Software Requirements Specification

for

Career Recommendation System

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) document will provide a detailed description of the steps, phases and designs necessary for the Career Recommendation System. This SRS document will allow for a complete understanding, of what is to be expected of the CRS to be constructed. A clear understanding of the system and its functionality will allow for the correct software system to be developed for the users of the software and will be used for the development of the future stages of the project. This SRS document will provide the foundation for the project. This SRS document will be used by the software engineers for helping and working side by side with the system analysts while constructing the CRS. The software engineers will also use the SRS document to fully understand the expectations of this CRS, to construct the appropriate software.

1.2 Intended Audience

It is intended that the document may be read by development and design team, quality assurance and testing team, project manager, courier management staff as well as marketing staff. It is suggested to read the document carefully, especially the points highlighted need more intention of the readers. The readers are expected to read the reference books and visit reference sites in case of any inconvenience during reading the document.

1.3 Product Scope

Students are the citizens of the future, and it is necessary that they understand exactly how and where they fir. In the long and arduous path to education, they take up many extracurricular works, which may or may not be academic. These include everything like competitions, internships, and projects they have done. All these count as factors along with their education, in their path for the future. The students must be advised on what steps they can take in future to begin their career. It is very easy to be led astray by external sources due do large amount of information that is available. Hence, we must give them a comprehensive guide as to what they would be a good fit for.

1.4 References

Software Engineering: Principles and Practice, Hans van Vliet

Software Engineering: Sommerville

Machine learning by Tom Mitchell

https://towardsdatascience.com/

2. Overall Description

2.1 Product Perspective

For college students when facing various career options upon graduation or at any phase of learning, it could be overwhelming to choose a job that better fits with his/her future goals. This is when people start to look for other people who have similar backgrounds to see what their decisions were and where did they end up. Instead of consulting only a few acquaintances, we present a way to help people learn from thousands of others with similar backgrounds and find the best career steps that enable them to reach their goals.

Description of Proposed System:

The first phase of the system namely the prediction stage involves the development of a classifier by extracting unique values of individual employee

profile has been extracted and frequencies have been calculated based on various attributes.

The second phase namely the recommendation stage recommends the user with its predicted career which is possibly attained with the help of highest accuracy obtained through various algorithms which must be carried after the user enters his personal details.

2.2 Product Functions

The main objective of this project is given below:

- User enters various details like Basic Information, Academics Information, interests, hobbies, etc.
- Based on the user inputs and after analysis of the information, the user can view a detailed report on the best suited courses and career options for them along with detailed description for each recommendation.
- Students get a better understanding about exactly how and where they fit.
- The application provides a comprehensive guide to the users, as to what they would be a good fit for and what other resources they need to ensure that they are even a better fit.
- Assists and provides more information to users about the field they may be good at, which makes choosing a field of study easier

2.3 User Classes and Characteristics

Roles and characteristics of each class are discussed here.

- The login details database can be accessed by only those having administrative rights to perform different operations on data from the database.
- **Customer/Public** will be able to access all the features only if they login or sign up.

2.4 Operating Environment

The proposed system will be able to operate in **any operating system**.

2.5 Design and Implementation Constraints

The above functionalities are available to all users. To maximize the privacy of data, everyone will have his/her own user ID & password. Only authorized persons will have the access to specific features of the system.

2.6 Assumptions and Dependencies

- All users are supposed to know how to use the system and basic knowledge about the system.
- It is assumed that the computer system having the proposed system will have enough memory and efficiency to have compatibility with the system.
- The efficiency of system depends upon the interaction of users with the system, overall load to the system & other factors.

3.External Interface Requirements

3.1 User Interfaces

- The interface includes a web page with login/signup options. The interface asks the users multiple questions on the basis of which our model will give a recommendation to the user.
- Our system will make use of the existing web browser
- such as Microsoft internet explorer or Mozilla.

