DWIT COLLEGE

DEERWALK INSTITUTE OF TECHNOLOGY

Tribhuvan University

Institute of Science and Technology

SAHYOGI: LOCATE HOTELS

A PROJECT REPORT

Submitted to

Department of Computer Science and Information Technology

DWIT College

In partial fulfillment of the requirements for the Bachelor's Degree in Computer Science and Information Technology

Submitted by

Sunil Lamsal

August, 2016

DWIT College

DEERWALK INSTITUTE OF TECHNOLOGY

Tribhuvan University

SUPERVISOR'SRECOMENDATION

I hereby recommend that this project prepared under my supervision by SUNIL LAMSAL entitled **"SAHYOGI: LOCATE HOTELS"** in partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Information Technology be processed for the evaluation.

……

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LETTER OF APPROVAL

This is to certify that this project prepared by SUNIL LAMSAL entitled **"SAHYOGI: LOCATE HOTELS"** in partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Information Technology has been well studied. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

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STUDENT'S DECLARATION

I hereby declare that I am the only author of this work and that no sources other than the listed here have been used in this work.

... ...

Sunil Lamsal

Date:

ABSTRACT

There are many difficulties in finding places to spend some spare time and vacation. Hotels and home stay are generally cheap and finding the right one is a troublesome activity. This project provides a platform to search hotels based on locations and price. User is provided with the interface with the options to search either by location through Google places API or budget, based on the input given by the user appropriate result would be shown. If the search is through location required hotels available in the destination would be shown else if the search is by budget then the list of hotels matching the user budget would be shown.

Hence, this project aims to build a web application which would be a centralized information sharing platform which is focused to help students and teenagers know about hotels' cost and locations of various beautiful places to explore

Keywords: Web platform, Searching, Google places API, Affordable Hotels

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LIST OF ABBREVIATIONS

DFD – Data Flow Diagram

CLD – Context Level Diagram

HTML – Hypertext Markup Language

CSS – Cascading Styles Sheet

PHP- Hypertext Preprocessor

SQL- Structured Query Language

ERD- Entity relationship Diagram

NTB- Nepal Tourism Board

SDLC- Software Development Life Cycle

API- Application Programming Interface

CHAPTER 1: INTRODUCTION

Nepal yet being small country is rich in bio-diversity due to its unique geographical position and altitude variation. It has best places to explore natural resources, culture, tradition and religion. Natural attraction, scenic beauties, cultural monuments and temples are the ones which has given rise to tourism as well as domestic tourism

Sahyogi is an information providing platform that focuses on internal tourism. Its targeted audience is students and teenagers to help them decide about the location to visit, budget to spend on hotels.

If the user is planning to invest minimal budget for the tour, then the locations with minimal expenses would be provided, same goes with maximum budget. It actually helps users to plan their tour and would be able to know the route of destination too. According to the budget students and teenagers have, they can easily enjoy their tour without thinking about cost and services. Financing done overhand is always a nice step to take during tours. In order to maintain good health during a tour, a place to stay with healthy lodge, food and services is always good. So, this web platform will provide legitimate information about the locations and nearby hotels cost.

1.1 Problem Statement

There are various places in Nepal that is rich in natural beauty but the problem is we don't know the location, specially students and teenagers, so in-order to visit and know about such places could be troublesome sometimes in student's life as most of the time they are bound to concentrate on their studies.

Therefore, finding about places to visit and nearby economical hotels to stay is very much important in student's life since they cannot afford luxurious hotels. When they plan for a visit, they usually have small amount of savings to spend for a day or two. There are

various prevailing situations where students and teenagers run out of money during their visit due to wrong selection of hotels and route to locations. Many couldn't enjoy their visit like they wished, due to poor planning and knowledge.

This dependency on money and appropriate knowledge on location and hotels for doing everything sets forth a question.

1.2 Objectives

- To build a web platform that can be used by users to know location and hotels cost.
- To help in promoting locally located home-stay, hotels and resorts.

1.3 Scope and Limitations

1.3.1 Scope

Although domestic tourism is not only about earnings and promoting places it is also about employment generation. It provides users the ability to search for hotels either by location as well by budget without creating any account. User can search and view the information of the hotels. This web application helps users to search hotels easily.

1.3.2 Limitations

The limitations of this project are mentioned below:

- GPS tracking has not been incorporated.
- Limited to Web Application only.
- User cannot rate hotels.

1.4 Project Features

The main features of this application are:

- Users can search by locations and budget.
- If search is by location, then the name of location being searched would be shown.
- If search is by budget then, the hotels and location with matching budget would be shown.

The project can be divided into two main modules:

