# TOURS AND TRAVEL RECOMMEND SYSTEM USING MACHINE LEARNING TECHNIQUES

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**Abstract -** *Intelligent Agent is a new method of designing and developing software system. Agent-based processing technology has become a new breakthrough in the development of software engineering and a new revolution in software. The relation- ship between user satisfaction and tourism e-commerce function is discussed, and the relationship between user satisfaction and the purpose of tourism e-commerce supplier is tested. Web data mining is one of the key technologies to realize Web personalized service. Through the analysis of tourists' behavior (interest), the cor- responding model is established to provide personalized service for users according to the model. The traditional tourism industry is obviously unable to comply with the development trend, and the corresponding industrial structure transformation and upgrading is necessary. With the advent of the era of personalized information ser- vices, the personalized service provided by the tourism e-commerce environment is also of great significance and practical value for improving the satisfaction of tourists and the competitiveness of merchants. This paper analyzes the reasons that affect the customer satisfaction of tourism e-commerce, and proposes corresponding countermeasures.*

## 1. INTRODUCTION

The improvement of current data innovation and organization innovation, web based business, which depends on the Internet and other PC advances, has arisen as the occasions require, and has developed quickly [1]. As a delegate of the new monetary model, internet business has gotten increasingly more consideration from all nations on the planet. With the data framework for travelers, it is smarter to give guests per- tinent data and planned administrations. Like the travel industry objective exercises, the travel industry costs, travel courses, transportation, convenience, amusement, neighborhood customs, dietary patterns, etc. To help sightseers pick the best travel courses and travel time, make sensible travel choices [2]. Get the best joy of the travel industry utilization essentially cost, work on the faithfulness of sightseers to the site, and in this manner improve the seriousness of the site. The travel industry has one of a kind benefits in creating online business [3]. The travel industry has become one of the most well known and energetic specialized administrations on the Internet [4]. The nature and qualities of the travel industry itself, just as friendly informationization and monetary systems administration,

verify that travel industry has novel benefits in creating power over business. With the ceaseless development of this innovation, the utilization of computerized reasoning, in actuality, is turning out to be increasingly famous. In spite of the fact that China's travel industry web based business is creating quickly, there are as yet numerous issues and troubles. Site data refreshes gradually, online exchanges are cool, unfit to draw in vacation- ers [5]. The area of the site is too restricted to even consider taking into account vacationers from everywhere the world, or even to dispose of phonetic and social contrasts. Man-made brainpower is a part of PC science. For researchers, the em- bodiment of AI research is to comprehend the embodiment of insight [6]. Thus, it produces a brilliant machine that responds in another manner that is like human in- sight. The most effective method to help guests as soon as possible observe the data they need and turn potential guests into purchasers is difficult for movement internet business destinations. Work really hard in client relationship the executives, offer customized types of assistance for clients, and become the course of online business activity and advancement [7]. China is a country with bountiful the travel industry assets and a enormous client market. In this manner, the travel industry web based business has incredible potential and space for improvement in China's the travel industry market. The most effective method to make every guest see as the data of interest on the site and cause the craving to buy the travel industry is the objective of customized internet business data administration for movement web based business [8]. This paper investigates the examination of client access information, builds up a client model library, and gives comparing administrations for client needs

## 2. RELATED WORK

[1]. As a representative of the new economic model, e-commerce has received more and more attention from all countries in the world. With the information system for tourists, it is better to provide visitors with relevant information and scheduled services. Such as tourism destination activities, tourism costs, travel routes, trans-portation, accommodation, entertainment, local customs, eating habits and so on. In order to help tourists choose the best travel routes and travel time, make reasonable travel decisions [2]. Get the greatest pleasure of tourism consumption at the least cost, improve the loyalty of tourists

to the website, and thus enhance the competi- tiveness of the website. Tourism has unique advantages in developing e-commerce [3]. Tourism has become one of the most popular and lively technical services on the Internet [4]. The nature and characteristics of tourism itself, as well as social infor-mation's and economic networking, determine that tourism has unique advantages in developing electricity over business. With the continuous maturity of this tech- nology, the application of artificial intelligence in real life is becoming more and more popular. Although China's tourism e-commerce is developing rapidly, there are still many problems and difficulties. Website information updates slowly, online transactions are cold, unable to attract tourists [5]. The location of the website is too narrow to cater to tourists from all over the world, or even to eliminate linguistic and cultural differences. Artificial intelligence is a branch of computer science. For scientists, the essence of AI research is to understand the essence of intelligence [6]. In turn, it produces a smart machine that reacts in a new way that is similar to human intelligence. How to help visitors quickly find the information they need and turn potential visitors into buyers is a challenge for travel e-commerce sites. Do a good job in customer relationship management, provide personalized services for users, and become the direction of e-commerce operation and development [7]. China is a country with abundant tourism resources and a huge user market. Therefore, tourism e-commerce has great potential and space for development in China's tourism mar-ket. How to make each visitor find the information of interest on the website and cause the desire to purchase tourism is the goal of personalized e-commerce infor- mation service for travel e-commerce [8]. This paper explores the analysis of user access data, establishes a user model library, and provides corresponding services for user needs.

