Software Requirements Specification

for

Intelligent Lead Qualifier For Predicting MQL

Version 1.0 approved

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Felix-ITs
Quality Training

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Revision History

Name	Date	Reason For Changes	Version

1.Introduction

1.1 Purpose

This document provides a detailed description of Software Requirements Specification (SRS) for Prediction System. It is prepared according to “IEEE Recommended Statements for Software Requirements Specification - IEEE Standard 830 – 1998”.
The Software Requirements Specification (SRS) document is intended to provide the requirements of the Prediction System project and the expectations of the stakeholders. The document includes the project perspective, data model and constraints of the overall system.

The intended audiences of the document are project managers, developers, and end users.

· Project managers review the document and determine whether the planned system fulfills the requirements. They notify the developers to fill up missing parts.

· Developers provide consistency by using the documentation.

. End users make use of this document to learn about the scope of the system and its capabilities.

1.2 Document Conventions

This document will use IEEE format. For clarity, acronyms and technical terms, will be annotated and included in the glossary. The format for headings is as followed:

Major headings are in bold 18pt font and concurrent headings in bold 14 pt font .Sections are in the format of x.y, where x and y are real, positive integers.

1.3 Intended Audience and Reading Suggestions

This Software Requirements Specification document is intended for sales Manager, Sales Executives of Felix-Its and producing the MQL. It is suggested to read the sections sequentially, and to reference the appendices as one progresses, in order to clarify technical terms and definitions.

1.4 Requirement Analysis:

The targeted Lead Prediction system is a Prediction Black Box for predicting Marketing Qualified Leads (MQL) intelligently.

The Prediction system makes use of the student or customer data to predict whether the particular student will be a Hot, Warm or Cold Lead and which course he/she will be interested in, based on their attributes from the dataset such as skills,Qualification, Location,College,etc.

And Also Sending the customer messages or emails in real time.This type of filtering is based on collecting and analyzing student information.

Training and test data both will be provided by Felix-Its,Kothrud.The test data for the system are planned to contain thousands of students and irregular data such that, will the student be an hot,warm,cold lead remains unknown.

2. Overall Description

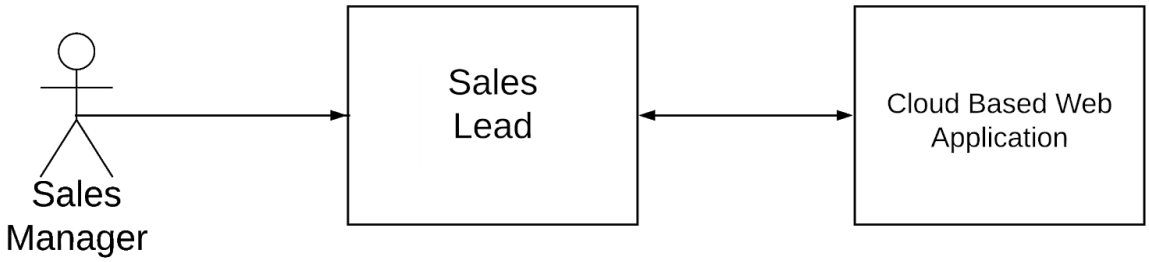
2.1 Product Perspective

Intelligent Lead Qualifier is a machine learning black box that provides suggestions of leads to the Sales Executives of Felix-Its.

Our Intelligent Lead Qualifier is a component of a larger system which is a cloud based telemarketing software to easily manage all your outbound calling, Live call reports, call recordings, lead management and follow up.

The application integrates our system to main web application as a web service.Our system helps existing larger system to increase in usage of system by accurate predictions of Leads and the courses they will be interested in.

The dataset is the most important part of our system therefore main system's existence and wide usage are important for generating Predictions on our system. The external interface and the interconnection between the large system and the Lead Qualifier System can be seen in figure :



2.2 Product Functions

The Lead Qualifier System predicts :

1. Hot,Warm leads
2. Courses that student will be interested in.
3. Send Message/Emails to Hot Leads in Real Time.
4. Transcript Generation For Sales Executive.(Future Scope)

