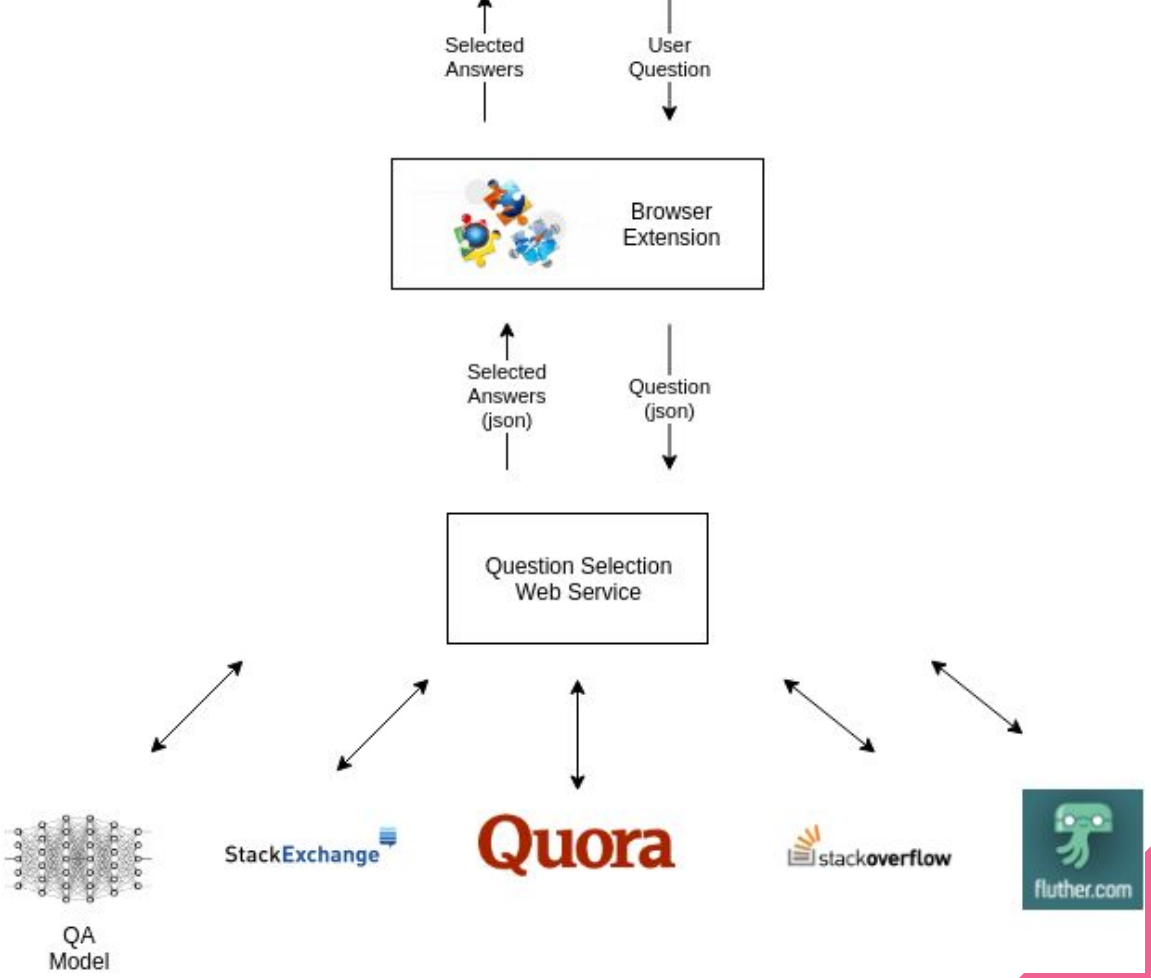
Many user based question answering systems available on the web:

