

## EFFICIENT AND END TO END TOUR SYSTEM

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**Abstract** - The development in information technology has transformed the tourism industry with modern technology and changed it in this new era. Trip planning on the web as well as on the mobile is the preferred option these days as it is hassle free and convenient. This end to end tour system provides suggestions to the users for their next trip using deep learning's Singular Value Decomposition algorithm. The user gets the top recommended packages to purchase. Also, the user gets to customize their own package according to their budgets and interests. Since, the package includes everything from taking the user from their location to drop them to their location after tour, it's called the end to end tour system.

**Key Words:** Tourism, Singular value decomposition algorithm, Deep learning, End to end tour system

### 1. INTRODUCTION

The progress in technology and the modern business model has upgraded the tourism industry, in recent years. The development in information technology and knowledge economy, proving the transformation and promotion of tourism. New and modern technologies are getting used in tourism development in the new era. Due to this, science and technology creates guides for tourism consumption with tourism needs and formats. In coming future tourism will be more developed using the information technology. Also, it will help to change the traditional mode of tourism consisting of operations and management to a great extent. The modern technology will help improve the tourism industry making it more convenient and hassle free to the users.

The tourism demand in this era has been increased as well as the competition in the tourism destinations as people now want to explore, thus the market has been increased and with that the need of new modern technologies in tourism as well. Studies have shown that innovation is the key to maintain the ability of tourism destinations to compete in the international market. If the tourism destinations want to maintain themselves in this market they need innovations in their work to attract tourists. Even after this much research and studies shown the

"Experience-involvement, memorability and authenticity: The service provider's effect on tourist experience"- The model was supported a management perspective because

need to innovate, still there is a lack of development in this area.

In this web app we are going to build a system that will ease the work of tourists. The user will be getting the prediction of the destination he should visit based on the questions answered by him. The user can buy any package of his choice by comparing all the packages provided by various third party websites. The user can also customize his own plan according to his interest and budget. The app will also be having the travel bloggers section where top bloggers of the country can post their travel plans and guide their followers accordingly.

### 2. LITERATURE SURVEY

"A Model for the development of Innovative Tourism Products: From Service to Transformation"- It asserts that attractions are the premise of tourism development as these are the foremost essential components of tourism products. Any tourism destination becomes unique and distinctive based on its cultural as well as environmental features. Different attractions play an important role in making these destinations different from each other. Attractions are the most important part of tourism products, because it motivates the tourists to plan their trips. The first tourism products that attract tourists to go to destinations contains physical, environmental, and sociocultural characteristics. All these features vary from destination to destination and play a major role in the competition between all the tourism destinations. So, when there is any new tourism development it should support all these core features. The tourism products have a particularity that distinguishes them from other products. Unlike financial or other services, tourism development requires a physical stage within the kind of mountains, beaches, or infrastructure created by choice (e.g., theme parks). Tourism products are thus linked to specific locations, so customers need to travel physically to those places to enjoy these products. The actors involved in the process aren't the only influencers in the tourism development, but also by the features of the destinations which are distinctive in nature and thus helps in the development of the tourism products.

the last word goal is to 'stage' tourism experiences per various authors. Zatori, Smith, and Puczko report that, through higher-quality interactions, interactive experience

environments and customizable services, service providers can create favorable external environments during which deeper, more memorable experiences can occur. This model focuses on how visitors' experiences are triggered by environmental stimuli in a very given context and maybe positive or negative. The way different people perceive particular events or situations is strongly influenced by determining factors inherent to every person and their personal involvement in experiences. Thus, different people perceive the identical situation in totally other ways, and therefore the resulting experiences are equally diverse.

"Approaches, Issues and Challenges in the Recommendation Systems: A Systematic Review"- they read 66 journals related to the recommendation system published between 2001 and June 2016 and divided the recommendation program into the following categories based on their methods: 1. Collaborative Filtering (CF) method uses user preferences having the same options as the intended user to recommend an item. 2. Content-Based Filtering (CB) creates an individual user profile that maintains unique user features that can be used to recommend items. Features determine the user taste collected from previous users' preferences. 3. The Social Filtering System (SF) collects information on users' profiles and their social / network content. Those are recommendations made based on targeted users' favorite friends. It is also called the Community Based approach. 4. The People List (DE) filtering system uses demographic information such as age, country, place etc. To make the system work it is mandatory to collect demographic information. 5. The information-based filtering (KB) method uses a mapping method to give a recommendation. User preferences are mapped to the properties of the item and the system determines whether the item is eligible to recommend to the user or not. 6. Utility-based approach (UB) is similar to KB in that depending on the usage of the item, it is compared to the user requirement and a recommendation is made. 7. The Hybrid Recommendation (HR) method uses two filtering methods in the system. The purpose of this is to cover the disadvantages of one method of filtering with the advantages of another.

