Aptech®

Unleash your potential

PROJECT REPORT

ViroShield

VIROSHIELD

VIRO
SHIELD

Aptech Garden Center, Karachi.

CONTENTS

Definition of the Problem

People frequently forecast a variety of theories as to why fatalities occur, which happens frequently. But according to study, the biggest increase in mortality is brought on by viruses that are spreading and that no one is aware of, which is a major issue. In order to save many lives, the World Health Organization (WHO) has determined many surveys that must be carried out if there is an increase in the death rate.

'Influenza' is a viral disease and a person infected by this can show the symptoms of fever, headache, cough, cold, fatigue, and so on. Some symptoms last for a week while some result in a terrifying cause that leads to death.

Therefore, to overcome these challenges, a good and reliable application ("**Viro Shield**")will help predict the desired results, where the patient is aware of the problem he/she is going through and accordingly start the medication.

Requirement Analysis

This Phase Consist of the following:

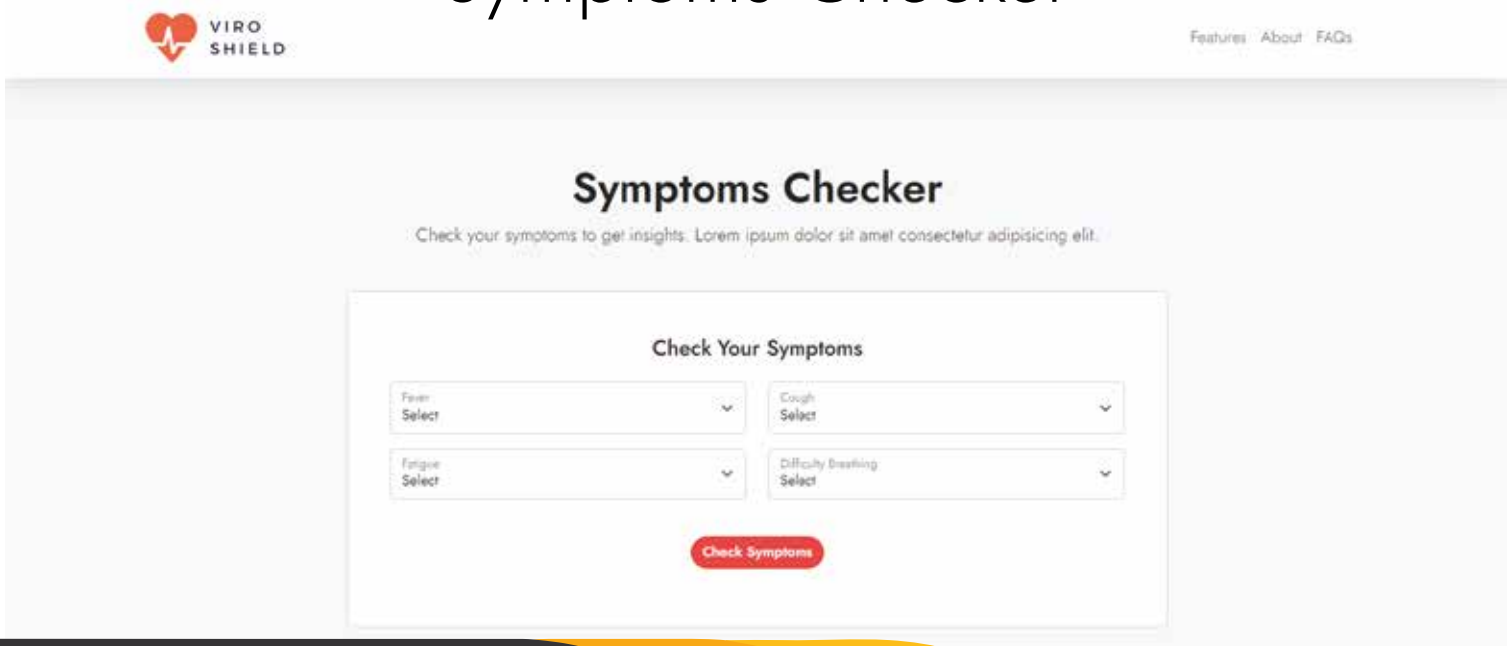
List of inputs to the system:
On Web application inputs will be from user by entering his symptoms.

