University of Dhaka
Dept. of Computer Science & Engineering

Project Name: Poogle Search

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Introduction

What Is Predictive Search

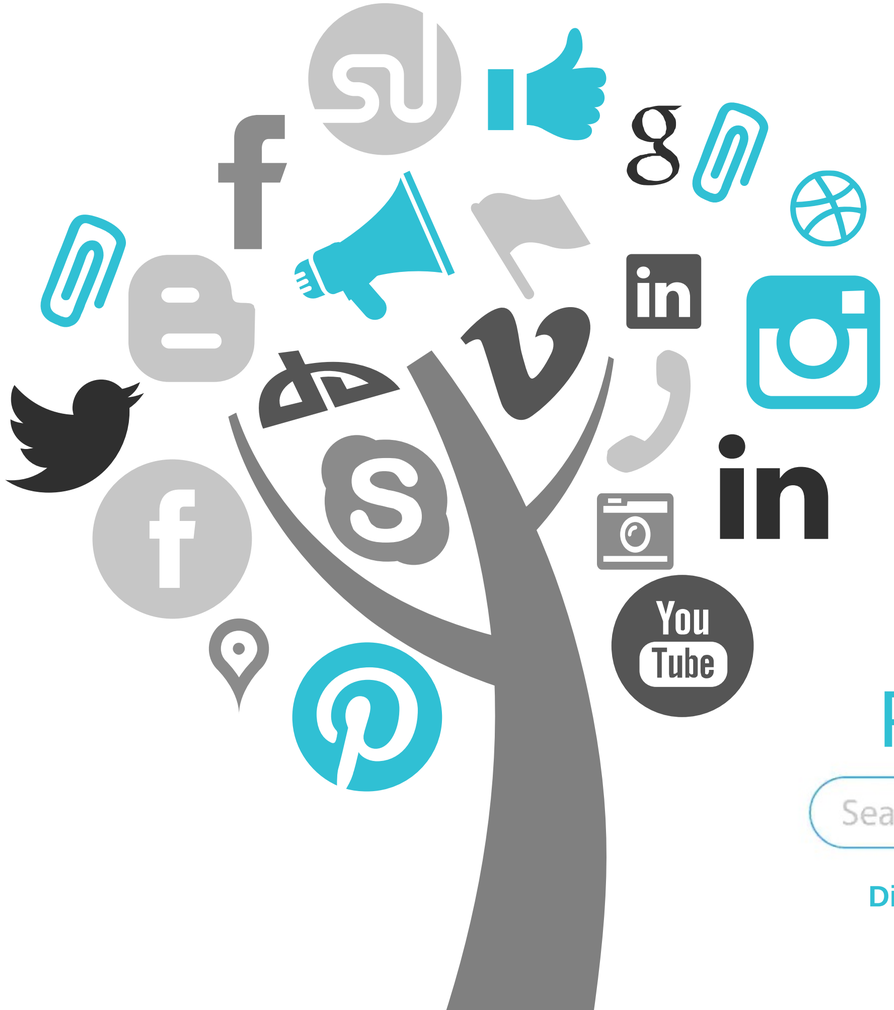
All of us hear about ‘Google’. It is one of the top rated search engine’s in the world. Now I am going to through a question to you. Why it’s famous?

Okay. Lets figure out it. Google is famous for its prediction based searching. Sometimes you may feel something lucky like, something is going through your mind, you have just typed some letters and BOOM. What you want to say, Google has just predict it! Even you have typed the wrong spelling.

And it is predictive search.

