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Phishing Website Detector

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ABSTRACT: Phishing attacks continue to pose a major threat for computer system defenders, often forming the first step in a multi-stage attack. There have been great strides made in phishing detection; however, some phishing emails appear to pass through filters by making simple structural and semantic changes to the messages. We tackle this problem through the use of a machine learning classifier operating on a large corpus of phishing and legitimate emails. We design SAFEPC (SemiAutomated Feature generation for Phish Classification), a system to extract features, elevating some to higher level features, that are meant to defeat common phishing email detection strategies. To evaluate SAFE-PC, we collect a large corpus of phishing emails from the central IT organization at a tier-1 university. The execution of SAFE-PC on the dataset exposes hitherto unknown insights on phishing campaigns directed at university users. SAFEPC detects more than 70a state-of-theart email filtering tool. It also outperforms SpamAssassin, a commonly used email filtering tool. We also developed an online version of SAFE-PC, that can be incrementally retrained with new samples. Its detection performance improves with time as new samples are collected, while the time to retrain the classifier stays constant.

KEYWORDS: Phishing website detection, machine learning, cybercrime, deep learning, Support Vector Machine.

I. INTRODUCTION

Phishing can be defined as impersonating a valid site to trick users by stealing their personal data comprising usernames, passwords, accounts numbers, national insurance numbers, etc. Phishing frauds might be the most widespread cybercrime used today. There are countless domains where phishing attack can occur like online payment sector, webmail, and financial institution, file hosting or cloud storage and many others. The webmail and online payment sector was embattled by phishing more than in any other industry sector. Phishing can be done through email phishing scams and spear phishing hence user should be aware of the consequences and should not give their 100 percent trust on common security application. Machine Learning is one of the efficient techniques to detect phishing as it removes drawback of existing approach.

II. MOTIVATION

A URL phishing attack is an attempt to obtain sensitive information such as usernames, passwords, and other details. These attacks are successful when a victim follows a link to a website and provides whatever information is requested. To avoid this type of attack we are going to introduced new system.

III. OBJECTIVE

Phishing is a new type of network attack where the attacker eates a replica of an existing web page to fool users (e.g., by using specially designed e-mails or instant messages) into submitting personal, financial, or password data to what they think is their service provides' website. Detect and prevent URL phishing attacks.

System Analysis

IV. MODULE

• Admin
• In this module, the admin has to log in by using valid user name and password. After login successful he can do some operations such as View All Users and Authorize, View All E-Commerce Website and Authorize, View All

Products and Reviews, View All Products Early Reviews, View All Keyword Search Details, View All Products Search Ratio, View All Keyword Search Results, View All Product Review Rank Results.
• View and Authorize Users
 • In this module, the admin can view the list of users who all registered. In this, the admin can view the user's details such as, user name, email, address and admin authorizes the users.
 • View Charts Results
 • View All Products Search Ratio, View All Keyword Search Results, View All Product Review Rank Results..
• Ecommerce User
• In this module, there are n numbers of users are present. User should register before doing any operations. Once user registers, their details will be stored to the database. After registration successful, he has to login by using authorized user name and password Once Login is successful user will do some operations like Add Products, View All Products with reviews, View All Early Product's reviews, View All Purchased Transactions.
• End User
• In this module, there are n numbers of users are