Tourism is very popular amongst people these days. People often seek to spend their holiday in attractive destinations rather than being at home with their family. So, the initial problem they face regarding this is a proper plan. There are often both expen- sive and inexpensive options increasing the chance of exploitation. As a result , they become confused and suffer from hesitation. Also, not withstanding, that if they hire a tourist guide then they also have to bear a large amount of extra cost. In this paper, we present a mobile application to solve this problem that almost all lone tourists face when they plan to travel to a new destination. The Amar Bangladesh app will help individuals to discover the closest tourism spot and information related to their plans upon checking in. The idea of Amar Bangladesh is to get the all the spots in one app and make it lesser deal to move from one spot onto the next. This solution is possible in light of the fact that a decent number of individuals are travel parched and in the event that they discover an answer like this they we certainly utilize it as it is additionally utilize less mobile data. In third world countries like Bangladesh, Pakistan and Myanmar, people have access to smart phones but are not completely aware of the technical advancements it carries. This paper is focused on those who are travellers and can take advantage of this advancement to know the nearest tourist spot. By using this app, travellers can easily find which place they want to visit and which tourist spot is nearest from their location. They can deselect attractions which they do not prefer to go. This paper is centered around the individuals who are trav- ellers and can exploit this headway to know the closest traveler spot. By utilizing this app, travellers can discover without much of a stretch that which put they need to visit and which traveler spot is the closest from their area. They can deselect at- tractions which they don't want to go.

Many tourism apps are available in the internet. But there cant provide specific spot to the user which he will like using artificial intelligence or any other method. They just show the list of spots and users can choose the spot and see details. Like Tourism [8] is an android application which provides information about any place situated in India but do not provide any information which is outside of India also it does not have any algorithm which can determine which places user will like most and which places are very near to the user so the user can easily go to that place. Minube: travel planner guide [9] is another android application which is available in Google play store to help users for tour but it is not much efficient for using as guidance. To reduce the difficulty of tourism guidance, the Amar Bangladesh application which is proposed in this paper can be very helpful for people. This mobile application features are very easy to use and it is totally cost free. Service automation, robotics and AI techniques have created new  opportunities.

Considering the decision making process related complexity, intelligent system can be applied very appropriately[21]. The impact of intelligent system in travel and tourism have been discussed by Werthner H[3] Neha Soni and et. al[4]. The au- thors have discussed about the influence of AI in tourism industry, which is one of the leading business sectors generating more than 50revenue. They have discussed about chatbots and intelligent agents in their works. They mostly use the algorithms like Neive Bayse, Support Vector Machine, Artificial Neural Network (ANN),Deep learning network etc. But this field is an emerging one and changing day by day, so there are a lot of challenges to be faced and the networks are changing, so change in algorithms is expected. Many of researchers worked on development of ChatBot for travel sector. Researchers working in chatbot sectors had given a clear vision about the use of chatbot and the procedure[6,7,8]. The researchers have shown the use of chatbots in several sectors including travel, education and technological sectors and how they are changing the game. With the flavor of machine intelligence in it chatbots are becoming more smart and intelligent in decision making and problem solving. Khanna A. and et. al, in their survey based paper have discussed about the current approach of AI and how this is increasing intelligent Human Computer Interaction. They have mentioned SARANG chatbot program in their work. The