1.9e5
Search/Day

5.4e5
Search/Day



PooGle

Search

Did you mean: **Poogle**

Introduction

What Is Poogle

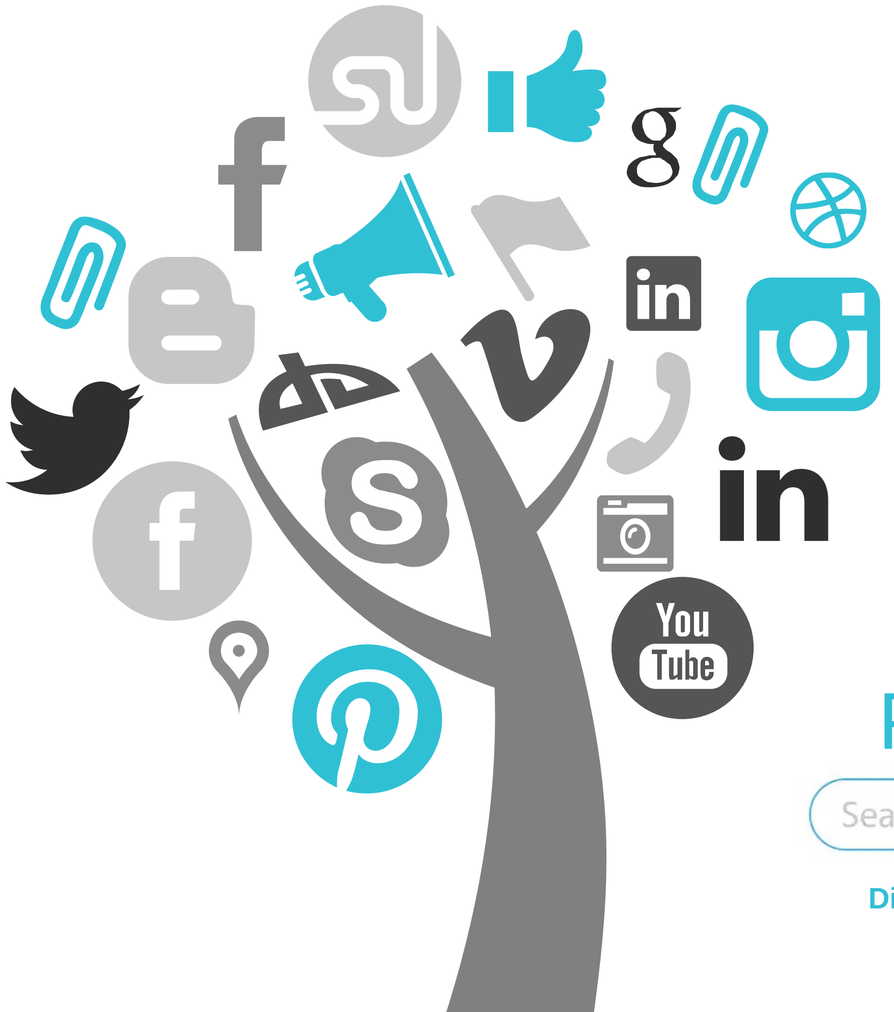
Poogle is a predictive word searcher. It can predict a word even if you mistype it. It can also give you auto complete suggestion at the same time.

As it is machine learning based system, it can also learn new words and successfully predict them too by comparing it with all of the given positive and negative example.

This software search a word in time complexity O(n). Where n is length of word. And It predicts a word in Average < 1 milliseconds.

