# Euro Traveler

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* Motivation

When there is a desire to travel, it is very difficult to choose an adequate destination that fits into many factors. Euro Traveler is a system that will give the best suggestions based on user preferences.

* Problem review

The system gives better suggestions for travel instead of the user spending time browsing the internet and visiting agencies. This saves time and money but also time is money and thus the users of this system will be more satisfied. By entering user preferences, the system will select one or more destinations that are most convenient for the user. System will have 2 types of users : Administrators and Regular users. Also, the system will recommend the most popular destinations based on previous user experiences.

* Working methodology

When we decide to travel, that decision is influenced by many factors. Depending on the factors specified by the user, the system recommends ideal destinations. In order to choose the best destination, the user is expected to enter the following factors :

Inputs :

* + Way of transport (e.g. by bus, car, plane ...)
  + Age of the user
  + Budget
  + Interests (e.g. cultural and historical heritage)
  + Maximum distance
  + Summer/Winter vacation
  + Number of passengers
  + Type of accommodation (e.g. hotel, apartment ...).

Output :

* Recommended destinations

Knowledge Database :

Admin always has the ability to add / remove destinations. When adding, it is necessary to enter all the attributes for better suggestion. In order for the system to recommend certain destinations to the user, it must contain information about those same destinations. If not, the administrator is expected to enter them.

It is desirable that when the user enters specified inputs,it enters as many inputs as possible in order for the final proposal to suit it as much as possible.

Evaluation Rules :

Based on the information entered by the user, certain points are obtained on the basis of which destinations are later ranked. By combining different entries, the system can automatically increase or decrease total points (If the user is 50+ years old and has indicated that he likes urban places, the number of total points will be lower compared to a user who is, for example, 20 years old and also indicated that likes urban places).

Literature :

Our work differs because we take into account more inputs and therefore proposing is better.

<http://koreascience.or.kr/article/JAKO202007752705999.pdf>

<https://www.sciencedirect.com/science/article/abs/pii/S0306457319300111>

Examples of using application :

The user has chosen a location with a rich historical heritage, it is 40+ years old, the budget is $4000 and the rank of such a destination is increased by e.g. 15 points.

The user has chosen a location with a rich historical heritage, he is 40+ years old, the budget is $500 and the rank of such a destination is increased by e.g. 6 points.

The user has chosen a location with a rich historical heritage, it is 20 years old, the budget is $1500 and the rank of such a destination is increased by e.g. 8 points.

The user has chosen a location on the sea known for summer music festivals, it is 25 years old, the budget is $1500 and the rank of such a destination is increased by e.g. 15 points.

The user has chosen a location on the sea known for summer music festivals, he is 25 years old, his budget is $300 and the rank of such a destination is increasing by e.g. 5 points.

The user has chosen a location with a rich historical heritage, but he would also like a location on the sea known for summer music festivals, it is 20 years old, the budget is $500 and the rank of such a destination is increased by e.g. 6 points.

If the user has only selected locations with a rich historical heritage, locations known for festivals, parties, etc ... will be automatically excluded.

If the user has only chosen to spend the summer, locations that include skiing and other winter sports will be automatically excluded.

He chose winter destinations -> the system will award more points to countries in colder parts than those in the Mediterranean, for example.

He chose to show interest in winter sports -> the system will award more points to destinations rich in mountains and ski slopes.

It took 25 years -> the system will filter out selected destinations from those that have additional parties ( Forward chaining ).

He entered a small budget ($ 300) -> the system will score less for long-distance destinations and those who have to go by plane.

He chose to be interested in cultures -> the system will score more destinations that are rich in cultural and historical monuments and those with a rich history.

He chose to be 60 years old -> the system will score more peaceful destinations that are not known for parties ( Forward chaining ).

Simmilar Application Comparison :

<https://ocw.mit.edu/courses/6-871-knowledge-based-applications-systems-spring-2005/1c31f9edac87a1fbf05ac61a83fc2c18_watugala_fin_rep.pdf>

The application we are comparing with deals with planning a trip to Sri Lanka, while our application deals with recommending a planned trip around Europe. The user is required to enter certain parameters, based on which the location is later recommended, which is essentially the same as in our system, but with a much larger number of parameters.

Also, a significant difference is that our system deals with planning a trip to only one location, while Sri Lanka can make a list of destinations to visit. Sri Lanka is a country with such a climate, where Mosun areas are not attractive to visit during the season, so a date is not necessary but desirable, while in our case it makes no sense to use the application without a date.

As for the budget, Sri Lanka will automatically recommend "deluxe" accommodation if this factor is not defined when choosing a destination, while in our system it will be ranked based on the ratio of user ratings for price and quality.

The option of choosing accommodation is also crucial. The systems are similar, in both cases a destination close to the airport / bus stop will be recommended if the trip is short, because it is assumed that the passenger does not want to waste time in transport. The most significant difference is that our application works with several types of accommodation (Hotels / Apartments / Rooms) while Sri Lanka has only a hotel option.

Factors such as Interests, Number of Passengers and their age generally have similar consequences in both applications, so there is no need to make a significant difference.