au- thors have discussed about some properties like sense, consciousness and perception. But the authors have given a theorical aspect giving idea about the current trends in chatbots. Chatbot based tourist recommendation model is also very popular and re- searchers have worked on this. [5-7][20-22]. Some authors have shown model based reasoning and recommendation system using chatbot for having better customer ex- perience [21-22]. Other paper by Ellis Prat discusses about the working procedure of chatbots and it is a technical paper to show how a chatbot may be developed and which technologies are the base of making a chatbot. Though the idea of chatbot has begun in the era of 1960s, but nowadays with the huge enhancement of AI ap- plications, chatbots are becoming useful, specially the tourism sector has witnessed a huge paradigm shift in this area[7-10]. Elisabeth E and et al. has demonstrated the recommendation system[23]. The authors used a personal device based GPS tracker. They have applied k-means algorithm. Another area of AI application in tourism is recommendation engine to provide personalized booking option or travel plan de- pending upon the consumer behavior or past booking pattern. Researcher have done plenty of research in this area. Sarwar B. and et. al has given an idea about several algorithms are being used to develop recommendation system in E commerce sec- tor. Main algorithms are used to develop recommendation system are collaborative filtering, K nearest neighbor algorithm etc.[12]. Hybrid recommendation model is another model for development of recommendation engine in E Commerce system and it is creating an impact in E commerce sector including tourism also.[13]. The authors discussed about hybrid recommendation model and their impact on E com- merce. But as in tourism sector the demographic data matters a lot and the tourism data is dynamic in nature, it is not very relevant in tourism recommendation. For building personalized recommendation model few researchers have applied unsu- pervised machine learning model to analyze their dataset and recommend on basis of the learning[24] , whereas some researchers have given idea about conversational recommendation model based on feature extraction[25] Sruthi S. and Grispy J. has discussed about hybrid recommendation system, the authors have discussed about product based recommendation system and they have shown how hybrid recom- mendation system has enhanced the overall effectiveness in hybrid recommendation system[13]. Another area for better customer experience is robotics. Using robotics they perform service automation[26- 27].Some researchers have shown the use of robotics for service automation in tourism sector, for car rental, travel agent book- ing and how the companies are facing challenges for adoption of robots for better service in tourism sector[26]. Tourism sectors mostly experience better customer experience in service automation using robotics science, recommendation system using intelligent algorithms, chatbots are another agents presently travel sectors are using for better customer service..
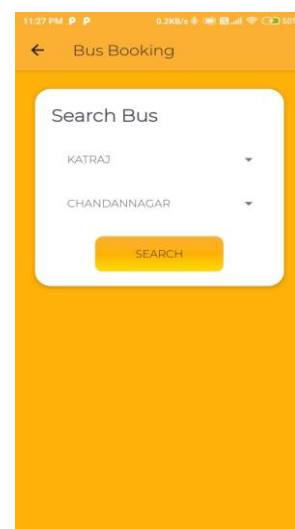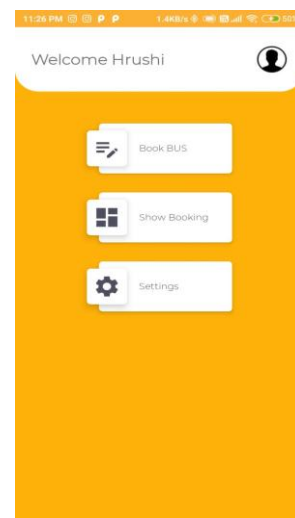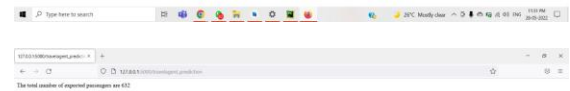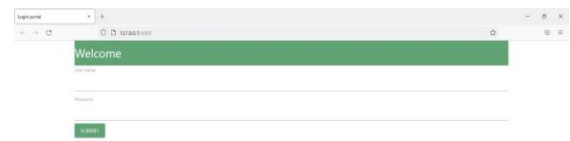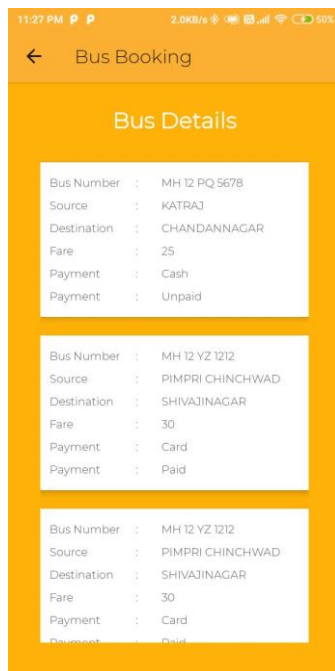
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## 3. CONCLUSIONS

In this project work we have studied smart transportation system using machine learning methods to predict transportation and sales for company and small vendors. And in this project we have studied svm algorithm and android app development .svm will give more accuracy to predict data.

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