1.9e5
Search/Day

5.4e5
Search/Day



PooGle

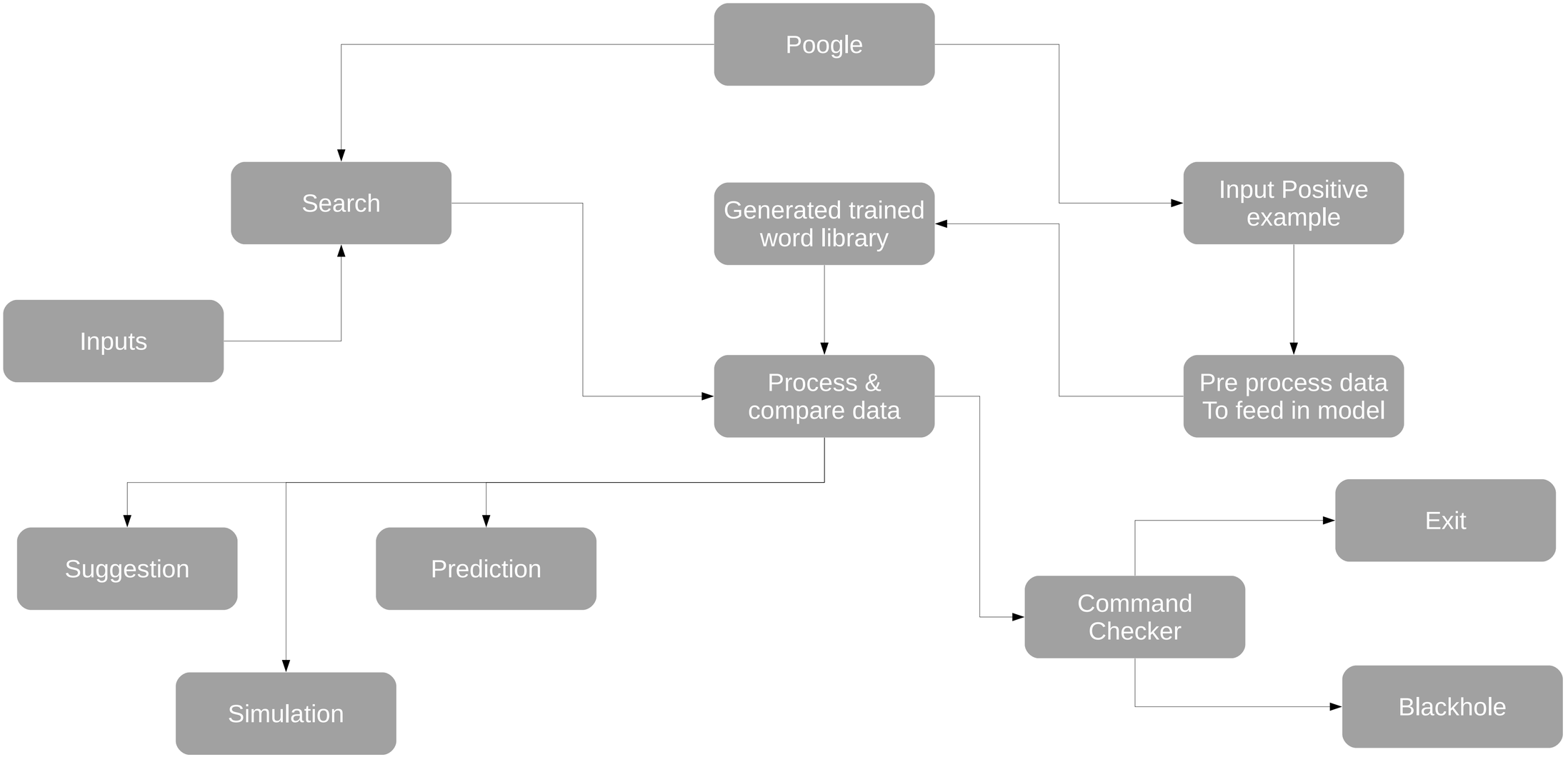
Search

Did you mean: **Poogle**

OBJECTIVES

- Collect all positive examples in a Text file.(words)
- *Collect all negative words in a Text file.*
- Build a model for word searching, Predicting & suggesting
- Give prediction result in Average < 1 milliseconds
- Feed words to Learning model
- Build a GUI. (Graphical User Interface)
- Feed new word to the model at run time and process it
- Physics based gravity simulation for poogle assistant

SOFTWARE STRUCTURE



ALGORITHM

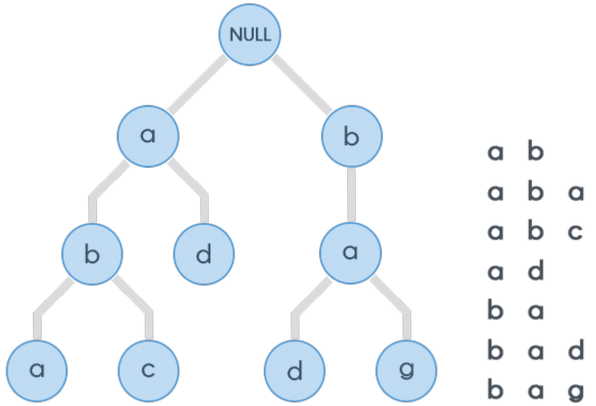
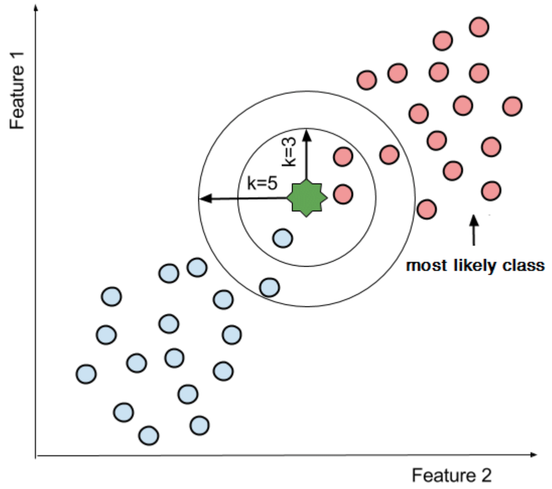


