WEB PHISHING DETECTION

A PROJECT REPORT

Submitted by

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CHAPTER 1

INTRODUCTION

1.1 Project Overview:

PhisherFind is a website which is used to detect phishing sites to improve the customer's sense of safety whenever he/she attempts to provide any sensitive information to a site. Also, by which people won't access them which will reduce the revenue of malicious site owners. This application can be accessed online without paying instead, can be accessed via any browser of the customer's choice to detect any site with high accuracy. This system uses machine learning algorithm which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy.

The design and implementation of a comprehensive web phishing detection system instils a cyber security culture which prevents the need for the deployment of targeted anti-phishing solutions in a corporate to meet industry's compliance obligations.

1.2 Purpose:

Web phishing is a threat in various aspects of security on the internet, which might involve scams and private information disclosure. Some of the common threats of web phishing are:

- Attempt to fraudulently solicit personal information from an individual or organization.
- Attempt to deliver malicious software by posing as a trustworthy organization or entity.
- Installing those malwares infects the data that cause a data breach or even nature's forces that takes down your company's data headquarters, disrupting access.

For this purpose, the objective of our project involves building an efficient and intelligent system to detect such websites by applying a machine-learning algorithm which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy and as a result of which whenever a user makes a transaction online and makes payment through an e-banking website our system will use a data mining algorithm to detect whether the e-banking website is a phishing website or not.

CHAPTER 2

LITERATURE SURVEY

2.1 Existing problem:

There are phishing detection sites out in the web. But they charge users after a limit of usage. Most of them are built on a clean set of features. We have carefully analysed and identified several factors that could be used to detect a phishing site. These factors fall under the categories of address bar-based features, domain-based features, HTML & JavaScript based features. Using these features, we build an intelligent system which can identify a phishing site with high accuracy and efficiency. It is also an open-source website which will be easily accessible to all users.

2.2 References:

- https://en.wikipedia.org/wiki/Web_service.

[1] Farashazillah Yahya,Ryan Isaac W Mahibol,Chong Kim Ying,Magnus Bin Anai,Sidney Allister Frankie,Eric Ling Nin Wei and Rio Guntur Utomo,"Detection of Phising Websites using Machine Learning Approaches",2021 International Conference on Data Science and Its Applications (ICoDSA).

[2] Prajakta Patil,Rashmi Rane and Madhuri Bhalekar,"Detecting spam and phishing mails using SVM and obfuscation URL detection algorithm",2017 International Conference on Inventive Systems and Control (ICISC).

[3] Gaurav Varshney, Manoj Mishra and Pradeep K. Atrey, "A phish detector using lightweight search features", Computers & Security, 2016.

[4] Antonio Hernández Dominguez and Walter Baluja García, "Updated Analysis of Detection Methods for Phishing Attacks", Futuristic Trends in Network and Communication Technologies, vol.1395, pp.56, 2021.

[5] Anggit Ferdita Nugraha and Luthfia Rahman, "Meta-Algorithms for Improving Classification Performance in the Web-phishing Detection Process", 2019 4th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE), pp.271-275, 2019.

[6] Yoga Pristyanto and Akhmad Dahlan, "Hybrid Resampling for Imbalanced Class Handling on Web Phishing Classification Dataset", 2019 4th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE), pp.401-406, 2019.

[7] Athulya A.A and Praveen K, "Towards the Detection of Phishing Attacks",2020 4th International Conference on Trends in Electronics and Informatics (ICOEI)(48184)

[8] Miyamoto D, Hazeyama H and Kadobayashi Y," An evaluation of machine learning-based methods for detection of phishing sites" , International Conference on Neural Information Processing pp. 539-546. Springer, Berlin, Heidelberg. (2008)

[9] K S Swarnalatha,K C Ramchandra,Kaushar Ansari,Love Ojha and Sanjok Subedi Sharma,"Real-Time Threat Intelligence-Block Phising Attacks",2021 IEEE International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS)

[10] Salvi Siddhi Ravindra, Shah Juhi Sanjay, Shaikh Nausheenbanu Ahmed Gulzar and Khodke Pallavi, "Phishing Website Detection Based on URL", International Journal of Scientific Research in Computer Science, Engineering and Information Technology, pp.589, 2021.

2.3 Problem statement definition:

Web Phishing is a form of cyber fraud, which implies that fraudsters use various means to impersonate the URL address and page content of a real website or use vulnerabilities in the server program of a real website to insert dangerous HTML code in certain pages of the site.

It is a threat in various aspects of security on the internet, which might involve scams and private information disclosure. Some of the common threats of web phishing are:

- Obtaining personal information from an individual or organization.
- Impersonating as a trustworthy organization to deliver malicious websites.

To avoid these threats, we build an efficient and intelligent system to detect such websites using machine-learning algorithms which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy.

This project can also be further extended by creating a browser extension or developing a GUI which takes the URL and analyses its nature to determine if it is a legitimate or a phishing website.

CHAPTER 3

IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas:

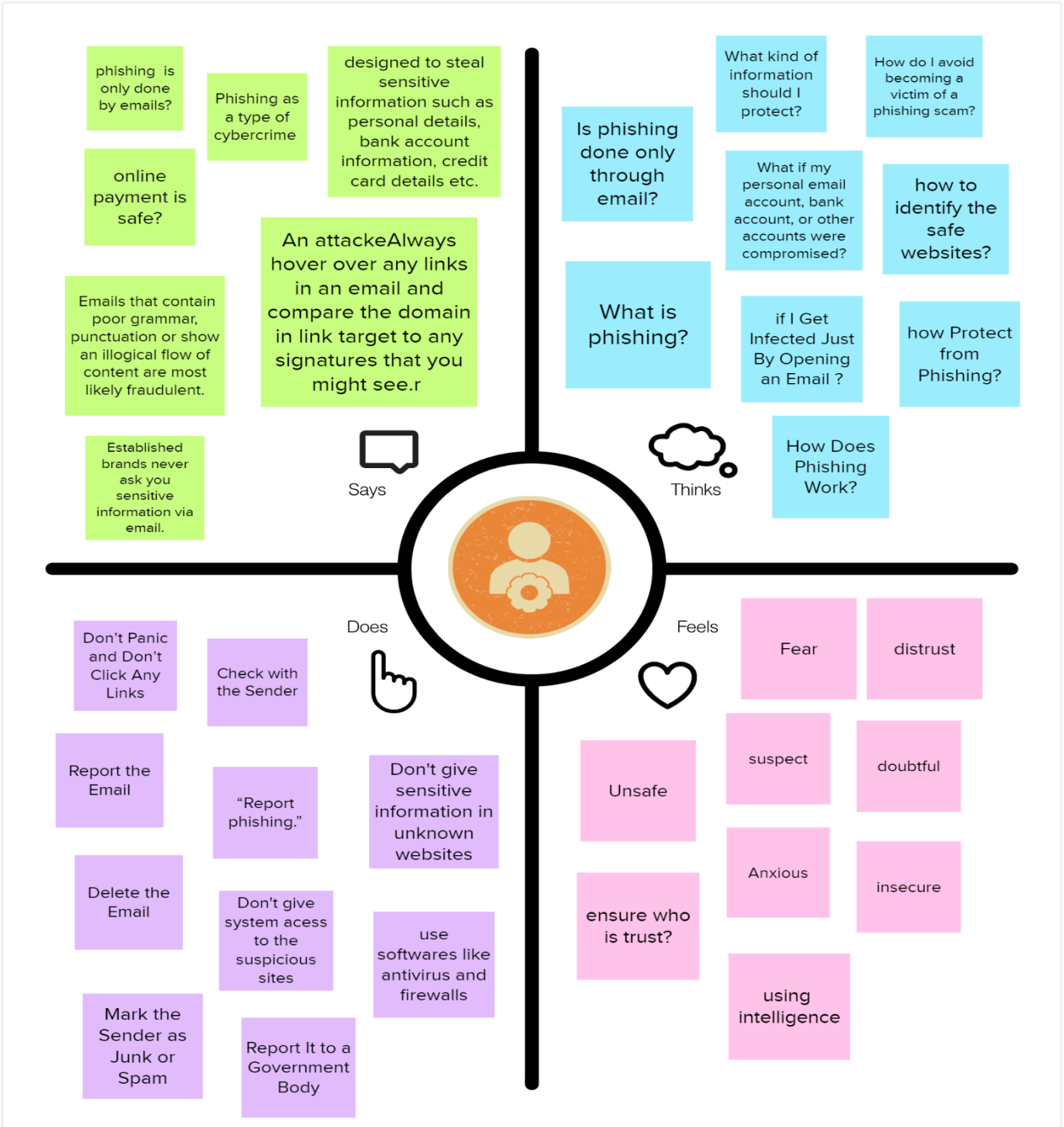
An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment. Empathy maps should be used throughout any UX process to establish common ground among team members and to understand and prioritize user needs. In user-centered design, empathy maps are best used from the very beginning of the design process.

Edit this template
Right-click to unlock

Empathy Map

Dive into the mind of the user for focused product development

Web-Phishing

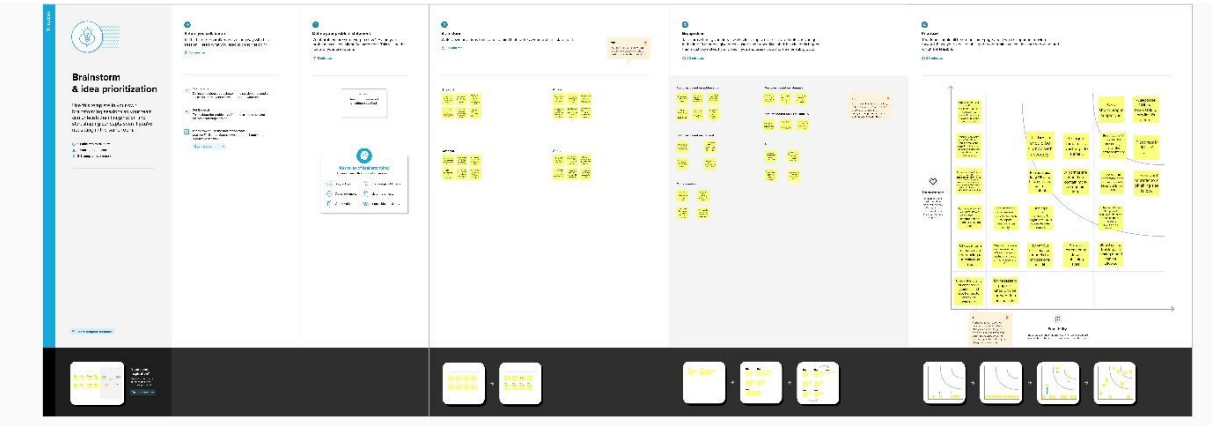


Share your feedback

3.2 Ideation & Brainstorming:

Ideation essentially refers to the whole creative process of coming up with and communicating new ideas. Ideation is innovative thinking, typically aimed at solving a problem or providing a more efficient means of doing or accomplishing something.

Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity.



3.3 **Proposed Solution:**

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Novel phishing approaches suffer low detection accuracy. The most common technique used is the blacklist-based method. It has become inefficient since registering a new domain has become easier. No comprehensive blacklist can ensure a perfect up-to-date database.
2.	Idea / Solution description	Our solution is to build an efficient and intelligent system to detect phishing sites by applying a machine learning algorithm which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy.
3.	Novelty / Uniqueness	We have carefully analysed and identified various factors that could be used to detect a phishing site. These factors fall under the categories of address bar based features, domain based features, HTML & Javascript based features. Using these features we can identify a phishing site with high accuracy.
4.	Social Impact / Customer Satisfaction	By using this application the customer has the sense of safety whenever he attempts to provide sensitive information to a site.
5.	Business Model (Revenue Model)	By generating leads we can improve our business model. By detecting the phishing sites, people won't access them which will reduce the revenue of malicious site owners.

6.	Scalability of the Solution	This application can be accessed online without paying. It can be accessed via any browser of your choice. It can detect any site with high accuracy.

3.4 Problem Solution fit

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioural patterns and recognize what would work and why.

Purpose:

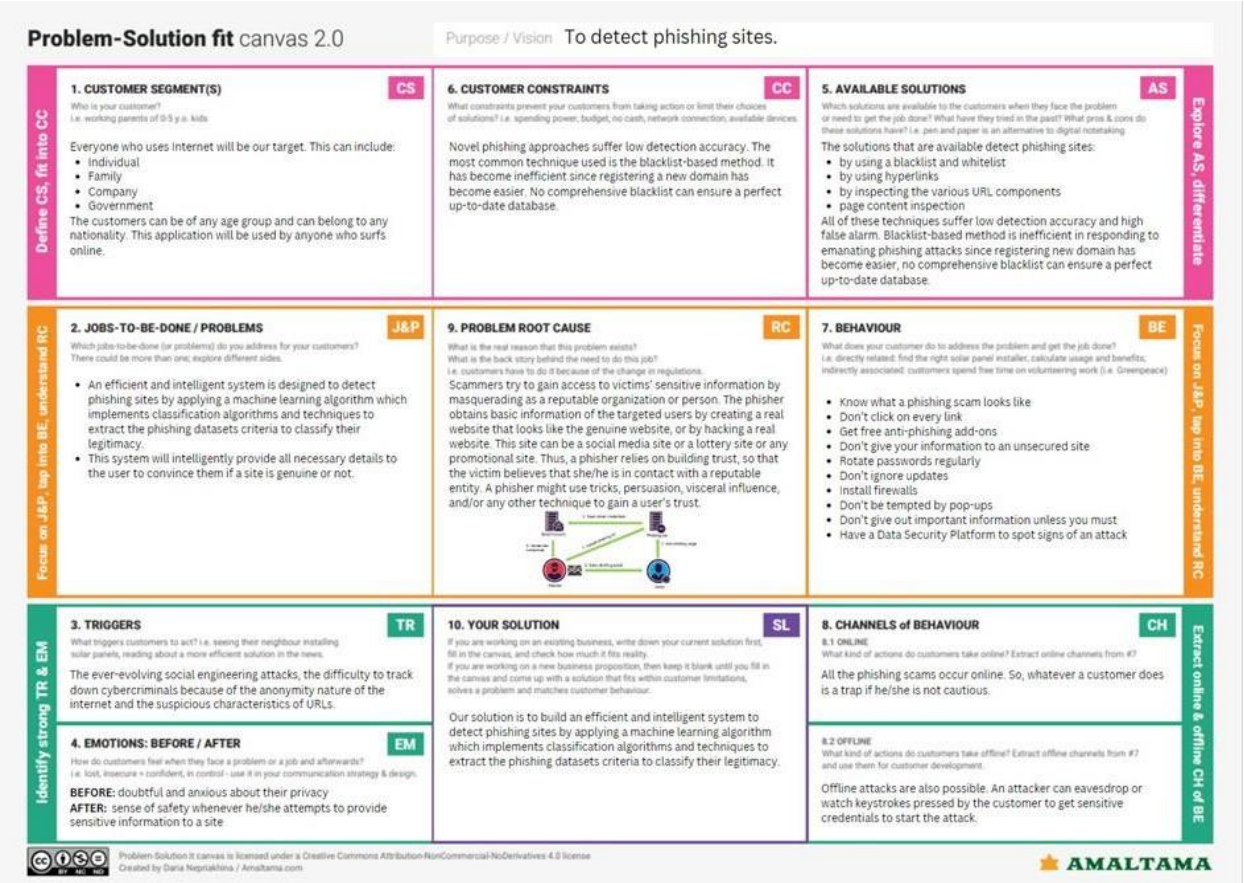
❑ Solve complex problems in a way that fits the state of your customers.

❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behaviour.

❑ Sharpen your communication and marketing strategy with the right triggers and messaging.

❑ Increase touchpoints with your company by finding the right problem-behaviour fit and building trust by solving frequent annoyances, or urgent or costly problems.

❑ Understand the existing situation in order to improve it for your target group.



CHAPTER 4

REQUIREMENT ANALYSIS

4.1 Functional requirements:

FR No.	Functional Requirement (Epic)	Description
FR-1	User Input	User inputs an URL in the form to check whether it is a malicious website.
FR-2	Website comparison	The model compares the given URL with the list of phishing URLs present in the database.
FR-3	Feature Extraction	If it is found none on the comparison it extracts the HTML and domain-based features from the URL.
FR-4	Prediction	The model predicts the URL using machine Learning algorithms such as Random Forest technique.
FR-5	Classifier	Model then sends the output to the classifier and produces the result.
FR-6	Announcement	The model finally displays whether the given URL is phishing or not.

