SP-2 DataMining & AI

SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

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Professor Perry

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1.0 Introduction

1.1 Overview

In this document, we highlight the various requirements that our project, Datamining and AI, will need. It will go over the requirements in each assigned section which, by the end, should cover the entirety of the project requirements. The requirements should account for both the application and AI parts of our project. The requirements will not cover the specific costs, scheduling, and design as all of that is covered in other documents with the corresponding title.

1.2 Project Goals

- Develop a data mining application and data analysis AI that will both display collected data in a uniform fashion and find patterns within the collected data as it relates to crime of terrorism.
- Institute cloud software into the data mining application to make the application itself more efficient at collecting data from various news sources.
- Set up a CICD pipeline to make version control easier to manage between group members.

1.3 Definitions and Acronyms

CICD - Continuous Integration Continuous Deployment

AI - Artificial Intelligence

ML - Machine Learning

Scrum – a management framework that teams use to self-organize and work towards a common goal.

1.4 Assumptions

It is assumed that the user will have access to the internet and a non-mobile device such as a laptop or desktop personal computer.

2.0 Design Constraints

2.1 Environment

Our data will be displayed on the Kennesaw website domain that is provided to each student. Azure will be our cloud software of choice that the data mining application will use. Our intended environment for our application and AI to work will be on a computer with an internet connection.

2.2 User Characteristics

Users that we predict will most commonly use this are those in law enforcement or government agencies. It can also encompass those who might be curious about crime correlations or statistics.

2.3 System

We are using the Python language to code our application and AI, therefore any machine learning libraries outside of Python's already existent libraries are out of our reach. We are also constrained to any of Azure's capabilities as free cloud software.

3.0 Functional Requirements

3.1 Application and AI will retrieve and use the data to output into the website

Dataset will be stored in cloud software, allowing it to be accessed from anywhere the application/AI runs

3.2 Display Home Page of website

The website itself will be an easily readable format with an appealing look, more than likely a dark coloring to be easier on the eyes.

3.3 Short summary of what the user is expected to see

3.4 Visualization of the data collected by the application

Will go over only what pieces of data we see as important enough to show

3.5 AI's content based on its findings for the data

Have Gen AI predict potential crime using the data

4.0 Non-Functional Requirements (use if applicable)

4.1 Security

The data set we decide to use will be anonymous and closed to the public as it will be synonymous with our application and AI.

4.2 Capacity

The website should boot up in a timely manner after the data has been processed through all parts of the application and AI. As we are using cloud software, the data will not have to be stored in the program itself and instead can be easily called on which should make the program less storage intensive.

4.3 Usability

Our project should be usable for anyone using the internet as it will be all displayed on a website. The website will also be user-friendly, allowing any user to view the data and see what conclusions the AI has made.

4.4 Other

The website will be available to anyone and anywhere with a working computer whether that be a laptop or personal computer. With our cloud software, the website should be able to access the

dataset it needs with ease, allowing for shortened loading times no matter where the user accesses the website.

5.0 External Interface Requirements (use if applicable)

5.1 User Interface Requirements

We will be using the Kennesaw student website which will display the mined data and AI findings. The website will be simple and easy to read while displaying easily digestible visual data.

5.2 Software Interface Requirements

Data warehouse from Azure will store our data that we will use for the application and AI.