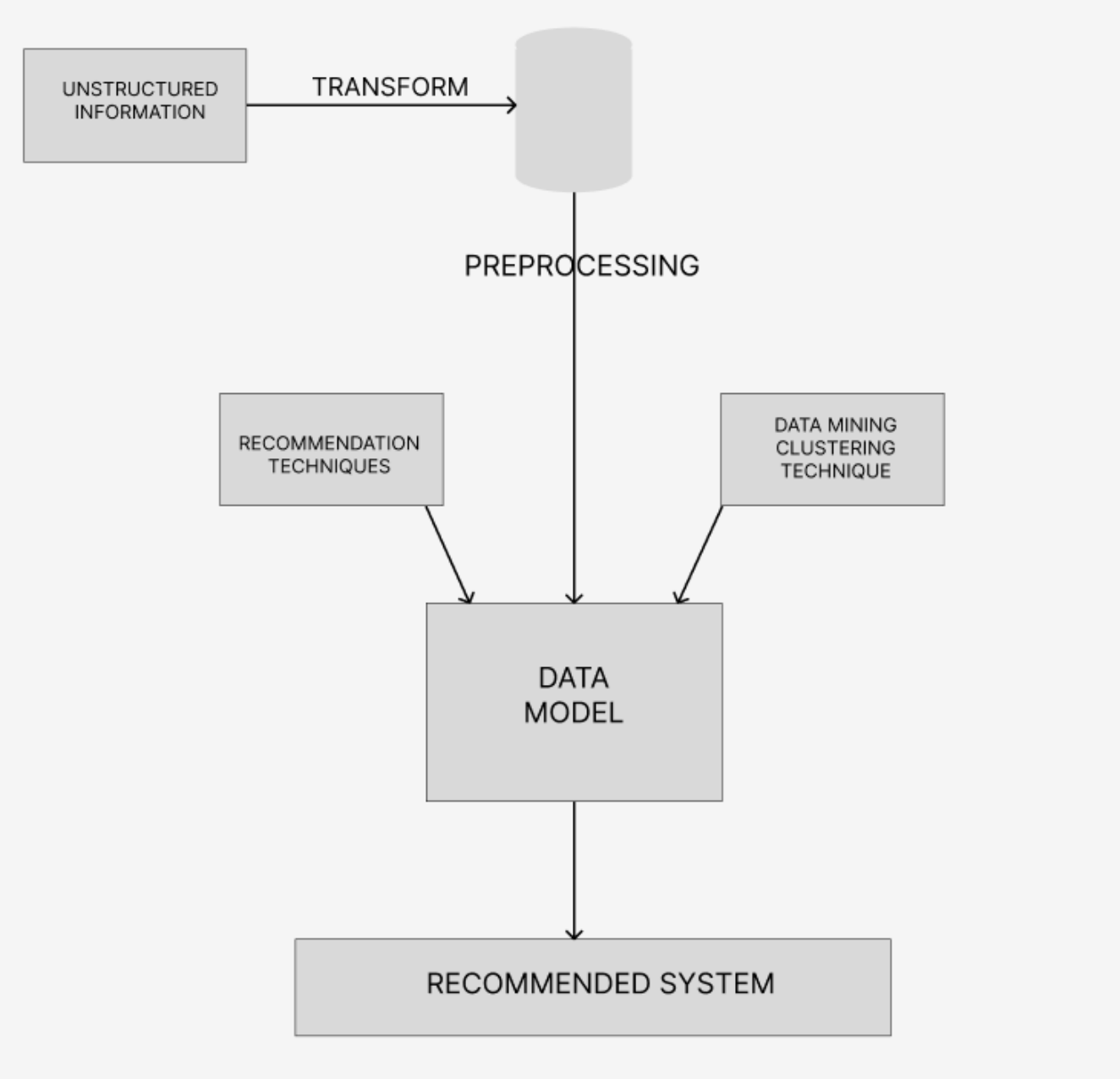
3.2 Software Interfaces.

- Client on internet: Web browser (Chrome, Mozilla Firefox)
- Operating system (Any)
- Database
- Modules of python-flask.
- Machine learning algorithms

3.3 Communications Interfaces

- The career recommendation system shall use the HTTP protocol for communication over the internet.
- Mailing platform services.

4. Analysis Models



5. System Features

Following are the main features of the system.

5.1 Sign Up

5.1.1 Description & Priority

Sign up is the top priority function. Each user is supposed to sign up to the system once and hence to use the feature at least once. The function will create an account for the user providing login credentials.

5.1.2 Stimulus/Response Sequence

After finish sign up, the user will be able to enter their details and get results based on their inputs.

5.1.3 Functional Requirements

The user once signed up to the system do not need to sign up again. Instead, he/she will login to the system.

Only signed up users can log into the system.

5.2 Login

5.2.1 Description & Priority

Login is the most basic & Primary feature of the system which provides privacy as well as secure and safe use of the system. All users are supposed to login to the system first to access the provided features. The user is supposed to provide his/her User ID to login to the system. The users having no login account will sign up to get access to login by creating their account.

5.2.2 Stimulus/Response Sequence

User will be logged in after providing his customer ID as his username and password. The user will be offered to create a new account if he/she does not have an account already.

5.2.3 Functional Requirements

- The user will have to first provide his/her user ID and password before getting logged into the system.
- Users providing valid credentials will be logged into the system
- For invalid credentials, the system will generate “INVALID USER ID or PASSWORD” error.
- The user can create account at the time of log in if he/she is not signed into the system first.

5.3 Enter User Information

5.3.1 Description & Priority

The user after logging in must enter various details like:

- Basic Information
- Academics Information
- Interests
- Hobbies and other details.

This page is the most important, since without getting inputs from user we cannot predict the career.

5.3.2 Stimulus/Response Sequence

Once the user enters their details, the information will be fed to the model developed and the prediction will be made based on the inputs.

5.3.3 Functional Requirements

- The user will have to fill the required fields.
- All required fields must be filled, otherwise an error will be generated.
- The prediction will be made on the user’s input, so the prediction would be best only if the details provided by the user is accurate.

5.4 Output Reports Page

5.4.1 Description & Priority

Once the user enters the inputs and the prediction is made, a report page appears. Based on the user inputs and after analysis of the information, the user can view a detailed report on the best suited courses and career options for them along with detailed description for each recommendation. The page also suggests the users the skills they must be proficient in.

5.4.2 Stimulus/Response Sequence

This is the final output page. The user can use this information to get insights about their career path.

6. Non-functional Requirements

6.1 Performance Requirements

- The system will be efficient to response & simpler and easy to use.
- Application will take less memory space and will run smoothly.

6.2 Safety Requirements

- New system is safe to use.
- Its usage will not provide any damage or any type of loss of data of the systems currently in use and no leakage of user data.

6.3 Security Requirements

- Security of the system shall be maintained through the username and password.
- Each user will need to be authenticated with a login ID and password.
- There will be a table of all the users in database along with usernames login IDs and passwords of authorized users.
- Only authorized users can access the database.

6.4 Software Quality Attributes

- The proposed system will be a quality system for the different users like students, graduates and working professionals.
- The system will be highly Adaptable, Available, and Portable.

6.5 Business Rules

- The information shared by the users is secured and not shared or published anywhere.

Appendix A: Glossary

TERMS	**MEANING**
CRS	Career Recommendation System
SRS	Software Requirements Specification