4.2 Non-functional requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	It is an easy to use and access interface which results in greater efficiency.
NFR-2	Security	It is a secure website which protects the sensitive information of the user and prevents malicious attacks.
NFR-3	Reliability	The system can detect phishing websites with greater accuracy using ML algorithms.
NFR-4	Performance	The system produces responses within seconds and execution is faster.
NFR-5	Availability	Users can access the website via any browser from anywhere at any time.
NFR-6	Scalability	This application can be accessed online without paying. It can detect any web site with high accuracy.

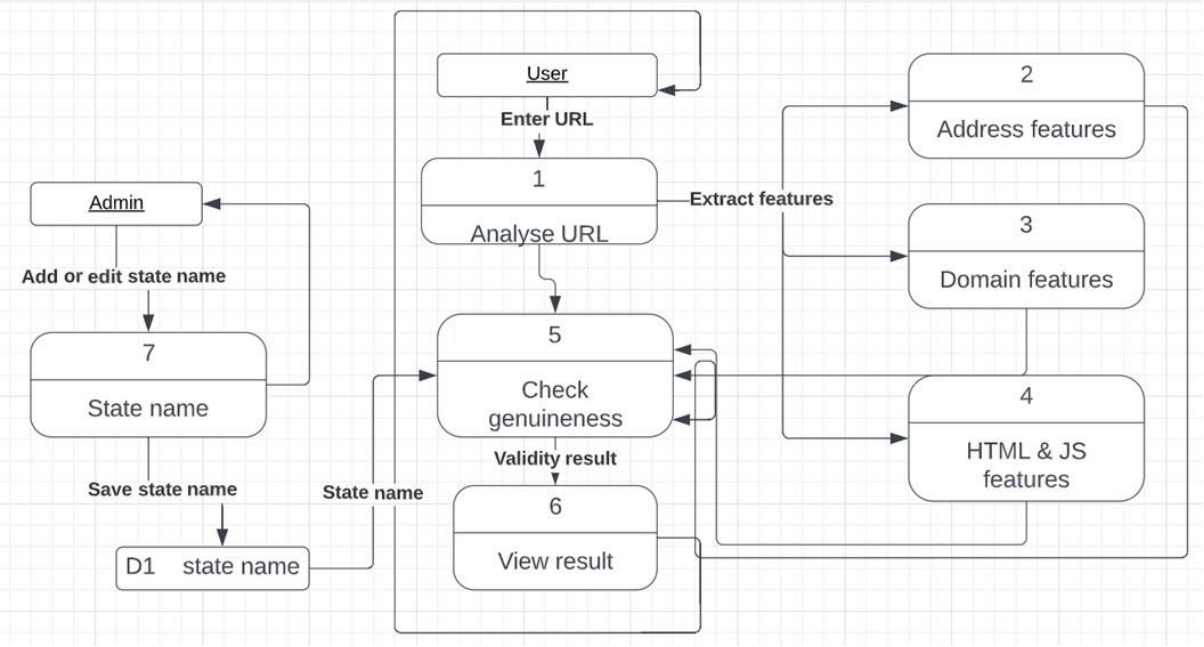
CHAPTER 5

PROJECT DESIGN

5.1 Data Flow diagram:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

DFD level 0:



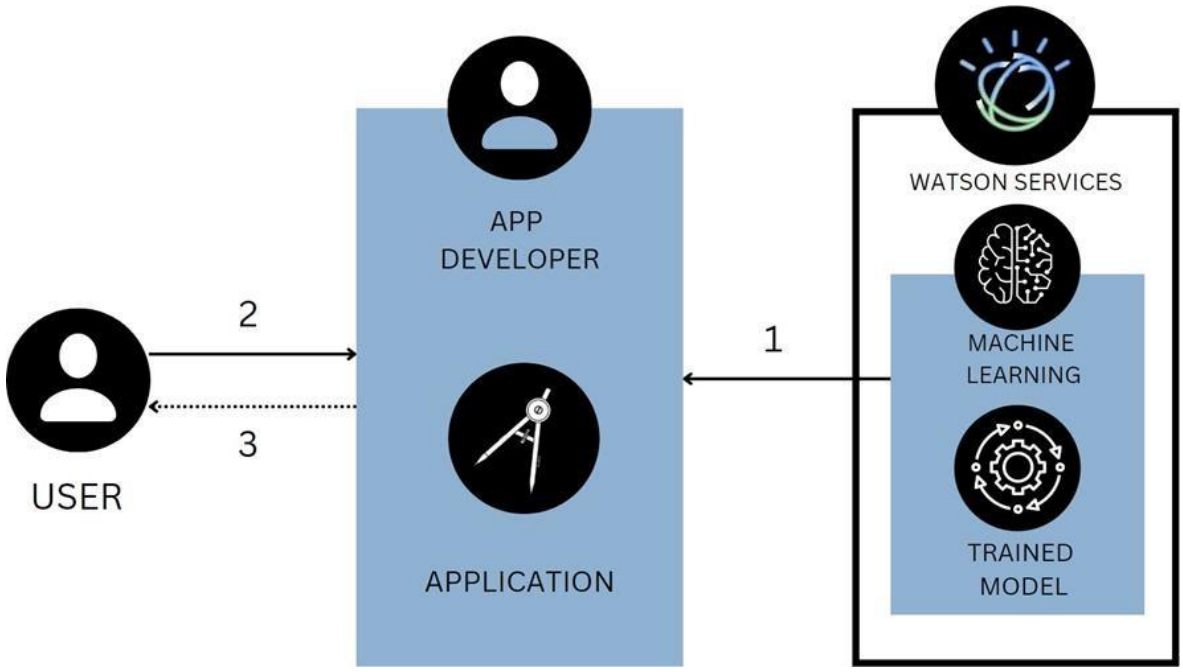
5.2 Solution & Technical Architecture:

SOLUTION:

Our solution is to build an efficient and intelligent system to detect phishing sites by applying a machine learning algorithm which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy by carefully analysing and identifying various factors that could be used to detect a phishing site. These factors fall under the categories of address bar-based features, domain-based features, HTML & JavaScript based features. Using these features, we can identify a phishing site with high accuracy.

TECHNICAL ARCHITECTURE:

Technical architecture which is also often referred to as application architecture includes the major components of the system, their relationships, and the contracts that define the interactions between the components. The goal of technical architects is to achieve all the business needs with an application that is optimized for both performance and security.

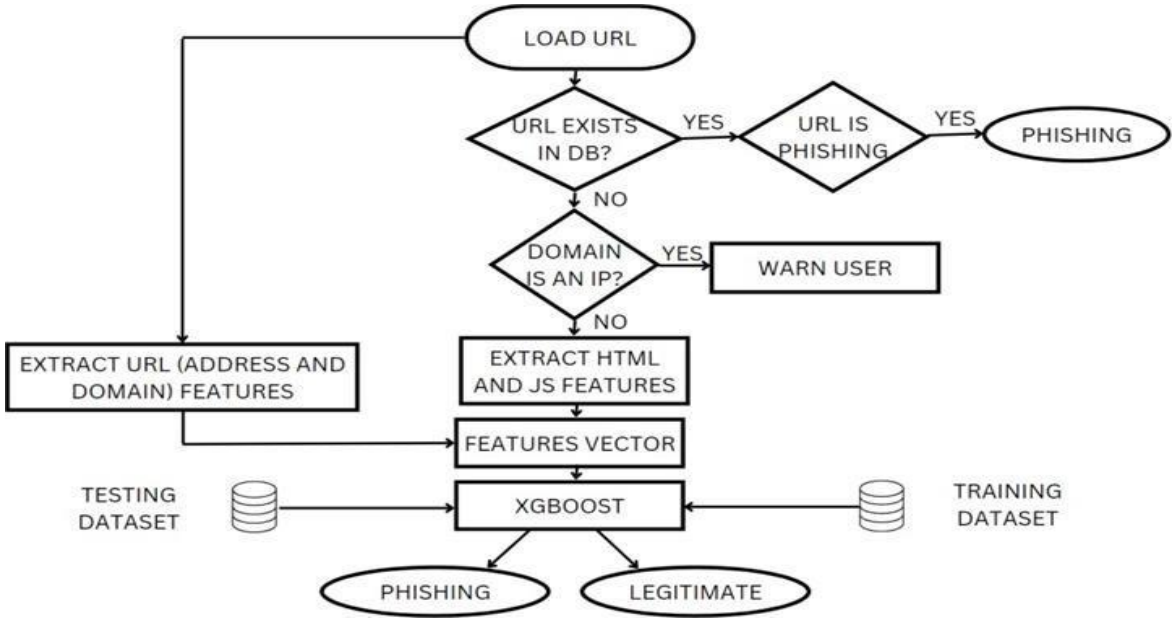


1. The application developer builds a Python-based app and deploys it.

2. The user enters the URL of a website in the application to check for its genuineness.

3. The user submits the URL through the web-based application and gets back the result.

4. The user makes a decision whether to proceed surfing in that website or move to another one.



5.3 User Stories:

User type	**Functional requirement (Epic)**	**User Story number**	**User story/task**	**Acceptance criteria**
Customer (web user)	Login	USN-1	As a user, I can navigate into the website.	I can access the page.
	Dashboard	USN-2	As a user, I will paste the URL that needs to be checked if it's a phishing website or not.	I can paste the URL in the textbox.
		USN-3	As a user, I can see the output.	I can see if it's a safe site.
Administrator		USN-4	If the new URL is found, I can add the new state into the database.	I can add the new URL.

CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation:

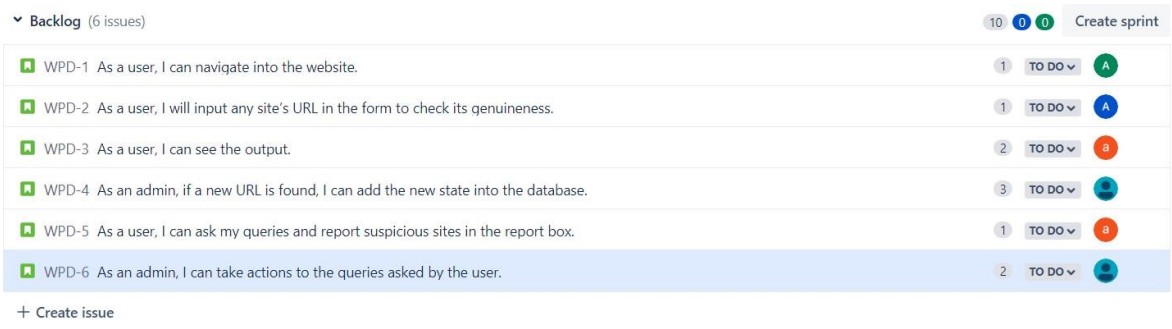
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-1	As a user, I can navigate into the website.	1	High	S.Kevin amalraj
Sprint-1	Dashboard	USN-2	As a user, I will input any site's URL in the form to check its genuinenes s.	1	High	N.karthikeyan
Sprint-1		USN-3	As a user, I can see the output.	2	High	S.Kevin amalraj
Sprint-2	Backend	USN-4	As an admin, if a new URL is found, I can add the new state into the database.	3	Medium	N.Karthikeyan
Sprint-3	Report	USN-5	As a user, I can ask my queries and report suspicious sites in the report box.	1	Low	S.Kevin amalraj
Sprint-4		USN-6	As an admin, I can take actions to the queries asked by the user.	2	Low	N.Karthikeyan

6.2 Sprint Delivery Schedule:

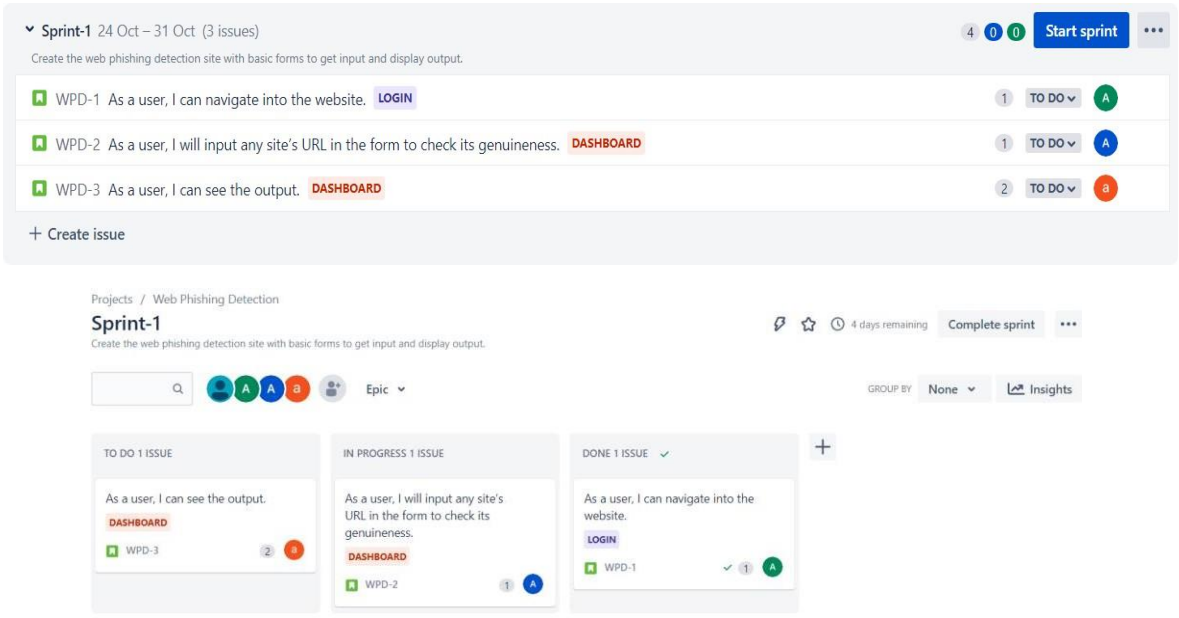
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

6.3 Reports from JIRA:

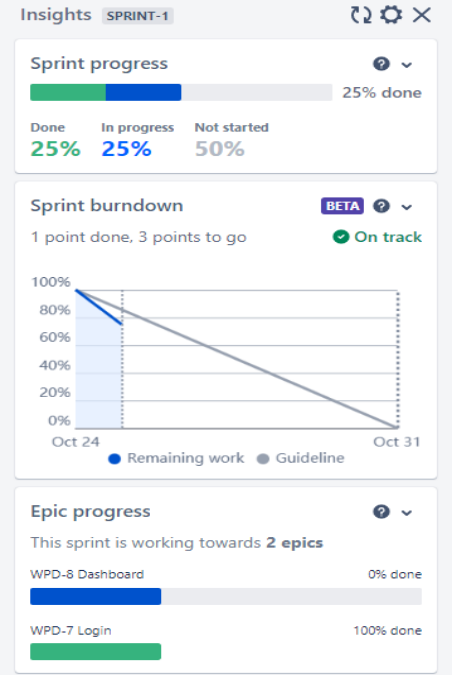
Backlog:



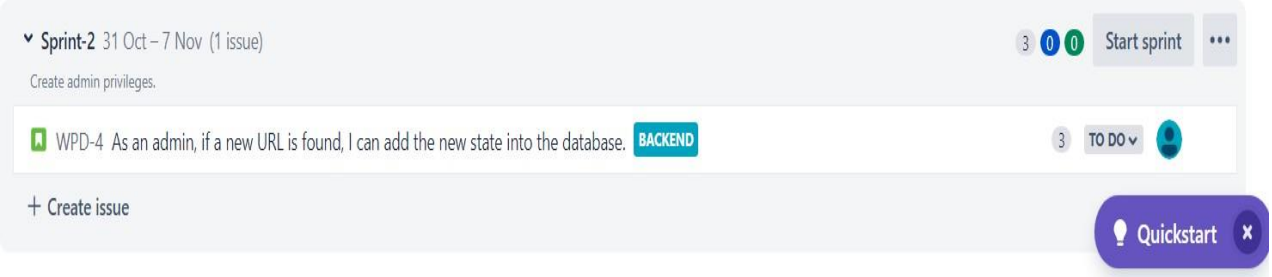
Sprint 1:



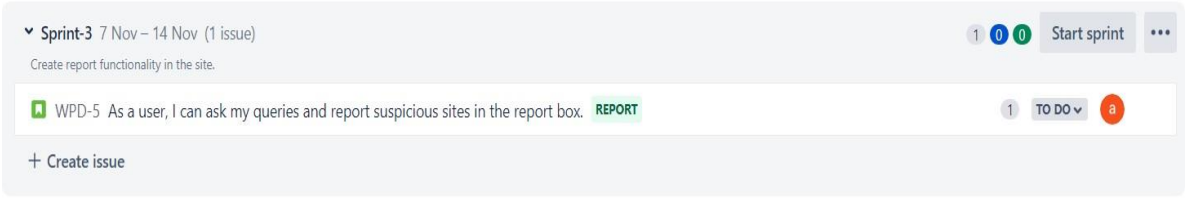
Insights:



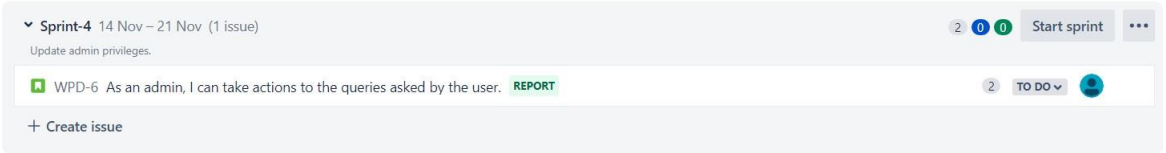
Sprint 2:



Sprint 3:



Sprint 4:



CHAPTER 7

CODING & SOLUTIONING

7.1 Feature 1 – Classification of URL:

The primary feature of this project is to classify the given URL as phishing or benign. Various classification algorithms are used to achieve this.