List of outputs from the web application:
All Graphs according to dataset
and prediction of the Input provided by the user

Design Phase

Hero Section

Symptoms Checker



About Section

FAQs

Hardware and Software Requirements

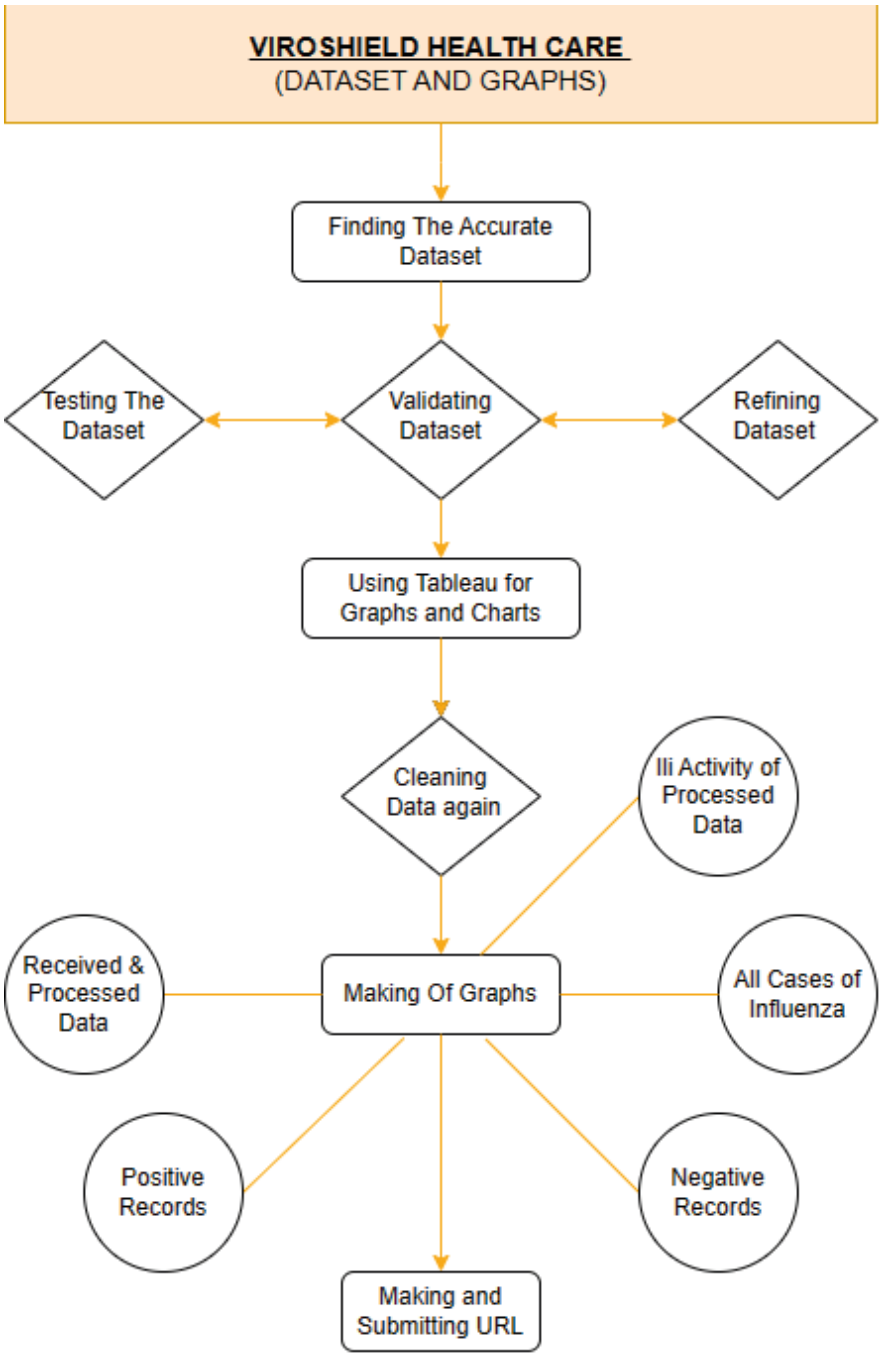
Hardware

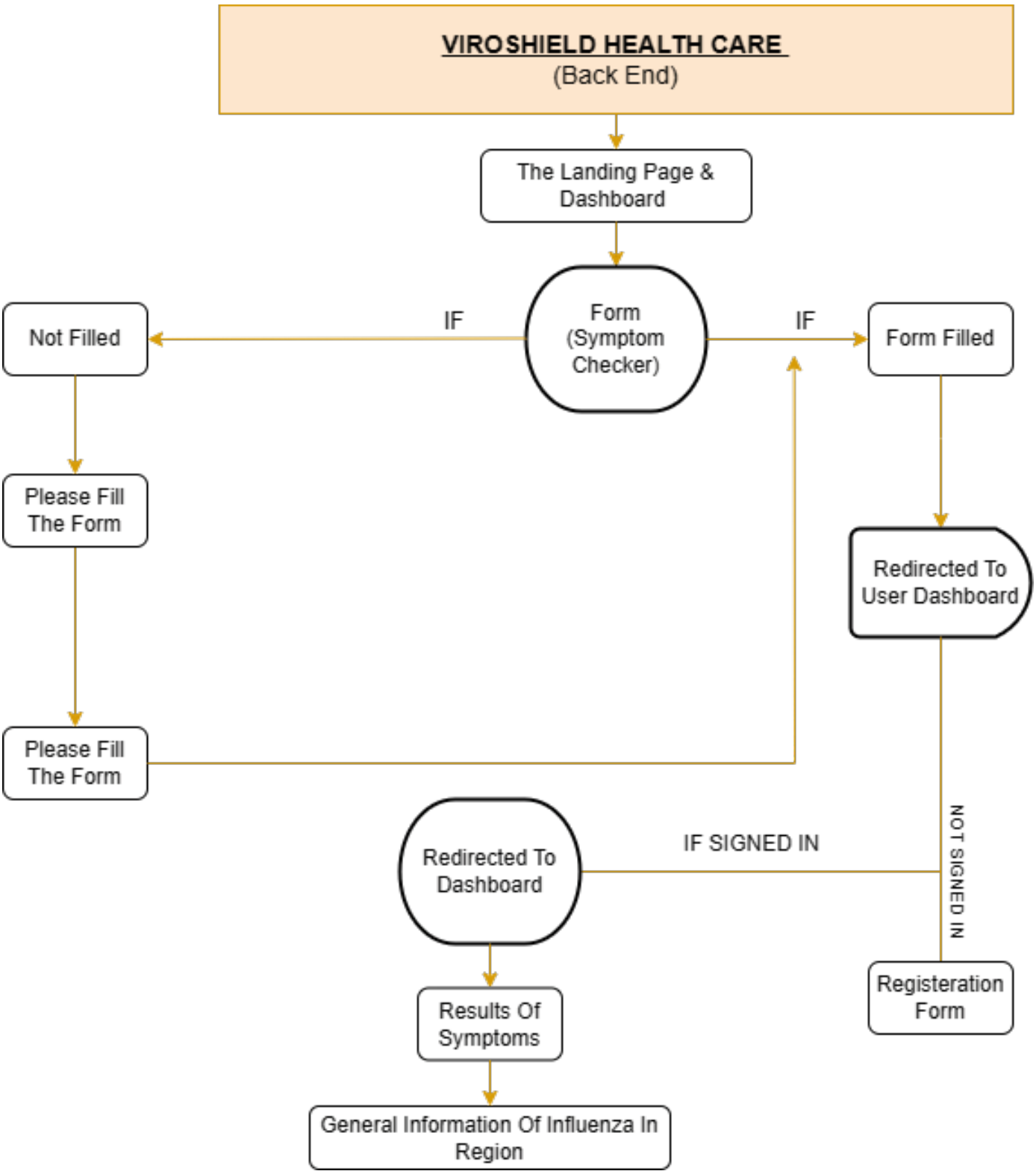
- Intel Core i5 Processor or higher
- 8 GB RAM or above
- Color SVGA
- 500 GB Hard Disk space
- Mouse
- Keyboard