- Quora
- Stack Overflow
- Stack Exchange
- Yahoo Answers
- Flutter

Proposed Technique

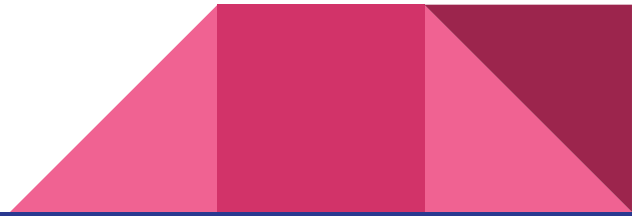
The architecture of the system comprises of 3 modules:

1. Chrome/Firefox Extension
2. Question Selection Web Service
3. Question Answering System

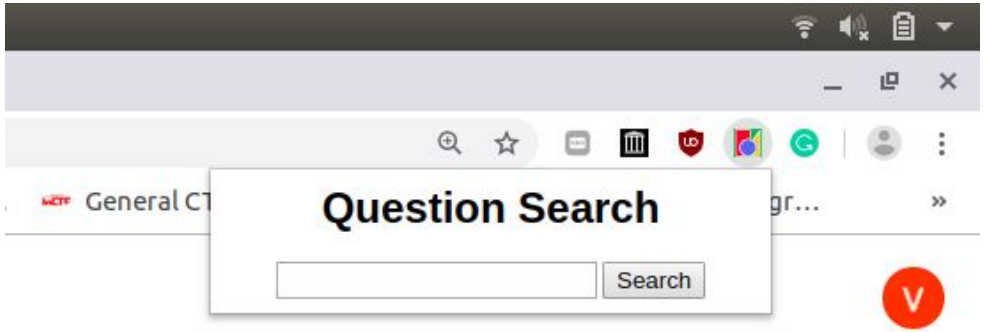

Selected Answers
User Question
Browser Extension
Selected Answers (json)
Question (json)
Question Selection Web Service
QA Model
StackExchange
Quora
stackoverflow
fluther.com

