

4 Cultural Viewpoint Metaphors

This thesis consists in helping HCI designers *communicate* their intent of promoting users' contact with cultural diversity, by offering a set of conceptual metaphors to help them (the designers) think about intercultural encounters. This chapter, then, presents and discusses Cultural Viewpoint Metaphors (CVM) as an epistemic tool to support the elaboration and evaluation of metacommunicative discourse about cultural diversity.

Inspired by Schön's (1983) view about the central role of knowledge in research and design, de Souza (2005a) argued that, "from a design point of view, epistemic tools contribute to naming and framing design problems, to synthesizing and evaluation solutions, and to elaborating metacommunicative strategies" (*ibid.*, p. 106). As an epistemic tool, CVM should not be used directly to produce the answer to cross-cultural problems, but for those HCI designers who have to present a solution to increase their own understanding of the problem, to explore the implications it has, to generate alternative solutions and to evaluate them against each other.

CVM are a conceptual tool intended to inform and to guide interaction design and evaluation whenever explicit communication about cultural diversity is part of the design intent (Salgado *et al.*, 2009b). They derived from empirical studies applying Semiotic Engineering (de Souza, 2005a) to analyze and to re-design cross-cultural systems interfaces.

In this sense, the target users of CVM are HCI practitioners and researchers. Nevertheless the users of a product elaborated with CVM will also be affected by the interpretation, appropriation and choices made by designers.

Unlike other epistemic tools derived from Semiotic Engineering concepts such as the Semiotic Inspection Method (SIM), the use of CVM in design activities is not dependent of Semiotic Engineering knowledge. However, as a typical tool of reflective design, it is intended for those designers who want to

learn and to reflect throughout the design process. So, CVM should not be used by a person who wants direct answers to design problems.

Although our proposal is in line with the communicative perspectives on HCI design of Semiotic Engineering, this thesis works in a gap of this theory (see Chapter 2). Although Semiotic Engineering considers culture as part of semiotic processes, this theory **has not yet** addressed the specific issues involved in elaborating metacommunication whose purpose is to communicate cultural diversity. In other words, it has not to-date dealt with the problem of designing *explicit communication about culture*.

When dealing with cross-cultural HCI design, the organization of interactive discourse (i.e., the creation and encoding of a message in the form of a computing system) begins with deciding what is the top-level design intent and perspective on culture and cross-cultural contact. From this decision various choices about cultural content follow, including the kinds of communicative strategies and signification systems that will more effectively and efficiently convey the designer's message.

Usually, when designing for users with widely diverse cultural backgrounds, designers tend to choose between two options: interfaces that aim at minimizing cultural differences and maximizing cultural similarities (one interface *for all*); or interfaces that value cultural differences and provide customized interaction for user groups with distinct values and practices (one interface *for each*). Our work, however, addresses a third alternative, that of deliberately stimulating users to engage in different levels of intercultural contact (if it is desirable), which may increase their perception about cultural diversity in the particular domain where the system is placed.

The next section presents the new perspective brought by CVM. Next, we show the CVM's evolution along this doctoral research.

4.1. Cultural viewpoint metaphors as a top level frame for cross-cultural HCI design

The cultural viewpoint metaphors lead designers to conceive of users primarily as **travelers**. Designers can make decisions about whether and how it is

appropriate to expose users to content from other cultures while interacting with a cross-cultural system.

The metaphors express five distinct perspectives on **traveling** through a cross-cultural territory, and can be plotted upon a *continuum* of cultural approximation established with reference to a presumed user's own native culture. They span from cultural isolation (the *domestic traveler* metaphor) to complete cultural immersion (the *foreigner without translator* metaphor). In between these two extremes there are three metaphors marking progressive cultural approximation: the *observer at a distance*, the *guided tour visitor*, and the *foreigner with translator* metaphors (see Figure 4).