7.1.1 Methodology:

7.1.1.1 Data collection:

URL features of legitimate websites and phishing websites were collected. The data set consists of total 11,055 URLs which include 6,157 legitimate URLs and 4,898 phishing URLs. Legitimate URLs are labelled as “1” and phishing URLs are labelled as “-1”. The features that are present in the data set include:

- IP Address in URL
- Length of URL
- Using URL Shortening Services
- "@" Symbol in URL
- Redirection "//" in URL
- Prefix or Suffix "-" in Domain
- Having Sub Domain
- Length of Domain Registration
- Favicon
- Port Number
- HTTPS Token
- Request URL
- URL of Anchor
- Links in Tags
- SFH
- Email Submission
- Abnormal URL
- Status Bar Customization (on mouse over)
- Disabling Right Click
- Presence of Popup Window
- IFrame Redirection
- Age of Domain
- DNS Record
- Web Traffic
- Page Rank
- Google Index
- Links pointing to the page
- Statistical Report
- Result

Using IBM Cloud Storage this data is accessed throughout the project. The code written below is used to import the dataset.

```
import os, types

import pandas as pd

from botocore.client import Config

import ibm_boto3

def __iter__(self): return 0

# The following code accesses a file in your IBM Cloud Object
Storage. It includes your credentials.

# You might want to remove those credentials before you share the
notebook.

cos_client = ibm_boto3.client(service_name='s3',

    ibm_api_key_id='',

    ibm_auth_endpoint="https://iam.cloud.ibm.com/oidc/token",

    config=Config(signature_version='oauth'),

    endpoint_url='https://s3.private.us.cloud-object-
storage.appdomain.cloud')


bucket = 'webphishingdetection-donotdelete-pr-icmjtvktnzli2s'

object_key = 'dataset_website.csv'


body = cos_client.get_object(Bucket=bucket,Key=object_key)['Body']

# add missing_iter_method, so pandas accepts body as file-like
object

if not hasattr(body, "__iter__"): body.__iter__= types.MethodType(
__iter__, body )


data0 = pd.read_csv(body)

data0.head()
```

7.1.1.2 Data pre-processing and Exploratory Data Analysis:

Few plots and graphs were drawn to find how the data is distributed and the how features are related to each other.

Univariate analysis:

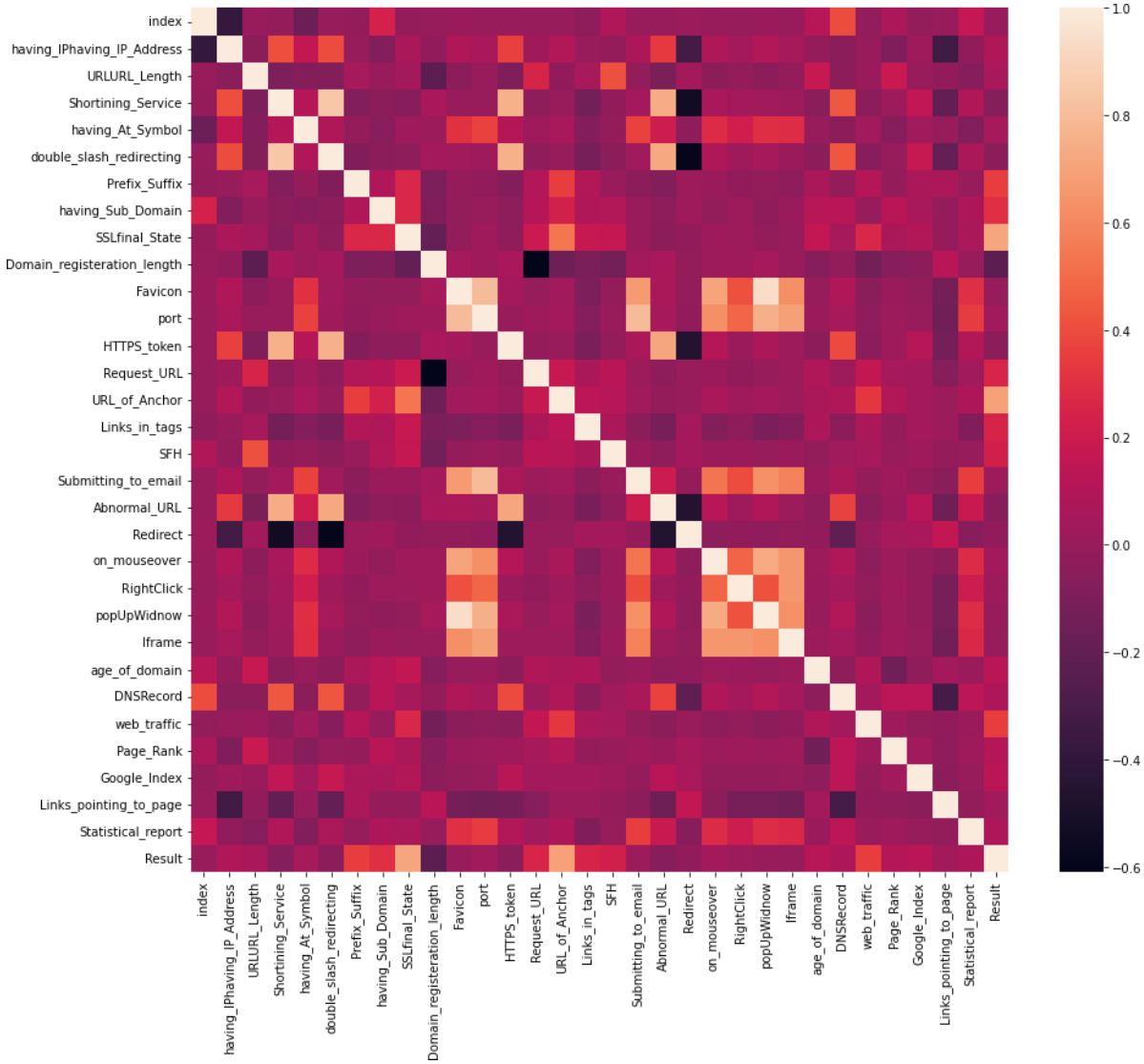
Univariate analysis provides an understanding in the characteristics of each feature in the data set. Different characteristics are computed for numerical and categorical data. For the numerical features characteristics are standard deviation, skewness, kurtosis, percentile, interquartile range (IQR) and range. For the categorical features characteristics are count, cardinality, list of unique values, top and freq.

```
data0.describe()
```

	index	having_IPhaving_IP_Address	URLURL_Length	Shortining_Service	having_At_Symbol	double_slash_redirecting	Prefix_Suffix	having_Sub_Domain	SSLfinal_State	Domain_registeration_length	...	popUpWidnow	Iframe	age_of_domain	DNSRecord	web_traffic	Page_Rank	Google_I
count	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	...	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.000000	11055.00
mean	5528.000000	0.313795	0.633198	0.738761	0.700588	0.741474	0.734962	0.063953	0.250927	-0.336771	...	0.613188	0.816915	0.061929	0.371134	0.287291	-0.483673	0.72
std	3191.447947	0.949534	0.766095	0.673998	0.713598	0.671011	0.678139	0.817518	0.911892	0.941629	...	0.789818	0.576784	0.998168	0.926209	0.827733	0.875289	0.69
min	1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	...	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	-1.00
25%	2764.500000	-1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	-1.000000	1.000000	-1.000000	...	1.000000	1.000000	-1.000000	-1.000000	0.000000	-1.000000	1.00
50%	5528.000000	1.000000	-1.000000	1.000000	1.000000	1.000000	-1.000000	0.000000	1.000000	1.000000	...	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
75%	8291.500000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	...	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00
max	11055.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	...	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.00

Bivariate analysis:

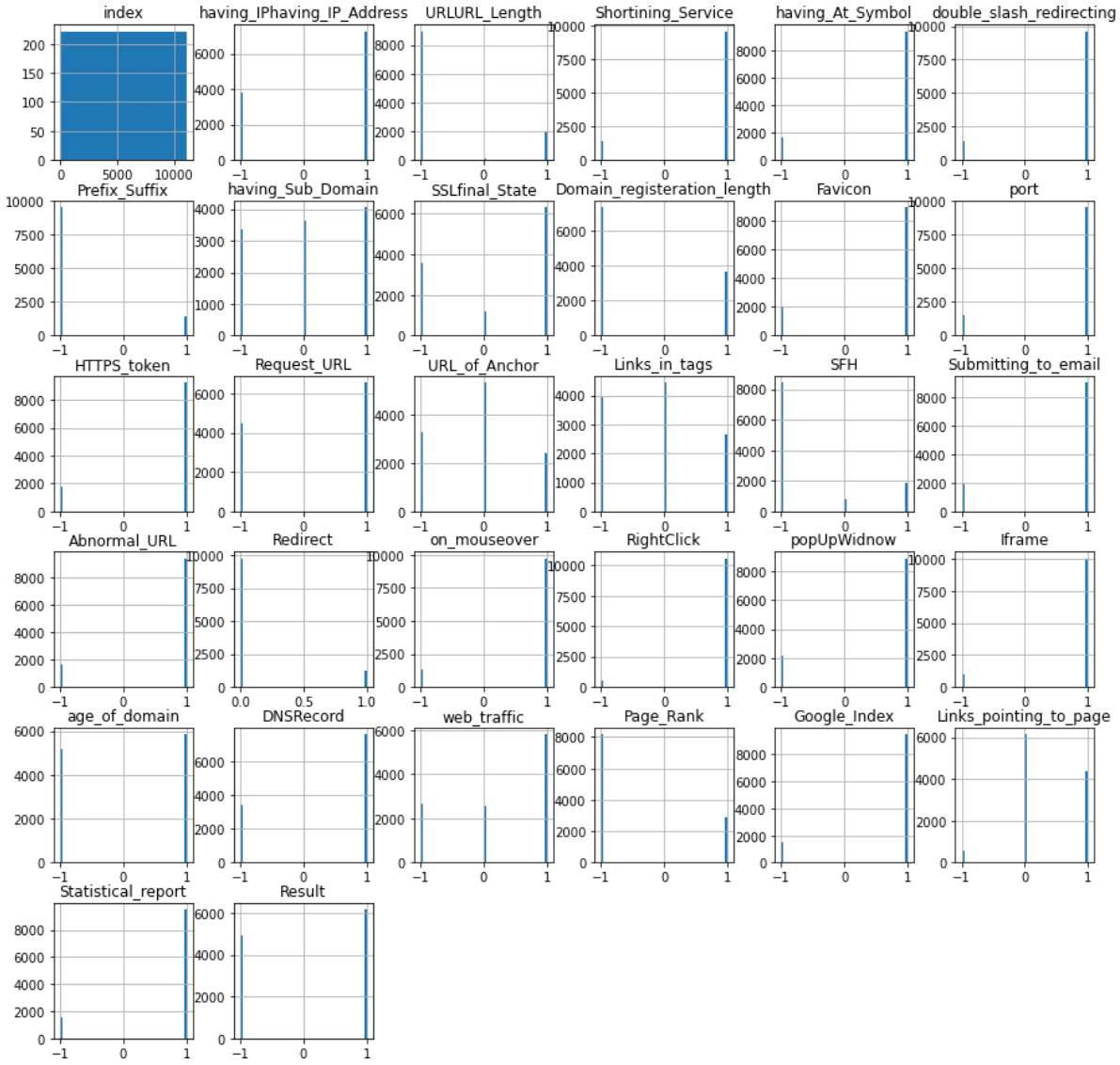
```
plt.figure(figsize=(15,13))
sns.heatmap(data0.corr())
plt.show()
```



From this correlation matrix, it is evident that there is no correlation with many features. So, it is crucial to eliminate these features.

Multivariate analysis:

```
data0.hist(bins = 50,figsize = (15,15))
plt.show()
```



From data distribution graph and correlation matrix, we can conclude that the following features do not have much impact on the result:

- having_Sub_Domain
- Domain_registeration_length
- Favicon
- Request_URL
- URL_of_Anchor

- Links_in_tags
- Submitting_to_email
- Redirect
- web_traffic
- Page_Rank
- Google_Index
- Links_pointing_to_page

All the above features will not be included in further processing.

```
#Removing the features which do not have much impact on Result
data=data0.iloc[:,[1,2,3,4,5,6,12,20,21,22,23,24,25,30,31]]
data.head()
```

Checking for null values:

This dataset doesn't contain any null values.

```
#checking the data for null or missing values
data.isnull().sum()
```

```
having_IPhaving_IP_Address    0
URLURL_Length                 0
Shortining_Service            0
having_At_Symbol              0
double_slash_redirecting      0
Prefix_Suffix                 0
HTTPS_token                   0
on_mouseover                  0
RightClick                    0
popUpWidnow                   0
Iframe                        0
age_of_domain                 0
DNSRecord                     0
Statistical_report            0
Result                        0
dtype: int64
```

7.1.1.3 Model building:

From the dataset above, it is clear that this is a supervised machine learning task. There are two major types of supervised machine learning problems, called classification and regression.

This data set comes under classification problem, as the input URL is classified as phishing (-1) or legitimate (1). The supervised machine learning models (classification) considered to train the dataset in this notebook are:

- XGBoost
- Decision Tree
- Random Forest
- Support Vector Machines

XGBoost:

XGBoost is one of the most popular machine learning algorithms these days. XGBoost stands for eXtreme Gradient Boosting. Regardless of the type of prediction task at hand; regression or classification. XGBoost is an implementation of gradient boosted decision trees designed for speed and performance.

```
#XGBoost Classification model
from xgboost import XGBClassifier


import warnings
warnings.filterwarnings("ignore", category=UserWarning)


# instantiate the model
xgb = XGBClassifier(learning_rate=0.4,max_depth=7,verbosity = 0)
#fit the model
xgb.fit(X_train, y_train)
#predicting the target value from the model for the samples
y_test_xgb = xgb.predict(X_test)
y_train_xgb = xgb.predict(X_train)
#computing the accuracy of the model performance
acc_train_xgb = accuracy_score(y_train,y_train_xgb)
acc_test_xgb = accuracy_score(y_test,y_test_xgb)


print("XGBoost: Accuracy on training Data:
{:.3f}".format(acc_train_xgb))
print("XGBoost : Accuracy on test Data: {:.3f}".format(acc_test_xgb))
```

Decision Tree Classifier:

Decision trees are widely used models for classification and regression tasks. Essentially, they learn a hierarchy of if/else questions, leading to a decision. Learning a decision tree means learning the sequence of if/else questions that gets us to the true answer most quickly.

