First, the CCA must attempt to display the optimal solution available in the dataset by suggesting optimal and near-optimal solutions based on its current model of the user’s preferences.

Second, the CCA must try to elicit and refine the user model. This may involve displaying “bad” candidates; the critique of a bad candidate can indicate which attributes are the most important.

Third, the CCA must also describe the range of available solutions in the dataset to the user.

The user model consists of a set of constraints and a weighting indicating the importance of each constraint.

If the assumption holds, the quality of a candidate solution can be incorrectly computed for only one of two reasons:

either the soft constraint for one of the attributes is incorrect, (may happen when the user does not specify some attributes and the system build the user profile based on some default attributes.)

or one of the **attributes is weighted improperly**.

CCA takes as input all available solutions and a partial user model and generates suggested solutions for the user to evaluate**.??? How?**

After a set of solutions has been suggested the user can either choose one and end the interaction, **or add a new constraint, modify an existing constraint, or adjust the weighting of a constraint.**

**(***This can be accomplished, as in our implementation, though the use of a graphical user interface that allows the user to critique the solutions suggested by the CCA. After the user critiques the suggested candidates, CCA is called with the updated user model, which results in a new set of solutions being suggested***)**

**The latter involves providing information that allows the user to evaluate the solutions, understand what types of solutions are available, and express additional preferences, refining the user model.!!!!!!! (Note: Not agent but the user is creating his own “user model” )**

CCA would simply rank all possible solutions according the stated preferences and display the top choices, selecting arbitrarily if the preferences did not provide a total order. (Does the user enter explicit this stated preferences?); Note here: By preferences is meant “searching filters”

Note> User model is built from its preferences (search filters).

The system finds flights that satisfy the given preferences, groups the flights into trips, and ***ranks*** the trips using the preferences in the user model. (Note> Don’t forget, we describe the user’s preferences in terms of soft constraints on the values of attributes. 0 is fully satisfied, 1 not satisfied, between- partial satisfied)

**Questions:**

**What is the best and easier approach to make the CCA to learn more about user’s preferences and then to update his model.**