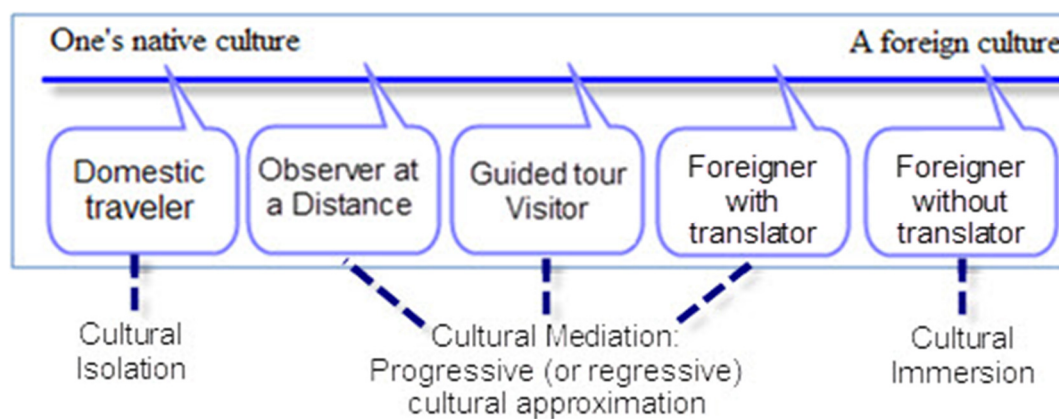


Figure 4: Progressive cultural viewpoint metaphors.

CVM help designers make decisions about possible ways to promote the users' contact with cultural diversity and to communicate such decisions throughout interaction by conceptualizing the *user* as a traveler in five different contexts. The adoption of each metaphor (see Sections 4.1.1 to 4.1.5) entails a different organization of the interactive discourse, including the design of metacommunication features and the combinations of values assigned to two cultural variables: language (native or foreign) and cultural practices (with several domain-dependent values: for example, 'driving on the left-hand side of the road', 'reading pages from right to left', etc.).

Although 'language' and other cultural practices are both cultural variables, CVM consider 'language' separately, as does other related work about internationalization, in which language is usually the first issue. We are not saying, however, that there is no other variable to be considered; instead, we are just acknowledging that we organized the cultural variables in this way.

Language refers to a complex system of communication that is spoken and written by humans. When designers are dealing with different cultures with different languages, they should, then, decide whether the interface language will be in the user's native language or in a foreign language. Besides language, there is a wide variety of cultural practices from specific domains that directly impact the user's contact with cultural diversity.

In this research, cultural variables are attribute-value pairs. It should be noted, however, that CVM are not meant to elicit cultural variables, but only to support the design of communication about them. The cultural content that can be used in metacommunication, that is, the linguistic and domain-dependent cultural variables and their values are elicited using other resources. Actually, they result from a designer's modeling of the domain and eliciting what type of cultural phenomena must be considered with respect to the activity and information provided in the system.

Decisions on how to combine the values assigned to language and cultural practices (e.g. presenting the interface in the user's native language, but addressing the user with a foreign degree of formality) and on how much explanation to give about *foreign* values intentionally selected by the designer can achieve powerful communicative effects.

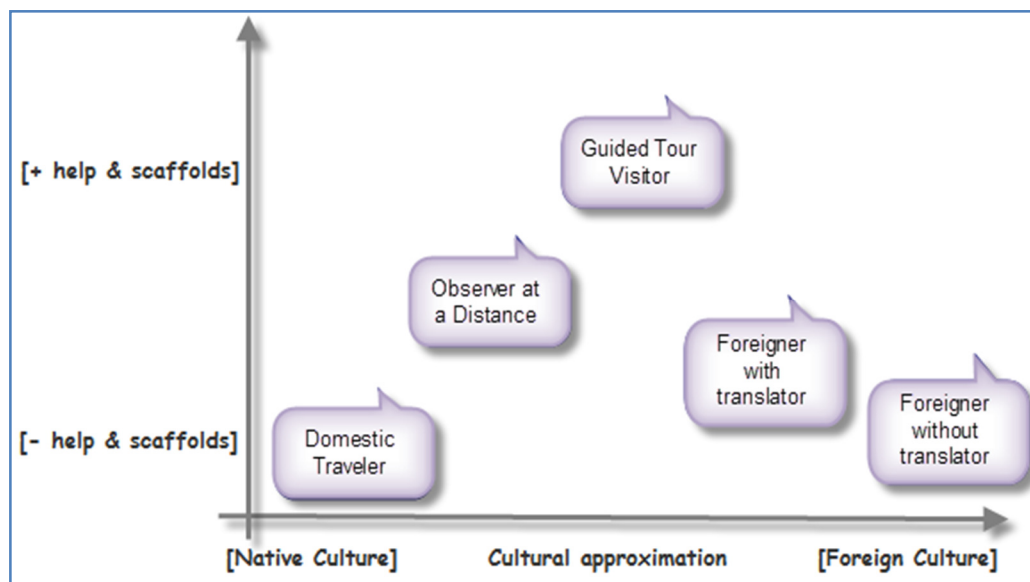


Figure 5: Metaphors' effects while expressing design intent.

