

Sri Lanka Institute of Information Technology

**SMART RESUME
BI TOOL TO SELECT THE CVs APPLIED FOR A JOB
VACANCY**

Project ID: 18-005

Software Requirement Specification

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DECLARATION

I declare this Software Requirement Specification report entitled “Smart resume - bi tool to select the cvs applied for a job vacancy” submitted to the Sri Lanka Institute of Information Technology is not a copy of a document done by any organization, university or any other institute or a previous student project group at Sri Lanka Institute of Information Technology and it is a record of original work done by me under the guidance of Mr. Lakmal Rupasinghe (Supervisor). The diagrams, research results and all other documented components were developed by me and I have put the references that I have used.

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Senarath S.P.

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1. INTRODUCTION

1.1 Purpose

The purpose of this SRS document is to outline the requirements and present a detailed description of the process needed for **Personalized hangouts planning and Business analytics**. The document contains the necessary requirements of the system, as well as the process to create and discover them. It will explain the functional and non-functional requirements, purpose and features of the component, the interfaces of the component, design constraints, project approach, what the component will do, the constraints under which it must operate and how the component will interact with other external applications. The information is organized in such a way that the developers will not only understand the boundaries within which they need to work, but also what functionality needs to be developed and in what order. This document is intended to be proposed to a customer for approval and also this document is targeting the, designers, developers and other stakeholders as its audience.

1.2 Scope

The component to be produced is called **“BOT Creation”**. This component has four major sub components called Download the CVs in the email automatically, To read the downloaded emails, Classify the data in to relevant columns and Save the classified data in CSV format. Smart resume basically consists with a desktop application. “Downloading the CVs in the email automatically” provides the facility of downloading the relevant CV automatically for a given email address.

“To read the downloaded emails” provide the capability of read the downloaded cv. “Classify the data in to relevant columns” provide the capability of identify the terms in cv and save the data in relevant columns and “Save the classified data in CSV format” provides the facility of save the data in csv file format in internal storage.

1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
SRS	Software Requirement Specification
BOT	A bot (short for "robot") is an automated program that runs over the Internet
CSV	CSV
OS	Operating System
User	Desktop app user
HTTPS	Hypertext Transfer Protocol Secure
Wi-Fi	A facility allowing computers or other devices to connect to the Internet or communicate with one another wirelessly.
Front End	Program that is responsible for interaction with the users. Users interact directly with it. It contains interfaces.
Back End	Application responsible for do all the processing. It is a service. Users don't interact directly with it. It doesn't contain interface.

Table 1: Definitions and Abbreviations

1.4 Overview

The remainder of this SRS document includes three sections and appendixes. The second section provides an overall view of the component functionality and interaction with other components. This section also discusses the specific requirements such as functional and nonfunctional requirements, design constraints and various approaches. Furthermore, this section also mentions the system constraints, User characteristics and assumptions about the product.

The third section provides the requirements specification in detail and a description of the different interfaces. Different specification techniques are used in order to specify the requirements more clearly for different audiences.

The rest of the sections that organized this document are Project perspective and descriptions, Different interfaces that the system consists, Requirements of the system, Summary of major

functionality, Users and characteristics of the system and the background of the general factors affect the system.

2. OVERALL DESCRIPTIONS

“Downloading the CVs in the email automatically” provides the facility of downloading the relevant CV automatically for a given email address. If the user enter email address, bot go to inbox and download the cv.

User will interact simple interface to enter their email address.

After the download cv, bot will read all the details in cv line by line. Then the identify the terms like,

Name: - Kamal, Nisal, Harsha

Telephone No: - 071-*****, 077-*****, +94-*****

Age: - 20,30,52

Email Address :- asaa@gmail.com

After the identify terms, input the details in xl file, then the xl file save csv format in repository.

