Software Requirements Specification

for

RatingWeb

Version 1.0 approved

Prepared by Group 8

CMSE201, EMU, Cyprus.

May 11, 2021

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
Team 1	01.05.2021	Initial version	v1.0

1. Introduction

1.1 Purpose

The purpose of this SRS is to shed the light on the software functional and non-functional requirements for the RatingWeb website that aims to rate the Genuity of other websites by using opinion mining. There will be an overall description of the project in addition to explaining the external interface requirements and system features.

1.2 Document Conventions

We wrote this Document using MLA format. Bolded text has been used to emphasize sections and sub-sections headings. For each feature-in system feature- there is a list of requirements depending on what the point needs and requires. We have used Times new Roman in addition to the standard font.

1.3 Intended Audience and Reading Suggestions

The intended audience for writing this document is the team advisor and the development team in addition to the project managers and testers. The reader of this document can start from the introduction part that explains the purpose, scope, references then go through the overall description of the project, external interface, system features, functional requirements as all of these parts will be explained in details in the coming sections. At the end, there will be a glossary and analysis models which can be helpful to understand the document better.

1.4 Product Scope

Here we propose an advanced Website Evaluation system that rates other websites based on the opinion users. The Website will be evaluated based on factors such as genuineness of the website, timely delivery of the product after online transaction and support provided by the website. User will comment about the website, based on the comment system will rate the website. The system takes opinion of various users, based on the opinion; system will decide whether the website is genuine or not. The system uses opinion mining methodology in order to achieve desired functionality. We use a database of sentiment-based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user comment is ranked. The system contains keywords related to fraud, genuineness, timely delivery of the product and service meters in the database. Based on these factors system will rate the website.

1.5 References

[1] *Website rating using opinion mining:*

https://nevonprojects.com/website-evaluation-using-opinion-mining/

Website evaluation using opinion mining (researchgate.net)

Website Evaluation Using Opinion Mining - ProjectsGeek

2. Overall Description

2.1 Product Perspective

The website evaluation is performed using the data mining technique. For this analysis the opinion of the user is to be considered. The user opinion plays a vital role in deciding the performance of the product. The user opinions can be reviewed by means of feedback and the rating provided by them. The criterion for the evaluation would be genuineness of the site, support offered by the website and the delivery in time after each online transactions. Thus the genuine quality of the website could be identified easily and the result will be more appropriate since it uses the mining technology. This also reduces the overhead of the users in opting the best website.
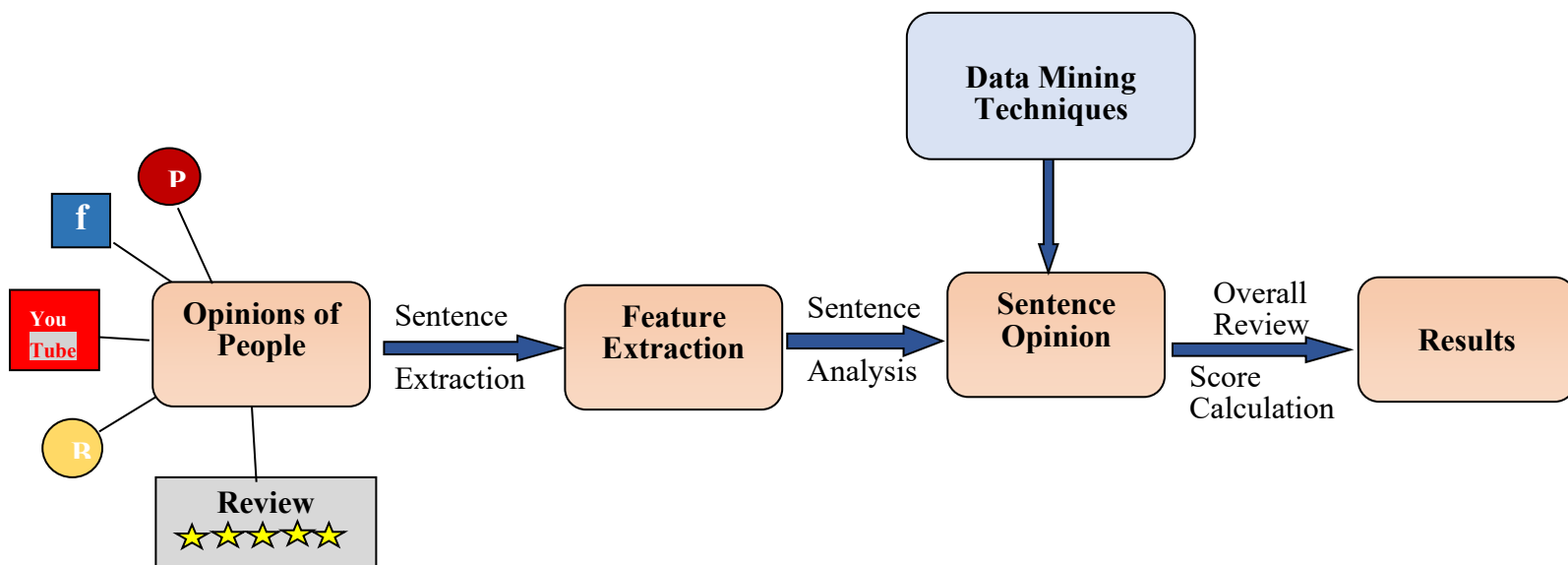
2.2 Product Functions