In the machine learning setting, these questions are called tests (not to be confused with the test set, which is the data we use to test to see how generalizable our model is). To build a tree, the algorithm searches over all possible tests and finds the one that is most informative about the target variable.

```
# Decision Tree model
from sklearn.tree import DecisionTreeClassifier


# instantiate the model
tree = DecisionTreeClassifier(max_depth = 5)
# fit the model
tree.fit(X_train, y_train)
#predicting the target value from the model for the samples
y_test_tree = tree.predict(X_test)
y_train_tree = tree.predict(X_train)
#computing the accuracy of the model performance
acc_train_tree = accuracy_score(y_train,y_train_tree)
acc_test_tree = accuracy_score(y_test,y_test_tree)


print("Decision Tree: Accuracy on training Data:
{:.3f}".format(acc_train_tree))
print("Decision Tree: Accuracy on test Data:
{:.3f}".format(acc_test_tree))
```

Random Forest Classifier:

Random forests for regression and classification are currently among the most widely used machine learning methods. A random forest is essentially a collection of decision trees, where each tree is slightly different from the others. The idea behind random forests is that each tree might do a relatively good job of predicting, but will likely overfit on part of the data.

If we build many trees, all of which work well and overfit in different ways, we can reduce the amount of overfitting by averaging their results. To build a random forest model, you need to decide on the number of trees to build (the n_estimators parameter of RandomForestRegressor or RandomForestClassifier). They are very powerful, often work well without heavy tuning of the parameters, and don't require scaling of the data.

```
# Random Forest model
from sklearn.ensemble import RandomForestClassifier
# instantiate the model
forest = RandomForestClassifier(max_depth=5)
# fit the model
forest.fit(X_train, y_train)
#predicting the target value from the model for the samples
y_test_forest = forest.predict(X_test)
y_train_forest = forest.predict(X_train)
#computing the accuracy of the model performance
acc_train_forest = accuracy_score(y_train,y_train_forest)
acc_test_forest = accuracy_score(y_test,y_test_forest)


print("Random forest: Accuracy on training Data:
{:.3f}".format(acc_train_forest))
print("Random forest: Accuracy on test Data:
{:.3f}".format(acc_test_forest))
```

Support Vector Machines:

In machine learning, support-vector machines (SVMs, also support-vector networks) are supervised learning models with associated learning algorithms that analyse data used for classification and regression analysis. Given a set of training examples, each marked as belonging to one or the other of two categories, an SVM training algorithm builds a model that assigns new examples to one category or the other, making it a non-probabilistic binary linear classifier.

```
#Support vector machine model
from sklearn.svm import SVC
# instantiate the model
svm = SVC(kernel='linear', C=1.0, random_state=12)
#fit the model
svm.fit(X_train, y_train)
#predicting the target value from the model for the samples
y_test_svm = svm.predict(X_test)
y_train_svm = svm.predict(X_train)
```

```
#computing the accuracy of the model performance
acc_train_svm = accuracy_score(y_train,y_train_svm)
acc_test_svm = accuracy_score(y_test,y_test_svm)

print("SVM: Accuracy on training Data: {:.3f}".format(acc_train_svm))
print("SVM : Accuracy on test Data: {:.3f}".format(acc_test_svm))
```

7.1.2 User interface:

The user opens the site and inputs a URL to check its legitimacy. Necessary features are extracted from this URL and predictions are made.

7.1.2.1 Feature extraction:

We will extract the 13 features that we used to train our model.

IP Address in URL:

Checks for the presence of IP address in the URL. URLs may have IP address instead of domain name. If an IP address is used as an alternative of the domain name in the URL, we can be sure that someone is trying to steal personal information with this URL.

If the domain part of URL has IP address, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def having_IPhaving_IP_Address(self):
        try:
            ipaddress.ip_address(self.url)
            return -1
        except:
            return 1
```

Length of URL:

Computes the length of the URL. Phishers can use long URL to hide the doubtful part in the address bar. In this project, if the length of the URL is greater than or equal 54 characters then the URL classified as phishing otherwise legitimate.

If the length of URL >= 54, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def URLURL_Length(self):
    if len(self.url) < 54:
      return 1
    else:
      return -1
```

Using URL Shortening Services:

URL shortening is a method on the “World Wide Web” in which a URL may be made considerably smaller in length and still lead to the required webpage. This is accomplished by means of an “HTTP Redirect” on a domain name that is short, which links to the webpage that has a long URL.

If the URL is using Shortening Services, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def Shortining_Service(self):
      shortening_services =
r"bit\.ly|goo\.gl|shorte\.st|go2l\.ink|x\.co|ow\.ly|t\.co|tinyurl|tr\.im|is\.gd|cli\.gs|" \
r"yfrog\.com|migre\.me|ff\.im|tiny\.cc|url4\.eu|twit\.ac|su\.pr|twurl\.nl|snipurl\.com|" \
r"short\.to|BudURL\.com|ping\.fm|post\.ly|Just\.as|bkite\.com|snipr\.com|fic\.kr|loopt\.
us|" \
r"doiop\.com|short\.ie|kl\.am|wp\.me|rubyurl\.com|om\.ly|to\.ly|bit\.do|t\.co|lnkd\.in|
db\.tt|" \
r"qr\.ae|adf\.ly|goo\.gl|bitly\.com|cur\.lv|tinyurl\.com|ow\.ly|bit\.ly|ity\.im|q\.gs|is\.gd|
" \
r"po\.st|bc\.vc|twitthis\.com|u\.to|j\.mp|buzurl\.com|cutt\.us|u\.bb|yourls\.org|x\.co|"
\
r"prettylinkpro\.com|scrnch\.me|filoops\.info|vzturl\.com|qr\.net|1url\.com|tweez\.me|v
\.gd|" \
                r"tr\.im|link\.zip\.net"
      match=re.search(shortening_services,self.url)
      if match:
         return -1
      else:
         return 1
```

"@" Symbol in URL:

Checks for the presence of '@' symbol in the URL. Using “@” symbol in the URL leads the browser to ignore everything preceding the “@” symbol and the real address often follows the “@” symbol.

If the URL has '@' symbol, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def having_At_Symbol(self):
      if "@" in self.url:
         return -1
      else:
return 1
```

Redirection "//" in URL:

Checks the presence of "//" in the URL. The existence of “//” within the URL path means that the user will be redirected to another website. The location of the “//” in URL is computed. We find that

if the URL starts with “HTTP”, that means the “//” should appear in the sixth position. However, if the URL employs “HTTPS” then the “//” should appear in seventh position.

If the "//" is anywhere in the URL apart from after the protocol, thee value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def double_slash_redirecting(self):
    pos = self.url.rfind('//')
    if pos > 6:
        if pos > 7:
            return -1
        else:
            return 1
    else:
        return 1
```

Prefix or Suffix "-" in Domain:

Checking the presence of '-' in the domain part of URL. The dash symbol is rarely used in legitimate URLs. Phishers tend to add prefixes or suffixes separated by (-) to the domain name so that users feel that they are dealing with a legitimate webpage.

If the URL has '-' symbol in the domain part of the URL, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def Prefix_Suffix(self):
    if '-' in urlparse(self.url).netloc:
        return -1
    else:
        return 1
```

HTTPS Token:

Checks for the presence of "http/https" in the domain part of the URL. The phishers may add the “HTTPS” token to the domain part of a URL in order to trick users.

If the URL has "http/https" in the domain part, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def HTTPS_token(self):
    domain = urlparse(self.url).netloc
    if 'https' in domain:
        return -1
    else:
        return 1
```

Status Bar Customization (on mouse over):

Phishers may use JavaScript to show a fake URL in the status bar to users. To extract this feature, we must dig-out the webpage source code, particularly the “onMouseOver” event, and check if it makes any changes on the status bar.

If the response is empty or onmouseover is found then, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def on_mouseover(self):
    try:
        if re.findall("", self.response.text):
            return -1
        else:
            return 1
    except:
        return -1
```

Disabling Right Click:

Phishers use JavaScript to disable the right-click function, so that users cannot view and save the webpage source code. This feature is treated exactly as “Using onMouseOver to hide the Link”. Nonetheless, for this feature, we will search for event “event.button==2” in the webpage source code and check if the right click is disabled.

If the response is empty or onmouseover is not found then, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def RightClick(self):
    if self.response == "":
        return -1
    else:
        if re.findall(r"event.button ?== ?2", self.response.text):
            return 1
        else:
            return -1
```

Presence of Popup Window:

Pop up windows are another option used by phishers to redirect users to other pages. They display attractive ads to lure the user to click the link. Nonetheless, for this feature, we will search for event “alert” in the webpage source code and check if it is present.

If the response is empty or alert is not found then, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def popUpWidnow(self):
    try:
      if re.findall(r"alert\(", self.response.text):
        return 1
      else:
        return -1
    except:
      return -1
```

IFrame Redirection:

IFrame is an HTML tag used to display an additional webpage into one that is currently shown. Phishers can make use of the “iframe” tag and make it invisible i.e. without frame borders. In this regard, phishers make use of the “frameBorder” attribute which causes the browser to render a visual delineation.

If the iframe is empty or repsonse is not found then, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
def Iframe(self):
    try:
      if re.findall(r"[<iframe>|<frameBorder>]", self.response.text):
        return 1
      else:
        return -1
    except:
      return -1
```

Age of Domain:

This feature can be extracted from WHOIS database. Most phishing websites live for a short period of time. The minimum age of the legitimate domain is considered to be 12 months for this project. Age here is nothing but different between creation and expiration time.

If age of domain > 12 months, the vlaue of this feature is -1 (phishing) else 1 (legitimate).

```
def age_of_domain(self):
    creation_date = self.domain_name.creation_date
    expiration_date = self.domain_name.expiration_date
    if (isinstance(creation_date,str) or isinstance(expiration_date,str)):
      try:
        creation_date = datetime.strptime(creation_date,'%Y-%m-%d')
        expiration_date = datetime.strptime(expiration_date,"%Y-%m-%d")
      except:
        return -1
    if ((expiration_date is None) or (creation_date is None)):
      return -1
    elif ((type(expiration_date) is list) or (type(creation_date) is list)):
```

```
    return -1
  else:
    ageofdomain = abs((expiration_date - creation_date).days)
    if ((ageofdomain/30) < 6):
      return -1
    else:
      return 1
```

DNS Record:

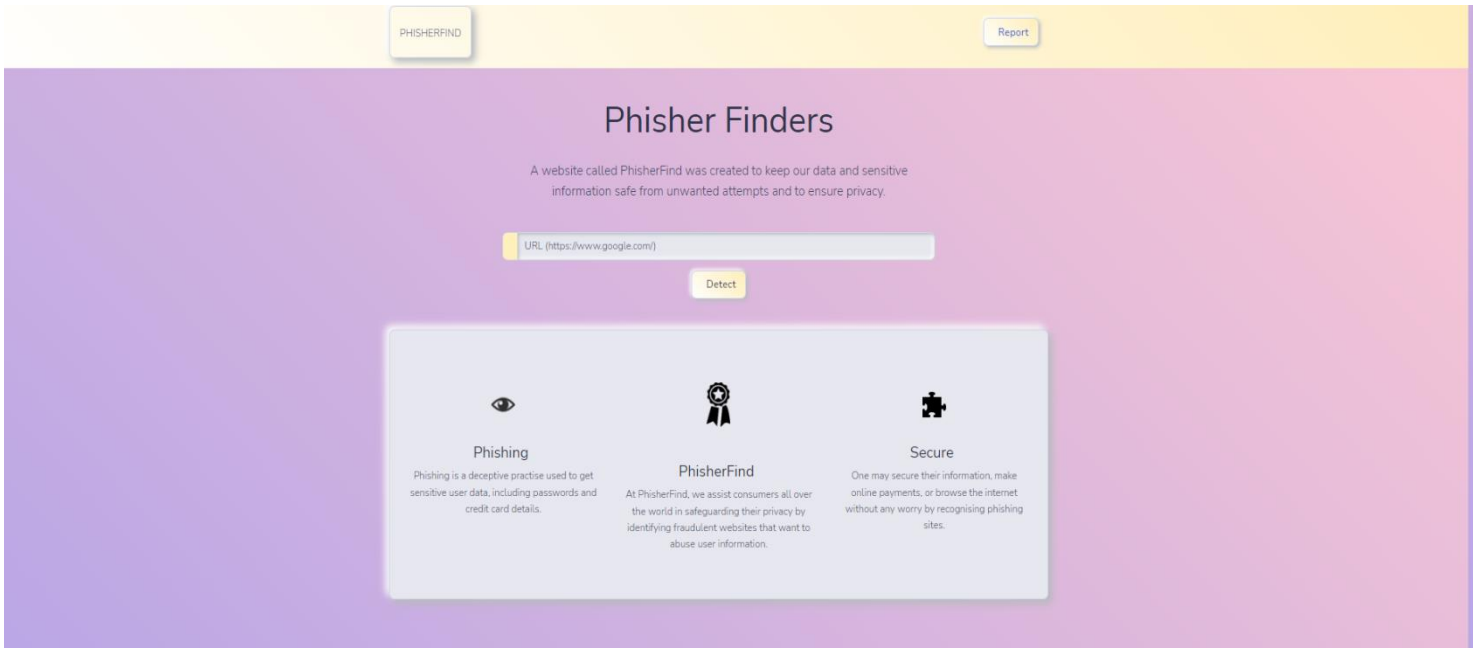
For phishing websites, either the claimed identity is not recognized by the WHOIS database or no records founded for the hostname.
If the DNS record is empty or not found then, the value assigned to this feature is -1 (phishing) or else 1 (legitimate).