- Search Module
- Administrator Module

1.5 Report Organization

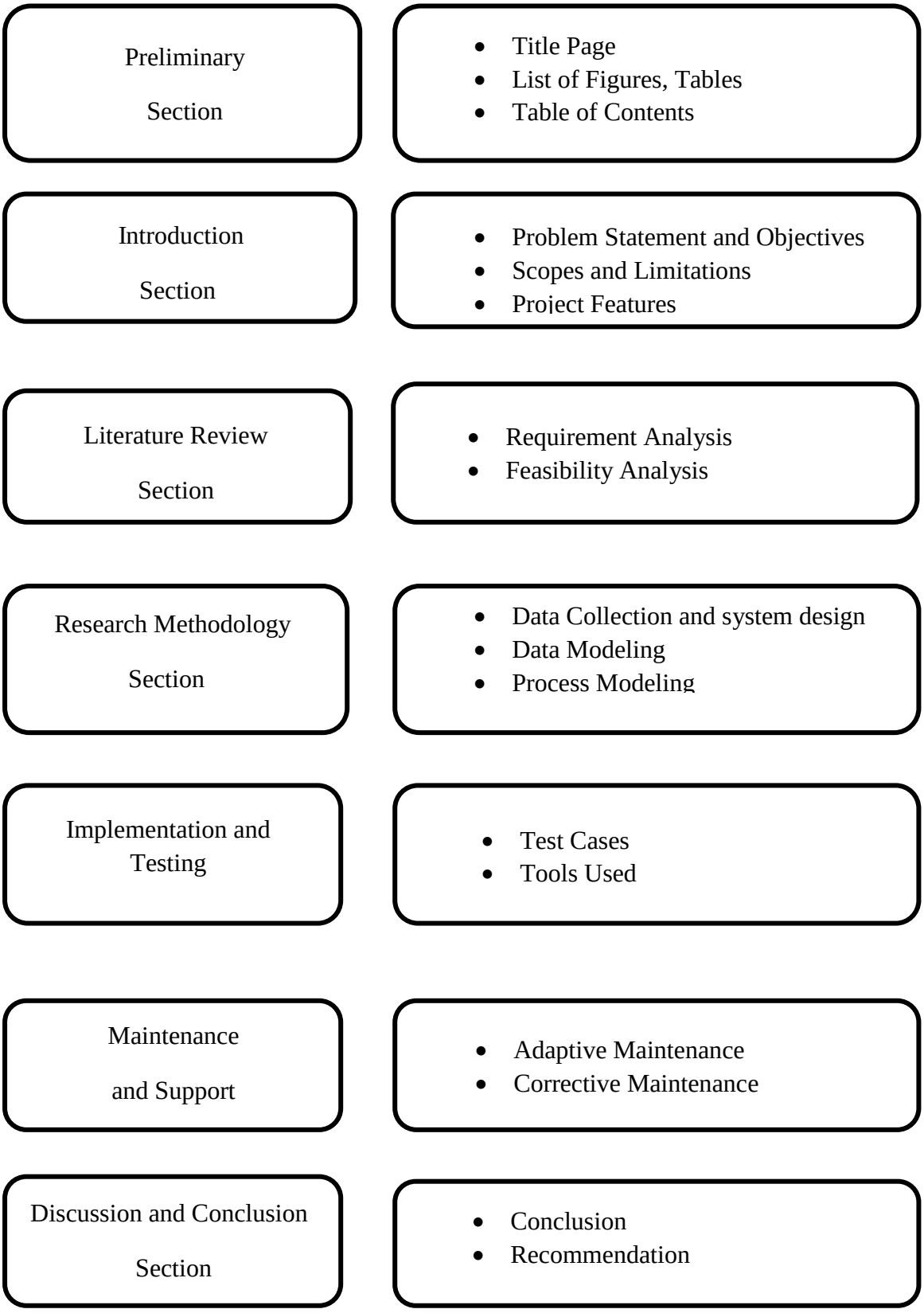


Figure 1- Outline of document

CHAPTER 2: REQUIREMENT ANALYSIS AND FEASIBILITY

2.1 Literature Review

Trivago is a web as well as Android application. Basically, it is a hotel search engine useful to find out which hotels are in a city and a target price. We can book hotels, compare hotel prices over booking sites all over the world [1].

Booking is also a web as well as Android application that helps to book hotels and provides hotel costs [2].

TripAdvisor is the world's largest travel site, enabling travelers to unleash the full potential of every trip [3]. TripAdvisor offers advice from millions of travelers and a wide variety of travel choices and planning features with seamless links to booking tools that check hundreds of websites to find the best hotel prices. TripAdvisor branded sites make up the largest travel community in the world, reaching 350 million unique monthly visitors, and reached 385 million reviews and opinions covering more than 6.6 million accommodations, restaurants and attractions. The sites operate in 48 markets worldwide and have become the Google of the travel world, where people go for honest, unbiased reviews of hotels, restaurants, sights and activities by fellow travelers.

2.2 Requirement Analysis

2.2.1 Functional requirement

- Admin needs to log into system.

- Admin will keep and update information of hotels and routes to destination.
- User can search for hotels by budget, name/location.
- Users can view the searched information.
- Users can see the Google map of nearby hotels form searched hotels.