- **Admin Login:** Admin login's to the system using their Admin ID and password.
- **Add New Movie:** Admin adds websites in database.
- **Add Keyword:** Admin adds new keyword based on the factors such as genuine of the website, timely delivery of the product and support provided by the website.
- **User Login:** User login's to the system using his user ID and password.
- **Comment:** User will comment about a website and system will rank the website according to the comment of the user.
- **View Comment:** User can view other user's Comment.
- **Rating Calculation:** System will match the comment with the keywords in database and will rate the website.

ADMİN		USER	
User ID char Password char		Review String	
View User View Review Manage User View Admin		Login Register Enter Web Manage Acc	

WEB SERVER		DB-Handler	
Request char Response char		User Rec char Website char	
Send Request Get response		Insert Update Delete	
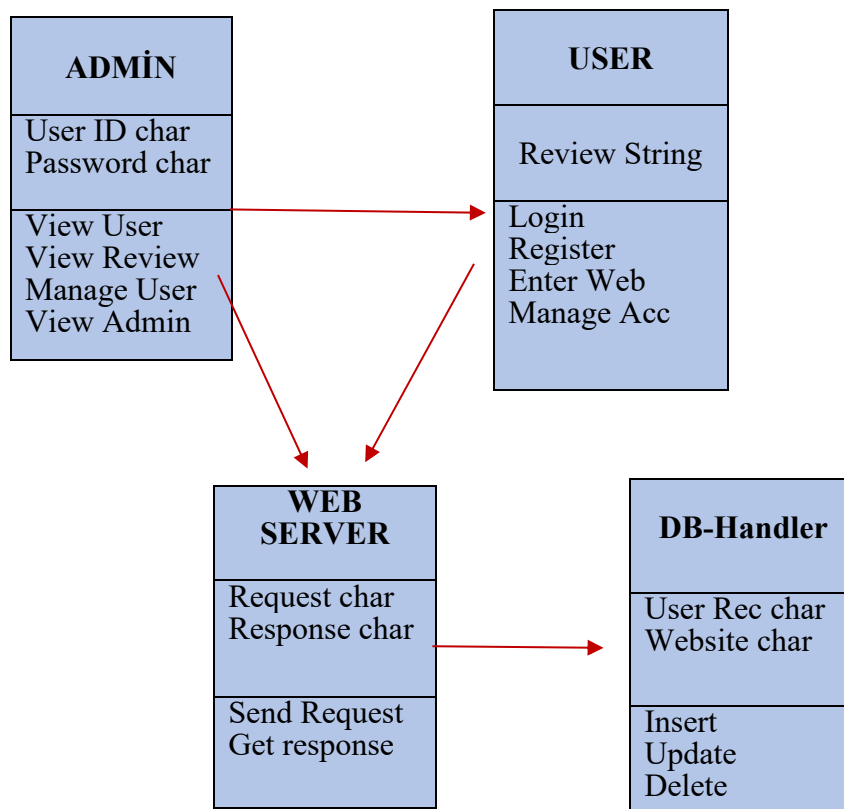
2.3 User Classes and Characteristics

- My Details
  - ✓ Add Website
  - ✓ View Comments
  - ✓ View User
  - ✓ View Feedback
- Rate Websites
- Change Password
- Feedback
- Logout

2.4 Operating Environment

The system requires the following software and hardware platforms to run optimally:

- **Software Requirements**

  - ➢ Windows or IOS
  - ➢ SQL
  - ➢ Visual Studio 2010

- **Hardware Requirements**

  - ➢ Hard Disk → 1 TB or Above
  - ➢ RAM Required → 8 GB or Above
  - ➢ Processor → Core i3 or Above

2.5 Design and Implementation Constraints

This operator displays all the characters in a file. This operator channels words to be blocked in English by removing them from a report. Creates a square from the word list to block. If not too much of an issue, it is possible that this manager is working properly.

