Software Requirements Specification

Version 1.0

February 13, 2023

Campus Guide for NIT Hamirpur
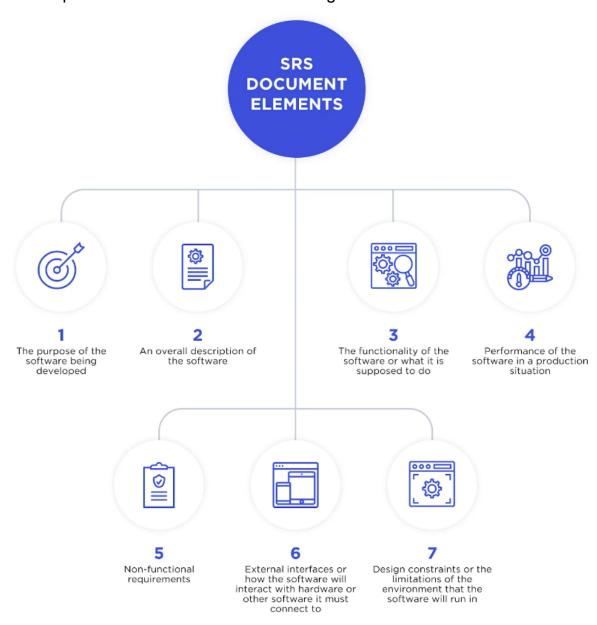
Yogesh Kumar (20dcs002)

Harmanpreet Singh (20dcs021)

Yugal Kishore (20bcs108)

Rohit Baraik (20bcs117)

Software Engineering CS-322

Introduction

1.1 Purpose

The purpose of this software requirements specification (SRS) document is to outline the requirements for the Campus Guide application, which will be a comprehensive guidance tool for students at NIT Hamirpur. This document will provide a detailed description of the Campus Guide application, and explain the purpose and features of the application, the interface of the application, what the system will do and the constraints under which it must operate. This document will serve as a guide for the development team and will ensure that the final product meets the needs of the target audience.

SRS
DOCUMENT
ELEMENTS

1
The purpose of the software being developed

2
An overall description of the software

3
The functionality of the software or what it is supposed to do

4
Performance of the software in a production situation

5
Non-functional requirements

6
External interfaces or how the software will interact with hardware or other software it must connect to

7
Design constraints or the limitations of the environment that the software will run in

1.2 Scope

The scope of the project is to develop an application that provides all relevant information about the NIT Hamirpur campus in a well-organised manner. The application will include a detailed map of the campus, with markers for various locations, such as buildings, departments, libraries, sports facilities, etc. Clicking on these markers will display a window with all relevant information, including phone numbers, web links, and other contact details. The application will also have quick links to popular information and will be expandable to accommodate future additions of new information.

1.3 Objectives

The objectives of this project are:
- To develop an ultimate guidance tool that would be highly beneficial to the students at NIT Hamirpur.
- To provide all relevant information about the NIT Hamirpur campus in a well-organised manner.
- To make it easier for students to access the information they need and to help them navigate the campus more efficiently.

1.4 Definitions, Acronyms, and Abbreviations

Term	Definition
NIT Hamirpur	National Institute of Technology Hamirpur
Software Requirements Specification	A document that thoroughly describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.
User	Anyone who uses the product. For example, students of NIT Hamirpur.

1.5 References

IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

1.6 Overview of Document

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the application. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.
The third chapter, Requirements Specification section, of this document, is written primarily for the developers and describes in technical terms the details of the functionality of the product.
Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

2.0 Overall Description

The Campus Guide will be a mobile application that provides a detailed map of the NIT Hamirpur campus and all the information a student would require from any mark on the map.

2.1 Product Perspective

The Campus Guide application will be a mobile application available on Android devices.

2.2 Product Functions

The Campus Guide application will provide the following functions:
- Display a detailed map of the NIT Hamirpur campus
- Provide information about various locations on the campus by clicking on the locations on the map
- Display related data exclusive to NIT Hamirpur for each location
- The application should have offline functionality.

- The application should have the ability to add new locations and information.

2.3 Operating Environment

The Campus Guide application will be developed for Android and iOS platforms and will require the following operating systems:
- Android: 7.0 and above

2.4 Design and Implementation Constraints

The application should be user-friendly and easily understandable to every user.