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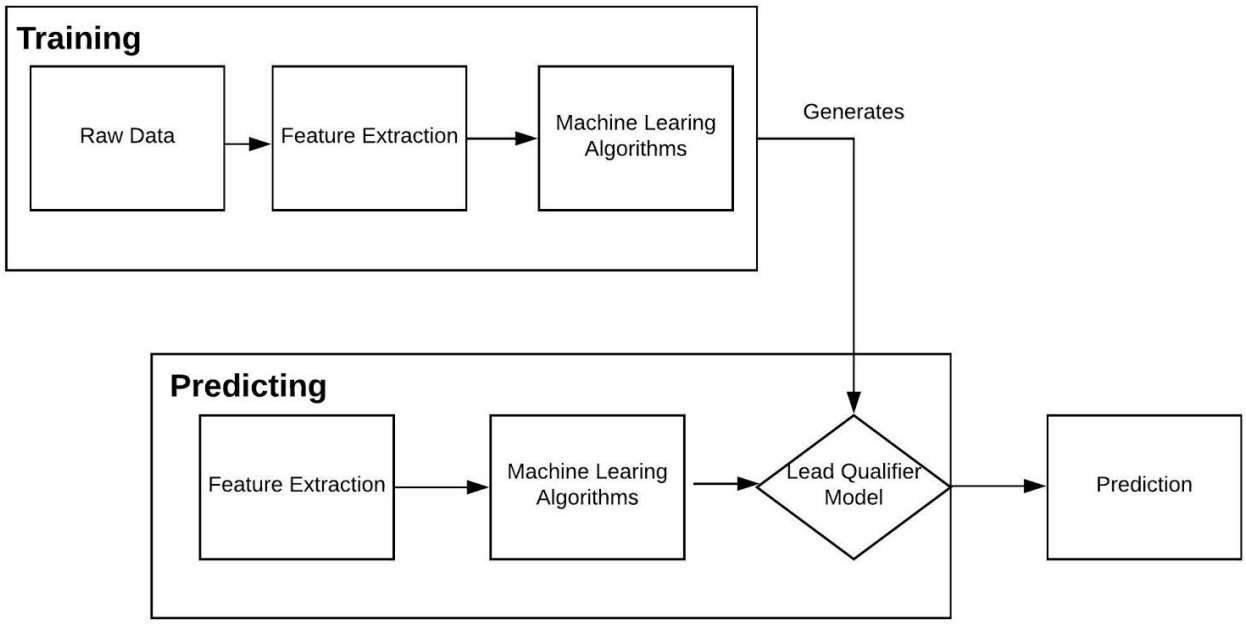
And Also Sending the customer messages or emails in real time.This type of filtering is based on collecting and analyzing student information.



2.3 User Classes and Characteristics

All Sales Executives from all the branches of Felix-Its will be a potential user for the product.The only constraint for the users is being familiar with the cloud based telemarketing software that Felix-Its will be using for outbound calling.

2.4 Operating Environment

The lead qualifier will be integrated with the cloud based telemarketing software that Felix-Its uses that is basically an web application. The software for the Prediction subsystem will be written in python, using Pycharm. The subsystem will run off a Cloud-Based Platform.

The UI part of this component will be done using PHP or AngularJS. The Cloud-based server will utilize Oracle or SQL database running on the cloud.Integration to the server shall be done via a HTTP.

2.5 Design and Implementation Constraints

The first problem is data. In a way that these system make prediction in, there are thousands of students or Customers. There will be many missing values of attributes and as told by the Felix the data can also be unstructured .It is quite a challenge to produce high quality prediction.Moreover, at the beginning of the project, we are going to study on our local computers.We are not going to manage with huge data because we have limited memory. After we start using server, we are going to practice with big data.

The Second problem is weightage that a particular attribute should be given.Because the prediction will depend on those attributes and the model will be trained based on the student information only. So Assigning a proper weightage and consideration of major attributes in prediction will be a big task and should be done in coordination with the Felix sales executives and managers.

The third problem will be the integration of Lead Qualifier system with the System that the Felix is currently working upon.

2.6 User Documentation

The user manual of the cloud based telemarketing software that felix uses will be updated with the use of Lead Qualifier for the help of Sales Executives of Felix-Its.

2.7 Assumptions and Dependencies

This project will be developed under the working assumption that as a sponsored project it shall be noted that the project shall change overtime. Regular changes to this SRS shall occur for each change enacted by Felix-ITs.

3. External Interface Requirements

3.1 User Interfaces

The user interface of the System as a whole is going to be achieved through the web browsers. Interface will be user friendly and very easy to get used to.

As of for this component the UI will be for the sales executive to feed the data manually and in future after integrating this ML component to the cloud based application the data received from the Data Service providers will be automatically feed to the component or as to a whole system. The Lead Qualifier system will be integrated with telemarketing software will be embedded into web browser.

3.2 Software Interfaces

The lead qualifier will be integrated with the cloud based telemarketing software that Felix-ITs uses that is basically an web application. The software for the Prediction subsystem will be written in python, using Pycharm IDE. The subsystem will run off a Cloud-Based Platform. The Cloud-based server will utilize Oracle or SQL database running on the cloud.Integration to the server shall be done via a HTTP.