More over the authors have mentioned a number of the analysis ways within the journal paper. This can scale the standard of the system; that will further correct the recommendations area unit or whether or not the recommendations area unit helpful to the user. The primary technique mentioned is that the likelihood metric wherever the reliability of the prediction by the RS is measured. Graded matrix is another technique wherever however well is usually recommended things area unit graded and measured it to live the standard of this rank. To try to do this the measures that area unit typically used area unit preciseness, Recall, Mean Average preciseness etc. If the advice system aims to cut back the amount of errors then qualitative metric is that the best option. It measures accuracy, F-measure, alphabetic character

datum, coverage etc. to realize the aim. To live the user satisfaction level the user satisfaction metrics is employed. This can be done by assembling assessing the user feedbacks.

### 3. PROPOSED WORK

#### A. Flow of the system:

The user will open the website. After opening the website, he will take a quiz and answer some questions. The recommender system will recommend some destinations based on the answers provided by the user. Now user can select any location from the recommended ones and select the package and make payment.

User can also view the top packages provided by the system. The most viewed or most purchased packages will be recommended to the user. The user can choose any package and make the payment.

The users can also customize their own package. They need to select all the facilities, consisting of transportation mode, hotels, resorts, sites to visit, etc. User can customize their package according to their budget and interests. After successful creation of package the user need to pay the estimated amount.

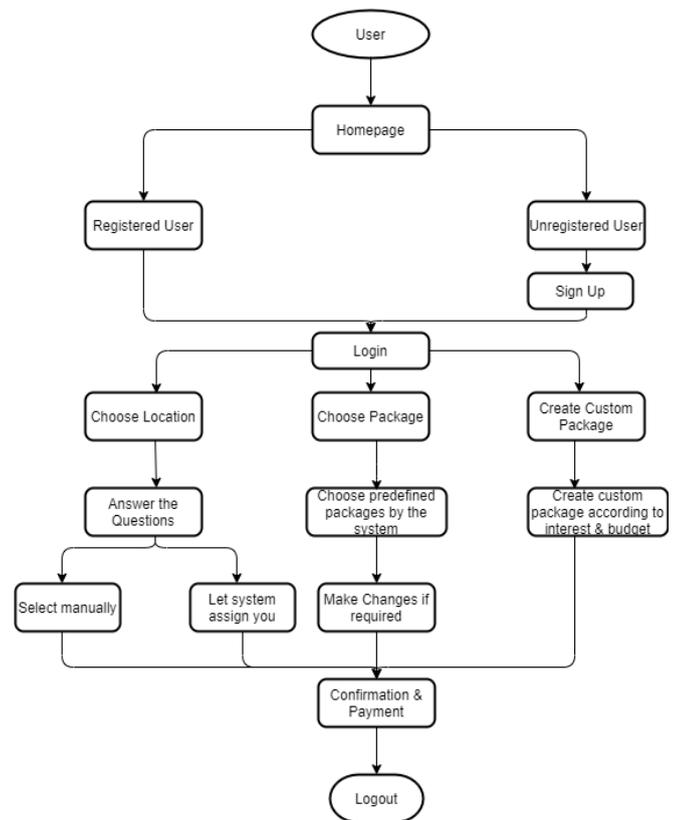


Fig 3.1: Flowchart for end to end tour system

**B. Functional Modules:**

The whole system is divided into three modules. They are prediction quiz, recommendation system, customization.

**1. Prediction Quiz**

This involves a quiz, the user needs to answer some questions and then the system will predict the locations based on the answers provided by the user.

**2. Recommendation system**

The recommendation system recommends the top packages to the user to purchase. It uses the singular value decomposition algorithm to recommend top and most purchased packages.

**3. Customization**

In this module, the user gets various facilities to choose from and customize their own package. This is basically kind of e-commerce system where user can choose their facilities and buy them as a package.

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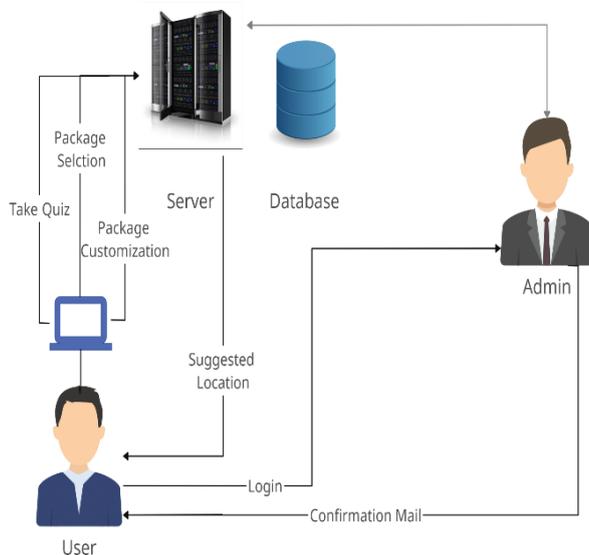


Fig 3.2: System Architecture

**4. CONCLUSION**

This survey helps in developing an approach for efficient and end to end tour system. The system includes the use of machine learning algorithm singular value decomposition for the recommendation system to recommend the top packages to the user, hence, providing full satisfaction to the user. Also it deals with the customization of the package and reduce the manual work of the user making it easier for them. The system consists of a blog section, so the users can learn from others experiences. The system will help plan the users their tours efficiently and hassle free according to their budgets and interests.