Users

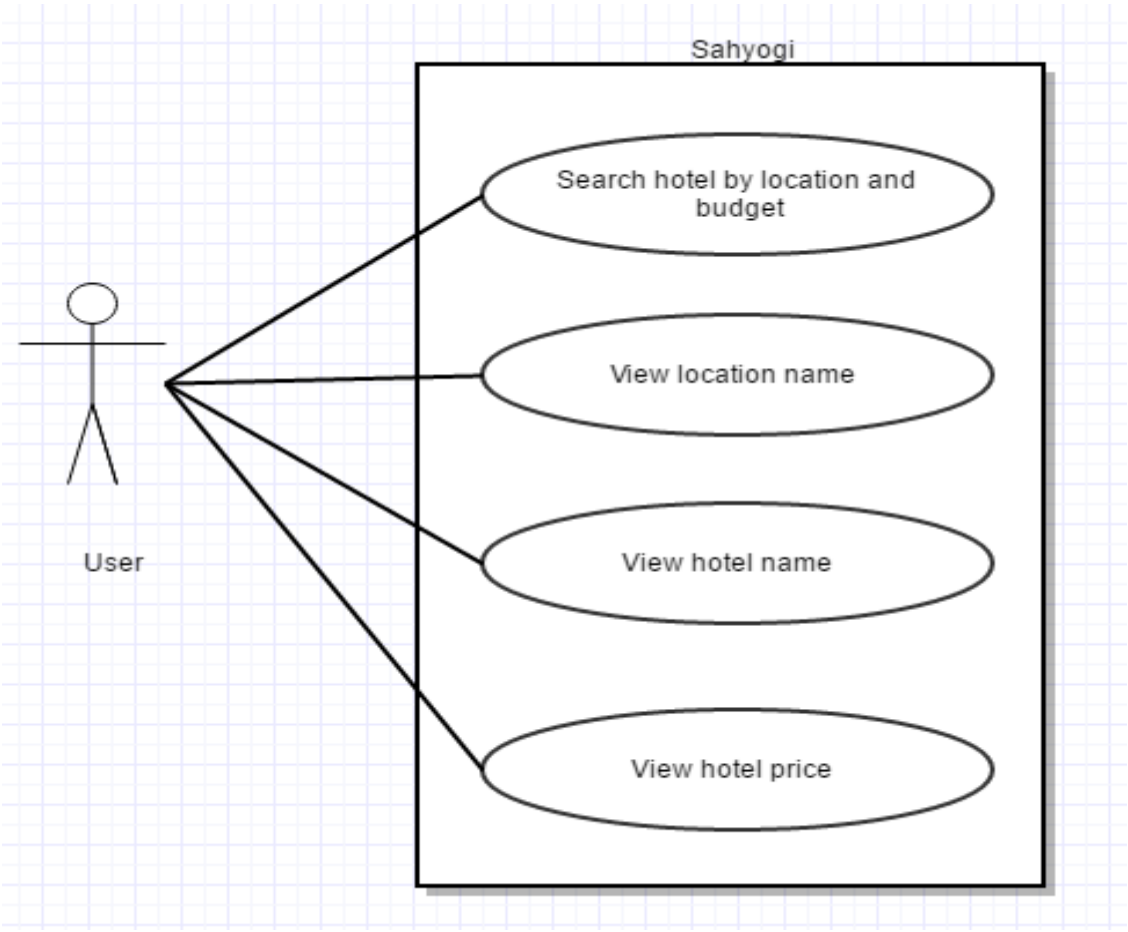


Figure 2- Use case diagram for user

Admin

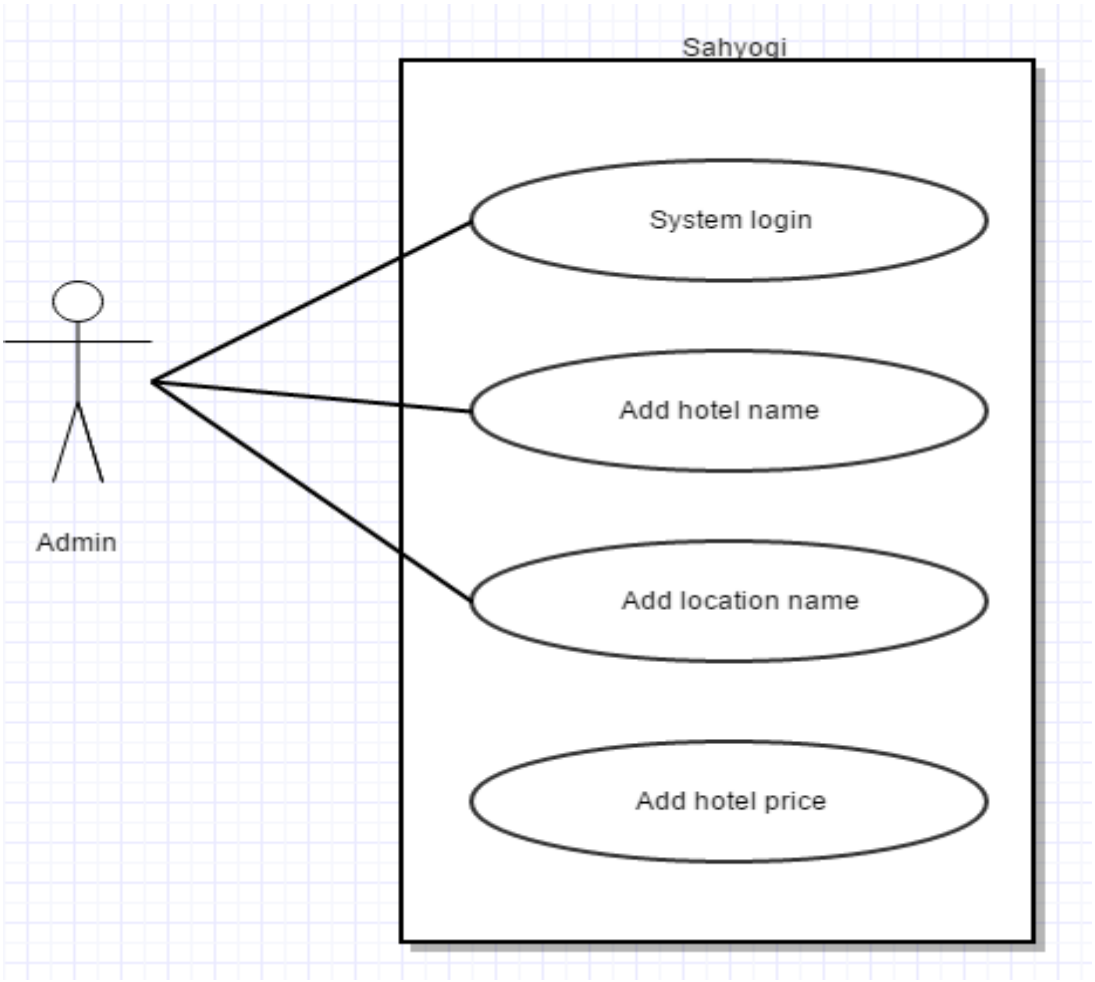


Figure 3- Use case diagram for admin

2.2.2 Non-functional requirement

- The data about the hotels is fetched from Google Places API.
- The search information regarding hotels by cost is fetched from the database.

2.3 Feasibility Analysis

The following result was obtained while performing a feasibility analysis:

2.3.1 Operational feasibility

This application is designed to run on personal computers having windows as well as Linux operating system. System's user interface is easy to learn and to use. The application is not compatible for mobile devices. Maximum numbers of personal computers available in the market right now are able to run the application.

2.3.2 Technical feasibility

This application is designed to work on web platform. It can be developed using the available technology for which PHP, HTML, CSS, SQL, Google maps will be used. Proposed Technology is certainly going to provide practical solution.