present. User should register before doing any operations. Once user registers, their details will best or to the database. After registration successful, he has to login by using authorized user name and password. Once Login is successful user will do some operations like Manage Account, Search Products by keyword and Purchase, View Your Search Transactions, View. 5.1.2. Data Flow Diagram In Data Flow Diagram, we Show that flow of data in our system in DFD0 we show that base DFD in which rectangle present input as well as output and circle show our system, In DFD1 we show actual input and actual output of system input of our system is text or image and output is rumor detected likewise in DFD 2 we present operation of user as well as admin.
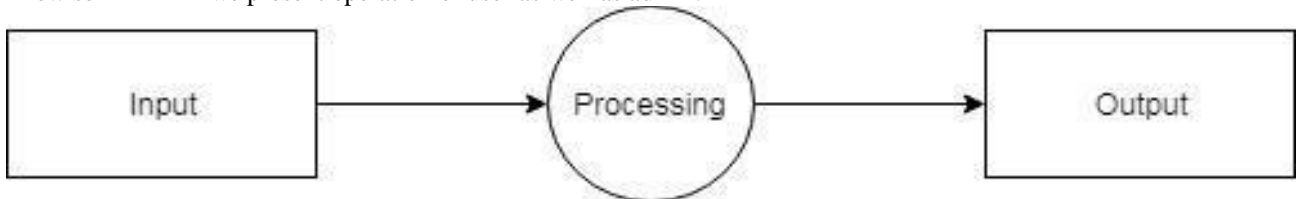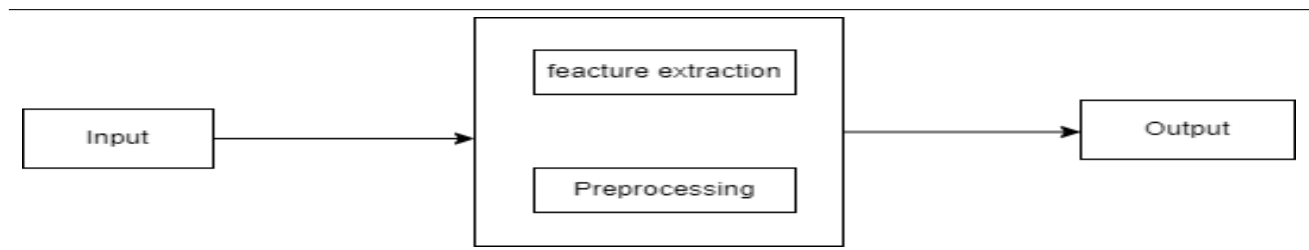