2.1 Product perspective

There are several bot available the world. These bot provide to chat, game and manage the send email. But there is no any available bot to download cv and read the cv. There are some researches like,

Web Page Downloading and Classification

According to the research paper, the system downloads the Web pages using basically using Microsoft’s Windows Internet API Tool (Winlnet). Also to go through the links, PDFs, to identify texts, generate the successors of the downloading Web pages, Breadth-First search algorithm, and the Constraint Satisfaction method is used. There are two processes happening in the system; Downloading and Classification. Winlnet is there to connect to web servers when downloading data in different formats; HTML, images, and PDF. Several tasks are done by Winlnet such as requests to the web server for downloading the pages, determining a transfer mode (ASCII or binary) based on the relevant Web page’s header. For controlling data flow and to track the

downloading progress Breadth-First search algorithm is used. Furthermore to make sure that the downloading moves smoothly without any error, the same Web page is not downloaded twice, and to revisit the unsuccessfully downloaded Web pages again. Breadth-First search algorithm is used because the links among Web pages are similar to a tree structure.

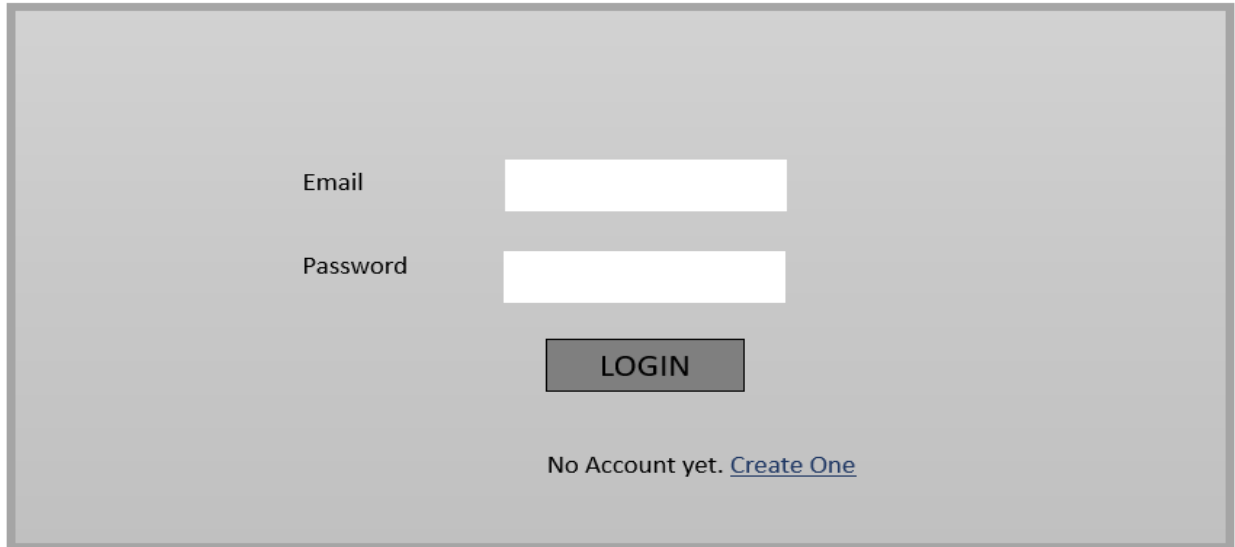
Under the classification, contents of the hyperlinks will be categorized into texts, abstract PDF files and etc. For this purpose, Constraint Satisfaction method is used. As the Classification is happening when downloading, only the necessary pages will be downloaded and placed in the relevant directories according to their formats.[1]

According the paper an artificial neural network and genetic algorithm is used to solve effective text recognition problem. In order to do that a hetero-associative neural network is used to train the system for deciphering digits from pdf or jpeg images which are not readable. For the purpose of analyzing texts from handwritten or text file a crossover based genetic algorithm used. The algorithm solves the problem of deciphering digits and characters from image. It's done by parsing image and converting it to a pixel array. The algorithm selects digits and characters and performs crossover with trained patterns with variable heights. [2]

2.1.1 User interfaces

The user interface (UI) comprises the logical face between software product and its users. This component deals with the web application.