2.3.3 Economical feasibility

The cost associated while building would be for data collection on hotels visiting various economic class hotels.

2.3.4 Schedule feasibility

The total estimated time for the development of the application was tentatively five months. The application development was completed in a time period of four months.

CHAPTER 3: SYSTEM DESIGN

3.1 Methodology

3.1.1 Method

Waterfall Model is used to build this system since it works well for smaller projects where requirements are very well understood. In this model each phase will define starting and ending point, with identifiable deliveries to the next phase.

It starts from the existing situation, this system proceeds towards the desired solution in a number of steps. At each of these steps the Waterfall Model is followed.

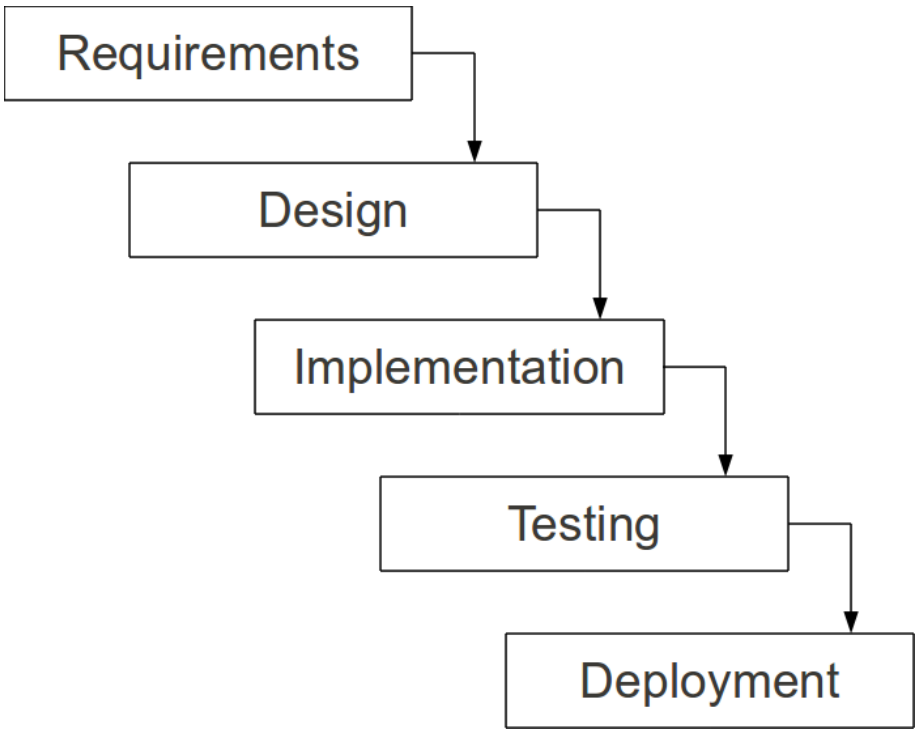


Figure 4- Waterfall model

3.1.2 Data collection

Information is collected from a range of sources. Likewise, there are a variety of techniques to use when gathering primary data. Listed below are some of the most common data collection techniques used for collecting data for this project.

- **Interviews**

    a. Face to face:

    In-order to get per day information about hotels costs and services hotel personnel was inquired face to face and collected data.

    b. Telephone:

    In-order to get per day information about hotels costs and services hotel administration was inquired and collected data.

- **Online Websites**

    Various websites were taken into consideration to collect the data.

- **From friends and relatives**

    Data were collected from friends and relatives since the person visiting the place would actually provide legitimate information so they were included as a source of information.

Data is entered by admin, as the application requires data for providing information when users search. In this application user can either enter the location name or the budget to invest for the hotels. If the search is through location then the appropriate hotels for the location would be provided else the search is though budget then the hotels with entered budget would be listed from all over the location.

3.2 System Design

For the system analysis of this application, following two methods have been used:

