Learning and Exploring

WEEK-1

1.)In the first week started exploring python,django,mongodb and unit testing in python.

2.)Python is completed and took the idea and workflow of django and mongodb.

* Model view template in django,
* How it stored data,JSON/BSON,insert update delete.

3.)Explored the product and project Incare(looked at the staging)

4.)looked at the code base and repositories what is helper,where is all the business logic written

WEEK-2

1.)Project was given so started exploring things on that.

2.)Started learning and researching about NLP and its libraries and other different things.

* tokenizing,POS tagging,parsing,regular,expressions,lemmatization,stemming
* Dialogflow,tensorflow,bert,spacy

3.)Read some research papers to get the idea of the algorithms which involves various algos like use of TF-IDF weighting ,use of annie and rapier.

4.)explored concepts of machine learning to get the idea of it.

* Regression
* Clustering

WEEK-3

1.)Came up with my own 3 approaches.

a.)1st approach:Count the number of occurrences of stored triggering words and select the particular sentence with count > threshold.After that, map those sentences according to given functions.

* Use of nltk library to sentence tokenize and store bag of words.
* Challenges faced were mainly in mapping the sentence to a particular functions
* The problem with the approach is that it is very static and the model will not learn itself in time it will just run the same things on different datasets.

b.)2nd approach:using nltk libraries and machine learning algorithms to solve the problem.

a. Lexical features

* Tokenizer
* Spell correction

b. Syntactic Features

* POS - Temporal expression tagging (sequence, duration and range) & POS tagging
* Syntactic pattern - Look for past tense tag (eg., VBD, VBN, etc.,) and ignore them as they are past events

c. Semantic Features

* Synonymy – from NLTK WordNet – to retrieve words that are synonymous to required events (Marriage, Birthday, Meeting, Anniversary, Seminar)
* Named Entity recognition to find location of the event
* For the time of the event,regular expressions and DateTime is used.

Since,it will be fully fledged model so there it will require large files.

c.)3rd approach:using a 3rd party API which is dialog flow.Training the model and then importing it on our python modules.

* Problem with this approach is training of the model is very static because it is generally used as a chat bot so training it for every message.

NOTE: working simultaneously in 2nd and 3rd approach because 1st one is a naive solution and wanted some improved strategy.