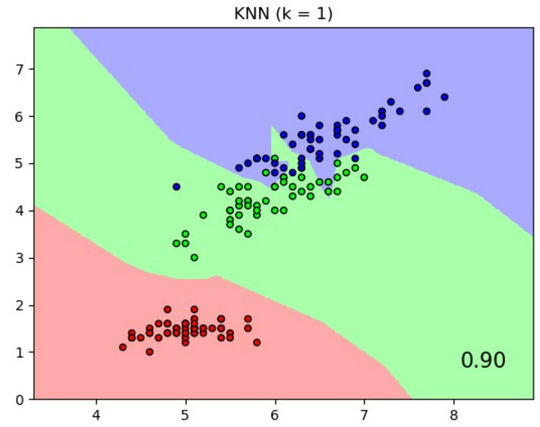
Fig. 1

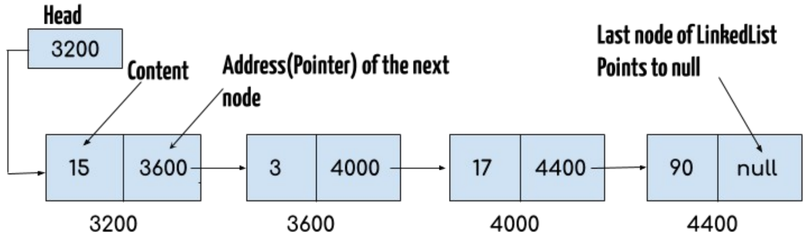
a b
a b a
a b c
a d
b a
b a d
b a g

Extended Trie



Feature Match

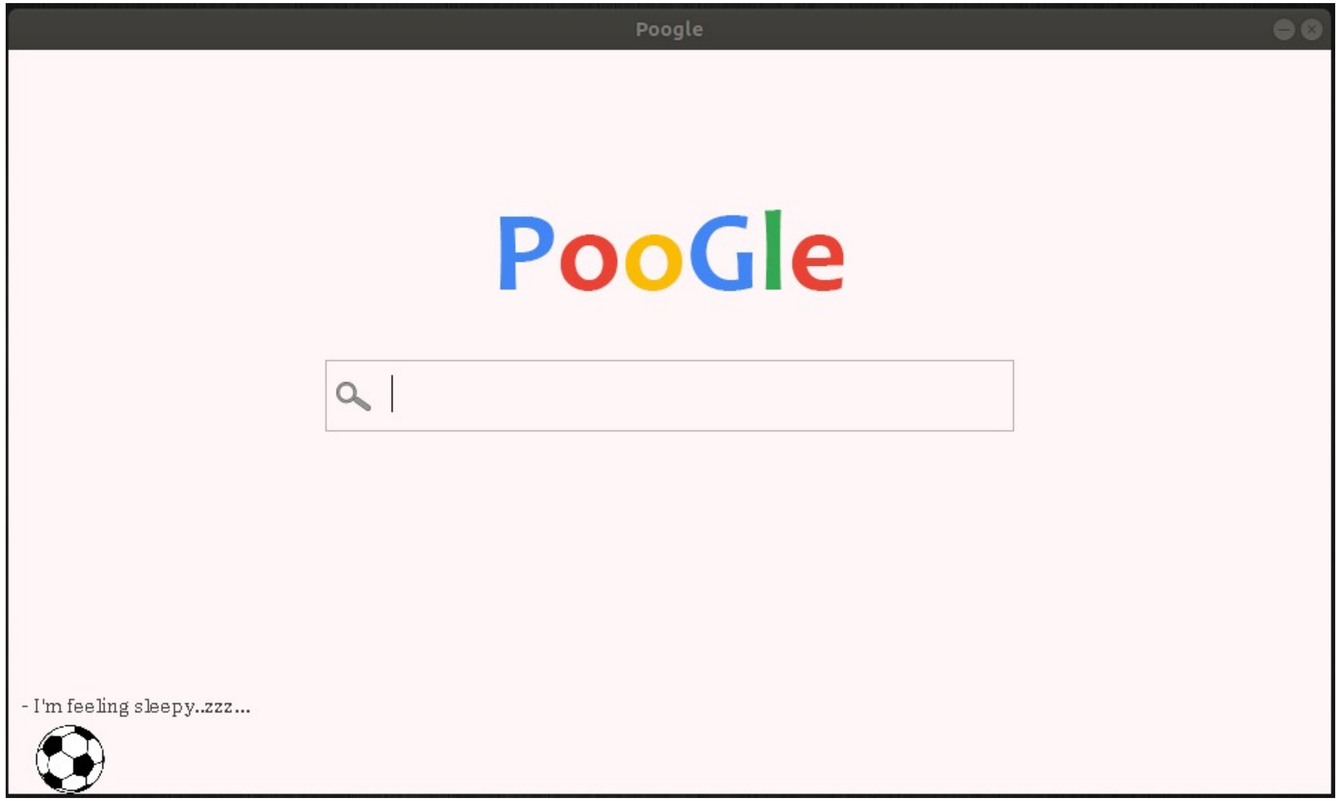




RESULT