- Data Modeling
- Process Modeling

Data Modeling: ER Diagram

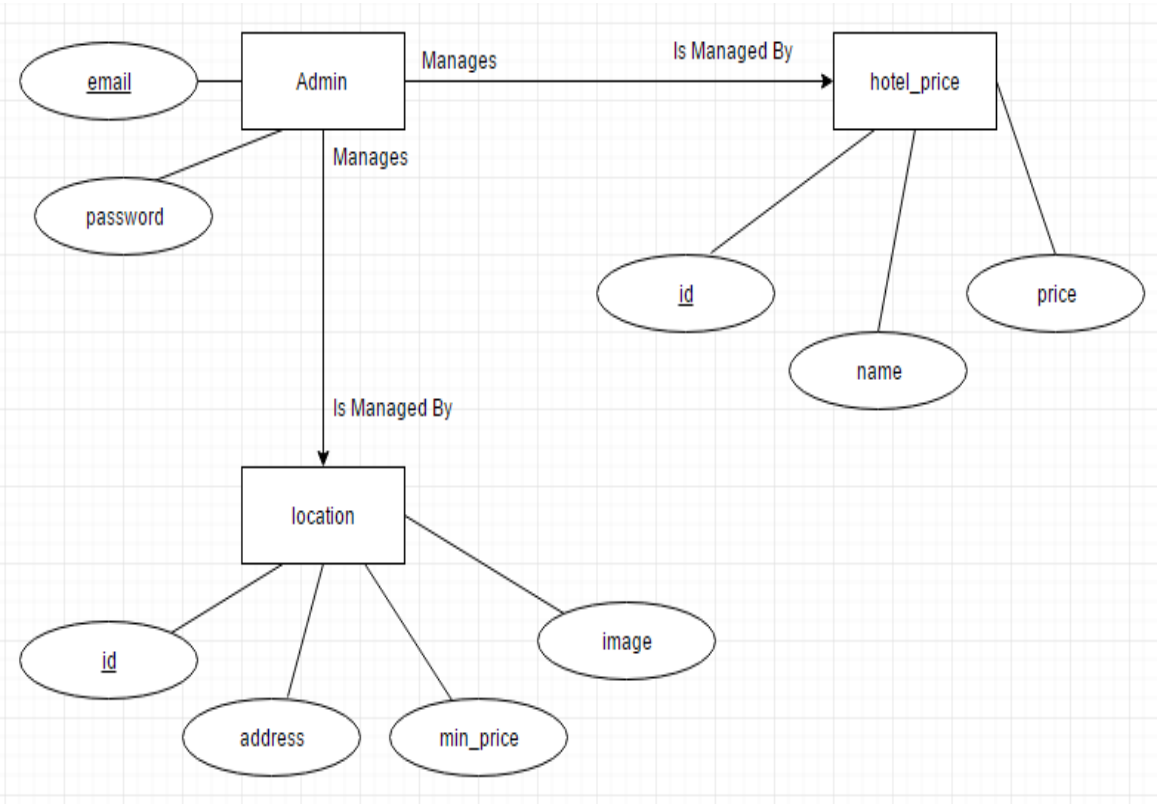


Figure 5- ER diagram

In the given ER diagram:

- location is an entity.
- Admin is an entity
- hotel_price is an entity
- hotel_price has 3 attributes:

    - id is a primary key
    - name
    - price
- location has 4 attributes:
    - id is a primary key
    - address
    - minimum price
    - image
- Admin has 2 attributes:
    - email is a primary key
    - password

Process Modeling: DFD

- Context Level Diagram (0 Level DFD)

The figure below describes context diagram for the application. There are two process working:

- User searches hotel information via internet.
- Actual application built in to send the response getting the information from the database.

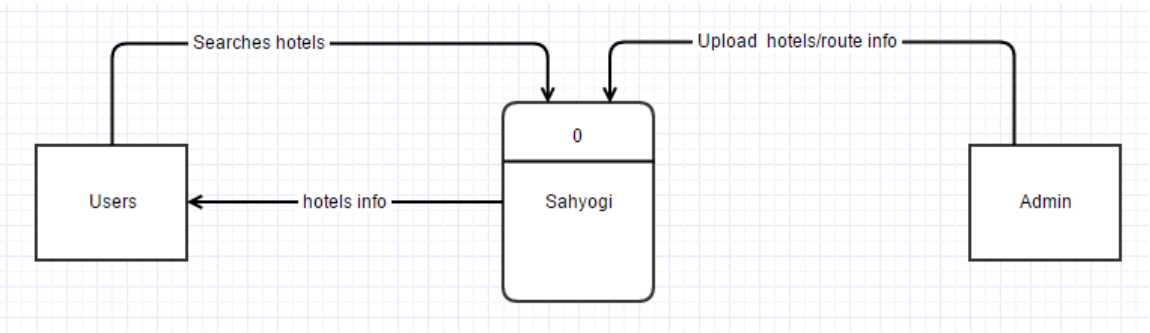


Figure 6- Context level diagram

Data Flow Diagram (DFD)

- 1 Level DFD

The figure below shows a 1 level DFD for the application. The application has two devices functioning:

- User searches hotel information via internet.
- Actual application built in to send the response getting the information from the database. Application admin inserts and updates hotel cost, image gallery and location of hotels.

In the figure, the application receives a search request from user. It responds the search by providing appropriate information to the user. Application searches the database and returns the matching hotel info as output to the requesting user. Also, as shown in the figure the application admin inserts and updates hotel cost, image gallery and location of hotels.

