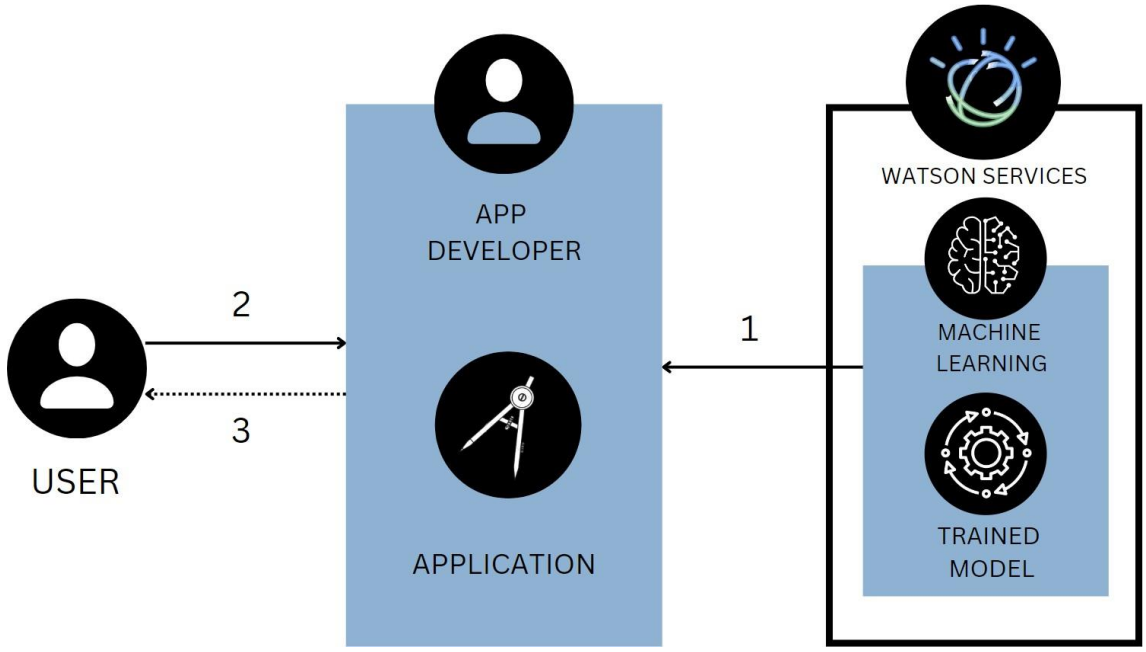
**Project Design Phase-II**
**Technology Stack (Architecture & Stack)**

| | |
|---|---|
| Date | 03 October 2022 |
| Team ID | PNT2022TMID35473 |
| Project Name | Project - Web Phishing Detection |
| Maximum Marks | 4 Marks |

**Technical Architecture:**




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.

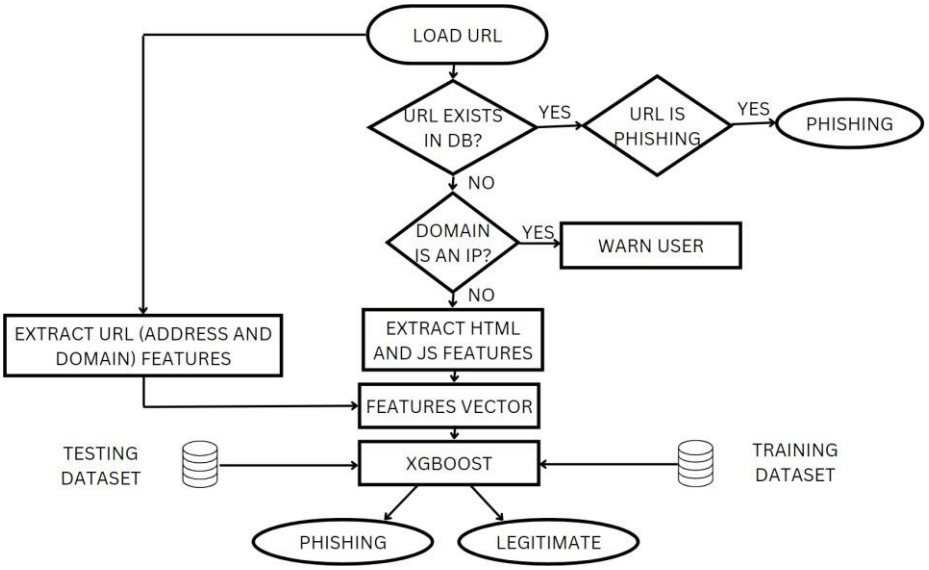


**Table-1: Components & Technologies:**

| S.No | Component | Description | Technology |
|---|---|---|---|
| 1. | User Interface | A web application with information about phishing and a form field to get the URL from user to check genuineness. | HTML, CSS, JavaScript, Bootstrap |
| 2. | Application Logic | Predict if the given URL is legitimate or not. | Flask API, Python |
| 3. | Database | Store user input links in the database. | MySQL |
| 4. | File Storage | Store training and testing datasets. | Local Filesystem |
| 5. | Machine Learning Model | Classify legitimate and phishing URLs using XGBoost | Classification model |
| 6. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud | Local, Cloud |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1. | Open-Source Frameworks | High-level open-source frameworks | Flask, Bootstrap |
| 2. | Security Implementations | It is the security discipline that makes it possible for the right entities (people or things) to use the right resources (applications or data) when they need to, without interference, using the devices they want to use. | IAM Controls |
| 3. | Scalable Architecture | Compose is a tool for defining and running multi-container Docker applications. With a single command, can create and start all the services from the configuration. | Docker, Docker Compose |
| 4. | Availability | It can balance the load traffic among the servers to help improve uptime. Can scale applications by adding or removing servers, with minimal disruption to traffic flows. | IBM Cloud load balancers |
| 5. | Performance | It provides performance feedback such as page size and how long it takes to load a page, and can show the impact new features have on the performance of the site. | IBM’s SpeedCurve and Delivery Pipeline |