Universitat Politècnica de Catalunya

Supervised and Experiential Learning

Practical Work 3

User Manual

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Contents

1 Introduction

The CBR engine system you are currently using was developed by a team of skilled engineers who collaborated on a project at the Universitat Politècnica de Catalunya. The dedicated team members behind the system's development are:

- Joao Agostinho Valerio
- Eirik Armann Grytøyr
- Clara Rivadulla Duró
- John Kelly Villota Pismag

These talented individuals combined their expertise and knowledge to create the system you are experiencing. The version beta of the CBR system was deployed for presentation on the 15th of June 2023.

Their diligent efforts and commitment to excellence have culminated in the creation of a robust and user-friendly travel recommendation system.

2 CBR Engine System Goals

The primary goal of the CBR engine system is to provide personalized travel recommendations based on the user's preferences. By allowing users to indicate their specific requirements and preferences, the system can suggest destinations that best align with their needs.

The CBR system strives to be highly adaptable, catering to a wide range of users. It accommodates cases where certain information is not provided by the user, allowing for flexibility. However, it is important to note that the more information provided, the more accurate and tailored the recommendations will be.

In the event that a user is not satisfied with the initial plan provided, they have the option to request an alternative plan. This feature will be further elaborated in the manual, ensuring users understand how to access this functionality.

Furthermore, to enhance the recommendation system, experts have the capability to introduce potential destinations for consideration. This ensures a continuous improvement of the system's recommendations and allows for greater adaptability to changing user preferences.

With these objectives in mind, our aim is to deliver an exceptional user experience in the domain of travel planning.

3 Start-up the System

To start the CBR engine system, please follow these steps:

- Ensure that your computer meets the minimum system requirements for running the system. These requirements typically include a compatible operating system, sufficient memory, and a stable internet connection.
- Power on your computer and log in with your user credentials.
- Locate the CBR engine system directory and open it.

- Double-click on the travel$_p$*lanne.bat*($forMicrosoftWindows$)*ortravel*$_p$*lanner.sh*($forLinux$)*tolaunchtheapplic*

4 Shutdown the System

To properly shut down the CBR engine system and ensure data integrity, follow these steps:

- If there are any pending operations or tasks, make sure they are completed before proceeding with the shutdown process.
- Locate the system's main menu or navigation bar, typically located at the top of the application window.
- Click on X button on the upper right corner.
- A confirmation dialogue may appear, asking you to confirm the shutdown operation. If you're ready to proceed, click "Ok" to initiate the shutdown process.
- Wait for the system to finalize any pending tasks or operations and perform necessary cleanup procedures.
- Finally, you can power off your computer or proceed with any other standard shutdown procedures according to your operating system's guidelines.

If you encounter any difficulties during the start-up or shutdown process, consult the system's user guide or contact your system administrator for assistance.

5 Functionalities of the System

The CBR engine system offers a variety of functionalities to enhance the user's experience and assist in travel planning. This section provides an overview of the different features available:

1. Personalized Recommendations: The system leverages user-provided preferences and requirements to generate personalized travel recommendations. By inputting desired criteria such as destination type, activities, budget, and more, users can receive tailored suggestions that align with their specific interests.

2. Flexibility in Input: Recognizing that users may not have preferences for every aspect of their travel, the system allows for missing information. Users can omit certain fields if they don't have a particular preference, ensuring a user-friendly and adaptable experience. However, it's important to note that providing more comprehensive information will result in more accurate recommendations.

3. Alternative Plans: If a user is not satisfied with the initial travel plan provided, the system offers the functionality to request alternative options. This allows users to explore different possibilities and find the best match for their travel needs. Detailed instructions on accessing and utilizing this feature will be outlined in the manual.

4. Expert-Provided Recommendations: To continually improve the system's recommendation capabilities, domain experts have the ability to introduce new destinations for consideration. These expert recommendations supplement the existing database and contribute to a diverse range of options available to users.

By combining these various functionalities, our CBR engine system aims to deliver a comprehensive and user-centric travel planning experience. Users can expect personalized recommendations, flexibility in input, the ability to explore alternative plans, and the inclusion of expert insights to ensure an exceptional travel planning journey.

6 Example of Application

When using the provided platform, the user must see the following display on the screen of the device:

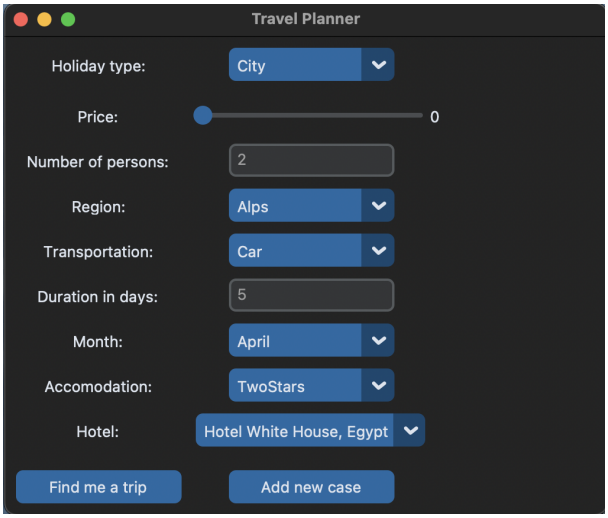

Figure 1: Default Display.