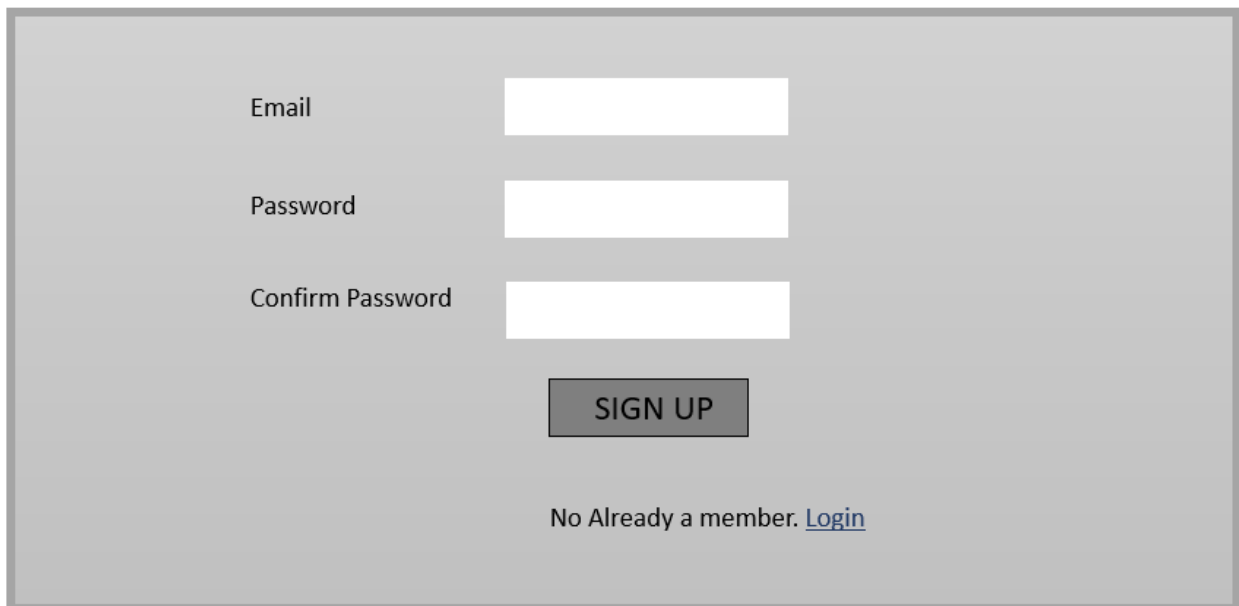
This interface is used to Login the web application.



A login interface with a light gray background. It features two white input fields: the first is labeled "Email" and the second is labeled "Password". Below these fields is a dark gray button with the text "LOGIN" in white. At the bottom, there is a link that says "No Account yet. [Create One](#)".

Figure 1: Login UI

This interface is used to Sign up or Login the web application.



A sign-up interface with a light gray background. It features three white input fields: the first is labeled "Email", the second is labeled "Password", and the third is labeled "Confirm Password". Below these fields is a dark gray button with the text "SIGN UP" in white. At the bottom, there is a link that says "No Already a member. [Login](#)".

Figure 2: Sign up UI

This interface is used to enter users email address and it shows the how many cvs are downloaded.

