Software Requirements Specification

A Social Media Threat Assessment Tool

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1. Introduction

Software requirement specification specify the requirements needed to develop the product, it acts as a contract between client and the development organization. This document provides the requirements to develop ‘A social media threat assessment tool’ that can be used to improve law enforcement intervention to threats communicated over social media. This document will act as a reference for the manager, developer team, and client to develop the product and analyze the requirements at various phase.

1.1. Purpose

This SRS is developed for the product ‘A social media threat assessment tool’ which can be used to improve law enforcement intervention to threats communicated over social media. This product will help to reduce the manual intervention task in identifying threats and to a company’s reputation through a coding process. Using this tool could also help determine which threats have a higher probability of happening.

1.2. Scope

This document is intended for following users-
Manager-to look after the completion of all the requirements
Developer team- to fulfill the requirements of the project and taking it as a reference will develop the product.
Testers- test the product according to requirements mentioned in the document.
Client- to review the product developed by the development team
Government Agencies- to perform threat analysis
End user- to access the social media site

1.3. Definitions, Acronym and Abbreviation

SRS- Software Requirement Specification

1.4. References

1.5. Overview

Sequence for reading the document, begin with the overview sections and proceeding sections include
Section 2- Overall Description
Section 3- External Interfaces
Section 4- System features

Section 5- Other non-functional requirements

2. Overall Description

2.1. Product Perspective-

'A social media threat assessment tool' is a standalone system, a demo social networking site will be created where users can create account, login and make post on several categories/topics. A social media threat assessment tool will then analyze the posts and predict whether it is potentially demeaning towards other people and improve law enforcement intervention to threats communicated over social media

2.2. Product Functions

User End-

- User can register to the social networking site and login whenever he wishes to do so.
- User can create his profile, add, edit information, and upload profile picture to his profile.
- With the application users can search and connect with others.
- Any user can post status which will be visible to his connections.

Admin End-

- Admin can login with the credentials whenever he wishes to do so.
- Software will identify harmful posts using threat assessment tool

2.3. User Classes and Characteristics

- Standard users may belong to any demographic group including any gender, nationality that can use computer's browser.
- The site requires its users to be above 16 years of age.
- Users should need to have any specific computer knowledge.
- User interface is in English language so users should have a basic English reading knowledge.

2.4. Operating Environment

2.4.1. System Interface

2.4.2. Interfaces

2.4.3. Hardware interface

Processor: Intel/AMD having more than 2 cores
RAM: 8.00GB
Memory: 16-20GB
Cloud Storage

2.4.4. Software interface

Operating System: Windows
Programming Language: Python
Web Technology-
Backend
Web Server

2.4.5. Communication Interfaces

2.4.6. Memory Constraints

Ram- Min 4.00GB
Hard disk- Optional
Cloud storage

2.4.7. Operations-

User end-
Account creation
Login
Posting
Account delete
Back end-
Web scrapping
Sentiment analysis

2.4.8. Site Adaptations requirements

2.5. Design and Implementation Constraints

2.6. User Documentation

2.7. Assumptions and Dependencies

- There will be availability of internet via 3G, 4G, 5G or Wi-Fi.
- The user of the site should be well acquainted with English language.
- The user should have a valid email address in order to register into the website.
- Central server of the system must be able to handle all the incoming requests simultaneously.
- The user has basic knowledge of computers and Internet.

3. External Interface Requirements

3.1. User Interfaces

Standard users will use the web browser to use the website. Hence it shall have a login page for users to login into the site. For those who are first time users, they will have to fill up registration details. After logging into the system, the user will be shown his profile and the wall containing the posts shared by user's friends. User is given options to log out, search people and change any of his personal settings on his home page. A daily advertisement page will be shown alongside the wall.

3.2. Hardware Interfaces

N/A

3.3. Software Interfaces

3.3.1 E-mail Interface

This interface uses the SMTP/POP services provided by third party to send emails to the required user. This service will notify users with required actions through a conventional medium.

3.3.2 Captcha Service Interfaces

Captcha services will be used for human identification

3.4. Communication Interfaces

The social networking website is based on HTTP .Moreover TCP/IP is used for chatting functionality

4. System Features

4.1Description and priority

This project involves classifying a post based on a threat assessment tool on a social media platform to detect whether that post could be potentially harmful to any user . It has a high priority as a threat assessment tool can help avoiding the higher authorities and prevent any kind of dispute between the users.

4.2Response sequences

- Analyses post content based on threat assessment tool
- Classifies whether a social media post is appropriate or not.

4.3Functional Requirements-

Cloud Storage: We need a cloud storage to store the data corresponding to every user and maintain a backend /server for the same .

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The steps involved to perform the implementation of threat assessment tool are as listed below.

ER Diagram:

The E-R Diagram constitutes a technique for representing the logical structure of a database in a pictorial manner. This analysis is then used to organize data as a relation, normalizing relation and finally obtaining a relation database.

- **ENTITIES:** Which specify distinct real-world items in an application.
- **PROPERTIES/ATTRIBUTES:** Which specify properties of an entity and relationships.
- **RELATIONSHIPS:** Which connect entities and represent meaningful dependencies between them.

5.2 Normalization

The basic objective of normalization is to reduce redundancy which means that information is to be stored only once. Storing information several times leads to wastage of storage space and increase in the total size of the data stored.

5.3 Security Requirements

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully.

5.4 Software Quality Attributes

- AVAILABILITY: The website should be available all the time and do not hang often.
- CORRECTNESS: The threat assessment should be carried out in an effective manner.
- MAINTAINABILITY: The administrators should maintain the site properly.
- USABILITY: The usability should increase and with no potentially harmful posts, the site should gain popularity.