Figure 5 shows how the metaphors are distributed in relation to cultural approximation (horizontal axis) and support provided by the metacommunicative

discourse (vertical axis). When less help is provided by the designer's deputy, users are more challenged *if* they find themselves in a foreign cultural setting. Offering more help and scaffolds, however, corresponds to more laborious design, because the designer's deputy must *demonstrate* foreign cultural practices while attending to the user's native culture needs. Thus Figure 5 may also be interpreted as a tradeoff guide in cross-cultural design choices.

The adoption of each metaphor, thus, entails different cultural mediation rhetoric to the designer's deputy. The *continuum* of cultural approximation (Figure 4) shows that in the two extremes there is no cultural mediation. On the one hand, the *domestic traveler* metaphor does not intend to expose and explore cultural diversity; instead it intends to *conceal* it. So, the designer's intent is not to act as a promoter of any kind of intercultural contact between the users and a foreign culture.

On the other hand, the *foreigner without translator* metaphor intends to lead users in a complete cultural immersion. In this case, the intercultural contact does exist, but with no intermediaries, no further explanations or orientations.

With metaphors between the two extremes (the *observer at a distance*, the *guided tour visitor*, and the *foreigner with translator* metaphors), designers may communicate cultural diversity by different levels of cultural mediation with a foreign culture. The mediated conversation with (and about) the system through the interface language is achieved by interface signs intentionally selected by designers to provoke different kinds of intercultural contact.

In the following five sections each conceptual metaphor are presented individually. In order to illustrate their effects on the interactive discourse (metacommunication features and cultural variables combination) we use a simple and didactic example from here on where an American is using a culinary website with international recipes. We also present portions of real international websites as instances of the kinds of effects that can be achieved by designing with each metaphor.

Some relevant cultural practices are also considered to illustrate the combination of alternative values which each metaphor indicates. Such is the case of recipes' name, ingredients, units of measurement, preparation, common sides, how to serve the meal, cultural influences, recipe origins, when it is usually served and so on.

4.1.1. The Domestic Traveler metaphor

The *domestic traveler* metaphor's intended effect on the expression of design is that of cultural isolation, so, by design, users are located in their native culture, without being explicitly exposed foreign culture's signs. So, in a specific context where designers want to promote the contact of a target user with cultural diversity, a case of using the *domestic traveler* metaphor is at the extreme opposite point in the continuum of cultural approximation (see Figure 6).

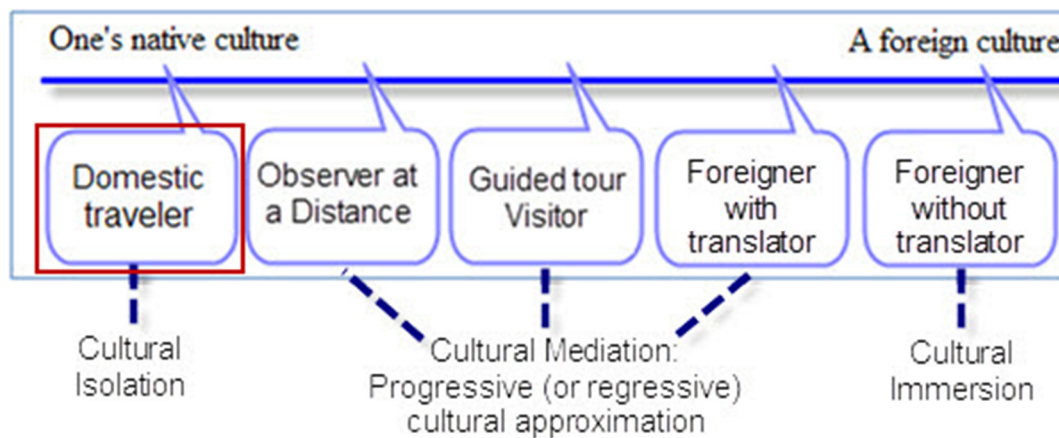


Figure 6: The *Domestic Traveler* metaphor.