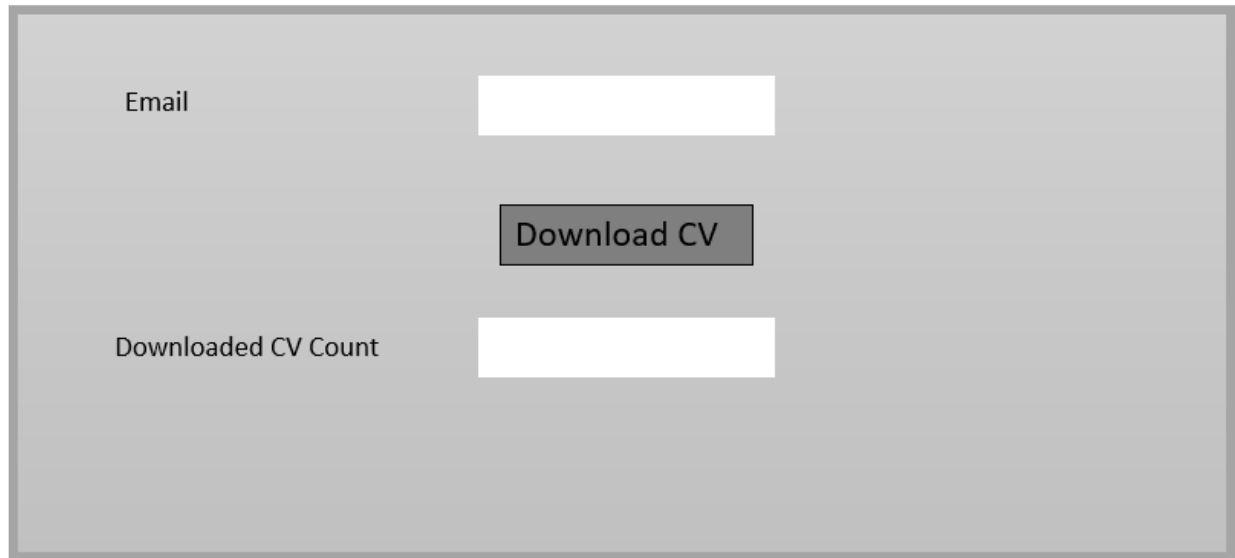
The image shows a web application interface for displaying email counts. It features a light gray background with a darker gray border. At the top left, the label "Email" is positioned next to a white rectangular input field. Below this, centered, is a dark gray button with the text "Download CV" in white. At the bottom left, the label "Downloaded CV Count" is positioned next to another white rectangular input field.

Figure 3: Show Email Count UI

2.1.2 Hardware interfaces

As this will be a web application there isn't any specific hardware, it does not have any direct hardware interfaces. Basically, there are few requirements like,

- Desktop or Laptop with Windows operating system
- Wi-Fi router

2.1.3 Software interfaces

- In order to use web application users should install a web Browser in the computer to access the web application.

2.1.4 Memory constraints

- Web server should have minimum of 4GB RAM since some functions should be performed at real-time.

2.1.5 Operations

Prior to use, the web application would require a sign up before performing the functionalities. Here are some basic operations done by the user,

- Sign up or Login

- Enter the email address

2.1.6 Site adaptation requirements

In order to run the desktop application user must install the application on their computer. The System will display the information only in English Language. Basically this a desktop application and the development team is planning to provide a web application in later stages.