```
dns = -1
try:
  self.domain_name = whois.whois(urlparse(url).netloc)
except:
  dns = 1
```

7.1.2.2 Dashboard:

The home page of our site “PhisherFind” contains all basic features of the site and a form to get input(URL) from the user.

Fig 7.1 Home page



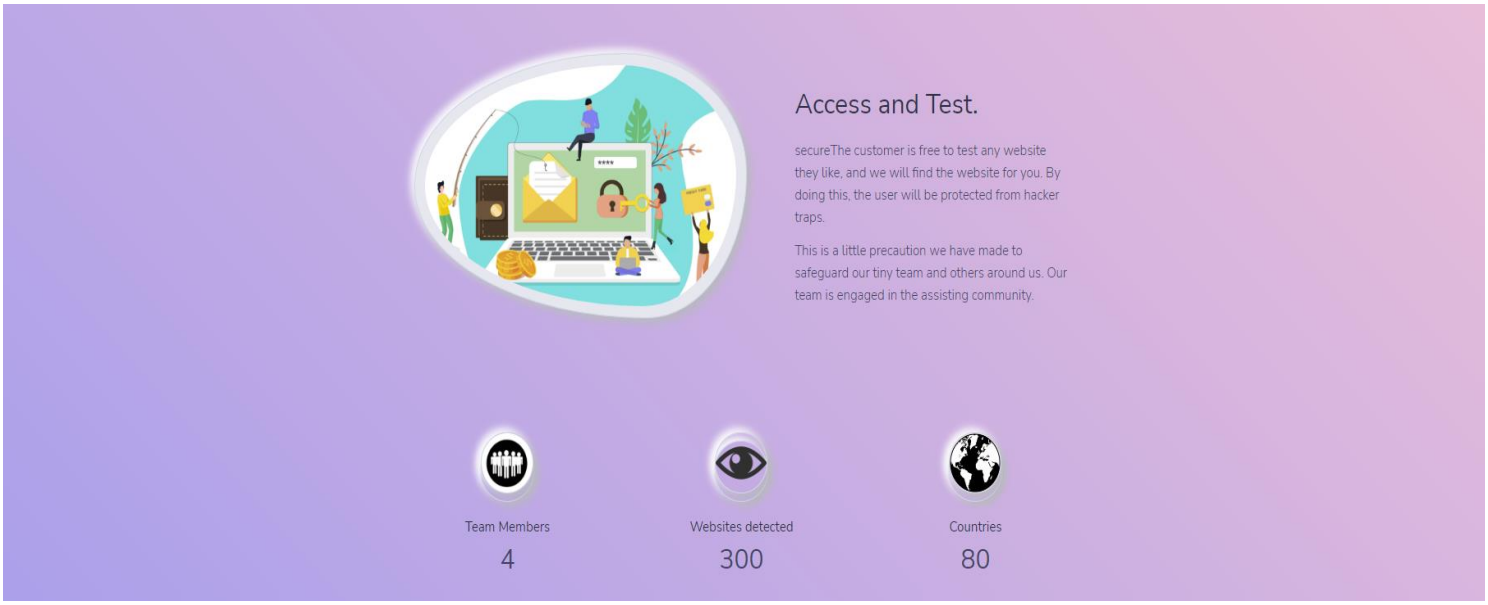


Fig 7.2 Services section

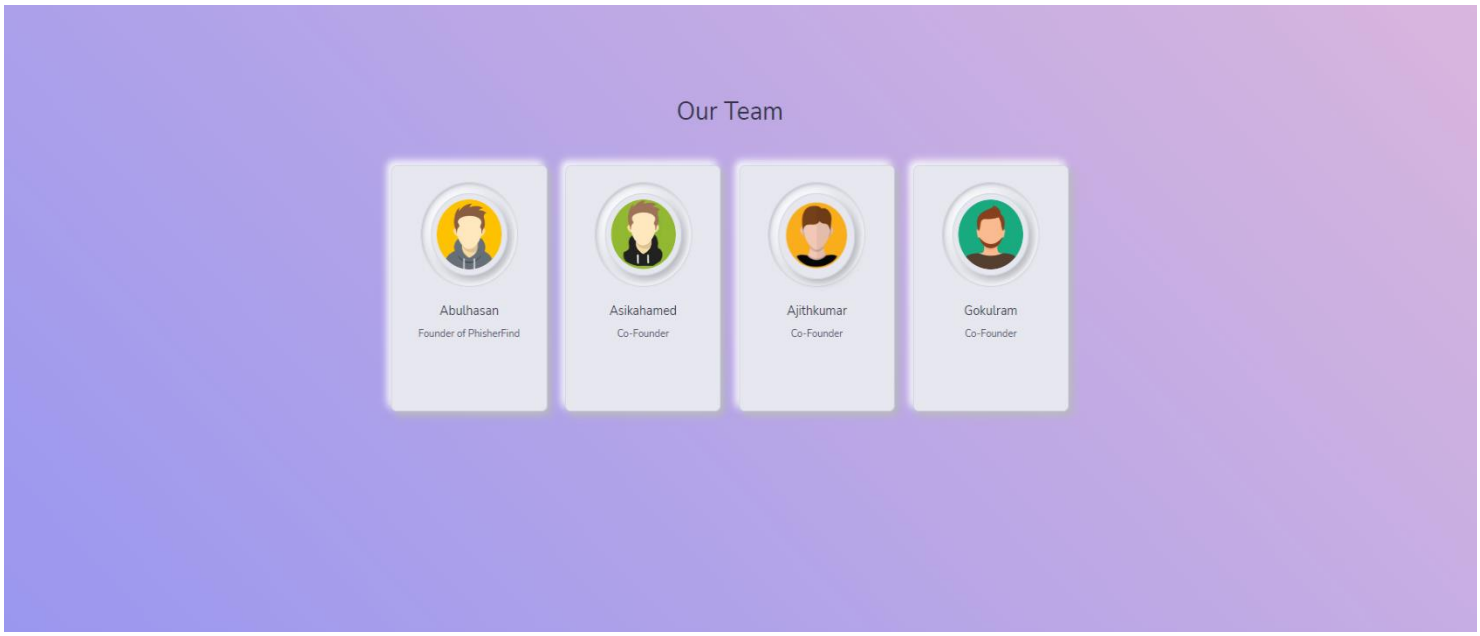


Fig 7.5 Legitimate URL result displayed to the user

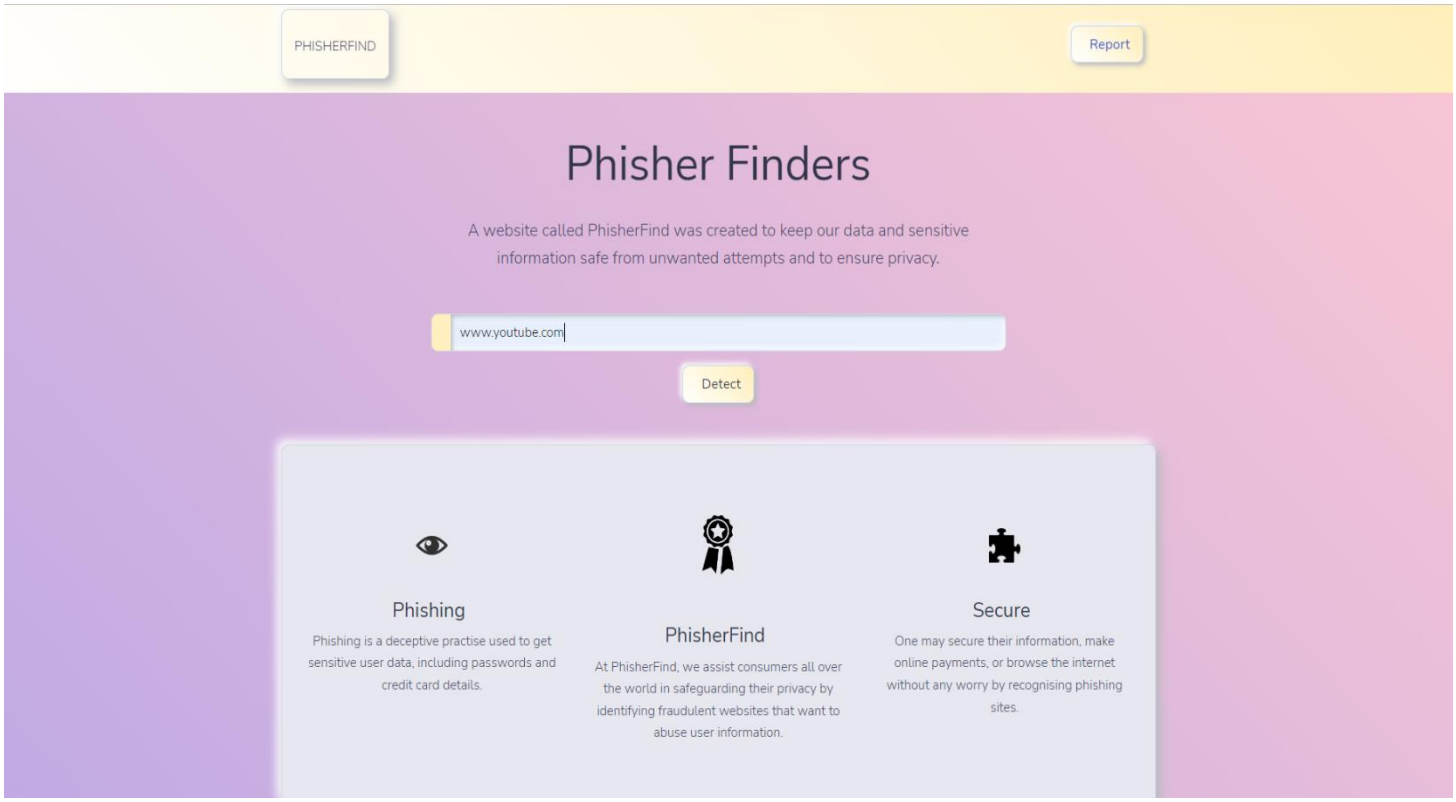
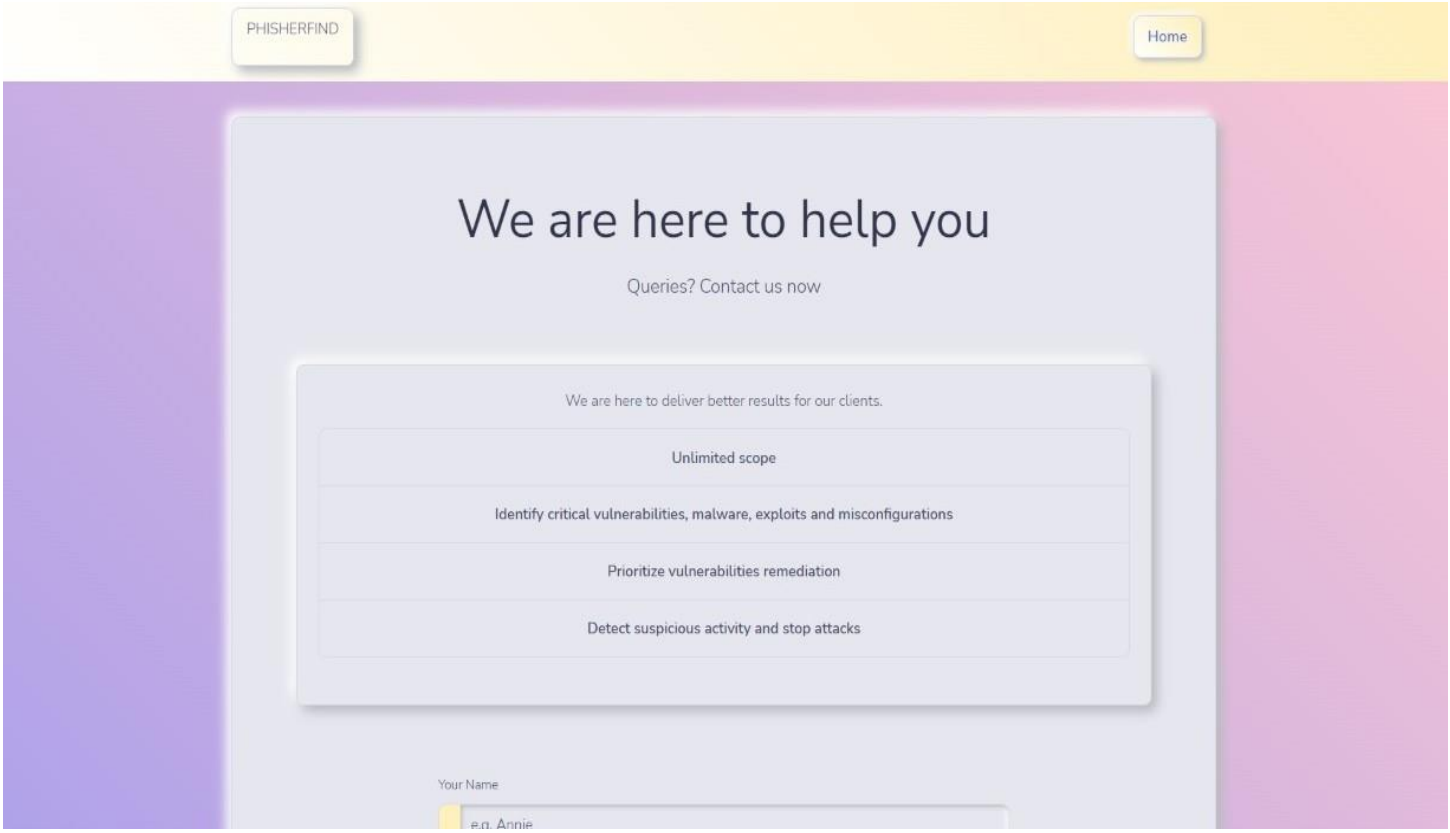


Fig 7.6 Phishing URL input from user

7.2 Feature 2 – Report:

Report page of our site allows users to provide feedback or ask queries to us. It is a platform to connect with the users of our site. The details provided by the user are stored in a database and is accessible by the admin. The report section consists of a basic form with inputs like name, email and query message. After submitting there is a simple response page displayed to the user to confirm their submission.

Fig 7.8 Report page



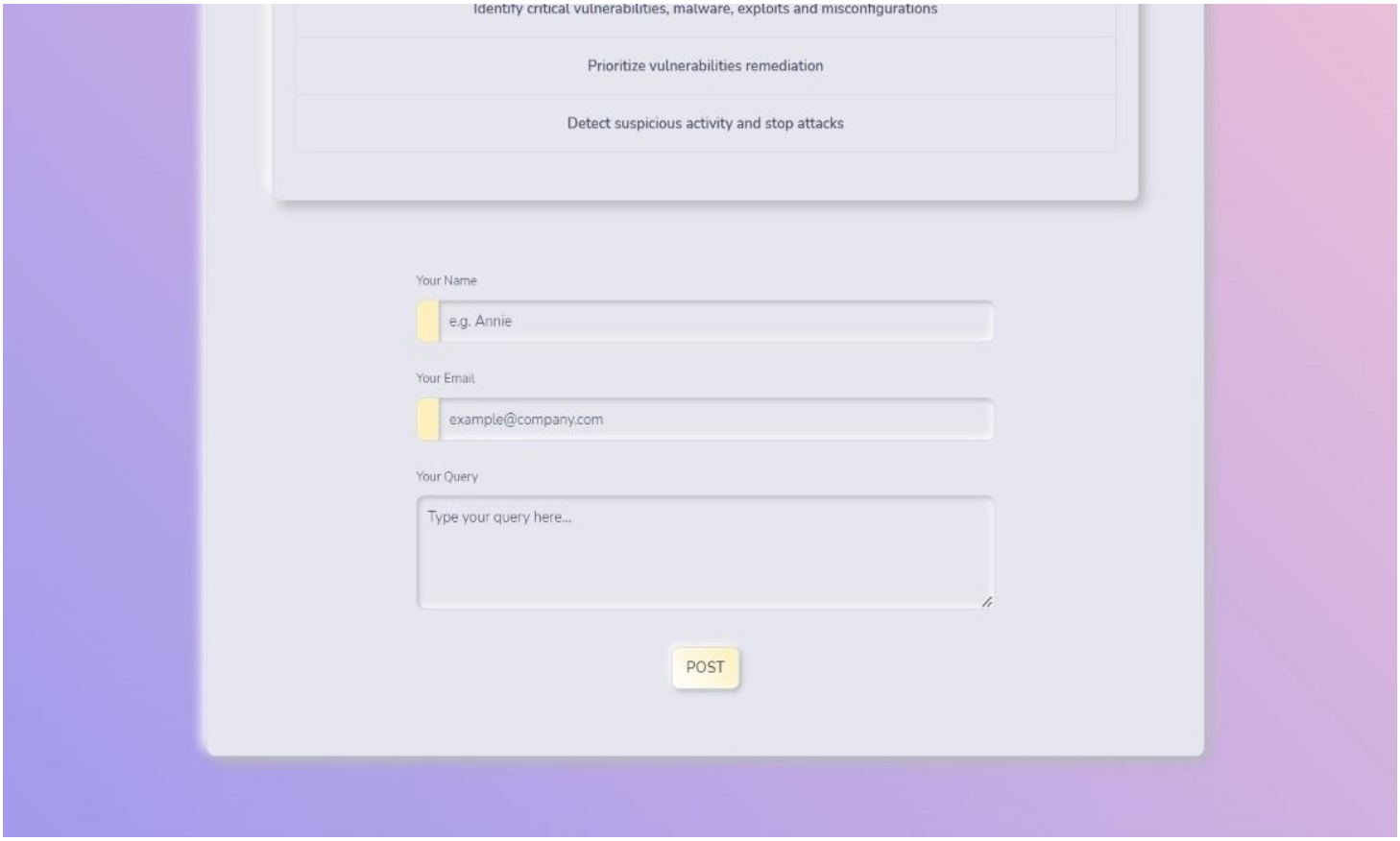
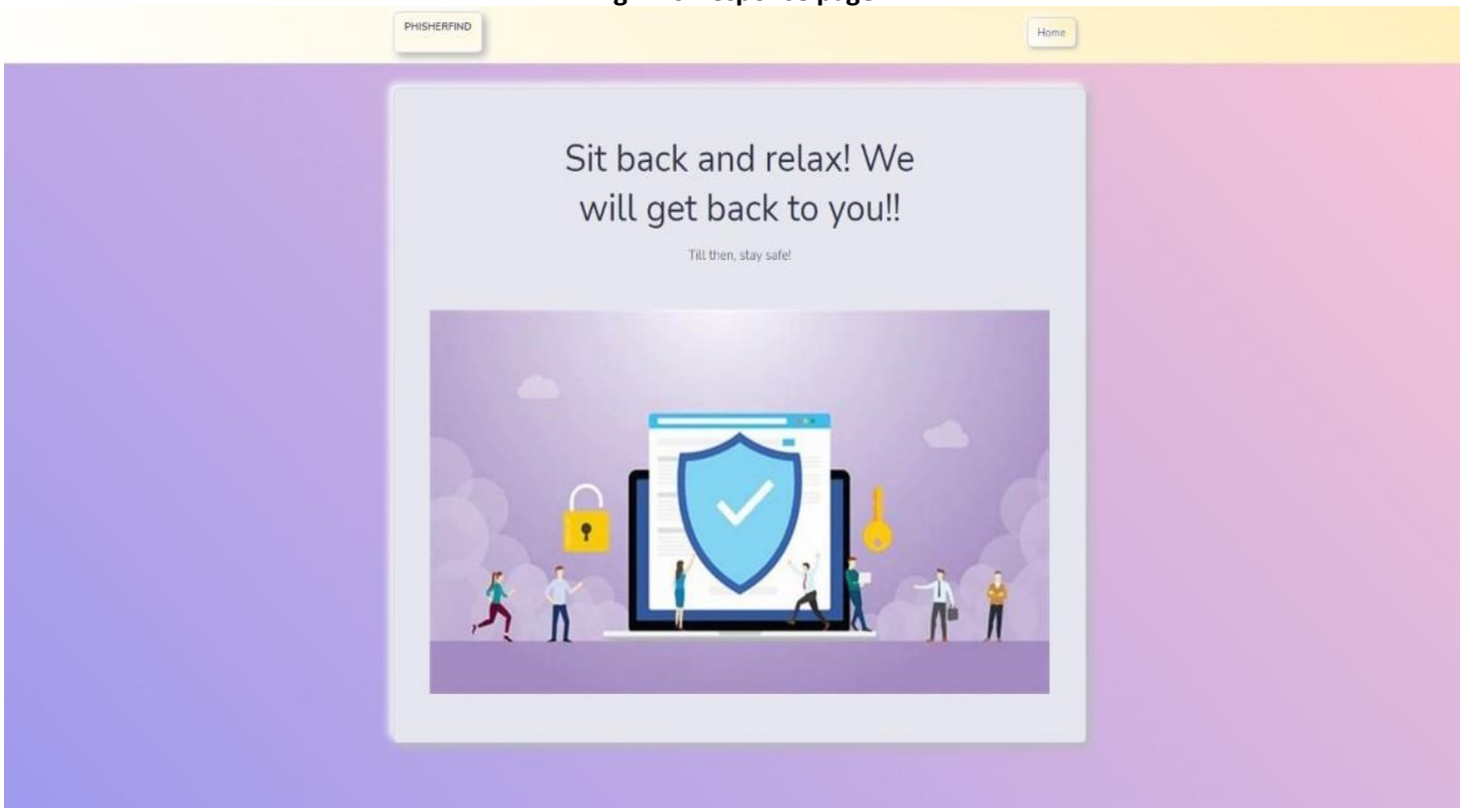


Fig 7.9 Sample user input to the report section

Fig 7.10 Response page



7.3 Database schema:

MySQL is used to create a database to store the inputs from the “Report” page of the website. A table named “responses” is created under the database named “report” with 3 columns named name, email and query. Every time a user submits the report form, the table gets updated with those values.

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	**name**	varchar(50)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	2	**email**	varchar(50)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	3	**query**	text	utf8mb4_general_ci		No	*None*			Change Drop More

Fig 7.11 Database schem

CHAPTER 8

TESTING

8.1 Test Cases:

Test case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status
DashBoard_TC_OO1	Functional	Home Page	Verify user is able to enter the URL in the form	1. Open PhisherFind website 2. Enter a URL and click submit	https://google.com/	Result of classification will be displayed	Working as expected	Pass
DashBoard_TC_OO2	UI	Home Page	Verify the UI elements in the form	1. Enter URL and click go 2. The services and teams' sections are visible 3. Enter a URL and click submit	https://google.com/	Application should show below UI elements: a. input form b. submit button c. services d. team	Working as expected	Pass
DashBoard_TC_OO3	Functional	Home page	Verify user is able to see an alert when nothing is entered in the textbox	1. Enter URL and click go 2. Enter nothing and click submit 3. An alert is displayed to provide proper input		Alert of incomplete input	Working as expected	Pass
DashBoard_TC_OO4	Functional	Home page	Verify user is able to see the result when URL is entered in the textbox	1. Enter URL and click go 2. Enter any URL and click submit 3. The result of the classification is displayed.	https://google.com/	Result of classification will be displayed	Working as expected	Pass
Report_TC_OO1	Functional	Report page	Verify user is able to enter their name, email and query message in the form	1. Enter URL and click go 2. Click on report button 3. Enter Valid name, email and query in the form 4. Click on submit button	**Name:** Alex **Email:** alex123@gmail.com **Query:** Hey! I need to check if a website is legitimate	Details are stored in the database	Working as expected	Pass

8.2 User Acceptance Testing:

Defect Analysis

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	20
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

Test Case Analysis:

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	5	0	0	5-
Client Application	51	0	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

CHAPTER 9

RESULTS

9.1 Performance metrics:

The median efficiency is used to assess each categorization model's effectiveness. The final item will appear in the way it was envisioned. Graphical representations are used to depict information during classification. The percentage of predictions made using the testing dataset is used to gauge accuracy. By dividing the entire number of forecasts even by properly predicted estimates, it is simple to calculate. The difference between actual and anticipated output is used to calculate accuracy.

$$Accuracy = \frac{TP + TN}{TP + TN + FP + FN}$$

Where TP = True Positives, TN = True Negatives, FN = False Negatives and FP = False Positives.

Thus, accuracy for all the four used models were calculated and ranked. XGBoost performed better than other models.

	ML Model	Train Accuracy	Test Accuracy
3	XGBoost	0.913	0.905
0	Decision Tree	0.898	0.894
1	Random Forest	0.893	0.886
2	SVM	0.886	0.883

Fig 9.1 Performance metrics

CHAPTER 10

ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- **Increases user alertness to phishing risks** Whenever the user navigates into the website and provide the URL of the website that needs to be verified for legitimacy, the system detects phishing sites by applying a machine learning algorithm which implements classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy which in turn helps the customers to eliminate the risks of cyber threat and protect their valuable corporate or personal data.

- **Users will also be able to pose any query to the admin through the report page designed** Our system is also provided with an option for the clients to report to the administrator which helps them to ask their questions significantly improving their experience on our site.

DISADVANTAGES:

- Not a generalized model
- Huge number of rules
- Needs feed continuously

CHAPTER 11

CONCLUSION

Phishing detection is now an area of great interest among the researchers due to its significance in protecting privacy and providing security. There are many methods to perform phishing detection. Our system aims to enhance the detection method to detect phishing websites using machine learning technology. We achieved a high detection accuracy, and the results show that the classifiers give better performance when we use more data as training data.

In future, hybrid technology will be implemented to detect phishing websites more accurately.

CHAPTER-12

FUTURE SCOPE

In future we intend to build an add-ons for our system and if we get a structured dataset of phishing, we can perform phishing detection much faster than any other technique. We can also use a combination of any two or more classifiers to get maximum accuracy. We plan to explore various phishing techniques which use Network based features, Content based features, Webpage based features and HTML and JavaScript features of web pages which will improve the performance of the system. In particular, we extract features from URLs and pass it through the various classifiers.

CHAPTER 13

APPENDIX

13.1 Source code:

app.py