3.3 Communications Interfaces

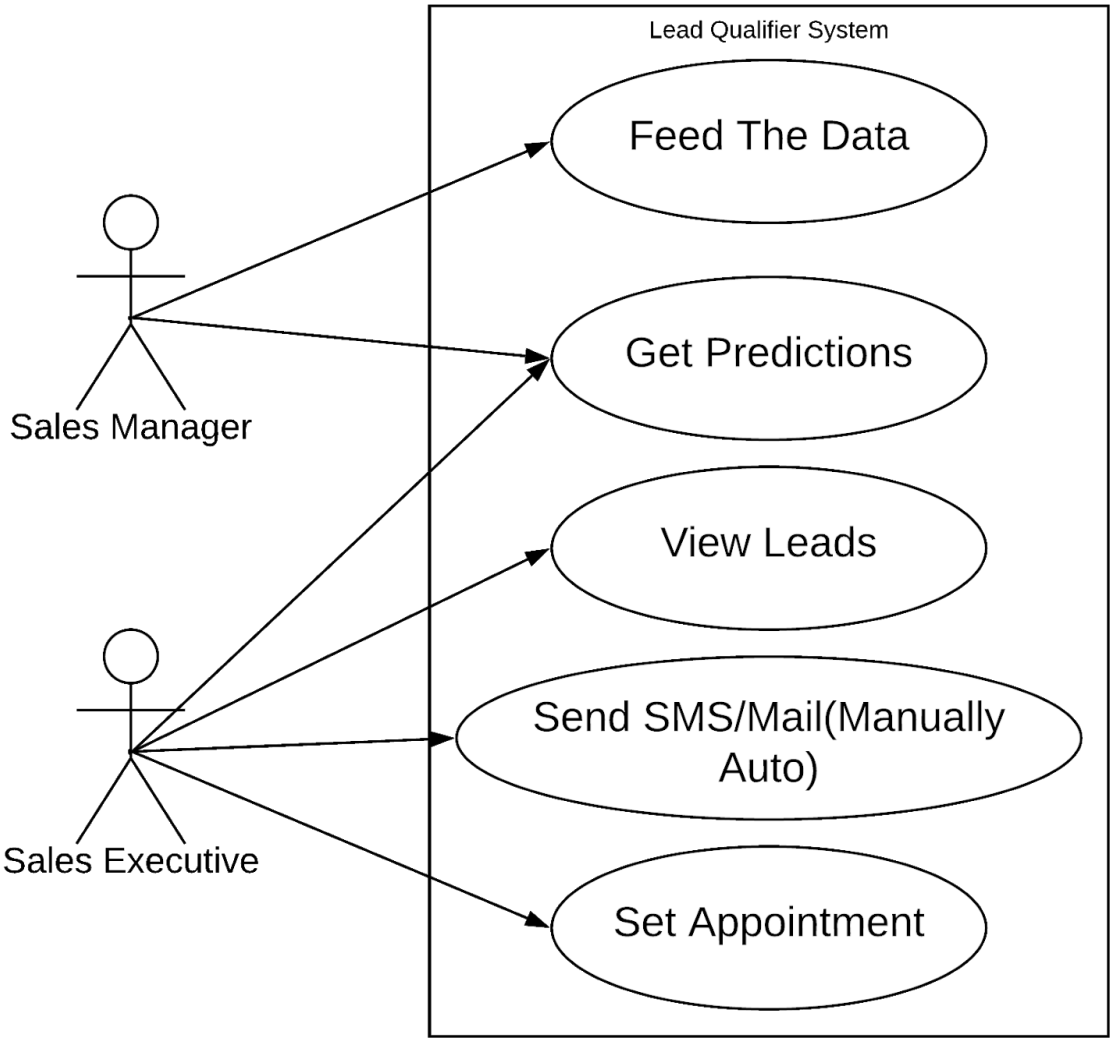
The only communication is between the extension and the server. JQuery AJAX will be used to send queries and receive ones. HTTP will be used as the protocol.

3.4 Database Interfaces

The database we are going to use is SQL database like MySQL for storing hot leads information and their respective courses that they will be interested in.

4. Functional Requirements:

Use Case Diagram



4.1.1 Passing Quality Leads to Sales Executive

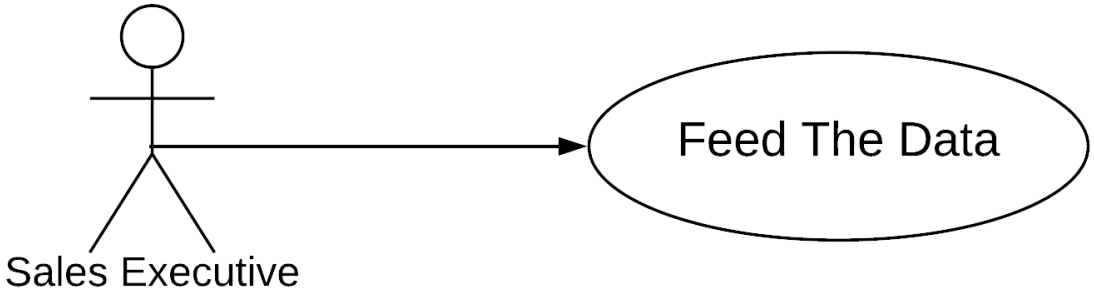
Description and Priority

This is a feature where sales executive feeds the data to the Lead qualifier system and and gets prediction in the form of hot ,Warm Leads and which course he/she will be interested in.