2.5 User Interfaces

- The application will have an intuitive and user-friendly interface.
- The interface will include a detailed map of the campus with locations marked.
- Each location on the map will be clickable and display relevant information.

2.6 Behaviour

This section outlines the step-by-step interaction between the user and the application.

- The application will open with the map of NIT Hamirpur with some other quick links on the home/front page.
- User can drag, zoom in out, swipe and explore the map.
- User clicks on the desired location of the map.
- The application will open another window with images of the area, details of the area, and other related information about the area.

2.7 User Characteristics

- The user is expected to be a student of NIT Hamirpur or anyone who works on the campus of NIT Hamirpur.
- Users must hold an android device with android version 7.0 or above.
- Users are expected to be able to navigate and identify the locations on the map.

2.8 Non-functional Requirements

- The application should have a fast loading time.
- The application should have a responsive and user-friendly interface.
- The application should have minimal battery consumption.

3.0 Specific Requirements
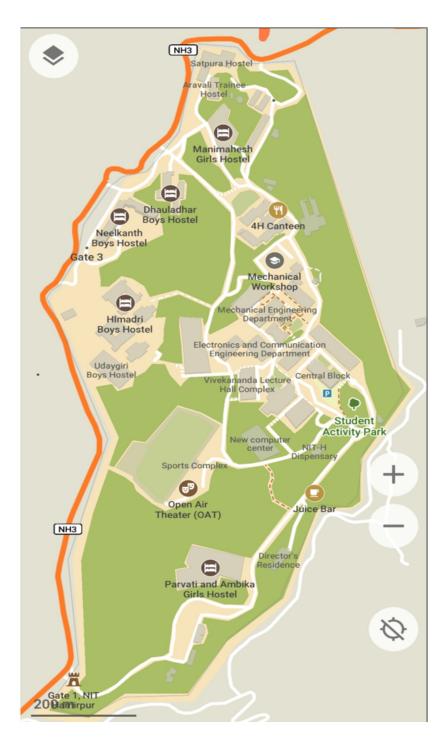
3.1 User Interface Requirements

3.1.1 Application Start-up

The application will display a splash screen upon start-up, followed by the main screen that displays the map of the NIT Hamirpur campus along with quick links to the popular searches and hot topics.

3.1.2 Map View

The map view will display a detailed map of the NIT Hamirpur campus, with markers for various locations on the campus. All the markers will be clickable by the user.

Here is the prototype of the map -

3.1.3 Location Information

When a user clicks on a marker on the map, a pop-up window will display information about that location, such as its name, photograph, address, and related data exclusive to NIT Hamirpur such as popular food item, taxi driver phone numbers, get scorecard etc.

3.2 Functional Requirements

3.2.1 Display Map

The application will display a detailed map of the NIT Hamirpur campus.

3.2.2 Display Location Information

The application will provide information about various locations on the campus by clicking on the locations on the map.

3.2.3 Display Exclusive Data

The application will display related data exclusive to NIT Hamirpur for each location.

3.3 Database Requirements

3.3.1 Data Storage

The application will store all the data in a database, including the map of the campus, information about various locations, and related data exclusive to NIT Hamirpur.

3.3.2 Data Retrieval

The application will retrieve data from the database and display it on the map view and location information screens.

3.4 Performance Requirements

3.4.1 Response Time

The response time for retrieving and displaying data from the database should not exceed 2 seconds.
The application should run smoothly on the android device with android version 7.0 and above.

4.0 Design Constraints

4.1 Security

The application should have secure data storage.
The application should have secure data transmission.
The application must be secure and must protect sensitive information, such as personal data and academic reports.

4.2 Interoperability

The application should be able to integrate with other projects serving NIT Hamirpur.

5.0 Methodology

The development of the Campus Guide application will follow an Agile methodology. This methodology emphasises regular feedback and testing to ensure that the application meets the needs of the target audience.

6.0 Conclusion

The Campus Guide application will provide a comprehensive guidance tool for students at NIT Hamirpur. The application will make it easier for students to access the information they need and will help them navigate the campus more efficiently. The project will be beneficial to students, faculty, and staff, and will help to enhance the overall student experience at NIT Hamirpur.