

# Software Architecture Document

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## **Campus Guide for NIT Hamirpur**

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# Introduction

## 1.1 Purpose

This document describes the architecture of the campus guide, which is designed to provide a detailed map of the NIT Hamirpur campus and all the information a student would require from any mark on the map.

This document provides a comprehensive architectural overview of the Campus Guide, using a number of different architectural views to depict different aspects of the application.

## 1.2 Scope

This Software Architecture Document provides an architectural overview of the Campus Guide application.

The scope of this application extends to all the people here at NIT Hamirpur who need assistance in navigating around the campus.

The scope of the project is to develop an application that provides all relevant information about the NIT Hamirpur campus in a well-organized manner.

## 1.3 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.

## **1.4 References**

1471-2000 - IEEE Recommended Practice for Architectural Description for Software-Intensive Systems

# **2. System overview**

## **2.1 Functionality**

- 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.

## **2.2 Assumption and Dependencies**

We are assuming that we are doing our best at our knowledge.

## **2.3 Design**

- Unity Canvas for the user interface layer.
- Unity 2D for the application layer.

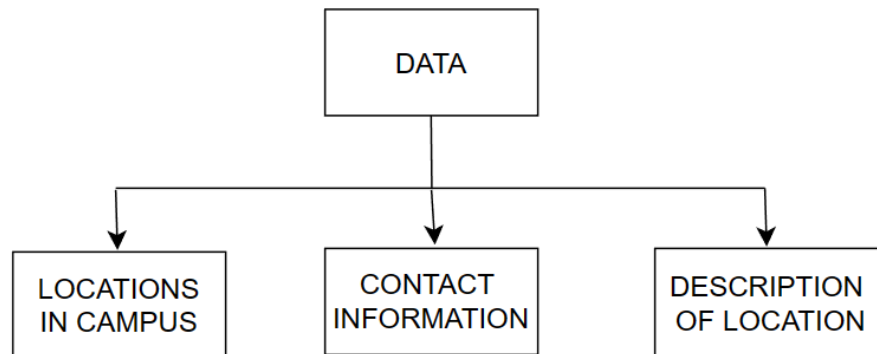
# **Architectural Representation**

## **3.1 Architectural Design**

The application will contain its own database that will store different types of information essential for this application to work as desired.

Most important is to tag and store locations on the map of NIT Hamirpur. The user should be able to tap on the desired location and the related information should pop up.

A description of the location along with a photograph of the location will be stored inside the database. And the last part of the database is contact and related information.



### 3.2 Structural Decomposition

The application can be decomposed into three significant components

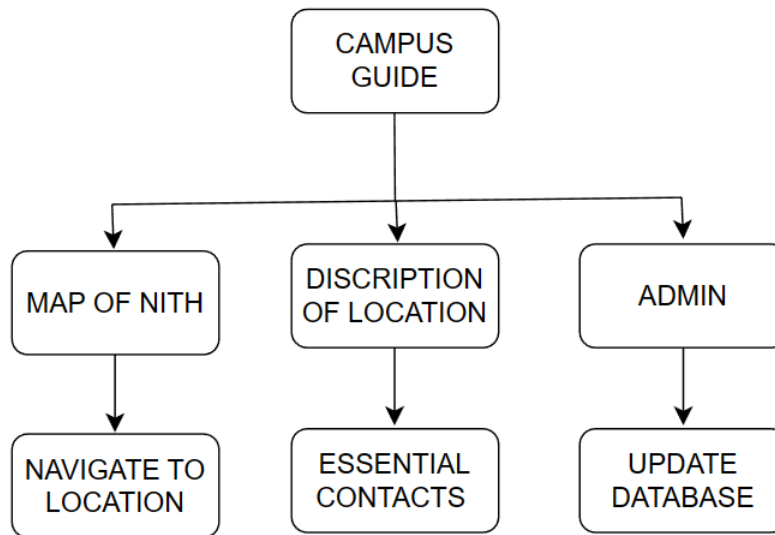
- Map
- Description
- Admin

As the name suggests, Map of NIT Hamirpur will be accurate and fully functional with the properties like- zooming, navigating, holding tags/clickable areas that mark the key location in NIT Hamirpur campus.

The description section will be a dedicated section which will pop up and show the relevant description according to the location picked.

And the Admin has control over the database and the whole codebase. Admin can edit the data according to the changes that might occur in future.

## STRUCTURE DECOMPOSITION DESCRIPTION

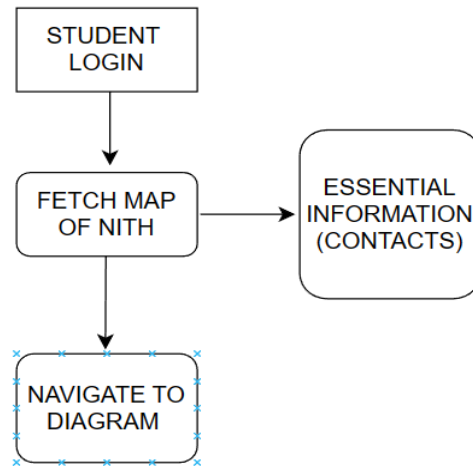


### 3.3 Architectural Goals and Constraints

There are some key goals and system constraints that have a significant bearing on the architecture. They are

- The user must be connected to the internet in order to fetch and feed information to google maps.
- The application must be able to adapt to the changes that may occur on the campus.
- The Campus guide must ensure complete protection of data from unauthorized access.
- All performance and loading requirements must be taken into consideration as the architecture is being developed.

#### DATAFLOW DIAGRAM



## Quality

The software architecture supports the quality requirements -

- The android user interface shall be Android 7.0 or above.
- The user interface of the Campus Guide shall be designed for ease of use and shall be appropriate for a smartphone-literate user community with no additional training on the application.
- Each feature of the Campus Guide shall have built-in online help for the user. Online Help shall include step-by-step instructions on using the application.
- The Campus Guide shall be available 24 hours a day, 7 days a week.

## 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 architecture and components outlined in this document provide a framework for building a scalable, secure, and user-friendly system that meets the needs of users.