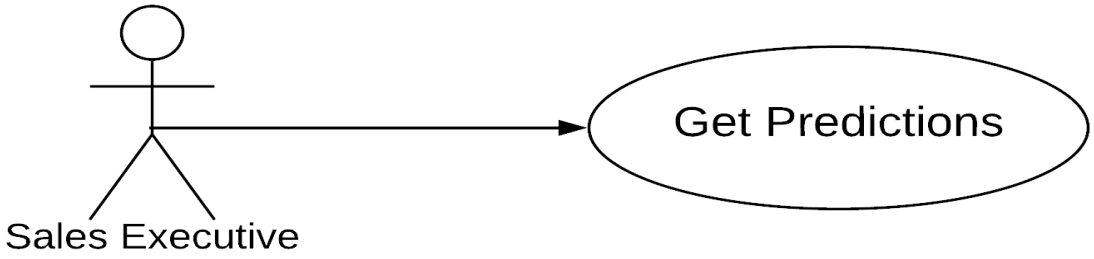
The system makes an extensive use of user data to come up with reasonable track predictions about user preferences, the student data from various portals will be used to predict whether a particular student is a Hot, Warm or Cold Lead and which course he/she will be interested in, based on their attributes from the dataset such as skills,Qualification, Location,College,etc.This type of filtering is based on collecting and analyzing student information.

This feature is the main requirement of the project and is of high priority. The system will favour accuracy over performance while giving the final suggestions.

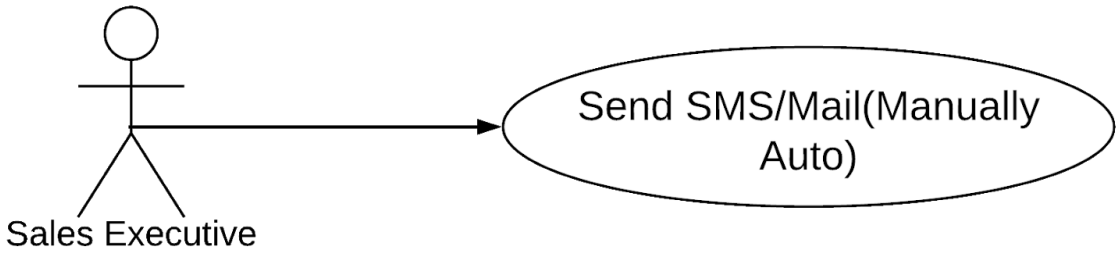
1. Sales Executive/Manager feed the student Info to the Lead Qualifier Black Box.



2. Sales Executive/Manager shall see/check for the customer if he is present in the in the database from first.
3. Sales Executive will get the predictions in terms of Leads an Interested courses.



4. Sales Executive can call/sms/Mail the Hot Leads .



4.1.1.3 Technical Requirements

1. Performance

Performance is very important part of the system.Our system is used to predicts hot leads from the large amount of data.So our system should predict accurate results nearly upto 90 % of accuracy.

Perhaps initially we will not get accuracy upto 90%.So we are aiming to get accuracy upto 90% .

2. Hardware

There is no such hardware requirement in our system until now.

3. Operating System

The lead qualifier will be integrated with the cloud based telemarketing software.So we will be using Linux/Windows for development of our system.As it is web based application,so user can use any operating system.

4. Programming Languages

We are going to use Python as Programming Language for different machine learning classification algorithms to predicts Hot Leads and AngularJS Programming Language for UI development.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance of making predicting and updating this prediction is very important issue because we are aiming to make the system real-timed. In other words, the system should have enough speed that users of the system cannot realize the processing of data. In order to make system

real-timed, at the end of listening track or after purchasing track system shall update recommendations. Besides, our web service should handle multiple users at the same time.

5.2 Safety Requirements

No safety requirements have been identified.

5.3 Security Requirements

Database has to be reached securely and its data should not be broken. It also should not change except interagent updates. Moreover, since our dataset contain some personal information of user such as user_id, tracks he/she listened, security design is important in the web service.

5.4 Software Quality Attributes

Maintainability: Our design will be flexible. Whenever a new functionality is needed for application, it will be easy to integrate

Availability: the data predicted by our model should be available whenever it is required in real time

Usability: the user should be able to conveniently use our prediction model to make outbound calls as per the results given.