➡️ **DOCUMENTS** → **TRANSFORM CASES** → **FILTER STOPWORDS (ENGLISH)**

2.6 User Documentation

The application will come with a hands-on tutorial for first-time users, being guided through the functions of the systems. A help guide will also be available to clear out queries for later reference.

2.7 Assumptions and Dependencies

The project is hugely dependent on the compatibility of the system with hardware device and web browser.

3. External Interface Requirements

3.1 User Interfaces

The RatingWeb user interface must be designed in a way that helps users navigate through the website easily and conveniently and helps the websites creators know how users are rating their websites. There will be a login page as an administrator, and login page as a visitor. The role of the admin is to add various websites to the system and add keywords in the database so that the system will match the comment with keywords in the database and rate the website based on the sentiment analysis. On the other hand, users (visitors) can easily see a list of highly rated websites to choose and find out which website will deliver the product in time and which website will provide good support. Furthermore, incase the user has used a particular website, he can put his feedback in a comment section specified to each website then based on the keywords in the database that are matching with the user comment the system uses a certain algorithm which will calculate the rating based on comments.

3.2 Hardware Interfaces

As the RatingWeb is a website it requires the user to be connected to internet, whether through WIFI, 3G, 5G …etc.
The website needs to use GPRS connection to identify the country of the users of the websites and check if a particular website is available in a particular country or not as for the websites' owners to know people from which country are visiting their websites in order to improve their services.

3.3 Software Interfaces

The RatingWeb website is designed as a webapp that can be accessed through any web browser available such as chrome, Microsoft edge, Firefox…etc.

3.4 Communications Interfaces

The user can reach the website simply by searching on any searching engine available after connecting to internet since the website has a network server which is a web-based. There will be a huge database saved in the cloud(server) for the information of all rated and new websites as well as users information. The website URL needs to start with HTTPS.

4. System Features

4.1 View rated websites:

4.1.1 Description and Priority

This feature has a very high priority as the user will be able to view all websites and thus know which website to be used and trusted. When looking for a certain website to know about its information, the user can simply search by the title of the requested website.

4.1.2 Stimulus/Response Sequences

The user will be able to see multiple rated websites in home screen as soon as he inters the website; however, for him to be able to show his opinion he will need to login and if not logged in before he needs to sign up whether as a user or a website admin.

4.1.3 Functional Requirements

REQ-1:   The user should be able to navigate between the tabs of different websites.
REQ-2:   The user should be able to login and logout of the system.
REQ-3:   The user should have either used the website before or is looking to use a certain website.

4.2 Comment on a specific website

4.2.1 Description and Priority

The user can choose any website that he can be directed to by the website link. After viewing or experiencing the website the user can write his comment. This feature has a high priority as the rating algorithm will be based on the comments of the users using that web in which that will help other users to have a better decision regarding using a certain website.

4.2.2 Stimulus/Response Sequences

After logging in the user will see a list of websites and he can navigate between them. There will be a link for each website and based on the user's experience of a certain website he can share his comments.

4.2.3 Functional Requirements

REQ-1:   The user should be able to navigate between the tabs of different websites.
REQ-2:   The user should be able to login and logout of the system.
REQ-3:   The user should have either used the website before or is looking to use a certain website.
REQ-4:   The user needs to be honest and biased when giving his opinion.

4.3 Add a website to be rated

4.3.1 Description and Priority

This feature is specified for websites administrators. This feature priority is high since it allows the websites owners to get more visitors for their websites if they are rated highly and help.

4.3.2 Stimulus/Response Sequences

After logging in for administrator section, the user can find <add a website> button. After adding the website link, he will need to provide information about this website like why it was created and how can it help the people, who creates it … etc.

4.3.3 Functional Requirements

REQ-1: The admin should have to be in contact with the website's owner.
REQ-2: The admin needs to be aware of all new created websites so as to add them to the system to be rated.
REQ-3: The admin should be able to add and describe the website.
REQ-4: The admin should focus more on the websites that prompts the user to transfer money or do payments since such websites have the biggest priority for rating.