2.2 Product functions

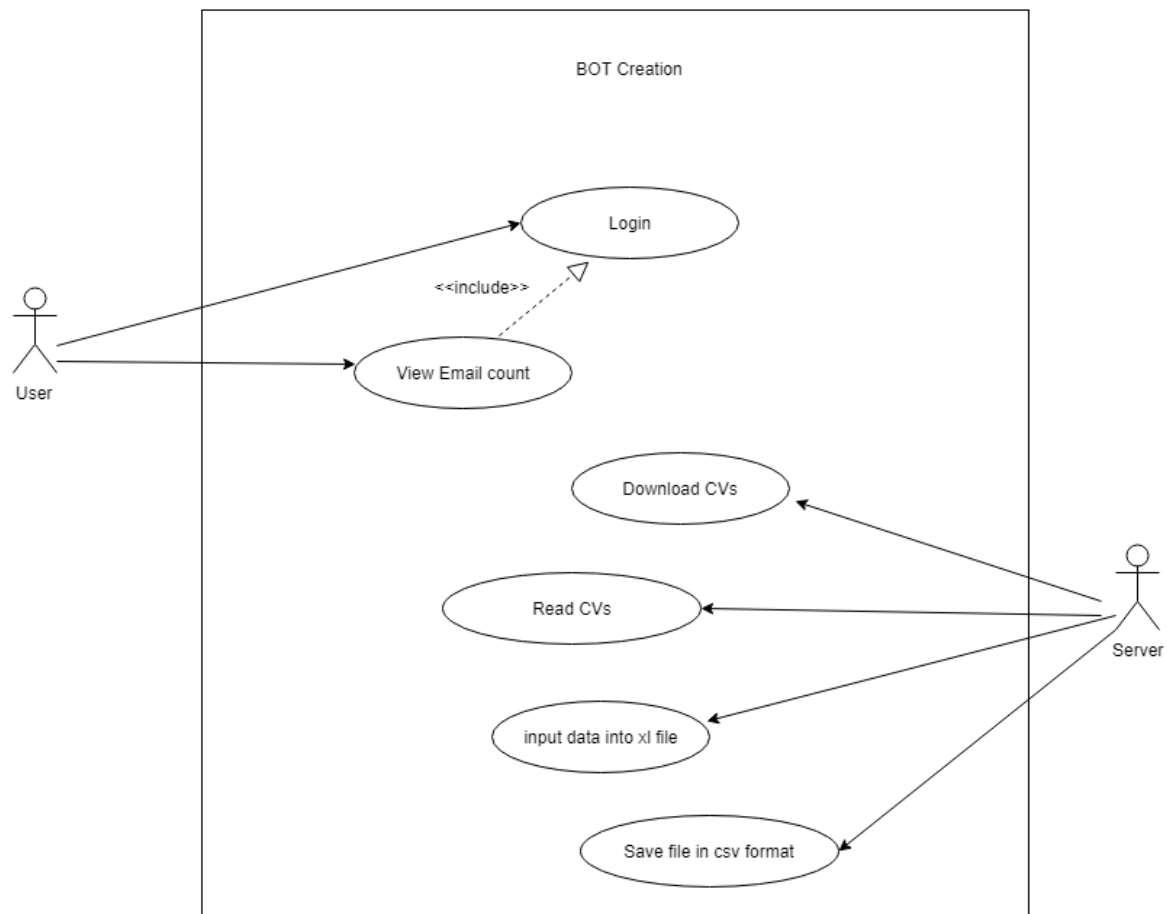


Figure 4: Use case Diagram

Login

Use Case No	01
Use Case	Login
Actors	User
Pre-Condition	User should be a registered user
Flow of Event	1. Enter the user name and password. 2. Click login
Post Conditions	Allow the user to use the web application
Alternatives	Display an error message to inform that invalid username or password are provided

Table 2: Use Case Scenario For Login

View Email

Use Case No	02
Use Case	View Email
Actors	User
Pre-Condition	User should be a registered user
Flow of Event	1. Enter the email address. 2. Click download
Post Conditions	Allow the user to view downloaded cv count

Table 3: Use Case Scenario For View Email

Download CV

Use Case No	03
Use Case	Download cv
Actors	Server
Pre-Condition	User should be a enter the email address

Flow of Event	<ol style="list-style-type: none"> 1. Enter the email address. 2. Click download
Post Conditions	Allow the user to view downloaded cv count

Table 4: Use Case Scenario For Download CV

Read CV

Use Case No	04
Use Case	Read CV
Actors	Server
Pre-Condition	downloaded the cv
Flow of Event	<ol style="list-style-type: none"> 1. Enter the email address. 2. Click download
Post Conditions	

Table 5: Use Case Scenario For Read CV

Write the details

Use Case No	05
Use Case	Write the details
Actors	Server
Pre-Condition	read the cv
Flow of Event	<ol style="list-style-type: none"> 1. Enter the email address. 2. Click download
Post Conditions	