```
from flask import Flask, render_template, request

import numpy as np

import pandas as pd

from sklearn import metrics

import warnings

import pickle

warnings.filterwarnings('ignore')

from features import FeatureExtraction

from flask_mysqldb import MySQL

import requests


# NOTE: you must manually set API_KEY below using information retrieved
from your IBM Cloud account.

API_KEY = ""

token_response = requests.post('https://iam.cloud.ibm.com/identity/token',
data={"apikey":

 API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})

mltoken = token_response.json()["access_token"]


header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' +
mltoken}


app = Flask(__name__)


app.config['MYSQL_HOST'] = 'localhost'

app.config['MYSQL_USER'] = 'root'

app.config['MYSQL_PASSWORD'] = ''

app.config['MYSQL_DB'] = 'report'


mysql = MySQL(app)
```

```
xgb = pickle.load(open("XGBoostClassifier.pkl", "rb"))


@app.route("/", methods=["GET", "POST"])
def home():
    if request.method == "POST":


        url = request.form["url"]
        obj = FeatureExtraction(url)


        x = np.array(obj.getFeaturesList()).reshape(1,13)
        print(x)
        t=[obj.getFeaturesList()]
        print("t")
        print(t)
        # NOTE: manually define and pass the array(s) of values to be
scored in the next line
        payload_scoring = {"input_data": [{"fields":
[['f0','f1','f2','f3','f4','f5','f6','f7','f8','f9','f10','f11','f12']],
"values": t}]}


        response_scoring = requests.post('https://us-
south.ml.cloud.ibm.com/ml/v4/deployments/859ae568-d692-4958-9dbe-
60431a8a0918/predictions?version=2022-11-11', json=payload_scoring,
headers={'Authorization': 'Bearer ' + mltoken})
        print("Scoring response")
        print(response_scoring.json())


        y_pred =xgb.predict(x)[0]
        print(y_pred)
        y_pro_phishing = xgb.predict_proba(x)[0,0]
        print(y_pro_phishing)
        y_pro_non_phishing = xgb.predict_proba(x)[0,1]
        print(y_pro_non_phishing)


        if(y_pro_phishing*100<60):
            msg="Trick or Treat?\n Look at this tweet.\n This site is
elite!\n"
```

```
            flag=1
        else:
            msg="Trick or Treat?\n Don't get deceit.\n This site is
creep!\n"
            flag=-1

        return render_template('result.html', msg=msg, url=url, val=flag)

    return render_template("index.html")

@app.route("/report", methods=["GET", "POST"])
def report():
    if request.method == 'GET':
        return render_template("contact.html")

    if request.method == 'POST':
        name = request.form['name']
        email = request.form['email']
        query = request.form['query']
        cursor = mysql.connection.cursor()
        cursor.execute(''' INSERT INTO responses
VALUES(%s,%s,%s)''',(name,email,query))
        mysql.connection.commit()
        cursor.close()
        return render_template("alert.html")



if_name_== '_main_':
    app.run(debug=True)
```

features.py

```
from urllib.parse import urlparse
import ipaddress
import re
import requests
```

```
import whois
from datetime import datetime

class FeatureExtraction:
    features=[]
    def_init_(self,url):
        self.features=[]
        self.url = url

        #Address bar based features
        self.features.append(self.having_IPhaving_IP_Address())
        self.features.append(self.URLURL_Length())
        self.features.append(self.Shortining_Service())
        self.features.append(self.having_At_Symbol())
        self.features.append(self.double_slash_redirecting())
        self.features.append(self.Prefix_Suffix())
        self.features.append(self.HTTPS_token())

        # HTML & Javascript based features
        try:
            self.response = requests.get(url)
        except:
            self.response = ""

        self.features.append(self.on_mouseover())
        self.features.append(self.RightClick())
        self.features.append(self.popUpWidnow())
        self.features.append(self.Iframe())

        #Domain based features
        dns = -1
        try:
            self.domain_name = whois.whois(urlparse(url).netloc)
        except:
```

```
            dns = 1


        self.features.append(1 if dns == 1 else self.age_of_domain())
        self.features.append(dns)


     # 1.UsingIp
    def having_IPhaving_IP_Address(self):
        #print("IP")
        try:
            ipaddress.ip_address(self.url)
            print("IP")
            return -1
        except:
            print("IP except")
            return 1


    # 2.longUrl
    def URLURL_Length(self):
        #print("Length")
        if len(self.url) < 54:
            return 1
        else:
            return -1


    # 3.shortUrl
    def Shortining_Service(self):
        #print("short")
        shortening_services =
r"bit\.ly|goo\.gl|shorte\.st|go2l\.ink|x\.co|ow\.ly|t\.co|tinyurl|tr\.im|is
\.gd|cli\.gs|" \

r"yfrog\.com|migre\.me|ff\.im|tiny\.cc|url4\.eu|twit\.ac|su\.pr|twurl\.nl|s
nipurl\.com|" \

r"short\.to|BudURL\.com|ping\.fm|post\.ly|Just\.as|bkite\.com|snipr\.com|fi
c\.kr|loopt\.us|" \
```

```
r"doiop\.com|short\.ie|kl\.am|wp\.me|rubyurl\.com|om\.ly|to\.ly|bit\.do|t\.
co|lnkd\.in|db\.tt|" \

r"qr\.ae|adf\.ly|goo\.gl|bitly\.com|cur\.lv|tinyurl\.com|ow\.ly|bit\.ly|ity
\.im|q\.gs|is\.gd|" \

r"po\.st|bc\.vc|twitthis\.com|u\.to|j\.mp|buzurl\.com|cutt\.us|u\.bb|yourls
\.org|x\.co|" \

r"prettylinkpro\.com|scrnch\.me|filoops\.info|vzturl\.com|qr\.net|1url\.com
|tweez\.me|v\.gd|" \
                    r"tr\.im|link\.zip\.net"
        match=re.search(shortening_services,self.url)
        if match:
            return -1
        else:
            return 1


    # 4.Symbol@
    def having_At_Symbol(self):
        #print("at")
        if "@" in self.url:
            return -1
        else:
            return 1


    # 5.Redirecting//
    def double_slash_redirecting(self):
        #print("//")
        pos = self.url.rfind('//')
        if pos > 6:
            if pos > 7:
                return -1
            else:
                return 1
        else:
            return 1
```

```
# 6.prefixSuffix
def Prefix_Suffix(self):
    #print("prefix")
    if '-' in urlparse(self.url).netloc:
        return -1
    else:
        return 1

#HTTPS token
def HTTPS_token(self):
    #print("https")
    domain = urlparse(self.url).netloc
    if 'https' in domain:
        return -1
    else:
        return 1

def on_mouseover(self):
    #print("mouse")
    try:
        if re.findall("", self.response.text):
            return -1
        else:
            return 1
    except:
         return -1

def RightClick(self):
    #print("right")
    if self.response == "":
        return -1
    else:
        if re.findall(r"event.button ?== ?2", self.response.text):
```

```
                return 1
            else:
                return -1

    # 11. UsingPopupWindow
    def popUpWidnow(self):
        #print("popup")
        try:
            if re.findall(r"alert\(", self.response.text):
                return 1
            else:
                return -1
        except:
             return -1

    # 12. IframeRedirection
    def Iframe(self):
        #print("iframe")
        try:
            if re.findall(r"[<iframe>|<frameBorder>]", self.response.text):
                return 1
            else:
                return -1
        except:
             return -1

    # 13.Survival time of domain: The difference between termination time
and creation time (Domain_Age)
    def age_of_domain(self):
        #print("age")
        creation_date = self.domain_name.creation_date
        expiration_date = self.domain_name.expiration_date
        if (isinstance(creation_date,str) or
isinstance(expiration_date,str)):
            try:
```