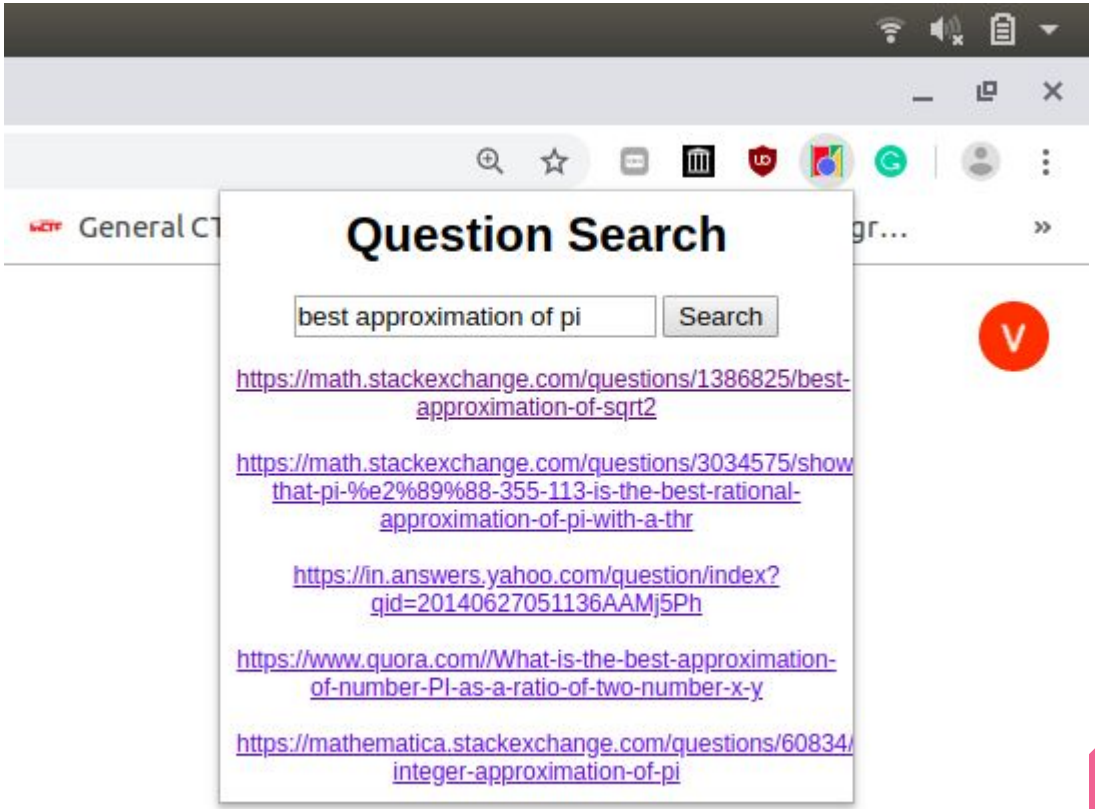
Implementation Details

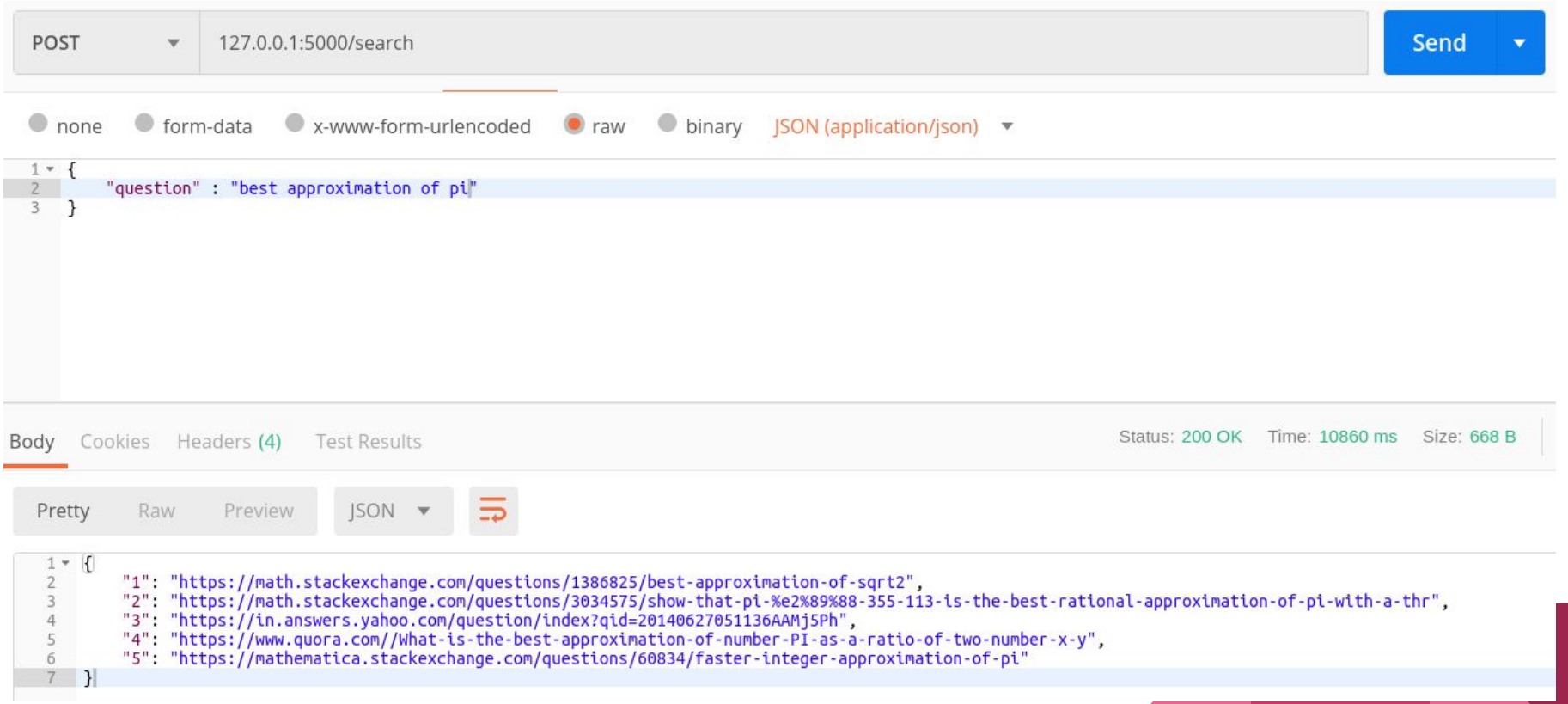
1. Tokenization
2. Stop words removal
3. Lemmatizing with NLTK
4. Measuring the Cosine Similarity