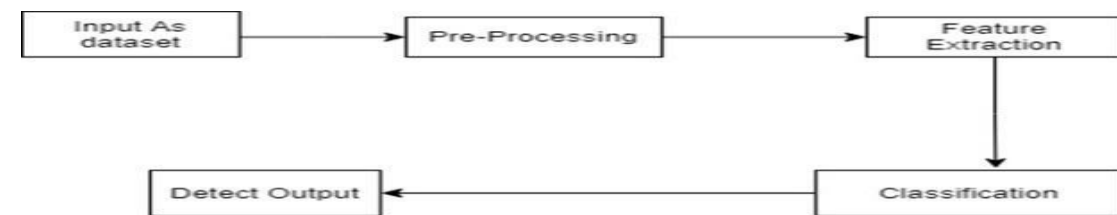Fig-1: Data Flow(0) Diagram

Fig-2: Data Flow(1) Diagram

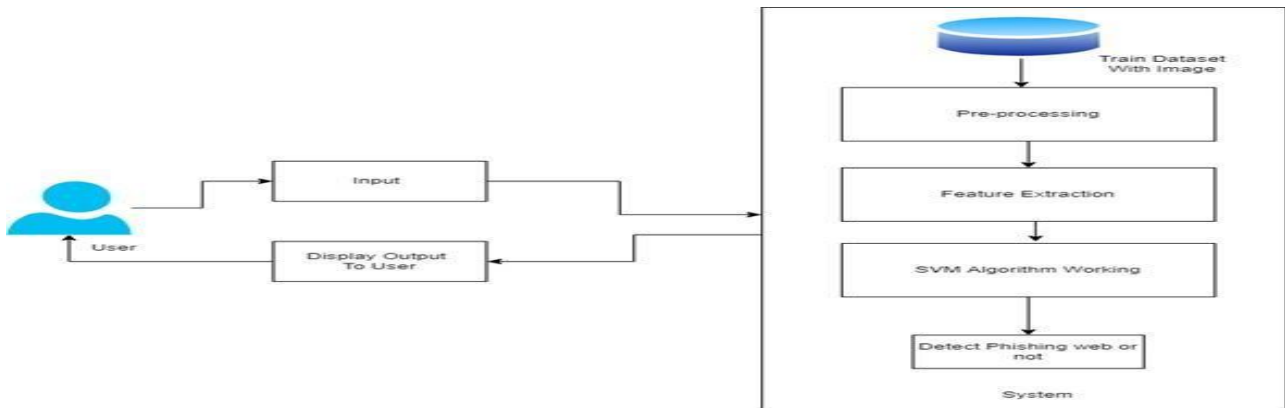Fig-3: Data Flow(2) Diagram

IV. SYSTEM ARCHITECTURE

Fig-4: System Architecture

UML Diagrams

Unified Modeling Language is a standard language for writing software blueprints. The UML may be used to visualize, specify, construct and document the artifacts of a software intensive system. UML is process independent, although optimally it should be used in process that is use case driven, architecture-centric, iterative, and incremental. The Number of UML Diagram is available.
 Class Diagram.
 Use case Diagram.
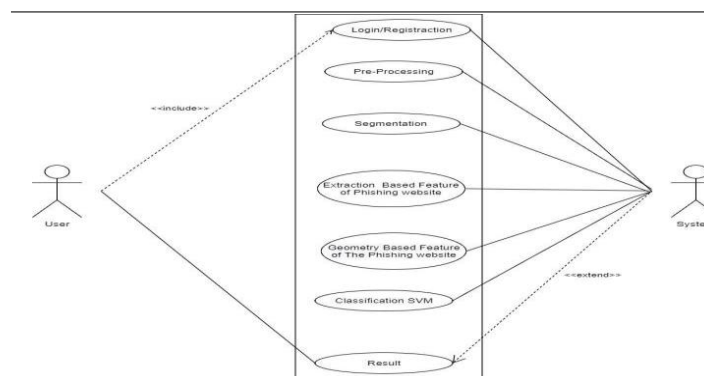 Activity Diagram
Sequence Diagram

Fig-5:ClassDiagram
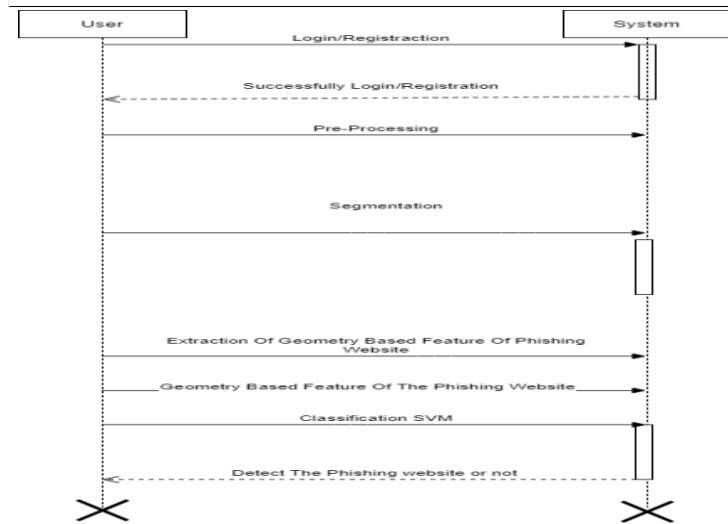
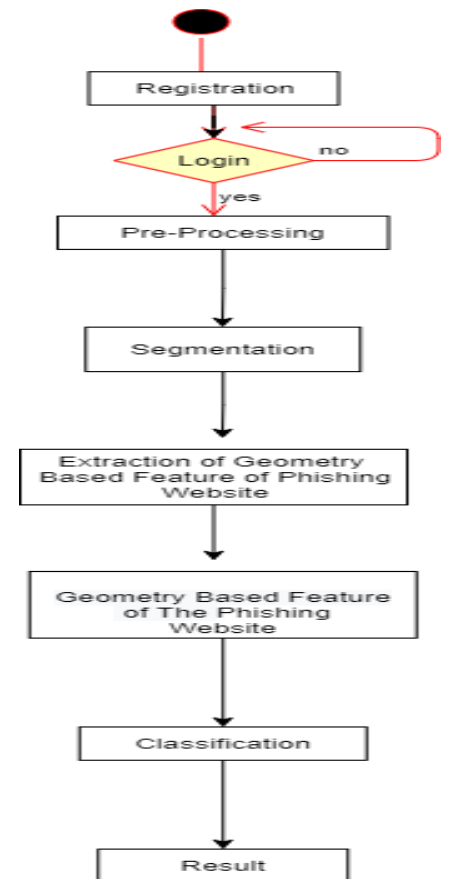Fig-6:Usecase Diagram

Fig-7:Sequence Diagram

Fig-8:Activity Diagram

Project Plan

In this chapter we are going to have an overview about how much time does it took to complete each task like- Preliminary Survey Introduction and Problem Statement, Literature Survey, Project Statement, Software Requirement and Specification, System Design, Partial Report Submission, Architecture Design, Implementation, Deployment, Testing, Paper Publish, Report Submission and etcetera. This chapter also gives focus on stakeholder list which gives information about project type, customer of the proposed system, user and project member who developed the system.