SOFTWARE INTERFACE

Initial page :

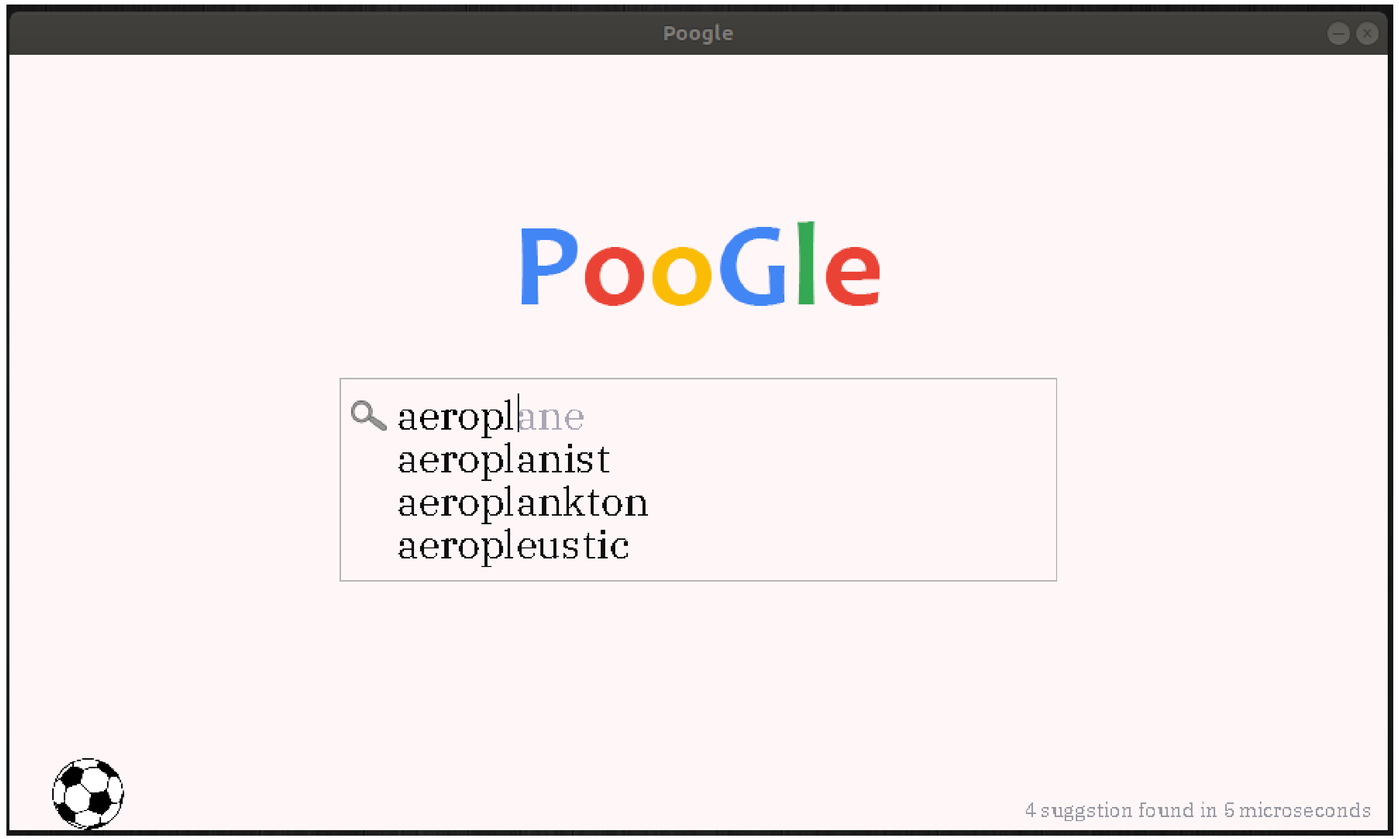
Its the initial page of poogle. Here we can see a search bar, a keyboard cursor and a assistant football who is talking to the user.