Implementation




General CT
Question Search
best approximation of pi
Search
https://math.stackexchange.com/questions/1386825/best-approximation-of-sqrt2
https://math.stackexchange.com/questions/3034575/show that-pi-%e2%89%88-355-113-is-the-best-rational-approximation-of-pi-with-a-thr
https://in.answers.yahoo.com/question/index?qid=20140627051136AAMj5Ph
https://www.quora.com//What-is-the-best-approximation-of-number-PI-as-a-ratio-of-two-number-x-y
https://mathematica.stackexchange.com/questions/60834/integer-approximation-of-pi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127.0.0.1:5000/search
Send
none
form-data
x-www-form-urlencoded
raw
binary
JSON (application/json)
{
"question" : "best approximation of pi"
}
Body
Cookies
Headers (4)
Test Results
Status: 200 OK
Time: 10860 ms
Size: 668 B
Pretty
Raw
Preview
JSON
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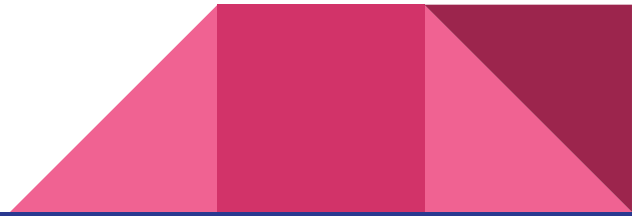
"2": "https://math.stackexchange.com/questions/3034575/show-that-pi-%e2%89%88-355-113-is-the-best-rational-approximation-of-pi-with-a-thr",
"3": "https://in.answers.yahoo.com/question/index?qid=20140627051136AAMj5Ph",
"4": "https://www.quora.com//What-is-the-best-approximation-of-number-PI-as-a-ratio-of-two-number-x-y",
"5": "https://mathematica.stackexchange.com/questions/60834/faster-integer-approximation-of-pi"
}

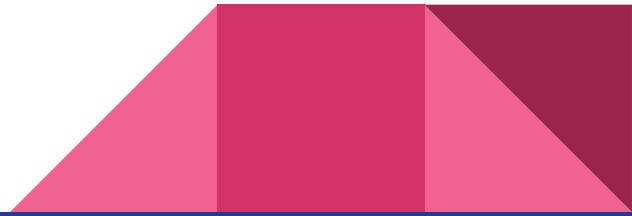
Work Update

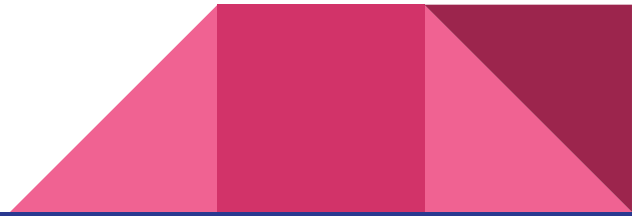
1. Developed Chrome Web Extension
2. Developed Question Selection Web Service
3. Selected most relevant Questions from QA systems using the developed web service.
4. Question similarity matching using cosine similarity



Future Goals

1. Deploying and Integrating Context based QA model with the above developed system
2. Applying Classification techniques to find the domain of the asked question
3. Applying deep learning techniques such as Siamese Manhattan LSTM for similarity matching of questions



THANK YOU

- Vishal Mittal (2017A7PS0080P)
- Kamaldeep Verma (2018H1120281P)