```
                creation_date = datetime.strptime(creation_date,'%Y-%m-%d')
                expiration_date = datetime.strptime(expiration_date,"%Y-%m-
%d")
            except:
                return -1
        if ((expiration_date is None) or (creation_date is None)):
            return -1
        elif ((type(expiration_date) is list) or (type(creation_date) is
list)):
            return -1
        else:
            ageofdomain = abs((expiration_date - creation_date).days)
            if ((ageofdomain/30) < 6):
                return -1
            else:
                return 1

    def getFeaturesList(self):
        print(self.features)
        return self.features
```

index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<!-- Primary Meta Tags -->
<title>PhisherFind</title>
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-
to-fit=no">
<meta name="title" content="PhisherFind">
<meta name="author" content="PhisherFind">



<!-- Favicon -->
```

```
<link rel="apple-touch-icon" sizes="180x180"
href="../static/assets/img/favicon/apple-touch-icon.png">

<link rel="icon" type="image/png" sizes="32x32"
href="../static/assets/img/favicon/favicon-32x32.png">

<link rel="icon" type="image/png" sizes="16x16"
href="../static/assets/img/favicon/favicon-16x16.png">

<link rel="manifest" href="../static/assets/img/favicon/site.webmanifest">


<!-- Fontawesome -->

<link type="text/css" href="../static/vendor/@fortawesome/fontawesome-
free/css/all.min.css" rel="stylesheet">


<!-- Pixel CSS -->

<link type="text/css" href="../static/css/neumorphism.css"
rel="stylesheet">


</head>


<body>

    <header class="header-global">

    <nav id="navbar-main" aria-label="Primary navigation" class="navbar
navbar-main navbar-expand-lg navbar-theme-primary headroom navbar-light">

        <div class="container position-relative">

            <a class="navbar-brand shadow-soft py-2 px-3 rounded border
border-light mr-lg-4" href="/">

                <img class="navbar-brand-dark"
src="../static/assets/img/brand/dark.svg" alt="Logo light">

                <img class="navbar-brand-light"
src="../static/assets/img/brand/dark.svg" alt="Logo dark">

            </a>

            <div class="navbar-collapse collapse" id="navbar_global">

                <div class="navbar-collapse-header">

                    <div class="row">

                        <div class="col-6 collapse-brand">

                            <a href="/" class="navbar-brand shadow-soft py-
2 px-3 rounded border border-light">

                                <img
src="../static/assets/img/brand/dark.svg" alt="PhisherFind logo">

                            </a>
```

```
                        </div>
                        <div class="col-6 collapse-close">
                            <a href="#navbar_global" class="fas fa-times"
data-toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" title="close" aria-
label="Toggle navigation"></a>
                        </div>
                    </div>
                </div>
            </div>
            <div class="d-flex align-items-center">
                <a href="/report" target="_blank" class="btn btn-primary
text-secondary d-none d-md-inline-block mr-3"><i class="far fa-paper-plane
mr-2"></i> Report</a>
                <button class="navbar-toggler ml-2" type="button" data-
toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" aria-label="Toggle
navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>
            </div>
        </div>
    </nav>
</header>
    <main>
        <!-- Hero -->
        <div class="section section-header pb-7">
            <div class="container">
                <div class="row justify-content-center">
                    <div class="col-12 col-lg-8 text-center">
                        <h1 class="display-2 mb-4">We are PhisherFind</h1>
                        <p class="lead mb-5">PhisherFind is a website
designed to protect our data and sensitive information from malicious
attacks and maintain confidentiality. </p>
                        <form action="/" method ="post" class="lead mb-5">
                            <div class="form-group">
                                <div class="input-group">
                                    <div class="input-group-prepend">
```

```
                                        <span class="input-group-
text"><span class="fa fa-link"></span></span>
                                    </div>
                                    <input class="form-control" id="url"
name="url" placeholder="URL (https://www.google.com/)" type="text" aria-
label="url-input" required>
                                </div>
                            </div>
                            <button type="submit" class="btn btn-
primary"><span class="fa fa-user-secret mr-2"></span>Detect</button>
                        </form>
                </div>
            </div>
        </div>
        <!-- End of Hero section -->
        <section class="section section-lg pt-0">
            <div class="container">
                <div class="row">
                    <div class="col">
                        <div class="card bg-primary shadow-soft border-
light p-4">
                            <div class="row">
                                <div class="col-12 col-lg-4 px-md-0 mb-4
mb-lg-0">
                                    <div class="card-body text-center bg-
primary py-5">
                                        <div class="icon icon-shape shadow-
inset border-light rounded-circle mb-3">
                                            <span class="far fa-
eye"></span>
                                        </div>
                                        <!-- Heading -->
                                        <h2 class="h4 mr-2">
                                            Phishing
                                        </h2>
                                        <!-- Text -->
                                        <p class="mb-0">Phishing is a
fraudulent activity that is done to steal confidential user information
such as credit card numbers and passwords.</p>
```

```
                                    </div>
                                </div>
                                <div class="col-12 col-lg-4 px-md-0 mb-4
mb-lg-0">
                                    <div class="card-body text-center bg-
primary py-5">
                                        <div class="icon icon-shape shadow-
inset border-light rounded-circle mb-3">
                                            <span class="fas fa-
medal"></span>
                                        </div>
                                        <!-- Heading -->
                                        <h2 class="h4 mr-2">
                                            PhisherFind
                                        </h2>
                                        <!-- Text -->
                                        <p class="mb-0">At PhisherFind, we
help users across the world to protect their data by detecting the
fraudulent sites intented to misuse user's data.</p>
                                    </div>
                                </div>
                                <div class="col-12 col-lg-4 px-md-0">
                                    <div class="card-body text-center bg-
primary py-5">
                                        <div class="icon icon-shape shadow-
inset border-light rounded-circle mb-3">
                                            <span class="fas fa-puzzle-
piece"></span>
                                        </div>
                                        <!-- Heading -->
                                        <h2 class="h4 mr-2">
                                            Secure
                                        </h2>
                                        <!-- Text -->
                                        <p class="mb-0">By detecting the
phishing sites, one can secure his/her informations and make online
payments or surf the internet without any fear.</p>
                                    </div>
                                </div>
```

```
                        </div>
                    </div>
                </div>
            </div>
        </section>
        <!-- Section -->
        <section class="section section-lg pt-0">
            <div class="container">
                <div class="row align-items-center justify-content-around">
                    <div class="col-md-6 col-xl-6 mb-5">
                        <div class="card bg-primary shadow-soft border-
light organic-radius p-3">
                            <img class="organic-radius img-fluid"
src="../static/assets/img/about-us-1.jpg" alt="detect phishing">
                        </div>
                    </div>
                    <div class="col-md-6 col-xl-5 text-center text-md-
left">
                        <h2 class="h1 mb-4">Enter and Test.</h2>
                        <p class="lead">The user can enter any site that
they want to test and we'll detect the website for you. This will ensure
the user don't fall into the traps of hackers .</p>
                        <p class="lead">Our small team is active in the
helping community and this is a small step taken by us to protect ourselves
and the people surrounding us.</p>
                        <img src="../static/assets/img/signature.svg"
alt="signature" class="mt-4" width="150">
                    </div>
                </div>
            </div>
        </section>
        <!-- End of section -->
        <!-- Section -->
        <section class="section section-lg pt-0">
            <div class="container">
                <div class="row">
                    <div class="col-12 col-sm-4 col-lg-4 text-center">
```

```
                        <!-- Visit Box -->
                        <div class="icon-box mb-4">
                            <div class="icon icon-shape shadow-soft border
border-light rounded-circle mb-4">
                                <span class="far fa-smile-beam"></span>
                            </div>
                            <h3 class="h5">Team Members</h3>
                            <span class="counter-slow display-3 text-gray
d-block">4</span>
                        </div>
                        <!-- End of Visit Box -->
                    </div>
                    <div class="col-12 col-sm-4 col-lg-4 text-center">
                        <!-- Call Box -->
                        <div class="icon-box mb-4">
                            <div class="icon icon-shape shadow-soft border
border-light rounded-circle mb-4">
                                <span class="far fa-eye"></span>
                            </div>
                            <h3 class="h5">Websites detected</h3>
                            <span class="counter display-3 text-gray d-
block">300</span>
                        </div>
                        <!-- End of Call Box -->
                    </div>
                    <div class="col-12 col-sm-4 col-lg-4 text-center">
                        <!-- Email Box -->
                        <div class="icon-box mb-4">
                            <div class="icon icon-shape shadow-soft border
border-light rounded-circle mb-4">
                                <span class="fas fa-globe-europe"></span>
                            </div>
                            <h3 class="h5">Countries</h3>
                            <span class="counter-slow display-3 text-gray
d-block">80</span>
                        </div>
                        <!-- End of Email Box -->
```

```
                    </div>
                </div>
            </div>
        </section>
        <!-- End of section -->
        <!-- Section -->
        <section class="section section-lg pt-0">
            <div class="container">
                <div class="row justify-content-center mb-5">
                    <h2 class="h1">Our Team</h2>
                </div>
                <div class="row">
                    <div class="col-12 col-md-6 col-lg-3">
                        <!-- Profile Card -->
                        <div class="card bg-primary shadow-soft border-
light text-center py-4 mb-5">
                            <div class="profile-image shadow-inset border
border-light bg-primary rounded-circle p-3 mx-auto">
                                <img
src="../static/assets/img/team/Abulhasan.jpg" class="card-img-top
shadow-soft p-2 border border-light rounded-circle" alt="Abulhasan">
                            </div>
                            <div class="card-body">
                                <h3 class="h5 mb-2">Abulhasan</h3>
                                <span class="h6 font-weight-normal text-
gray mb-3">Founder of PhisherFind</span>
                                <ul class="list-unstyled d-flex justify-
content-center my-3">
                                    <li>
                                        <a
href="https://www.instagram.com/ig_hasan " target="_blank" aria-
label="instagram social link" class="icon icon-xs icon-facebook mr-3">
                                            <span class="fab fa-
instagram"></span>
                                        </a>
                                    </li>
                                    <li>
```

```
                                        <a
href="https://github.com/abulhasan-salam/abulhasan-salam"
target="_blank" aria-label="githubsocial link" class="icon icon-xs
icon-dribbble mr-3">

                                            <span class="fab fa-
github"></span>

                                        </a>

                                    </li>

                                </ul>

                            </div>

                        </div>

                        <!-- End of Profile Card -->

                    </div>

                    <div class="col-12 col-md-6 col-lg-3">

                        <!-- Profile Card -->

                        <div class="card bg-primary shadow-soft border-
light text-center py-4 mb-5">

                            <div class="profile-image shadow-inset border
border-light bg-primary rounded-circle p-3 mx-auto">

                                <img
src="../static/assets/img/team/asikahamed.jpg" class="card-img-top shadow-
softp-2 border border-light rounded-circle" alt="Asikahamed">

                            </div>

                            <div class="card-body">

                                <h3 class="h5 mb-2">Asikahamed</h3>

                                <span class="h6 font-weight-normal text-
gray mb-3">Co-Founder</span>

                                <ul class="list-unstyled d-flex justify-
content-center my-3">

                                    <li>

                                        <a
href="https://www.instagram.com/ashik_says_" target="_blank" aria-
label="instagram social link" class="icon icon-xs icon-facebook mr-3">

                                            <span class="fab fa-
instagram"></span>

                                        </a>

                                    </li>

                                    <li>

                                        <a
href="https://github.com/AsikahamedA" target="_blank" aria-
label="githubsocial link" class="icon icon-xs icon-dribbble mr-3">
```

```
                                        <span class="fab fa-
github"></span>
                                    </a>
                                </li>
                            </ul>
                        </div>
                    </div>
                    <!-- End of Profile Card -->
                </div>
                <div class="col-12 col-md-6 col-lg-3">
                    <!-- Profile Card -->
                    <div class="card bg-primary shadow-soft border-
light text-center py-4 mb-5">
                        <div class="profile-image shadow-inset border
border-light bg-primary rounded-circle p-3 mx-auto">
                            <img
src="../static/assets/img/team/ajithkumar.jpg" class="card-img-top
shadow-softp-2 border border-light rounded-circle" alt="Ajithkumar">
                        </div>
                        <div class="card-body">
                            <h3 class="h5 mb-2">Ajithkumar</h3>
                            <span class="h6 font-weight-normal text-
gray mb-3">Co-Founder</span>
                            <ul class="list-unstyled d-flex justify-
content-center my-3">
                                <li>
                                    <a
href="https://instagram.com/" target="_blank" aria- label="instagram
social link" class="icon icon-xs icon-facebook mr-3">
                                        <span class="fab fa-
instagram"></span>
                                    </a>
                                </li>
                                <li>
                                    <a href="https://github.com/Ajith-
29" target="_blank" aria-label="github social link" class="icon icon-xs
icon-dribbble mr-3">
                                        <span class="fab fa-
github"></span>
                                    </a>
```

```
                                    </li>
                                </ul>
                            </div>
                        </div>
                        <!-- End of Profile Card -->
                    </div>
                    <div class="col-12 col-md-6 col-lg-3">
                        <!-- Profile Card -->
                        <div class="card bg-primary shadow-soft border-
light text-center py-4 mb-5">
                            <div class="profile-image shadow-inset border
border-light bg-primary rounded-circle p-3 mx-auto">
                                <img
src="../static/assets/img/team/gokulram.jpg" class="card-img-top shadow-
softp-2 border border-light rounded-circle" alt="Annie">
                            </div>
                            <div class="card-body">
                                <h3 class="h5 mb-2">Gokulram</h3>
                                <span class="h6 font-weight-normal text-
gray mb-3">Co-Founder</span>
                                <ul class="list-unstyled d-flex justify-
content-center my-3">
                                    <li>
                                        <a
href="https://instagram.com/" target="_blank" aria-label="instagramsocial
link" class="icon icon-xs icon-facebook mr-3">
                                            <span class="fab fa-
instagram"></span>
                                        </a>
                                    </li>
                                    <li>
                                        <a
href="https://github.com/Gokulram" target="_blank" aria- label="github
social link" class="icon icon-xs icon-dribbble mr-3">
                                            <span class="fab fa-
github"></span>
                                        </a>
                                    </li>
                                </ul>
```

```
                            </div>
                        </div>
                        <!-- End of Profile Card -->
                    </div>
                </div>
            </div>
        </section>
        <!-- End of section -->
    </main>


        </div>
        <hr class="my-5">
        <div class="row">
            <div class="col">
            <div class="d-flex text-center justify-content-center align-
items-center" role="contentinfo">
                <p class="font-weight-normal font-small mb-0">Copyright ©
PhisherFind
                    <span class="current-year">2022</span>. All rights
reserved.</p>
                </div>

            </div>
        </div>
    </div>
</footer>


    <!-- Core -->
<script src="../static/vendor/jquery/dist/jquery.min.js"></script>
<script src="../static/vendor/popper.js/dist/umd/popper.min.js"></script>
<script src="../static/vendor/bootstrap/dist/js/bootstrap.min.js"></script>
<script src="../static/vendor/headroom.js/dist/headroom.min.js"></script>


<!-- Vendor JS -->
<script src="../static/vendor/onscreen/dist/on-screen.umd.min.js"></script>
<script
src="../static/vendor/nouislider/distribute/nouislider.min.js"></script>
```

```
<script src="../static/vendor/bootstrap-datepicker/dist/js/bootstrap-datepicker.min.js"></script>

<script src="../static/vendor/waypoints/lib/jquery.waypoints.min.js"></script>

<script    src="../static/vendor/jarallax/dist/jarallax.min.js"></script>

<script src="../static/vendor/jquery.counterup/jquery.counterup.min.js"></script>

<script src="../static/vendor/jquery-countdown/dist/jquery.countdown.min.js"></script>

<script src="../static/vendor/smooth-scroll/dist/smooth-scroll.polyfills.min.js"></script>

<script src="../static/vendor/prismjs/prism.js"></script>


<script async defer src="https://buttons.github.io/buttons.js"></script>


<!-- Neumorphism JS -->

<script src="../static/assets/js/neumorphism.js"></script>

</body>


</html>
```

result.html

```
<!DOCTYPE html>

<html lang="en">


<head>

    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<!-- Primary Meta Tags -->

<title>PhisherFind</title>

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

<meta name="title" content="PhisherFind">

<meta name="author" content="PhisherFind">



<!-- Favicon -->
```

```
<link rel="apple-touch-icon" sizes="180x180"
href="../static/assets/img/favicon/apple-touch-icon.png">

<link rel="icon" type="image/png" sizes="32x32"
href="../static/assets/img/favicon/favicon-32x32.png">

<link rel="icon" type="image/png" sizes="16x16"
href="../static/assets/img/favicon/favicon-16x16.png">

<link rel="manifest" href="../static/assets/img/favicon/site.webmanifest">


<!-- Fontawesome -->

<link type="text/css" href="../static/vendor/@fortawesome/fontawesome-
free/css/all.min.css" rel="stylesheet">


<!-- Pixel CSS -->

<link type="text/css" href="../static/css/neumorphism.css"
rel="stylesheet">


</head>


<body>

    <header class="header-global">

    <nav id="navbar-main" aria-label="Primary navigation" class="navbar
navbar-main navbar-expand-lg navbar-theme-primary headroom navbar-light">

        <div class="container position-relative">

            <a class="navbar-brand shadow-soft py-2 px-3 rounded border
border-light mr-lg-4" href="/">

                <img class="navbar-brand-dark"
src="../static/assets/img/brand/dark.svg" alt="Logo light">

                <img class="navbar-brand-light"
src="../static/assets/img/brand/dark.svg" alt="Logo dark">

            </a>

            <div class="navbar-collapse collapse" id="navbar_global">

                <div class="navbar-collapse-header">

                    <div class="row">

                        <div class="col-6 collapse-brand">

                            <a href="/" class="navbar-brand shadow-soft py-
2 px-3 rounded border border-light">

                                <img
src="../static/assets/img/brand/dark.svg" alt="PhisherFind logo">

                            </a>
```

```
                        </div>
                        <div class="col-6 collapse-close">
                            <a href="#navbar_global" class="fas fa-times"
data-toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" title="close" aria-
label="Toggle navigation"></a>
                        </div>
                    </div>
                </div>
            </div>
            <div class="d-flex align-items-center">
                <a href="/report" target="_blank" class="btn btn-primary
text-secondary d-none d-md-inline-block mr-3"><i class="far fa-paper-plane
mr-2"></i> Report</a>
                <button class="navbar-toggler ml-2" type="button" data-
toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" aria-label="Toggle
navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>
            </div>
        </div>
    </nav>
</header>
    <main>


        <!-- Result -->
        <div class="section section-header pb-7">
            <div class="container">
                <div class="row justify-content-center">
                    <div class="col-12 col-lg-8 text-center">
                        <h1 class="display-2 mb-4">Trick or Treat?!</h1>
                        <p class="lead">Is <a href= {{ url }}
target="_blank">{{ url }}</a> safe to use?</p>
                        <br>
                        <h3><pre>{{ msg }}</pre></h3>
                        <br>
```

```
                        <img
src="../static/assets/img/results/credible.jpeg" alt="legitimate site"
id="legitimate">
                        <img
src="../static/assets/img/results/phishing.jpeg" alt="phishing site"
id="phishing">
                        <br>
                        <br>
                        <br>
                        <button type="submit" class="btn btn-primary
button1" onclick="window.open('{{url}}')" target="_blank"><span class="fa
fa-arrow-up mr-2"></span>Proceed to this site!</button>
                    </div>
            </div>
        </div>
    </main>


        </div>
        <hr class="my-5">
        <div class="row">
            <div class="col">
            <div class="d-flex text-center justify-content-center align-
items-center" role="contentinfo">
                <p class="font-weight-normal font-small mb-0">Copyright ©
PhisherFind
                    <span class="current-year">2022</span>. All rights
reserved.</p>
                </div>


            </div>
        </div>
    </div>
</footer>


    <!-- Core -->
<script src="../static/vendor/jquery/dist/jquery.min.js"></script>
<script src="../static/vendor/popper.js/dist/umd/popper.min.js"></script>
<script src="../static/vendor/bootstrap/dist/js/bootstrap.min.js"></script>
<script src="../static/vendor/headroom.js/dist/headroom.min.js"></script>
```

```
<!-- Vendor JS -->

<script src="../static/vendor/onscreen/dist/on-screen.umd.min.js"></script>

<script
src="../static/vendor/nouislider/distribute/nouislider.min.js"></script>

<script src="../static/vendor/bootstrap-datepicker/dist/js/bootstrap-
datepicker.min.js"></script>

<script
src="../static/vendor/waypoints/lib/jquery.waypoints.min.js"></script>

<script    src="../static/vendor/jarallax/dist/jarallax.min.js"></script>

<script
src="../static/vendor/jquery.counterup/jquery.counterup.min.js"></script>

<script src="../static/vendor/jquery-
countdown/dist/jquery.countdown.min.js"></script>

<script src="../static/vendor/smooth-scroll/dist/smooth-
scroll.polyfills.min.js"></script>

<script src="../static/vendor/prismjs/prism.js"></script>


<script async defer src="https://buttons.github.io/buttons.js"></script>


<!-- Neumorphism JS -->

<script src="../static/assets/js/neumorphism.js"></script>


<script>

    let x= '{{val}}'

    if(x==1){

        document.getElementById('phishing').style.display = 'none';

    }else{

        document.getElementById('legitimate').style.display = 'none';

    }

</script>

</body>


</html>
```