RESULT
SOFTWARE INTERFACE

Giving Suggestion :

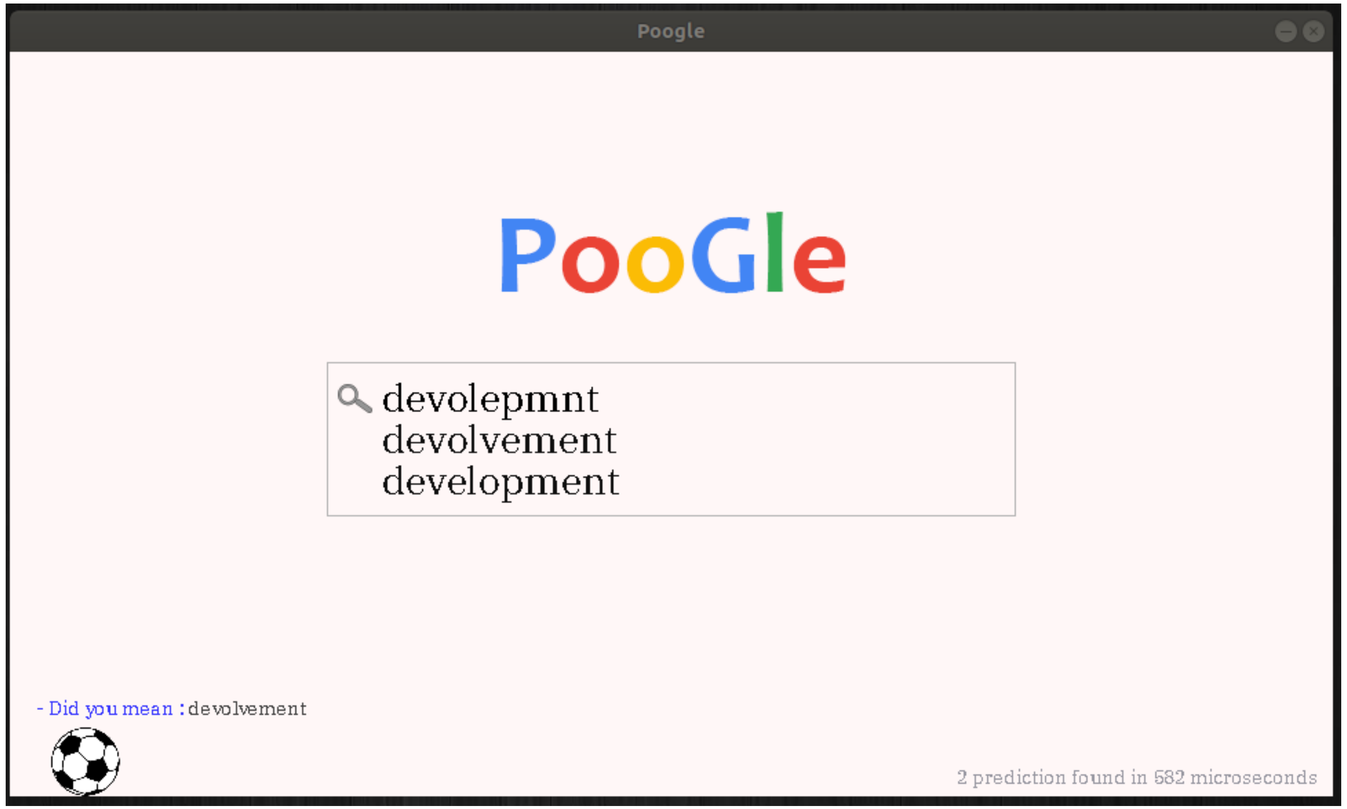
User just typed “aero” & poogle is suggesting the whole word in light ash color. Its also giving some nearby suggestion