Table 6 : Use Case Scenario For Write the details

Save files

Use Case No	06
Use Case	Save files

Actors	Server
Pre-Condition	Write the details
Flow of Event	<ol style="list-style-type: none"> 1. Enter the email address. 2. Click download
Post Conditions	

Table 7: Use Case Scenario For Save Files

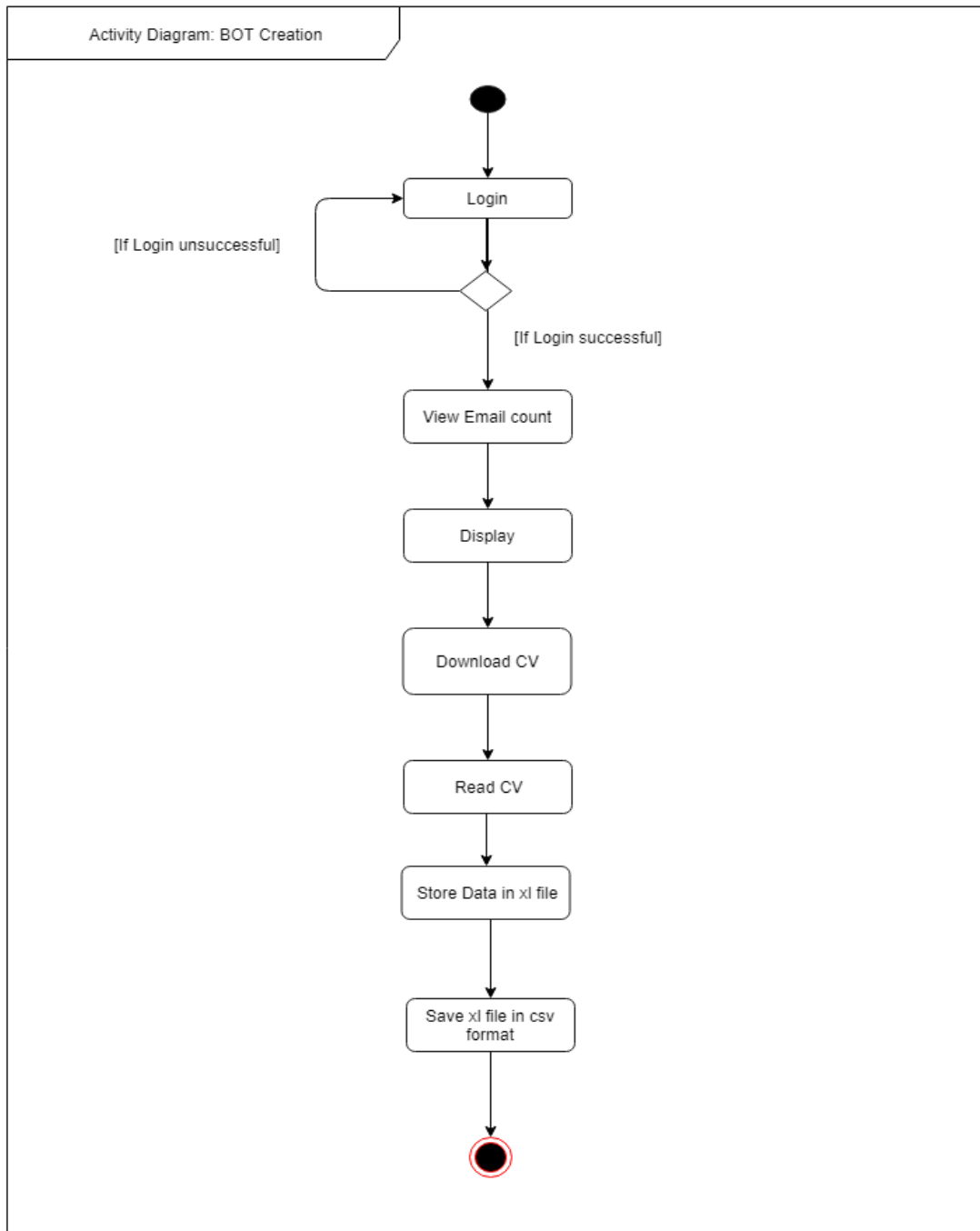


Figure 5: Activity Diagram

2.3 User characteristics

There is only a desktop application user in here. This system is mainly focused for HR staff. In there also only the authorized parties such as HR Manager have permission to access login the system. This application is mainly developed for the Admin.