Software

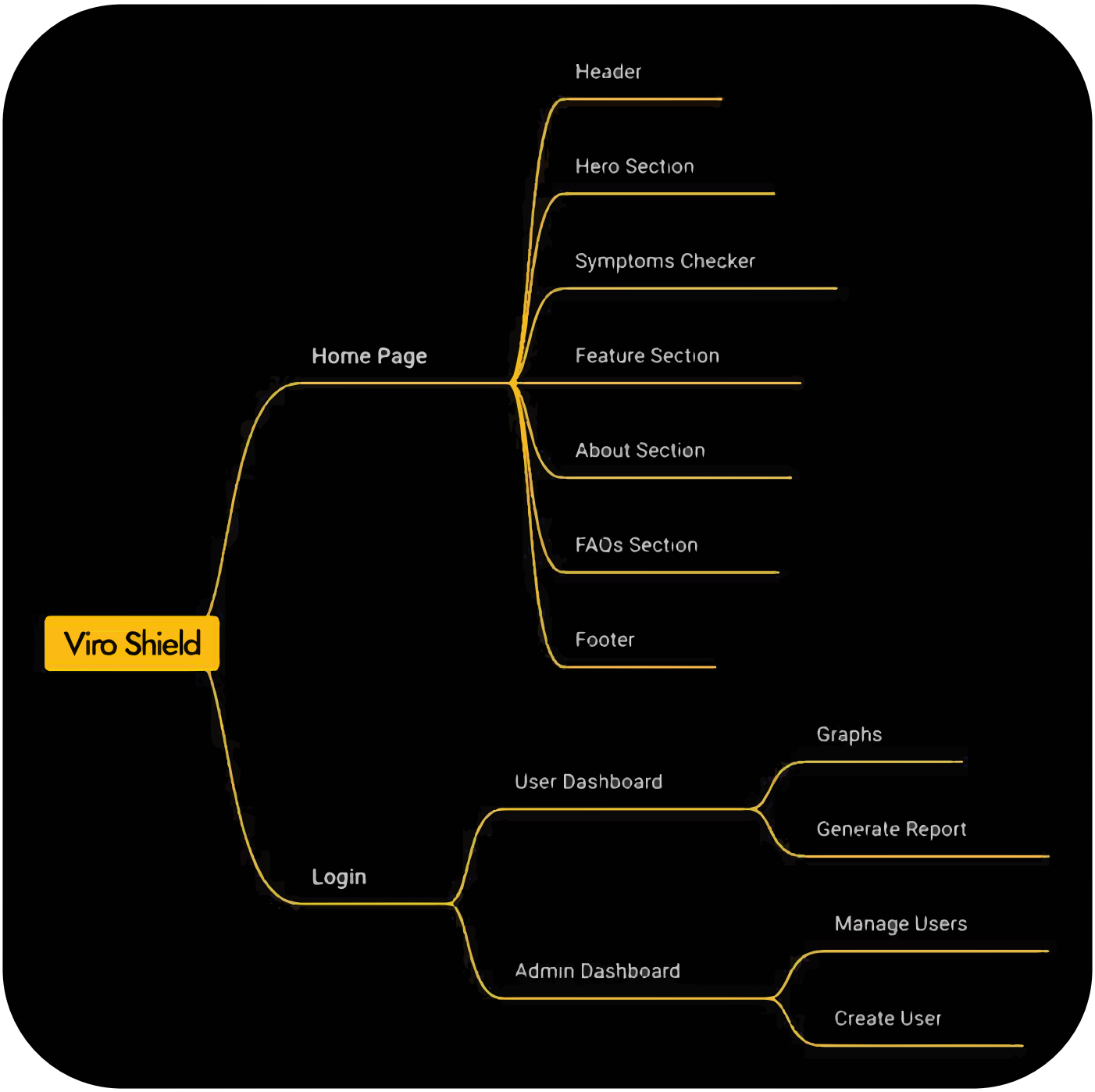
- Tableau
- Frontend
  - HTML--
  - CSS--
  - Javascript--
- Backend
  - Python--
  - Javascript--

Architecture




VIROSHIELD HEALTH CARE
(Back End)
The Landing Page & Dashboard
Form (Symptom Checker)
IF
Not Filled
IF
Form Filled
Please Fill The Form
Please Fill The Form
Redirected To User Dashboard
Redirected To Dashboard
IF SIGNED IN
NOT SIGNED IN
Registeration Form
Results Of Symptoms
General Information Of Influenza In Region

Sitemap


Viro Shield
Home Page
Header
Hero Section
Symptoms Checker
Feature Section
About Section
FAQs Section
Footer
Login
User Dashboard
Graphs
Generate Report
Admin Dashboard
Manage Users
Create User

Evaluation/Testing

Each unit is put to the test here, which is the most important step, to see how well it works. To determine whether the module can handle test data without producing any mistakes, test data is utilized. Test data might be fake data or real data that is taken from the system's current records. The separate tested modules are then combined and put through a variety of pathways before being tested as a whole. The project manager checks the produced system against requirement specifications during this phase to make sure it can fully address the Problem Definition.