4.4 View other's opinion

4.4.1 Description and Priority

In this section, the user has the ability to see what people say about a certain website and thus compare their feedbacks. This feature is important since it helps the user visualize what other people think about a certain website and help the websites owners to read their customers opinions and thus provide a better service.

4.4.2 Stimulus/Response Sequences

After logging in either as an admin or as a normal user, click on the targeted website and see what people think about it and what have they commented as their feedback.

4.4.3 Functional Requirements

REQ-1: The user has the ability to whether agree or disagree with the written opinion.
REQ-2: The user can navigate through many comments as much as he desires.
REQ-3: The user can get in contact with other people in the website.
REQ-4: The user has the ability to comment on a ready comment.

4.5 Get an instant help

4.5.1 Description and Priority

This feature allows new users to get helped in case they faced any problem during their search. It is important as well since it helps users be connected with other users and thus have their problem solved easily and quickly.

4.5.2 Stimulus/Response Sequences

This feature should be viewed in home page at first stage and as well as the user can find it after logging in. As soon as the button of <help> is clicked on, the user will be directed to a chat where he can state his problem and consequently get helped and guided through.

4.5.3 Functional Requirements

REQ-1: The user needs to state the problem faced clearly.
REQ-2: The user should be able to communicate with virtual person or machine to get his problem solved.

4.6 View users' details

4.6.1 Description and Priority

This feature appears for both website's admin and users. The website admin can view details of the visitors of the website such as emails, phone numbers, comments, and personal information. Users can use this feature to know about other users who comment and leave their feedback so as to discuss if needed.

4.6.2 Stimulus/Response Sequences

After logging in -whether as an admin or as a user- there will have a button <user's details> in which it can be clicked and viewed readily.

4.6.3 Functional Requirements

REQ-1: The user can view a profile photo of other users.
REQ-2: The user can contact other users.
REQ-3:   For admins they can remove or add any user.
REQ-4:   The user has the ability to view his own details and change on them, such as changing the password.

4.7 Send Feedback

4.7.1 Description and Priority

The feature is mainly for users to evaluate the WebRating web and to tell if they faced any troubles using it or to give their opinion of the service as a whole. Feedback is a very important section since it helps the website admin to know more about the website performance and thus make it as appealing to the user as possible.

4.7.2 Stimulus/Response Sequences

After logging in the user can find <feedback> button in which as soon as he clicks it three main sections will appear to him to fill: 1. User name and surname. 2. User email address. 3. Place for writing the comment. The for sure a submit button as well as a Robot verification code for security.

4.7.3 Functional Requirements

REQ-1:   The user can write his feedback at any time and as much as he wants of time.
REQ-2:   The user is required to fill all the sections appeared to him in order for the feedback to be submitted and viewed by admins.
REQ-3:   Admins must have a database for users' information and feedback.
REQ-4:   Admins needs to respond to the feedback of the user in the most respected, probable way.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

to help the developers understand the intent and make suitable design choices

- The system must have a good response time.
- The load time for the User interface should take less than two seconds.
- It should be able to respond to multiple numbers of people at the same time.
- The log in information should be verified within five seconds.
- Queries shall return results within five seconds.
- The system should be able to achieve a lot in a specified amount of time.
- The system should be able to withstand a heavy workload.
- The system must run error free while operating with a huge set of data.
- The system should be precise and accurate when dealing with data.
- The admin should be able to add, edit and delete showed websites in the RatingWeb
- The admin should be able to add, edit and delete comments in the Rate Website's page.
- The admin should be able to add, edit and delete contents in the help page.
- The admin should be able to add, edit and delete information in the about page.
- The admin should be able to add, edit and delete information in the contact us page.
- The admin should be able to add, edit and delete settings options.
- The user should be able to rate websites in the Rate Website's page
- The user should be able to add comment in the Rate Website's page
- User should easily share his view about the website (feedback).

5.2 Safety Requirements

for any possible loss, damage, or harm that could result from the use of the product.

- All external communications between the system's data server and users's must be encrypted
- To ensure that the system is secure, access to the various subsystems will be protected by a User log in screen and requires a User information (Mail, Name, Pass-word).

- To avoid loss of data in case of system failure, all system data must be backup every 24 hours and the backup copies stored in secure location different from the system. The system data should be stored in storage device e.g. hard drive, CD, Flash drive(USB) or it could be stored in files.

•   In the home page, users should see following pages: My details   Rate Websites   Change Password   Feedbacks   Logout

-
- The system should maintain a good backup: Maintaining backups ensures that the system's database is secure, which means that in case of an emergency or accident the system can be easily restored.

