Tribhuvan University

Faculty of Computer Science & Information Technology

Kirtipur, Kathmandu

Proposal for Project Work

On

"Dine Delight- A restaurant recommendation portal"

A Project Report Proposal

Submitted to

Department of Computer Science and Information Technology

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Table of Contents

1. Introduction

In today's world where every corner there are some new restaurants being opened it is difficult to choose which you want to try first. Some people says that their recommendation is best while other might disagree. Finding a good place to dine can be a daunting task so we present to you "Dine Delight" a web portal trained to present you with recommendations using collaborative filtering.

"Dine Delight" is not another restaurant recommendation system; it's your go-to platform where users can create an account along with ability to keep bookmarks allowing users to plan early. Whether you are traveler exploring a new city, a local looking for hidden gems, or a food enthusiast seeking the latest culinary trends our web portal will always there for you.

This proposal aims to outline our vision for "Dine Delight" with user-friendly interfaces to help out all you foodies out there. Together, we will unlock a world of culinary possibilities making your every meal a delightful experience. Finally, Welcome to "Dine Delight".

2. Problem Statement

- With lots of option individuals encounter challenges when choosing a location suited to their preferences.
- Lack of confidence in their choice due to factors such as budget, location, trend.
- Missing out on the better option.
- Troublesome go through different web page or web portal to search for some place you saw a long time ago.
- Difficulty in making a decision for a traveler with limited time and appetite.

3. Objective

- To provide users with tailored restaurant suggestions based on location, preference, budget.
- To provide precise recommendation through collaborative filtering algorithm.
- To allow users to make plans to visit certain eating establishment during their travels.
- To promote the good services and make individuals every meal delightful.

4. Scope and Limitation

Initially, starting with big cities with a significant restaurant presence which will allow the project to grow. Afterward based on the user demand it can be expanded to rural areas. Tourism is an important market in Nepal. By targeting those local as well as international tourist we can grow traffic on our portal. Nepal offers rich culinary landscape with each region having its own diverse cuisines. It can help foster a sense of community by allowing people share their experiences about different delicacies. Local specialties and traditional dishes unique to Nepal can be highlighted. Collaboration with different establishments with exclusive promotion can attract a wide user base and support the local dining industry.

The Scope for "Dine Delight" in Nepal is significant given our diverse culinary offerings, flourishing tourism industry and increasing food and hospitality businesses.

Limitations

- Data can be abundant in cities and crowded areas but it can few to none in rural areas leading towards decrease in accuracy of the system.
- Users can receive similar suggestions based on their common interests which can highlighting some food and establishment while overshadowing the other possibilities.
- More and more user interactions and adaptation is necessary for it to be effective. So abundant marketing and user engagement strategies is must.

5. Requirement Analysis:

i. Functional Requirement

- User registration and authentication.
- Restaurant search and obtain recommendation
- User review and rating
- Security and privacy

ii. Non-functional Requirement:

- Fast and responsive user interactions, with user-friendly interface.
- The system should be able to handle increasing number of users as it grows.

6. Methodology

6.1. Software development model

We use an agile software development model such as Kanban, to facilitate iterative and incremental development and adaptation to changing requirements.

6.2. Study of the existing system

Go through journals and conduct a thorough analysis of existing systems to better understand what limitations and strength we are dealing with. Study the currently developed system to devise an execution strategy, opinions of the current users on that system and do a feasibility study.

6.3. Data collection

In order for the system to give results it needs to be fed with abundant data. So, we need to identify the data sources for information about restaurants, user preferences, reviews, ratings and location data.

We can collect data using different data scraping tools, APIs available on the web to collect real-time restaurant data from online sources.

6.4. Feasibility

- **Technical feasibility**: Evaluate the technical feasibility of the system. We will use Django for back-end and JavaScript for front end development for building a recommendation system and user-friendly interface. Database system such as MySQL or MongoDB can be used. Host the application on cloud platform such as Azure or hosting services for scalability and reliability. Finally, use Github for version control.
- **Economic feasibility**: While considering the economic feasibility the total cost be assessed by taking in factors such as cost, benefits and ROI projection. Consider development costs, hosting, marketing, ads partnerships, collaboration fees and return on investment based on revenue projections.
- Operational feasibility: The operation of the system does not need extravagant resources. Web connectivity, a browser, well maintained database and users is all it requires to be operational.

6.5. Tools and technologies

6.5.1. Implementation Tools

- IDE: VS Code
- Operating System: Windows or Linux
- Ram: Minimum 4 GB
- Frontend: JavaScript, Html, CSS
- Backend: Django
- Database: MySQL or MongoDB

6.5.2. Analysis and Design Tools

- **Data Flow Diagram**

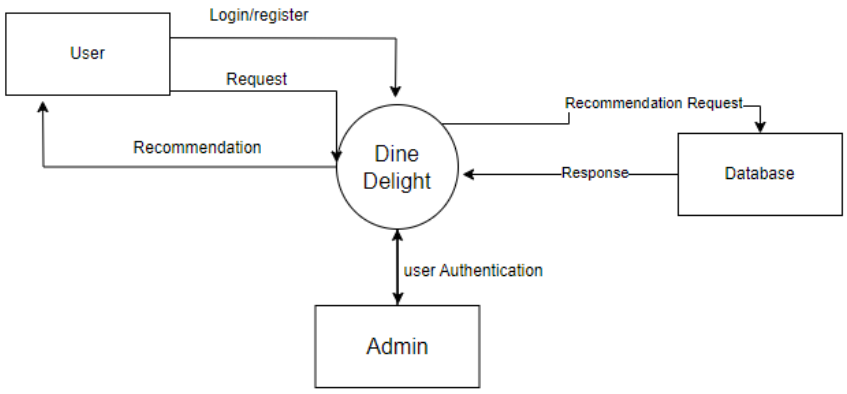

Fig: Level 0 DFD diagram for DineDelight

7. Expected Working Schedule

The working schedule for "Dine Delight" is shown in the chart below.

Phase / Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Study and analysis	2w												
Coding and implementation		9w											
Testing						3w							
Documentation							4w						
Review											2w		
Presentation													1w

Table: Expected working Schedule (Gantt chart).

8. Expected Outcome

The users will be able to find cuisine suited to their taste. The local business can get exposure to local as well as external visitors. It can help users plan early on which places they want to give a try, which places is famous and which has the best foods to try. They can keep notes on their dashboard so that they do not have to search again for restaurants while travelling.

9. References

[1] Hyeyoung ko, Suyeon Lee, Yoonseo Park & Anna Choi, "A Survey of Recommendation Systems: Recommendation Models, Techniques, and Application Fields".

[2] Wei-Ta Chu & Ya-Lun Tsai,"A hybrid recommendation system considering visual information for predicting favorite restaurants".