

Intelligent Infrastructure Designer (IID)

Problem Statement

AWS Services are growing at a very rapid pace where every quarter newer service is getting added. Even for similar use cases there are multiple services. Though it gives engineers lots of option, it sometimes creates a situation where an engineer is unaware of existing service.

Proposal

Intelligent Infrastructure Designer constantly learns about new Services and it's use cases from AWS Services FAQ's . With these learnings it will help and assists Engineers to design infrastructures.

The current scope is to begin with the Q/A kind of Interface, where we will ask IID some basic use case questions and it will rank top 5 services with the percentage match.

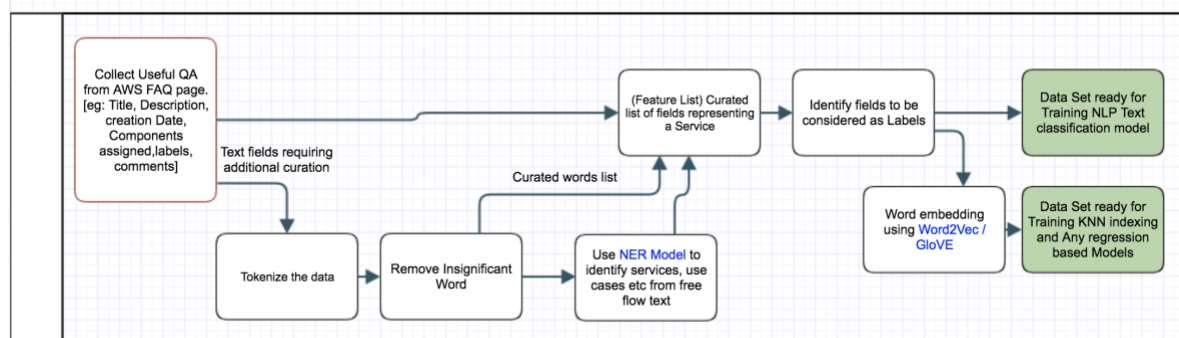
For Example: -

User: "Hey IID I need to store my data. It has to be highly scalable and available. My data is unstructured "

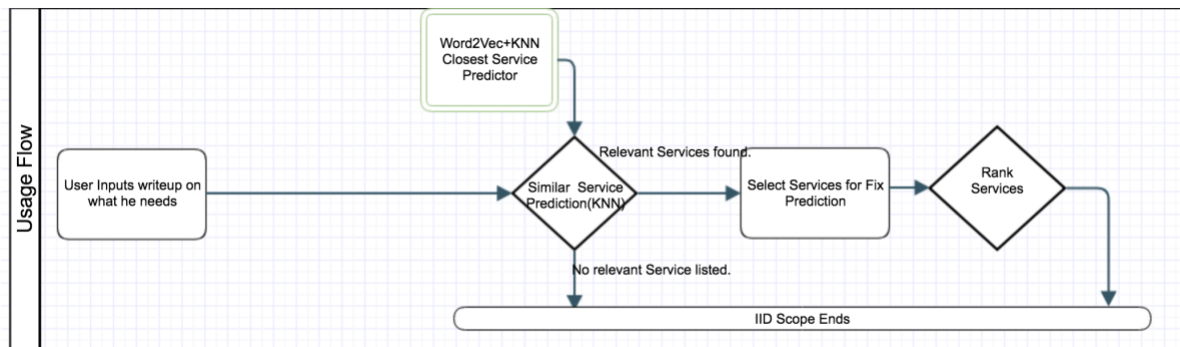
IID: "Sure Here are suggestions: 1) DynamoDB 99.9% match 2) RDS (80%)"

How it works?

Knowledge Base Creation Pipeline



Module Usage Flow



Requirements

Tasks	Priority
Data Collection : Collecting data from various FAQ from AWS Documentation through scraping and tagging it to that particular service	P0
Extracting Useful data : Feeding the whole into model will reduce the accuracy rate because of more frequent insignificant English words like 'the, a, for , is' etc.. In this step, using text analysis tools like n-grams (we will use till trigram) and TF-IDF, we will extract list of words and phrases (bi/trigrams) that are important	P0
Data Transformation : Converting data into vectors using various libraries such as Word2Vec or Glove	P0
Training Model for Similarity Checks and Ranking : We will be using some algorithm possibly KNN to train the model to have all the similar wordings together and create a ranking system out of it	P0
Usage Flow : Cleaning User Input removing unnecessary wordings and subjecting it to the ranking System. Recording the accuracy trained Models are giving	P0
UI : A basic User Interface for User Interaction	P1