The specific example will adhere to the following specifications:

- Holiday Type: City
- Price: 4300.0
- Number of persons: 4
- Region: Alps
- Transportation: Car
- Duration in Days: 4
- Month: April
- Accommodation: TwoStars
- Hotel: Hotel White House, Egypt

Regarding this matter, the user will need to select the desired values for each feature. In the case of categorical options, they can do so by clicking on the arrow to access the available choices, as demonstrated in the accompanying illustration below.

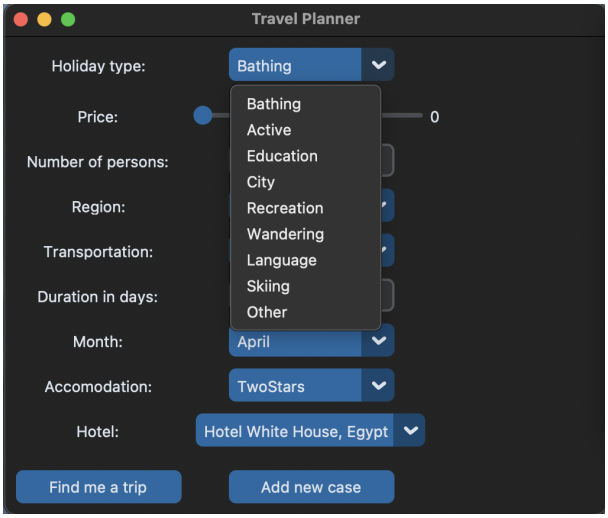

Figure 2: Selecting categorical features.

Once all the categorical features have been selected, the display should resemble the example below:

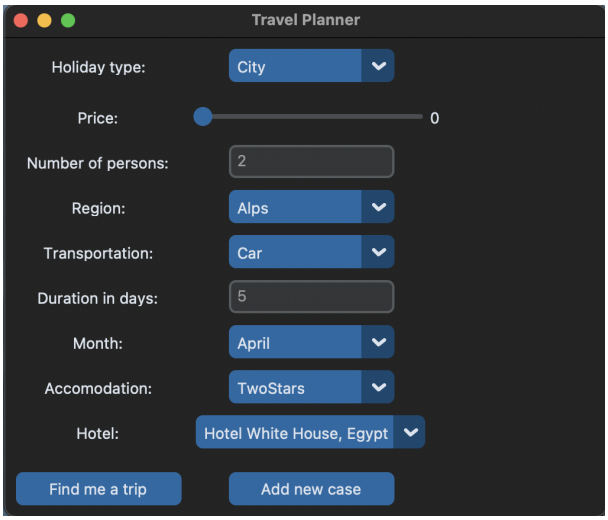

Figure 3: Selecting numerical features.

On the contrary, for the numerical features, the price is represented by an interactive bar that can be adjusted by sliding the blue ball within the range of the bar. As for the number of persons and duration in days, the user needs to click inside the respective box and enter the desired value. By following these instructions, the display will appear as shown below:

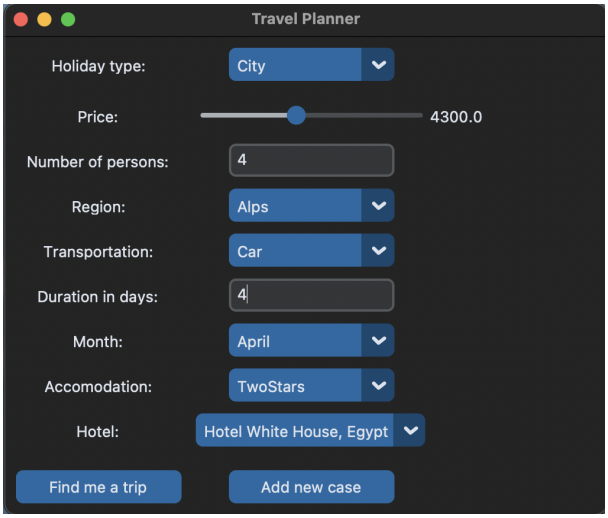

Figure 4: Desired display of the example.

Once all the options have been selected, the user is presented with the choice of either "Find me a trip" or "Add a new case," depending on their intended purpose.