RESULT
SOFTWARE INTERFACE

Giving Prediction :

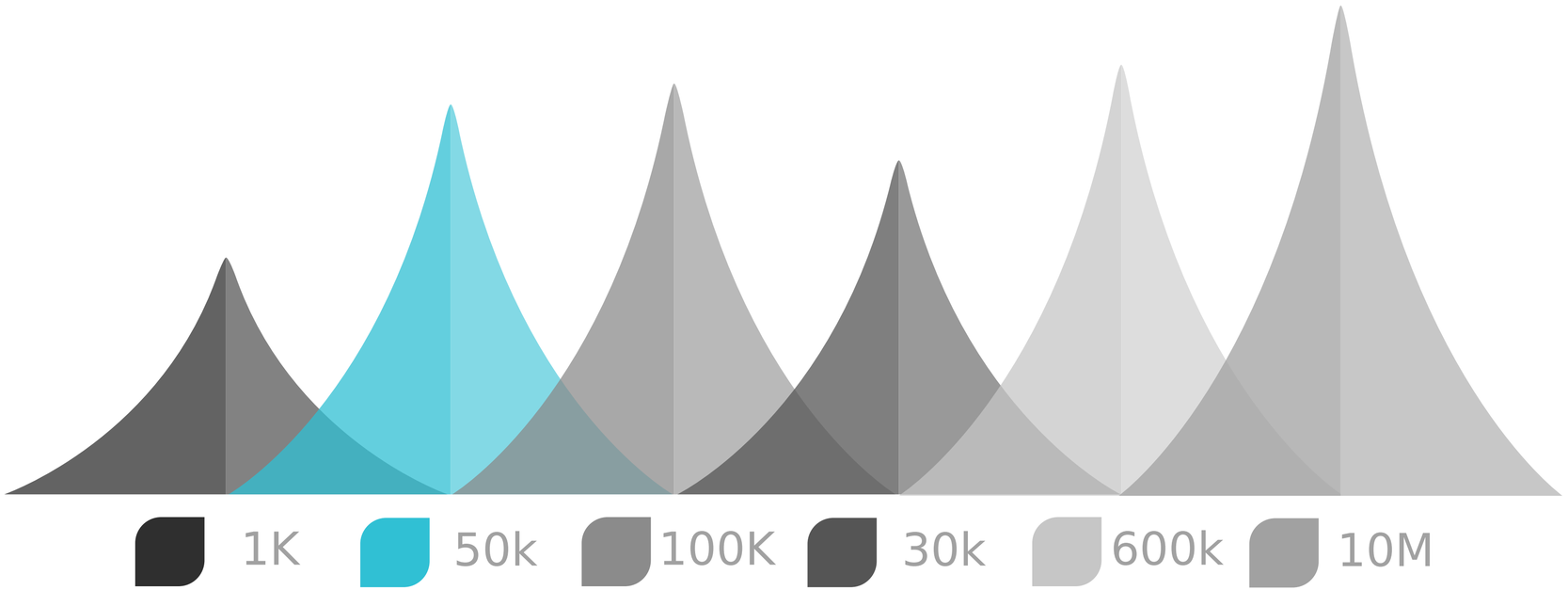
User just typed a wrong word. Boom!! it just predict the real word.



CONCLUSION

So here, The result of experiment and the expectations are nearly same. I have trained this model with just positive example. And I think its upto 90% efficient. Average time to process a word is less than 1 millisecond. Further if this model need to be more accurate then we have to add more negative example to it. Now this predictor basically works on human physiology. If I add priority of words according to their regular use it will be a more powerful engine to predict

90%
Accuracy



99.9%
Accuracy

Negative Example:

Reference

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