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| STAGE 1: DESIGN DOCUMENT |
| FX Problem - Design Document |
| Innovation Hack! |
|  |
| **TEAM:** One man Army :P |
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**Overview**

This project aims to support forex business using data available on public web domain using NLP and web-scraping. A set of most frequently appearing *keywords* are used as feature set. The dataset is generated for each of the entry given in excel sheet (problem statement) using web search APIs and each link is scraped for data within specified HTML tags. The presence of the keyword in the data, is considered as *y* = 1 or positive case, after processing for its presence in majority of the links crawled by search engine. Once the dataset is ready, Naïve Bayes modeling is performed. This model is used to predict the probability to determine a **potential FX customer**. An intuitive GUI is provided for this project. Complete project is developed in Python 2.7. This multi-threaded tool provides complete solution to the forex problem.

Design Document is uploaded in git repository/Stage 1 Documents/FX Problem.pdf

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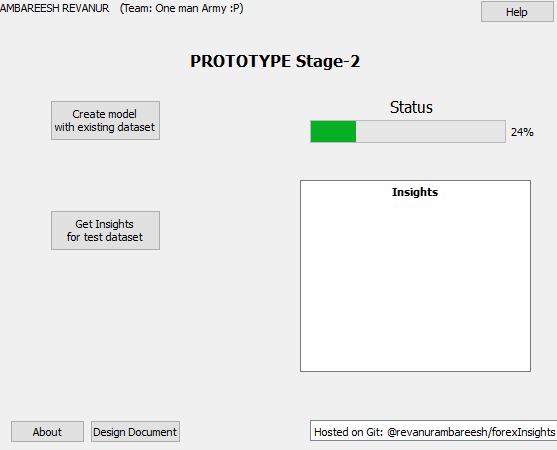


Figure : Stage 2 Prototype GUI

# Introduction

## Scope

This document gives a complete picture of the algorithm, code, folder structure and also some of the papers referred for this project.

# Tools and Technological Approach

## Python

### Google Custom Search API

Responds in JSON

### Scrapy

Limit is not imposed as DEPTH\_LIMIT = 0 by default

### RAKE (Rapid Automatic Keyword Extractor)

### Qt

### Scikit

# Feature Selection

## Justification of feature selection

# My solution: Algorithm

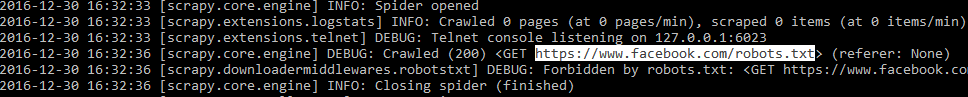
## Project architecture

# Code analysis

## Demonstration

# Other features

* Changing defining words may improve results.
* This project uses Scrapy 1.3.0 which respects *robots.txt*.



# Results

# Future scope

# Publication references

### About Me: AMBAREESH REVANUR

I am currently pursuing B.E. degree 3rd year, CSE at R. V. College of Engineering. I had obtained CET rank of 46 out of 0.1M competitors. I have closely worked with both industries and academia to solve real world, societal and business problems using technological solution.

At R&D labs of CSE Dept of RVCE, I developed a Textile image processing tool with C#.NET which is now used by about 100 weavers. Also, I have worked on challenging computer vision problems like Underwater Object Tracking using machine learning and published some of my work in conferences (using ML and CV).

At Siemens Healthcare Pvt Ltd, I have worked on an internal security tool called Security Vulnerability Monitoring (SVM) Tool. SVM automates vulnerability monitoring for many of the Syngo products (Core Siemens HC medical system) and provides a robust solution to protection of their product against vulnerabilities of the code.

In my free time, I compete and participate in Hackathons. I am an active member of IEEE Society. I have helped Team Chimera, RVCE, build web-interface and website.

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