Assuming the user intends to find a trip based on the specified criteria, they should select the "Find me a trip" option, which will open the following display:

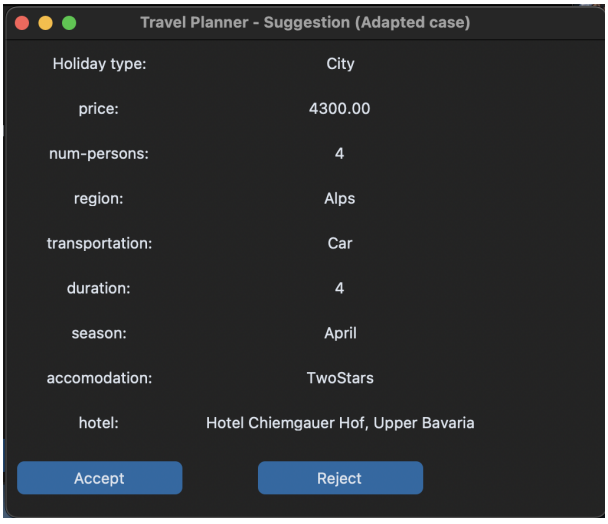

Figure 5: Find me a trip.

Here is the system's recommendation. If the user accepts the suggestion, the case will be added to the case base and the window will close automatically. However, if the user selects "Reject", the case is not added, the window is automatically closed and the user is able to re-insert his preferences.

However, if the user wishes to add a specific case to the database, they should select "Add new case." This action will open a new window, as illustrated below:

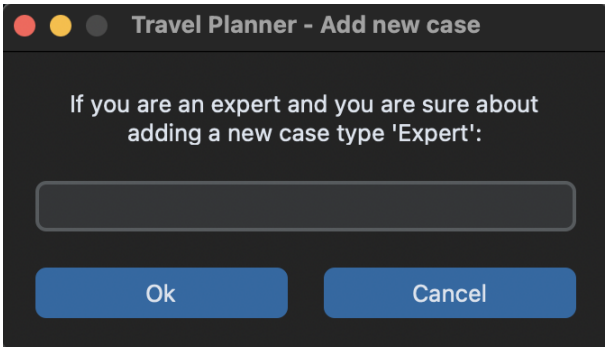

Figure 6: Add new case.

If the user intends to cancel the process, they should select the "Cancel" option, and the window will automatically close. However, if they want to add the provided case to the system, they should enter "Expert" in the designated box, as shown below:

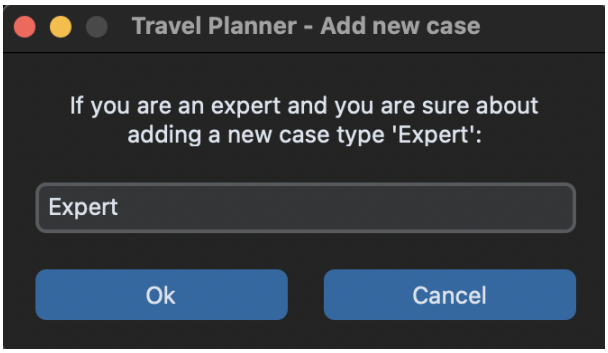

Figure 7: Add new case.

Next, the user should select the "OK" option. At this stage, the case will be successfully added to the database, and the window will close accordingly.

To close the window, simply click on the red cross located at the top-left corner.

7 Ethical Considerations

The CBR engine system is designed with a strong emphasis on ethical considerations to ensure user trust, fairness, and transparency. This chapter provides an overview of the ethical principles integrated into the system's design and operation.

1. Data Privacy and Security: We prioritize the protection of your data privacy and employ robust security measures. The system only collects and stores the necessary user information to provide personalized recommendations. All user data is encrypted and stored securely to prevent unauthorized access. Our privacy policies are transparent, and we provide clear consent mechanisms, enabling you to have control over your data and understand how it is used.

2. Fairness and Bias Mitigation: The system is designed to ensure fairness in its recommendations and minimize the impact of biases. We have implemented bias detection and mitigation techniques to prevent discrimination based on factors such as race, gender, religion, or nationality. Regular audits and evaluations are conducted to identify and address any inadvertent biases, ensuring a fair and unbiased user experience.

3. User Autonomy and Informed Consent: Respecting your autonomy and providing informed consent are core principles of our system. You have the freedom to choose whether to engage with the system and provide your personal preferences. We provide clear explanations of how the system operates and the data it requires, empowering you to make informed decisions. You also have the right to control your data and can opt out of the system at any time.

4. Transparency and Explainability: Transparency is vital for building trust and understanding. Our system strives to be transparent in its operations. We provide clear information on how recommendations are generated and the factors considered. User-friendly explanations are provided to help you understand the rationale behind the recommendations. When expert inputs influence recommendations, we maintain transparency by disclosing the involvement of domain experts.

5. Continuous Improvement and Accountability: We are committed to continuously improving the system's ethical framework. Regular audits, evaluations, and user feedback are gathered to identify and rectify any ethical concerns that may arise. We hold ourselves accountable for responsible system operation and ethical decision-making. Our development team remains vigilant in upholding ethical standards and addressing user concerns promptly and transparently.

Ethical considerations are paramount in the design and operation of the CBR engine system. By prioritizing data privacy, fairness, user autonomy, transparency, and accountability, we aim to provide you with a trustworthy and ethically sound travel recommendation experience. We value your feedback and remain dedicated to continuously improving our ethical framework to ensure your confidence in our system.