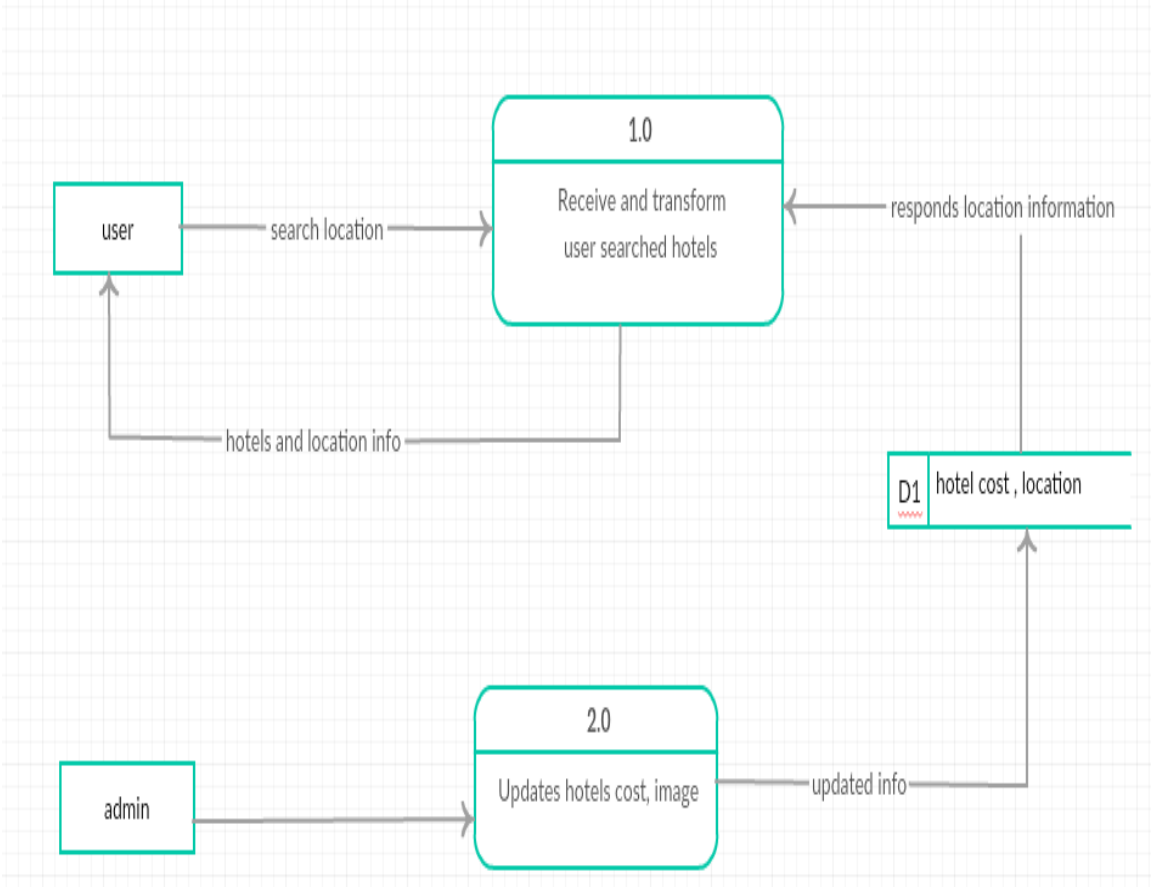


Figure 7- Data flow diagram

CHAPTER 4: IMPLEMENTATION AND TESTING

4.1 Implementation

At first, the data collection was done through interviews, web portals also through friends and relatives. Then, admin will store the collected data in the database using admin module. Similarly, User would be provided with the interface with the options to search either by hotel name or budget, based on the input given by the user appropriate result would be shown. If the search is through hotel name required hotels would be shown else if the search is by budget then the list of hotels matching the user budget would be shown.

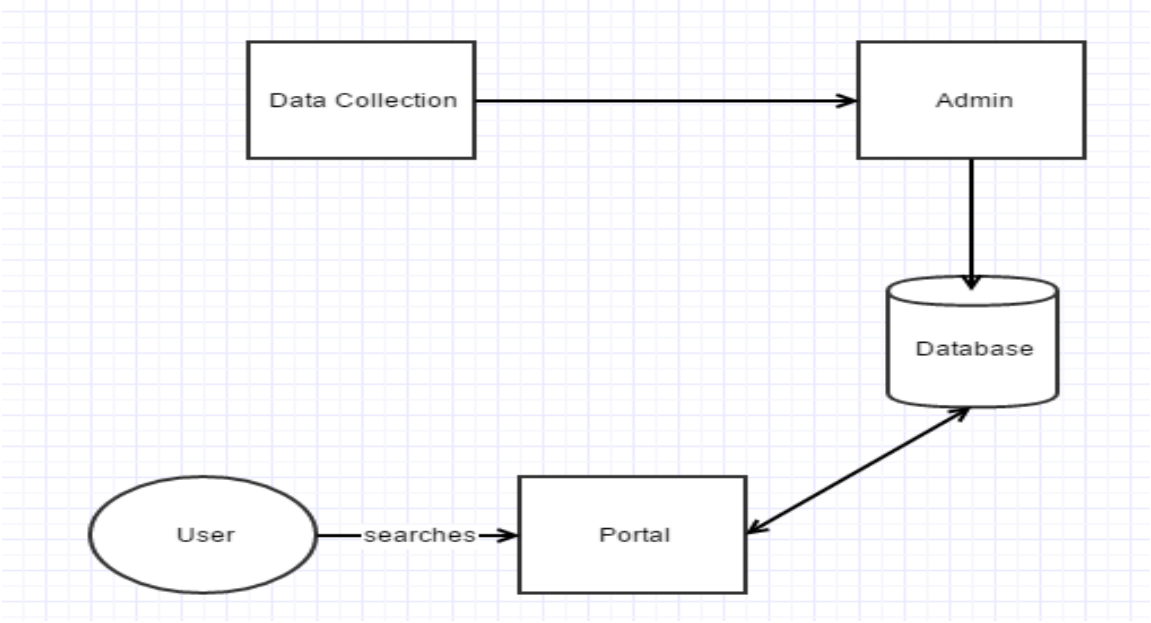


Figure 8- Workflow diagram

4.1.1 Tools used

Tools and technologies used are:

- HTML and CSS

HTML and CSS have been used to define the structure and layout of the Web page by using a variety of tags and attributes.

- PHP

PHP has been used to add functionality to this application that HTML alone can't achieve. Also, to interact with MYSQL databases to write and retrieve information from database as well as create pages using the contents of database.

- MYSQL

MYSQL has been used to store the information of the hotels such as location, price and photos.

4.2 Testing

Testing has been done to find and fix the issues of this application and test cases are given below.

Test Case- I

Table 1- Hotel search by location

S.N	Search location	Result	Test pass/fail
1	Nagarkot	Club Himalaya	Pass
2)	Nagarkot	Hotel At The End Of Universe	Pass
3)	Dhulikhel	Tashidelek guest lodge house	Pass
4)	Bhaktapur	Nyatapola Guest House	Pass

Test Case- II

Table 2- Hotel search by budget

S.N	Search Budget	Result	Test pass/fail
1)	1600	Hotel At The End Of Universe	Pass
2)	1600	Tashidelek guest lodge house	Pass

CHAPTER 5: MAINTENANCE AND SUPPORT

Maintenance and Support Strategies of this application are:

5.1 Adaptive Maintenance

The data for hotels budget may be changed over time so admin have to update hotel prices accordingly.

5.2 Corrective Maintenance

As application could be sold or deployed for public use. May be there could be unresolved issues and if user complains about it, the maintenance have to done. For user enhancement we need to add login feature in this application.