Design guided by the *domestic traveler* metaphor, then, may isolate users from explicit cross-cultural contacts and should mask the presence of another culture, so the metacommunication features should deemphasize cultural differences and make the user's culture dominate. Regarding design decisions about the two cultural variables, both language and cultural practices should be from users' culture. So, designers should use the users' native language and encode the users' own cultural practice (see Table 2) when elaborating metacommunicative discourse about cultural diversity.

Metaphor Expression	Effects on the organization of Interactive Discourse		
	Metacommunication features	Cultural variables	
		Language	Cultural Practice
DOMESTIC TRAVELER. No markers from the foreign culture.	Design neutralizes cultural differences and makes the user's culture dominate.	User's	User's

Table 2: The *Domestic Traveler* Metaphor expression and the effects on the organization of Interactive Discourse.

The metacommunication message using the *domestic traveler* metaphor will include the following elements, among others:

“We [designers] assume that you [users] do not want to bother about foreign country information and culture while using this system. So, even if you explicitly choose or use a specific portion regarding foreign countries, the interface will systematically communicate with you using the language and alluding to cultural practices that prevail in your own culture.”

A case of using *domestic traveler* metaphor takes place in our hypothetical scenario of a culinary website if recipes from various cultures are presented as if they were local recipes, i.e., American dishes recipes. So, the interface language and cultural practice are referenced to users' native culture (American in our scenario), even if they choose recipes from foreign countries. Traces of this metaphor may be found in real applications in the Internet such as the Recipe.com website⁹ (see Figure 7).

⁹ <http://www.recipe.com>

Recipe.com
THE WEB'S BEST RECIPES

POPULAR SEARCHES
Chicken | Burgers | Casseroles | Salads | Breads
Search For Recipes


Welcome to Recipe.com!
Home of the world's best branded recipes.
Log In | Join Now!

Recipes | Most Popular | Cooking How-To | Healthy Cooking | Desserts | Drinks | Contests | Coupons

Pizza Margherita

From: [Better Homes and Gardens](#)

This classic pizza is a favorite recipe in many American homes.



Servings: 8 servings
Prep: 30 mins
Total: 55 mins
Rated : ★★★★★ by 2 people
[Like](#)

jimturner2 says:
poop
[Rate and Comment](#)
[Add to Shopping List](#)
[See More Better Homes and Gardens Recipes](#)

Ingredients

- 1 recipe Pizza Dough (see Recipe Center)
- 1 tablespoon olive oil
- 1 15-ounce can crushed tomatoes, undrained (1-3/4 cups)
- 1 tablespoon snipped fresh basil
- 2 cloves garlic, minced
- 2 tablespoons tomato paste
- 16 ounces fresh mozzarella, sliced
- Fresh basil leaves

Directions

1. Preheat oven to 375 degree F. Prepare Pizza Dough as directed, using the Thin-Crust Pizzas directions. Drizzle dough with olive oil.
2. For sauce, in a medium bowl, combine tomatoes, snipped basil, garlic, and tomato paste. Spread a thin layer of sauce over dough in each pan.

Figure 7: Screenshot of Recipe.com (last accessed in December 2010).

The website welcome visitors saying “Welcome to Recipe.com! Home of the world’s best branded recipes!” and users, actually, may find many international recipes. However, they are presented as American recipes (see the ingredients, directions, units of measurement and so on) and there are no explicit references about the original culture. Figure 7, for example, samples a ‘Pizza Margherita’ recipe. Of course, it is a classic Italian pizza created in Naples, but in my interpretation the website does not explore any cultural practice. Except for the name (pizza margherita), it looks like an American dish.

Although the *domestic traveler* metaphor may seem contradictory in the cultural diversity promotion context postulated here, it is part of the concept of traveling across a cross-cultural territory. From cultural isolation at one end to total cultural immersion at the other, the metaphors represent, as mentioned, progressive cultural approximation landmarks and suggest that some are better

than the others depending on how designers want to promote the contact of a target user with elements from different culture.

4.1.2. The Observer at a distance metaphor

The *observer at a distance* metaphor's intended effect on the expression of design is to expose the user to other cultural contexts gently, providing some cultural mediation (see Figure 8). The concept behind this metaphor is that the cultural markers¹⁰ (Barber and Badre, 1998) of the foreign culture are presented to the targeted user as 'information', not as 'experience'.

