# Software Requirements Specification

# for

# Loan Prediction System

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Table of Contents

1. Introduction [1](#__RefHeading___Toc441230972)

1.1 Overview

1.2 Purpose

1.3 Project Objective

1.4 Project Scope

2. Project Constraints 2

2.1 Operating Environment

2.2 Design and implementation limitations

3. Functional Requirements 2

4. Non Functional Requirements 2

5. Appendix : Analysis Models 3

# Introduction

**Overview:**

Nowadays, there are numerous risks related to bank loans both for the banks and the borrowers getting the loans. The risk analysis about bank loans needs understanding about the risk and the risk level. Banks need to analyze their customers for loan eligibility so that they can specifically target those customers.

Banks wanted to automate the loan eligibility process (real time) based on customer details such as Gender, Marital Status, Age, Occupation, Income, debts, and others provided in their online application form. As the number of transactions in banking sector is rapidly growing and huge data volumes are available, the customers’ behavior can be easily analyzed and the risks around loan can be reduced. So, it is very important to predict the loan type and loan amount based on the banks’ data.

## Purpose

This project aims at creating an application for its end-users to be able to be analyse if they are eligible for a loan. This will save the time and efforts of the users.

## Project Objectives

The main objective is to provide a system which provides an interface to check whether an applicant is applicable for a loan.

The other objective of the project is to study the ability of network algorithms to handle the problem of predicting credit default that measures the creditworthiness of the loan application over a time period.

## Project Scope

The Loan Prediction application is designed to facilitate a Java and R language application for predicting data in an organized way.

The software will have functional modules for most of the activities such as adding personal details of the applicant and receiving the ouput in the form of loan eligibility.

The proposed system will provide quick way and easy flow of prediction using data analysis in R language.

This application will be targeted for a large amount of masses to predict the eligibility of the applicant, as a loan is necessary for most people.

# Project Constraints

## Operating Environment

R Studio 3.5.1

## Design and Implementation Limitations

Application language – English.

# Functional Requirements

1. Applicant

1)Applicant should provide basic personal information to check the eligibility for a certain amount of loan.

2)Applicant receives an accurate prediction in real time.

1. Application Owner:

1)Application Owner receives all the details of the applicant and uses the same for further eligibility.

2)The Owner receives the eligibility of the applicant and sanctions the loan for their customers.

iii. Developer:

1) The developer uses R Studio to develop this application. A large amount of data is anaylzed to predict the eligibility of loan for the applicant.

2) The developer uses the KNN algorithm for anlysing the data over 5 factors viz. Dependents, Loan Amount, Applicant Income, Co-applicant income, Loan amount term in months.

3) The graphical user interface is created using the in built application called Shiny.

# Non-functional Requirements

1. No missing values are permitted. The application pops up an error if any field is missing.
2. Real time values should be entered for an effective output.

Appendix: Analysis Models

1] Data Flow Diagram