CHAPTER 6: CONCLUSION AND RECOMMENDATION

6.1 Conclusion

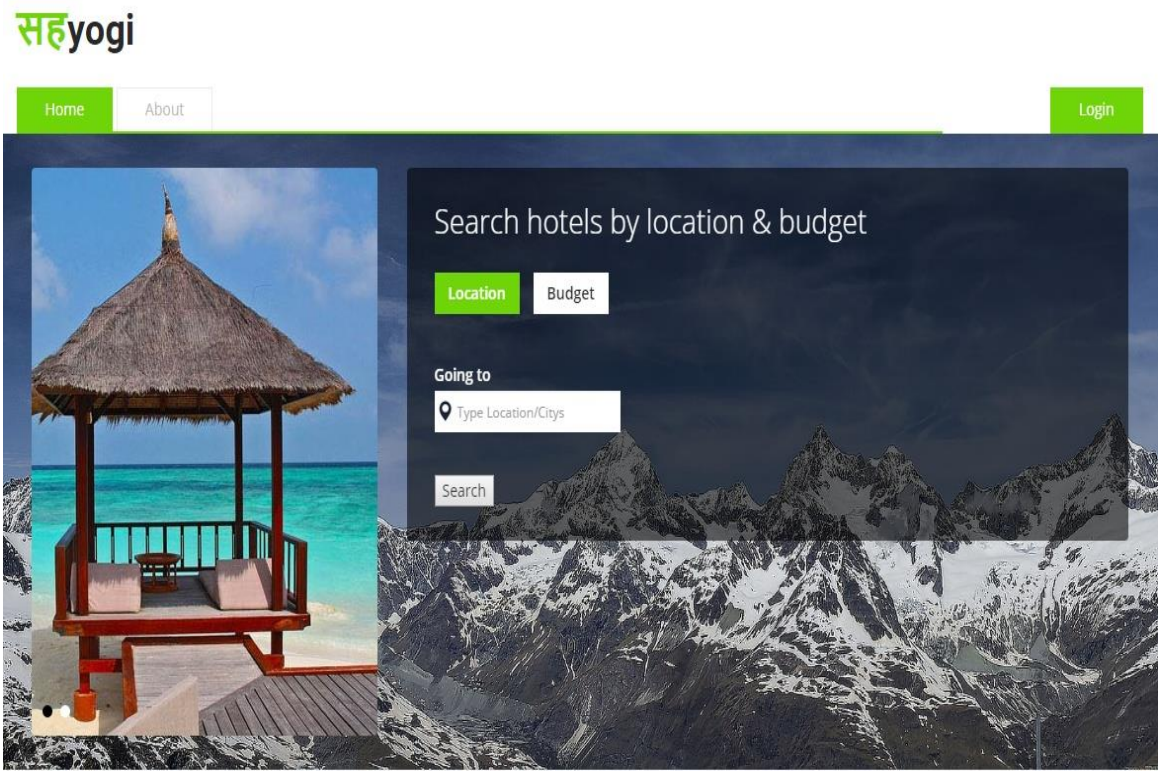
The project has been successful in providing information about the hotels such as cost and route to reach the hotels with the help of Google map. This application provides the search facility along with images and information about the hotels. Cheap and economical hotels have been especially targeted for students and teenagers. This project successfully fulfills the need of platform to search and gain information about various location and hotels of different places of Nepal.

6.2 Recommendations

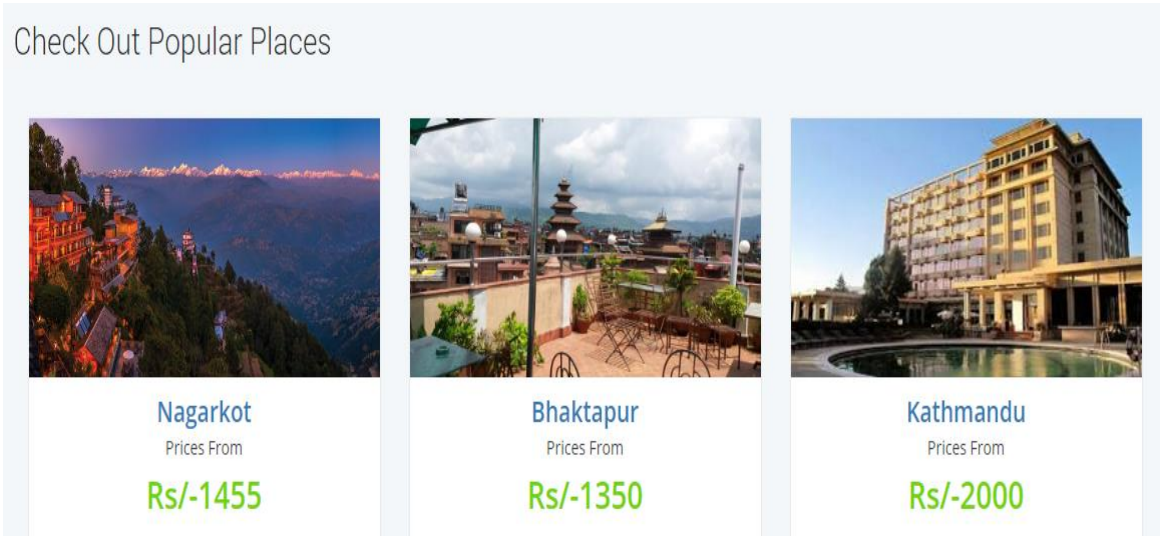
As for now the project is only able to provide limited information regarding economical hotels cost and routes to reach the hotels. If we add the login feature we could provide extra feature like explore places nearby suggestion in the email. Another add up in the application can be recommending the hotels by analyzing the pattern of users who have searched the location and hotels mostly. Also, another feature would be to give user the rating the hotels, feedback and suggestions to hotel owners through application.