5.3 Security Requirements

5.3.1 Usability:
- The system should have a well formed, easy and soft to use graphical User interface

- The system should be User friendly

- The system must be easy to learn for both novices and Users with experience from similar systems

- The User must understand what the system does

- The User must feel satisfied with the system

5.3.2 Supportability:

- The system should be easy to maintain.

- In order for the system to be easy to maintain it is done with a web-based, which is easy to maintain.

- Maintenance of the system should be cost efficient

- Maintenance of the system should be less frequent

5.4 Software Quality Attributes

additional quality characteristics for the product that will be important.

- There have to be feedbacks and visual cues such as notifications to inform users of updates
- The Website will design soft and understandable to users
- People can easily decide whether the website is genuine or not.
- This system should help the user to find out the website which provides good service and delivers the product in time
- Since system ranks the website based on the weight age of the keywords in database, so the result is should be appropriate.

6. Other Requirements

Appendix A: Glossary

USB (Flash Drive) – Universal Serial Bus. A serial bus standard that is used in many computer peripherals and other electronic devices.

CD - The compact disc (CD) is a digital optical disc data storage format that was co-developed by Philips and Sony to store and play digital audio recordings.

Hard drive - A hard disk drive (HDD), hard disk, hard drive, or fixed disk is an electro-mechanical data storage device that stores and retrieves digital data using magnetic storage and one or more rigid rapidly rotating platters coated with magnetic material.

MLA Format - MLA Style specifies guidelines for formatting manuscripts and citing research in writing.

SQL - SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system, or for stream processing in a relational data stream management system.

iOS - iOS is a mobile operating system which is developed by Apple for supporting their particular hardware like iPhone, iPod touch, and iPad.

RAM - RAM is temporary storage that goes away when the power turns off.

Database: A database is an organized collection of structured information, or data, typically stored electronically in a computer system.

Processor - A central processing unit, also called a central processor, main processor or just processor, is the electronic circuitry that executes instructions comprising a computer program. The CPU performs basic arithmetic, logic, controlling, and input/output operations specified by the instructions in the program.

3G/cellular: Third generation of wireless mobile telecommunications.

5G/cellular: Fifth generation of wireless mobile telecommunications.

GPRS - General Packet Radio Service is a packet oriented mobile data standard on the 2G and 3G cellular communication network's global system for mobile communications. GPRS was established by European Telecommunications Standards Institute in response to the earlier CDPD and i-mode packet-switched cellular technologies.

URL - A Uniform Resource Locator, colloquially termed a web address, is a reference to a web resource that specifies its location on a computer network and a mechanism for retrieving it.

