**DATA VISUALISATION TOOL**

A

Project Report

Submitted in partial fulfillment of the requirement for the award of degree of

**Bachelor of Technology**

In

**Information Tecnology/Computer Science &Engineering(Data Science)/Computer Science & Engineering(Internet of Things)**

Submitted to

**RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA,**

**BHOPAL (M.P.)**



**Guided By Submitted By**

Prof. Shahida Khan Bhavya Jain ( 0827CD211018)

**DEPARTMENT OF INFORMATION TECHNOLOGY/CSE(DS)/CS(IoT)**

**ACROPOLIS INSTITUTE OF TECHNOLOGY & RESEARCH,**

**INDORE (M.P.) 452020**

**2023-2024**

Declaration

I hereby declared that the work, which is being presented in the project entitled **Data Visualisation Tool** partial fulfilment of the requirement for the award of the degree of **Bachelor of Technology**, submitted in the department of Information Technology/CSE(DS)/CSE(IoT) at **Acropolis Institute of Technology & Research, Indore** is an authentic record of my own work carried under the supervision of “**Prof. Shahida Khan**”. I have not submitted the matter embodied in this report for award of any other degree.

<Student Name><Roll No>

Prof./Mr./Ms./Dr. Project Guide

Supervisor

Project Approval Form

I hereby recommend that the project<**Title of Project>** prepared under my supervision by<**Student Name (Roll No.)>**be accepted in partial fulfillment of the requirement for the degree of Bachelor of Engineering in Computer Science & Engineering.

<<Supervisor Name>>

**Supervisor**

Recommendation concurred in 2023-2024

<<Name>>

**Project Incharge**

<<Name>>

**Project Coordinator**

Acropolis Institute of Technology & Research

Deparment of Infromation Technology/CSE(DS)/CSE(IoT)



Certificate

The project work entitled **Title of The Project** submitted by **<Name of the student (Enrollment No)>** is approved as partial fulfillment for the award of the degree of Bachelor of Technology in Information Technology/CSE(DS)/CSE(IoT) by Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P.).

**Internal Examiner External Examiner**

Name:………………. Name: ……………..

Date:…./…/……….. Date:…./…/………..

Acknowledgement

With boundless love and appreciation, we/I would like to extend our/my heartfelt gratitude and appreciation to the people who helped us/me to bring this work in reality. We/I would like to have some space of acknowledgement for them.

Foremost, our/I would like to express our/ my sincere gratitude to our/my supervisor, **Prof. Shahida Khan** whose expertise, consistent guidance, ample time spent and consistent advices that helped us/me to bring this study into success.

To the project in-charge **Prof. <Name of Incharge>**and project coordinator **Prof. Deepak Singh Chouhan** for their constructive comments, suggestions, and critiquing even in hardship.

To thehonourable **Prof. (Dr.) PrashantLakkadwala**, Head, Department of Information Technology/CSE(DS)/CSE(IOT) for his favourable responses regarding the study and providing necessary facility.

To thehonourable **Dr. S.C. Sharma**, Director, AITR, Indore for his unending support, advises and effort to make possible.

Finally, I/we would like to pay my/our thanks to faculty members and staff of Department of Computer Science & Engineering for their timely help and support.

We/I also like to pay thanks to our / my **parents** for their eternal love, support and prayers.Without them it is not possible.

Student 1(Roll No)

Student 2(Roll No)

Student 3(Roll No)

Student 4(Roll No)

Abstract

1. What was done?

In this project, a data visualisation tool has been developed for easing the visualisation tasks for complex datasets using various technologies. This is a tool for visualising the datasets in a much easier way using various charts, plots and infographics.

1. Why was it done?

This is done to ease the complex process of visualising data and myth-busting the easiness behind it. It aims to provide ease to a person having less technical knowledge about the various visualisation tools and technologies which indirectly helps an organisation to find patterns and trends in the data at a lower cost and human effort.

1. How was it done?

This was done using the following steps:

1. Defining the data visualisation goals and requirements
2. Choosing a data visualization framework or library that meets our needs.
3. Design and develop the data visualization software using our chosen framework or library.

The tool was built using various technologies such as:

1. Frontend:
   * HTML
   * CSS
   * Bootstrap
2. Backend:
   * Python(Flask)
3. Plotting libraries:
   * Matplotlib
   * Seaborn
4. Database:
   * MySQL
5. What was found?
6. What is the significance of the findings?

Table of Content

**Declaration**

**Project Approval Form**

**Acknowledgement**

**Abstract**

**List of Figures……**

**List of Tables……………….**

**Abbreviations………..**

**Chapter 1: Introduction**

1.1 Rationale

1.2 Existing System

1.3 Problem Formulation

1.4 Proposed System

1.5 Objectives

1.6Contribution of the Project

1.6.1 Market Potential

1.6.2 Innovativeness

1.6.3 Usefulness

1.7 Report Organization

**Chapter 2: Requirement Engineering**

2.1 Feasiblity Study (Technical, Economical, Operational)

2.2 Requirement Collection

2.2.1 Discussion

2.2.2 Requirement Analysis

2.3 Requirements

2.3.1 Functional Requirements

2.3.1.1 Statement of Functionality

2.3.2 Nonfunctional Requirments

2.3.2.1 Statement of Functionality

2.4 Hardware & Software Requirements

2.4.1 Hardware Requirement (Developer & End User)

2.4.2 Software Requirement (Developer & End User)

2.5 Use-case Diagrams

2.5.1 Use-case Descriptions

**Chapter 3:Analysis & Conceptual Design & Technical Architecture**

3.1 Technical Architecture

3.2 Sequence Diagrams

3.3 Class Diagrams

3.4 DFD

3.5 User Interface Design

3.6 Data Design

3.6.1 Schema Definitions

3.6.2 E-R Diagram

**Chapter 4: Implementation & Testing**

4.1 Methodology

4.1.1 Proposed Algorithm

4.2 Implementation Approache

4.2.1 Introduction to Languages, IDEs Tools and Technoloies

4.3 Testing Apporaches

4.3.1 Unit Testing

a. Test Cases

4.3.2 Integration Testing

b. Test Cases

**Chapter 5: Results & Discussion**

5.1 User Interface Representation

5.1.1 Brief Desscription of Various Modules

5.2 Shapshot of System with Brief Description

5.3 Database Description

5.3.1 Snapshot of Database Tables with Brief Description

5.4 Final Findings

**6. Conclusion& Future Scope**

6.1 Conclusion

6.2 Future Scope

**REFERENCES**

**Appendix A:** Project Synopsis

**Appendix B:** Guide Interaction Report (\*Dully Signed by Guide)

**Appendix C:**User Manual

List of Figures

List of Tables

Abbreviations