Administrators

Administrators must have some knowledge to handle the component. Basically, administrators of the system must have knowledge about the desktop applications and computer handling.

2.4 Constraints

- User login and the user authentication is must for both applications
- Server should be able to handle multiple requests at a time
- The response should be generated within minimum time constraint
- The server should be able to perform its normal operations without exceeding 2GB of RAM
- Having basic English knowledge also will be a constraint for the users
- Time for loading the web pages containing images should take no longer than 10 seconds.

2.5 Assumptions and dependencies

- No data will be lost/corrupted during the communication between server and desktop application
- Users can not use application without internet connection

2.6 Apportioning of requirements

Essential Requirements

- Download the CVs in the email automatically
- To read the downloaded emails
- Classify the data in to relevant columns
- Save the classified data in CSV format

Desirable Requirements

- Allow user mobile phone

3. SPECIFIC REQUIREMENTS

3.1 External interface requirements

3.1.1 User interfaces

Name of item	Login Profile
Description of purpose	Maintain the user login
Source of input or destination of output	Basic user details
Valid range, accuracy and/or tolerance	100%
Units of measure	-
Timing	-
Window formats/organization	-
Relationships to other inputs/outputs	

Table 8: Login Profile User Interface

Name of item	View cv count
Description of purpose	Enter the email address to download cv
Source of input or destination of output	Basic get the cv details
Valid range, accuracy and/or tolerance	100%
Units of measure	-
Timing	-
Window formats/organization	-
Relationships to other inputs/outputs	Converted cv details to csv format

Table 9: View cv count User Interface

3.1.2 Hardware interfaces

- Development team must have at least a desktop/ laptop with minimum 1.8GHz processing power and 256GB hard drive space.

3.1.3 Software interfaces

Name	Version	Purpose
Java	8	Main developing environment
Tomcat	8.5.30	Development server
AngularJS	1.3	Used for the web application front end development
Web Browser	Chrome / Firefox	Used for the web application development and testing

Table 10: Software Interfaces

3.2 Performance requirements

- CV should be downloaded the minimum time.
- System should read cv in minimum time.
- System should display error messages in less than 1 minute
- System should display the downloaded cv count in minimum time.

3.3 Design Constraints

In designing this system, we have to consider about desktop application designing. Administrators of a particular company are the primary users of the desktop application. Other than that, there are no design constraints.

3.4 Software system attributes

In this section, we are explaining the attribute that we are going to offer through the system. There are some explanations in follow.

3.4.1 Reliability

Reliability of a system is the ability to perform its normal operations with minimum failures over a minimum time in a given environment.

- The required information by the users should be provide within minimum time without any failure
- Data must not be corrupted

3.4.2 Availability

- Server must be available 98% of the time

3.4.3 Security

- Information such as password will not be saved as clear text
- Only authorized users are given permission to access the android application

3.4.4 Maintainability

- Proper code commenting and indentation will be implemented

4. SUPPORTING INFORMATION

4.1 References

- [1] L. Q. Tran, C. W. Moon, D. X. Le, and G. R. Thoma, "Web Page Downloading and Classification," *Proc. IEEE Symp. Comput. Med. Syst.*, pp. 321–326, 2001.
- [2] M. Agarwal, "Text recognition from image using Artificial Neural Network and Genetic Algorithm," pp. 1610–1617, 2015.