HTTPS - Hypertext Transfer Protocol Secure is an extension of the Hypertext Transfer Protocol. It is used for secure communication over a computer network, and is widely used on the Internet. In HTTPS, the communication protocol is encrypted using Transport Layer Security or, formerly, Secure Sockets Layer.
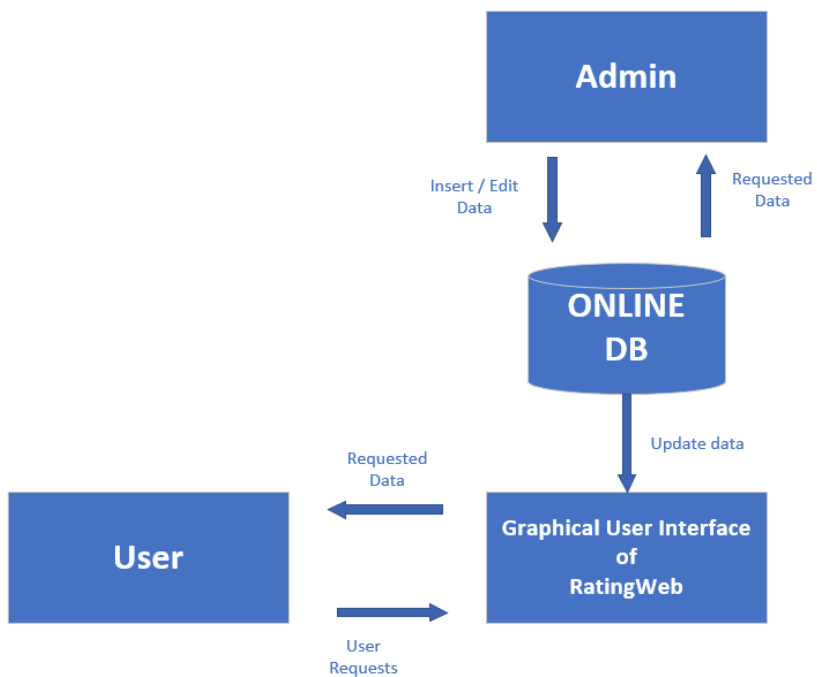
 Windows (Microsoft) - commonly referred to as Windows, is a group of several proprietary graphical operating system families, all of which are developed and marketed by Microsoft.
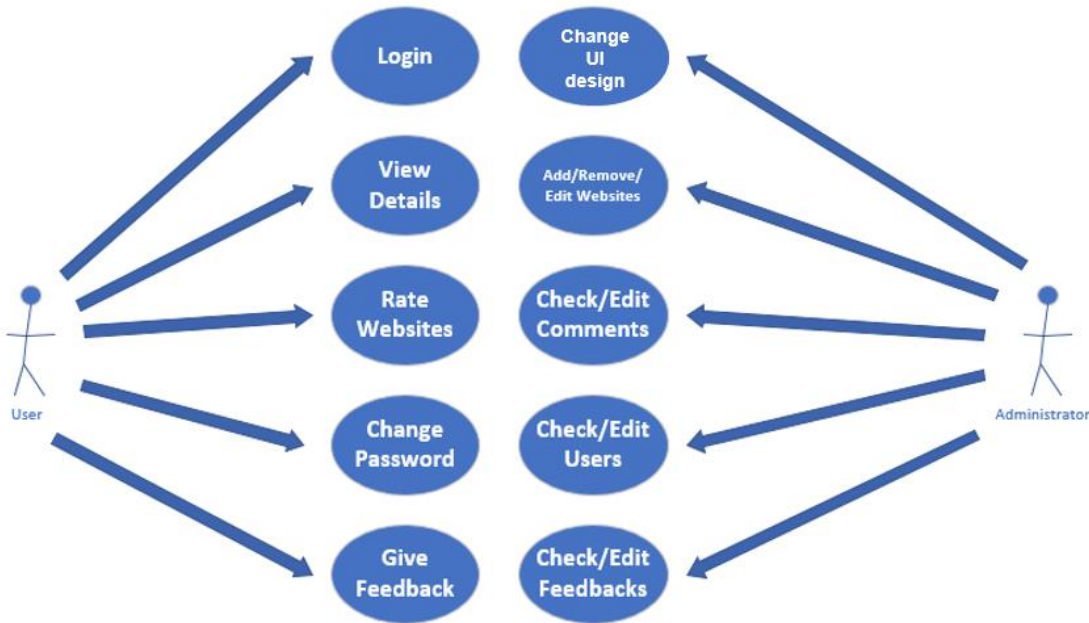
Appendix B: Analysis Models

Components Model
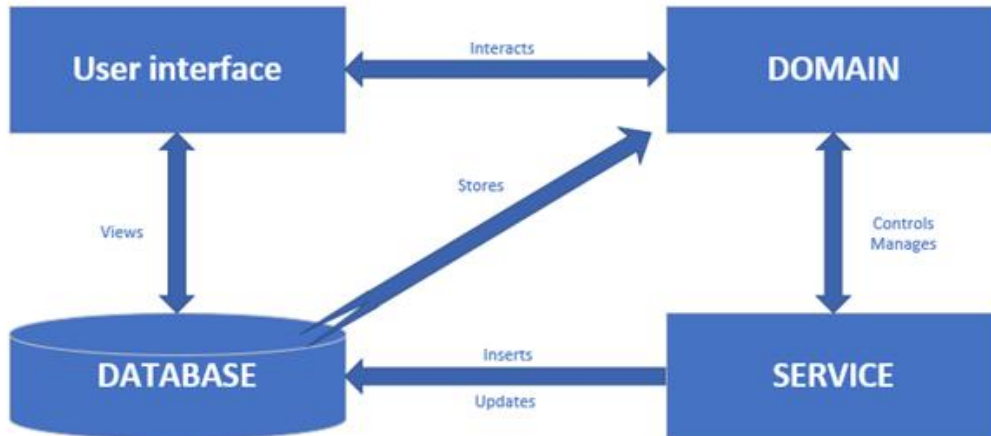
Context Diagram

Use Case Diagram

Appendix C: To Be Determined List

o Business rules.
o Analysis Models
o System Architecture
o Detailed System Information
o Detailed Diagrams
o User Interface Samples