Software Testing

1.   Type of Testing

Software testing, depending on the testing method employed, can be implemented at any time in the development process. However, most of the test effort occurs after the requirements have been defined and the coding process has been completed. As such, the methodology of the test is governed by the software development method ology adopted. Different software development models will focus the test effort at different points in the development process. Newer development models, such as Agile, often employ test driven development and place an increased portion of the testing in the hands of the developer, before it reaches a formal team of testers. In a more traditional model, most of the test execution occurs after the requirements have been defined and the coding process has been completed.

2.   Test Cases Test Results
   •   GUI Testing
   Graphical User Interface (GUI) testing is the one of the mechanism in which user interface developed System Under some graphical rules. GUI testing includes checking various controls- menus, buttons, icons, dialog boxes and windows etc. Proposed system is tested for user inputs against different modules, validations are done. GUI is tested for appearance of different controls, visibility graphs is tested
   GUI testing involves following actions:
1.   Check all elements for size, position, width, length and acceptance of characters or numbers. For instance, you must be able to provide inputs to the input fields.
2.   Overall functionality related with performance of users graphical interface are checked.
3.   Check Error Messages are displayed correctly
4.   Check the font, layout details, style and display warning messages if it is false.
5.   check the positioning of GUI elements.
   •   Unit Testing
It is the testing of individual software units of the application .it is done after the complexion of an individual unit before integration. Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. This is a structural testing, that relies on knowledge of its construction and is invasive.

Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

3.   Test Cases Test Results

| Test Case ID	Test Case	Test Case I/P	Actual Result	Expected Result	Test case criteria(P/F)
001	Enter The Wrong username or password click on submit button	Username or password	Error comes	Error Should come	P
002	Enter the correct username and password click on submit button	Username and password	Accept	Accept	P

Fig-10:Logintestcase

Output Screen of Project
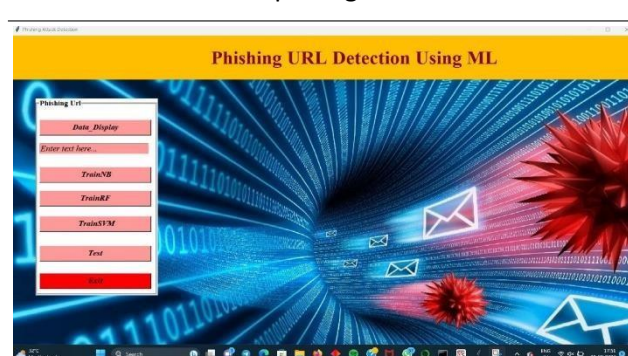
RegistrationPage
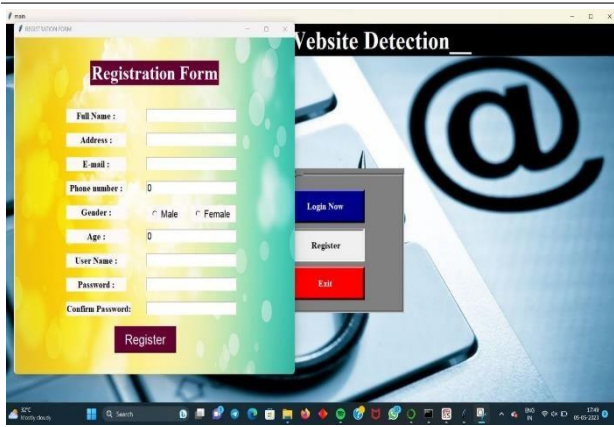
LoginPage
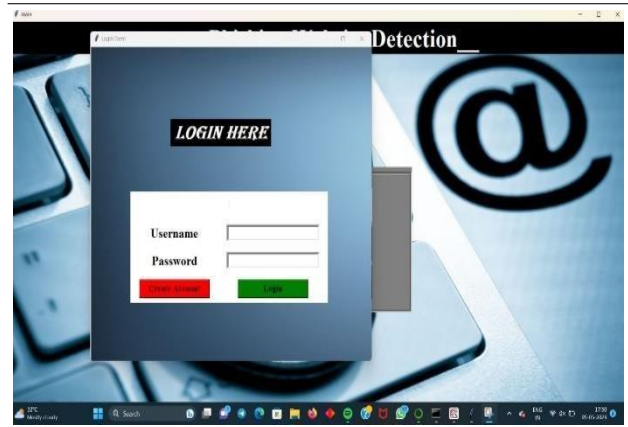
GUI Page

OutputPage

V. CONCLUSION

Phishing has become a serious network security problem, causing financial loss to both consumers and e-commerce companies. In this paper we've discussed about implemented system, using SVM algorithm.

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