APPENDIX I

Search interface



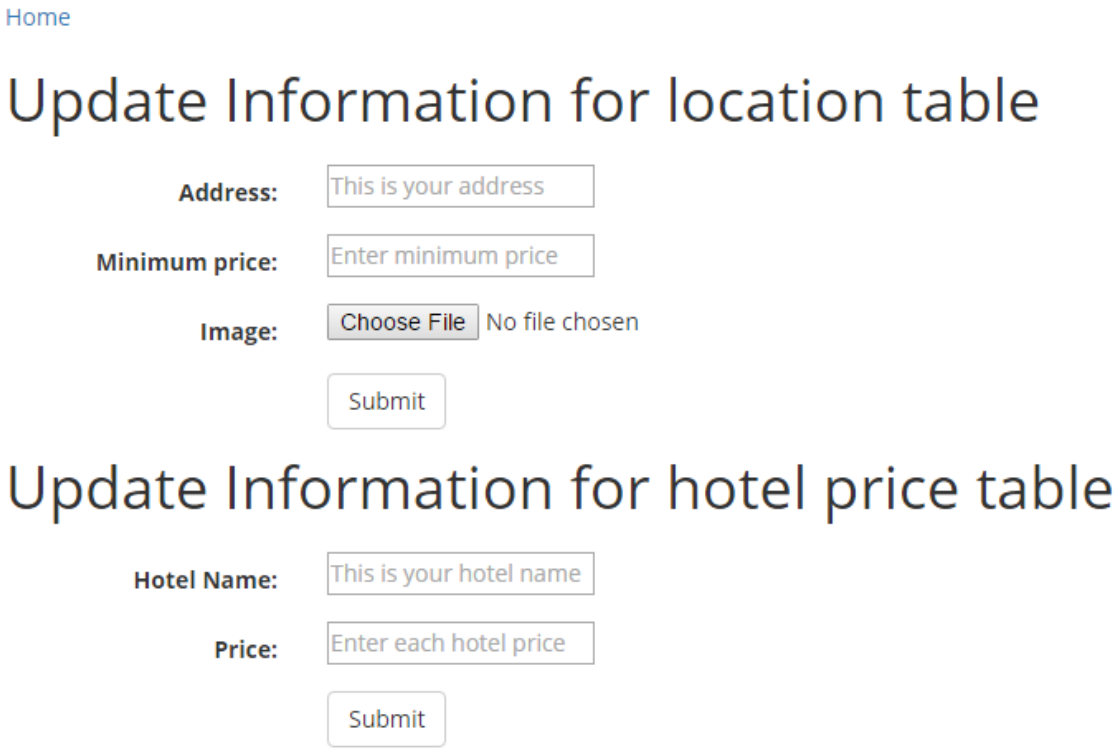
Location info



Sahyogi : Locate hotels

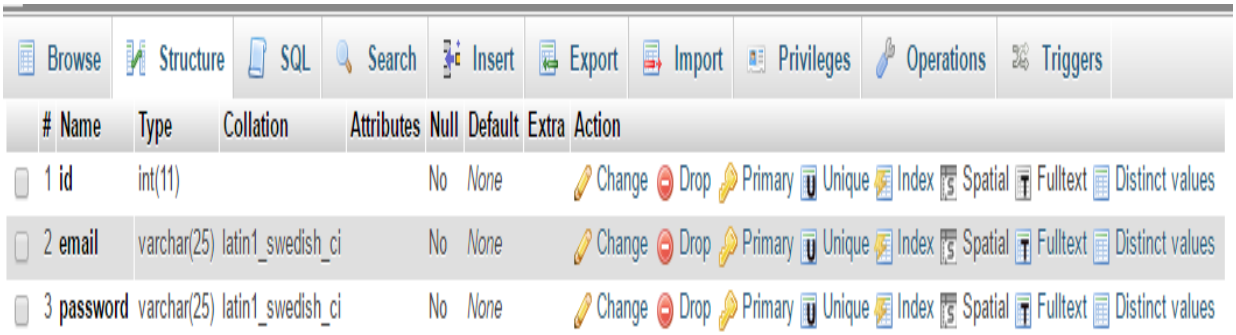
About page

Admin page

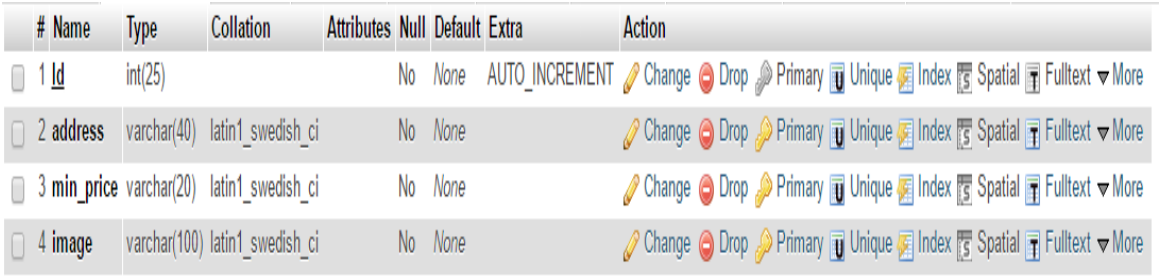


APPENDIX II

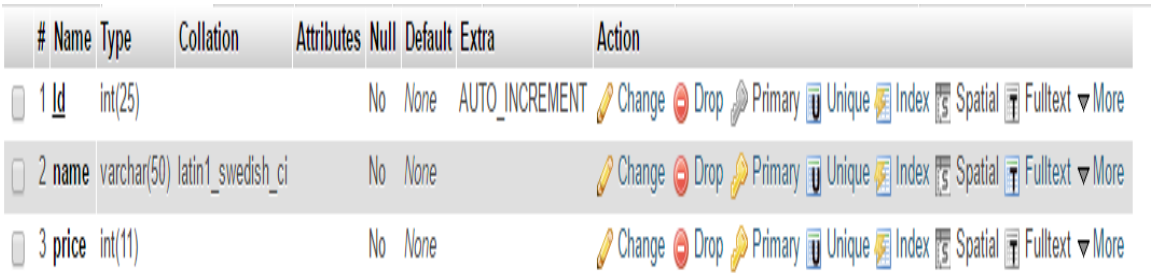
Admin Table



Location Info Table



Hotel price info Table



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