contact.html

```
<!DOCTYPE html>
```

```
<html lang="en">


<head>

    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />

<!-- Primary Meta Tags -->

<title>PhisherFind - Report</title>

<meta name="viewport" content="width=device-width, initial-scale=1, shrink-
to-fit=no">

<meta name="title" content="PhisherFind - Report">

<meta name="author" content="PhisherFind">


<!-- Favicon -->

<link rel="apple-touch-icon" sizes="120x120"
href="../static/assets/img/favicon/apple-touch-icon.png">

<link rel="icon" type="image/png" sizes="32x32"
href="../static/assets/img/favicon/favicon-32x32.png">

<link rel="icon" type="image/png" sizes="16x16"
href="../static/assets/img/favicon/favicon-16x16.png">

<link rel="manifest" href="../static/assets/img/favicon/site.webmanifest">

<link rel="mask-icon" href="../static/assets/img/favicon/safari-pinned-
tab.svg" color="#ffffff">

<meta name="msapplication-TileColor" content="#ffffff">

<meta name="theme-color" content="#ffffff">


<!-- Fontawesome -->

<link type="text/css" href="../static/vendor/@fortawesome/fontawesome-
free/css/all.min.css" rel="stylesheet">


<!-- Pixel CSS -->

<link type="text/css" href="../static/css/neumorphism.css"
rel="stylesheet">


</head>


<body>

    <header class="header-global">

    <nav id="navbar-main" aria-label="Primary navigation" class="navbar
navbar-main navbar-expand-lg navbar-theme-primary headroom navbar-light">
```

```
        <div class="container position-relative">

            <a class="navbar-brand shadow-soft py-2 px-3 rounded border
border-light mr-lg-4" href="/">

                <img class="navbar-brand-dark"
src="../static/assets/img/brand/dark.svg" alt="Logo light">

                <img class="navbar-brand-light"
src="../static/assets/img/brand/dark.svg" alt="Logo dark">

            </a>

            <div class="navbar-collapse collapse" id="navbar_global">

                <div class="navbar-collapse-header">

                    <div class="row">

                        <div class="col-6 collapse-brand">

                            <a href="/" class="navbar-brand shadow-soft py-
2 px-3 rounded border border-light">

                                <img
src="../static/assets/img/brand/dark.svg" alt="PhisherFind logo">

                            </a>

                        </div>

                        <div class="col-6 collapse-close">

                            <a href="#navbar_global" class="fas fa-times"
data-toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" title="close" aria-
label="Toggle navigation"></a>

                        </div>

                    </div>

                </div>

            </div>

            <div class="d-flex align-items-center">

                <a href="/" class="btn btn-primary text-secondary d-none d-
md-inline-block mr-3"><i class="fa fa-home"></i> Home</a>

                <button class="navbar-toggler ml-2" type="button" data-
toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" aria-label="Toggle
navigation">

                    <span class="navbar-toggler-icon"></span>

                </button>

            </div>

        </div>

    </nav>
```

```
</header>
    <main>
        <!-- Section -->
        <section class="section section-lg">
            <div class="container">
                <div class="row align-items-center justify-content-center">
                    <div class="col-md-12 col-lg-12 mb-5">
                        <!-- Contact Card -->
                        <div class="card bg-primary shadow-soft border-
light p-2 p-md-3 p-lg-5">
                            <div class="card-header">
                                <div class="row justify-content-center">
                                    <div class="col-12">


                                    </div>
                                    <div class="col-12 col-md-8 text-center
mb-5">
                                        <h1 class="display-2 mb-3">We are
here to help you</h1>
                                        <p class="lead">Queries? Contact us
now</p>
                                    </div>
                                </div>
                                <div class="card-body shadow-soft text-
center border border-light rounded">
                                    <p>We are here to deliver better
results for our clients.</p>
                                    <ul class="list-group mb-4">
                                        <li class="list-group-
item"><strong>Unlimited scope</strong></li>
                                        <li class="list-group-
item"><strong>Identify critical vulnerabilities, malware, exploits and
misconfigurations</strong></li>
                                        <li class="list-group-
item"><strong>Prioritize vulnerabilities remediation</strong></li>
                                        <li class="list-group-
item"><strong>Detect suspicious activity and stop attacks</strong></li>
                                    </ul>
                                </div>
```

```
                                <div class="row mb-5">
                                    <div class="col-md-4 col-lg-4 text-
center">



                                    </div>
                                    <div class="col-md-4 col-lg-4 text-
center">



                                    </div>
                                </div>
                            </div>
                            <form class="col-12 col-md-8 mx-auto"
action="/report" method = "POST" >
                                <!-- Form -->
                                <div class="form-group">
                                    <label for="nameInputIcon2">Your
Name</label>
                                    <div class="input-group mb-4">
                                        <div class="input-group-prepend">
                                            <span class="input-group-
text"><span class="far fa-user-circle"></span></span>
                                        </div>
                                        <input class="form-control"
name="name" id="nameInputIcon2" placeholder="e.g. Alice" type="text" aria-
label="contact name input">
                                    </div>
                                </div>
                                <!-- Form -->
                                <div class="form-group">
                                    <label for="emailInputIcon2">Your
Email</label>
                                    <div class="input-group mb-4">
                                        <div class="input-group-prepend">
                                            <span class="input-group-
text"><span class="far fa-envelope"></span></span>
                                        </div>
```

```
                                        <input class="form-control"
name="email" id="emailInputIcon2" placeholder="example@company.com"
type="email" aria-label="contact email input">
                                    </div>
                                </div>
                                <!-- Form -->
                                <div class="form-group">
                                    <label
for="exampleFormControlTextarea2">Your Query</label>
                                    <textarea class="form-control"
name="query" placeholder="Type your query here..."
id="exampleFormControlTextarea2" rows="4"></textarea>
                                </div>
                                <div class="form-group text-center">
                                    <button type="submit" class="btn btn-
primary">POST</button>
                                </div>
                                <!-- End of Form -->
                            </form>


                        </div>
                        <!-- End of Contact Card -->
                    </div>
                </div>
            </div>
        </section>
        <!-- End of section -->
    </main>


<footer class="d-flex pb-5 pt-6 pt-md-7 border-top border-light bg-
primary">
    <div class="container">
        <div class="row">
            <div class="col">
                <!-- <a href="https://themesberg.com" target="_blank"
class="d-flex justify-content-center">
                    <img src="../../assets/img/themesberg.svg" height="25"
class="mb-3" alt="Themesberg Logo">
```

```
                </a> -->
            <div class="d-flex text-center justify-content-center align-
items-center" role="contentinfo">
                <p class="font-weight-normal font-small mb-0">Copyright ©
PhisherFind
                    <span class="current-year">2022</span>. All rights
reserved.</p>
                </div>

            </div>
        </div>
    </div>
</footer>

    <!-- Core -->
<script src="../static/vendor/jquery/dist/jquery.min.js"></script>
<script src="../static/vendor/popper.js/dist/umd/popper.min.js"></script>
<script src="../static/vendor/bootstrap/dist/js/bootstrap.min.js"></script>
<script src="../static/vendor/headroom.js/dist/headroom.min.js"></script>

<!-- Vendor JS -->
<script src="../static/vendor/onscreen/dist/on-screen.umd.min.js"></script>
<script
src="../static/vendor/nouislider/distribute/nouislider.min.js"></script>
<script src="../static/vendor/bootstrap-datepicker/dist/js/bootstrap-
datepicker.min.js"></script>
<script
src="../static/vendor/waypoints/lib/jquery.waypoints.min.js"></script>
<script    src="../static/vendor/jarallax/dist/jarallax.min.js"></script>
<script
src="../static/vendor/jquery.counterup/jquery.counterup.min.js"></script>
<script src="../static/vendor/jquery-
countdown/dist/jquery.countdown.min.js"></script>
<script src="../static/vendor/smooth-scroll/dist/smooth-
scroll.polyfills.min.js"></script>
<script src="../static/vendor/prismjs/prism.js"></script>

<script async defer src="https://buttons.github.io/buttons.js"></script>
```

```
<!-- Neumorphism JS -->
<script src="../static/assets/js/neumorphism.js"></script>
</body>

</html>
```

alert.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<!-- Primary Meta Tags -->
<title>PhisherFind - Report</title>
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
<meta name="title" content="PhisherFind - Report">
<meta name="author" content="PhisherFind">

<!-- Favicon -->
<link rel="apple-touch-icon" sizes="120x120" href="../static/assets/img/favicon/apple-touch-icon.png">
<link rel="icon" type="image/png" sizes="32x32" href="../static/assets/img/favicon/favicon-32x32.png">
<link rel="icon" type="image/png" sizes="16x16" href="../static/assets/img/favicon/favicon-16x16.png">
<link rel="manifest" href="../static/assets/img/favicon/site.webmanifest">
<link rel="mask-icon" href="../static/assets/img/favicon/safari-pinned-tab.svg" color="#ffffff">
<meta name="msapplication-TileColor" content="#ffffff">
<meta name="theme-color" content="#ffffff">

<!-- Fontawesome -->
<link type="text/css" href="../static/vendor/@fortawesome/fontawesome-free/css/all.min.css" rel="stylesheet">

<!-- Pixel CSS -->
```

```
<link type="text/css" href="../static/css/neumorphism.css"
rel="stylesheet">


</head>


<body>

    <header class="header-global">

    <nav id="navbar-main" aria-label="Primary navigation" class="navbar
navbar-main navbar-expand-lg navbar-theme-primary headroom navbar-light">

        <div class="container position-relative">

            <a class="navbar-brand shadow-soft py-2 px-3 rounded border
border-light mr-lg-4" href="/">

                <img class="navbar-brand-dark"
src="../static/assets/img/brand/dark.svg" alt="Logo light">

                <img class="navbar-brand-light"
src="../static/assets/img/brand/dark.svg" alt="Logo dark">

            </a>

            <div class="navbar-collapse collapse" id="navbar_global">

                <div class="navbar-collapse-header">

                    <div class="row">

                        <div class="col-6 collapse-brand">

                            <a href="/" class="navbar-brand shadow-soft py-
2 px-3 rounded border border-light">

                                <img
src="../static/assets/img/brand/dark.svg" alt="PhisherFind logo">

                            </a>

                        </div>

                        <div class="col-6 collapse-close">

                            <a href="#navbar_global" class="fas fa-times"
data-toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" title="close" aria-
label="Toggle navigation"></a>

                        </div>

                    </div>

                </div>

            </div>

            <div class="d-flex align-items-center">

                <a href="/" class="btn btn-primary text-secondary d-none d-
md-inline-block mr-3"><i class="fa fa-home"></i> Home</a>
```

```
                <button class="navbar-toggler ml-2" type="button" data-
toggle="collapse" data-target="#navbar_global" aria-
controls="navbar_global" aria-expanded="false" aria-label="Toggle
navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>
            </div>
        </div>
    </nav>
</header>
    <main>
        <!-- Section -->
        <section class="section section-lg">
            <div class="container">
                <div class="row align-items-center justify-content-center">
                    <div class="col-md-12 col-lg-12 mb-5">
                        <!-- Contact Card -->
                        <div class="card bg-primary shadow-soft border-
light p-2 p-md-3 p-lg-5">
                            <div class="card-header">
                                <div class="row justify-content-center">
                                    <div class="col-12">
                                    </div>
                                    <div class="col-12 col-md-8 text-center
mb-5">
                                        <h1 class="display-2 mb-3">Sit back
and relax! We will get back to you!!</h1>
                                        <p class="lead">Till then, stay
safe!</p>
                                    </div>
                                    <img
src="../static/assets/img/report/safe.gif" alt="be safe">
                                </div>
                            </div>
                        </div>
                        <!-- End of Contact Card -->
                    </div>
                </div>
```

```
            </div>
        </section>
        <!-- End of section -->
    </main>


<footer class="d-flex pb-5 pt-6 pt-md-7 border-top border-light bg-
primary">
    <div class="container">
        <div class="row">
            <div class="col">
                <!-- <a href="https://themesberg.com" target="_blank"
class="d-flex justify-content-center">
                    <img src="../../assets/img/themesberg.svg" height="25"
class="mb-3" alt="Themesberg Logo">
                </a> -->
            <div class="d-flex text-center justify-content-center align-
items-center" role="contentinfo">
                <p class="font-weight-normal font-small mb-0">Copyright ©
PhisherFind
                    <span class="current-year">2022</span>. All rights
reserved.</p>
                </div>

            </div>
        </div>
    </div>
</footer>


    <!-- Core -->
<script src="../static/vendor/jquery/dist/jquery.min.js"></script>
<script src="../static/vendor/popper.js/dist/umd/popper.min.js"></script>
<script src="../static/vendor/bootstrap/dist/js/bootstrap.min.js"></script>
<script src="../static/vendor/headroom.js/dist/headroom.min.js"></script>


<!-- Vendor JS -->
<script src="../static/vendor/onscreen/dist/on-screen.umd.min.js"></script>
<script
src="../static/vendor/nouislider/distribute/nouislider.min.js"></script>
```

```
<script src="../static/vendor/bootstrap-datepicker/dist/js/bootstrap-
datepicker.min.js"></script>

<script
src="../static/vendor/waypoints/lib/jquery.waypoints.min.js"></script>

<script    src="../static/vendor/jarallax/dist/jarallax.min.js"></script>

<script
src="../static/vendor/jquery.counterup/jquery.counterup.min.js"></script>

<script src="../static/vendor/jquery-
countdown/dist/jquery.countdown.min.js"></script>

<script src="../static/vendor/smooth-scroll/dist/smooth-
scroll.polyfills.min.js"></script>

<script src="../static/vendor/prismjs/prism.js"></script>


<script async defer src="https://buttons.github.io/buttons.js"></script>


<!-- Neumorphism JS -->

<script src="../static/assets/js/neumorphism.js"></script>

</body>


</html>
```