Give the project to your peers for final testing after completion. The project should be examined to ensure that the information provided by the user in the various forms

Project Tracking & Monitoring Activities

Every Team member covered the development area(back-end).

Moiz Ahmed Khan Analized the data on Tableau.
Ahmed Hamza worked on frontend.
Mohammad Shayan documentation.
Muhammad Maaz readme File.

Monitored during the whole project by Miss Tahzeen Anis.

Source Code

```python
from django.shortcuts import render
from .models import Patient, HealthStatus, Prediction
import sweetviz as sv
from autoviz.AutoViz_Class import AutoViz_Class
import pandas as pd

def home(request):
    return render(request, 'home.html')

def perform_prediction(health_status):
    if health_status.fever == 'high' and health_status.cough == 'severe':
        return "Likely to have the flu"
    elif health_status.fever == 'low' and health_status.cough == 'wet' and health_status.fatigue == 'severe':
        return "Likely to have the flu"
    else:
        return "Unlikely to have the flu"

def symptoms_checker(request):
    if request.method == 'POST':
        # Get form data from POST request
        fever = request.POST.get('fever')
        cough = request.POST.get('cough')
        fatigue = request.POST.get('fatigue')
        difficulty_breathing = request.POST.get('difficultyBreathing')

        # Check if any symptom is not selected
        if fever == 'none' or cough == 'none' or fatigue == 'none' or difficulty_breathing == 'none':
            prediction_result = "Select all options"
        else:
            # Create HealthStatus instance
            patient = Patient.objects.create(name="John Doe", age=30, gender="M")
            health_status = HealthStatus.objects.create(patient=patient, fever=fever, cough=cough, fatigue=fatigue, difficulty_breathing=difficulty_breathing)

            # Perform prediction based on health_status and store the result
            prediction_result = perform_prediction(health_status)

            Prediction.objects.create(health_status=health_status, prediction_result=prediction_result)

        context = {'prediction_result': prediction_result}
            return render(request, 'viroshield/index.html', context)

        return render(request, 'viroshield/index.html')

    def dashboard(request):
        return render(request, 'admin/dashboard.html')

    # datasheetURL = "E:/Ah2101a/ViroShield - Techwiz'23/flunet_dataset.xlsx"
    datasheetURL = "../flunet_dataset.xlsx"

    def sweetviz_report(request):

        df = pd.read_excel(datasheetURL)
        # df.iteritems = df.items
        report = sv.analyze(df)
        report.show_html('report.html')

        context = {'report_path': 'report.html'}
        return render(request, 'admin/sweetviz_report.html', context)

    def autoviz_report(request):
        df = pd.read_excel(datasheetURL)
        AV = AutoViz_Class()
        AV_report = AV.AutoViz(df)
        return render(request, 'admin/autoviz_report.html')
```

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User Guide

A) System Requirements:

1) Operating System || Microsoft Windows 8.1, 10, or higher

2) Data Analysis || Tableau

3) Software || Visual Studio Code

B) Execution Of Web App

1) install a browser example chrome

2) Run the website by double clicking it

Task Sheet

		Title	Date of preparation of Activity Plan			
No.	Task		Start Date	Actual Days	Team-Mate Name	Status
01.	Research	Influenza Data Analysis	09 - AUG - 2023	0 6 - DAYS -	All	Done
02.	UI				Ahmed Hamza	Done
03.	Data Analyze				Moiz Ahmed Khan Mohammad Shayan	Done
04.	Backend				All	Done
05.	User Guide & Documentation				Mohammad Shayan Muhammad Maaz	Done

Our Journey

In terms of IT education, Aptech has been among the leaders. We learned extraordinary things over the six-day Techwiz competition. The tasks given were interesting and difficult.

Our ability to learn from one another while being grouped with students from different batches is another benefit. Our faculty members assisted us with the project and kept an eye on our work.
Finally, we would like to express our gratitude to Aptech for their brilliant idea. We had an incredible experience at TECH-WIZ.