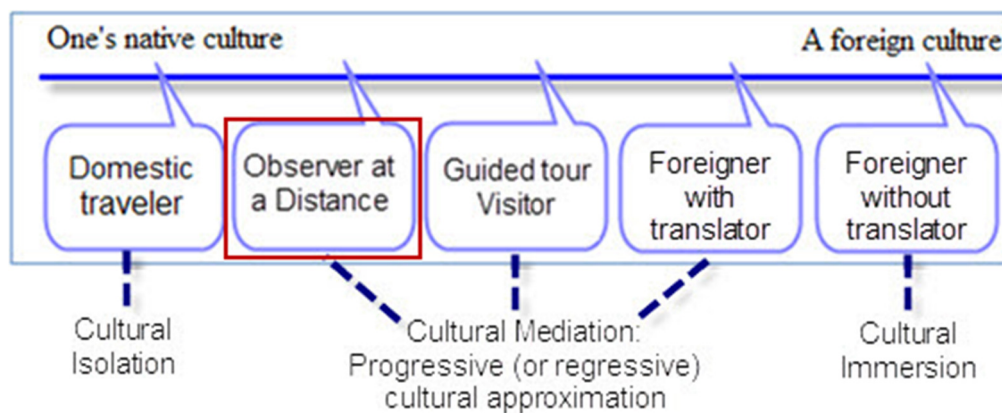


Figure 8: The *Observer at a distance* metaphor.

With this metaphor, then, the users' native culture is dominant and the designers provide information about the foreign culture, so, the metacommunication features have only allusive references to a foreign culture, and their own culture dominates the interface signs and interaction forms (see Table 3).

¹⁰ "The detailed list of cultural markers corresponding to web design elements contains color, spatial organization, fonts, shapes, icons, metaphors, geography, language, flags, sounds, motion, preferences for text versus graphics, directionality of how language is written, help features and navigation tools." (*ibid.*, p.1)

Metaphor Expression	Effects on the organization of Interactive Discourse		
	Metacommunication features	Cultural variables	
		Language	Cultural Practice
OBSERVER AT A DISTANCE. The cultural markers of another culture are communicated as 'information' (not as an experience the user can 'feel').	Interface elements which represent cultural practices are presented according to the user's culture. Narrative about the foreign culture provides factual information about what is different from one's own culture.	User's	User's

Table 3: The *Observer at a distance* metaphor expression and the effects on the organization of Interactive Discourse.

Regarding design decisions about the two cultural variables, both language and cultural practices should be from the users' culture. The interface elements which represent cultural practices (cultural markers) are presented in the user's culture and a narrative about the foreign culture is provided with some information that is different from one's own culture.

The metacommunication message using the *observer at a distance* metaphor will include the following elements, among others:

"We [designers] assume that you [users] may be interested in learning more about a foreign country and culture. So, the system shows several markers of foreign cultures, presented to you as bits of information. However, the interface will systematically communicate with you using the language and cultural practices that are native to you."

A case of using *observer at a distance* metaphor takes place in our hypothetical scenario of a culinary website, for instance, if an American user chooses a recipe from a foreign country and he encounters a few cultural hints about this country's cultural practices. Some cultural practices such as the ingredients, units of measurement, directions are instantiated with reference to the user's own culture (American) with only *invitations* to 'learn more', but there is no contrast between the two cultures.

The Global Gourmet website¹¹ (see Figure 9) illustrates the kinds of effects of *observer at a distance* metaphor. The section Global Destinations title and respective image ‘The world on a plate’ clearly invite users to find recipes from foreign countries. The country name links to at least one recipe from that country and bits of information about the regional traditions from the country’s cuisine (such as foreign influences) are presented (see Figure 10).



Figure 9: Global Destination section of www.globalgourmet.com website (last accessed in December of 2010).

If an user chooses Austria as destination, for instance, some information about Austrian such as historical and modern culinary influences, traditional recipes, and population are presented in the users’ language (English), but the original recipe name in German is shown next to the English version (see Figure 10).

¹¹ <http://www.globalgourmet.com/>.

THE APPETIZER:
In addition to native regional traditions like Viennese cuisine, Austrian food has been influenced by Hungarian, Czech, Jewish, Italian and Bavarian cuisines. Austria has one of the most transcultural cuisines in Europe.

Global Destinations

Austria

Small Country, Big History

Austria was once the center of the large Austro-Hungarian Empire stretching from France to Russia and from the Baltic Sea to Turkey, imparting a varied heritage to Austria's cuisine. Indeed modern Austria now borders Italy, Hungary and Germany, among others—and their culinary influences are the strongest.

Austria's capital city of Vienna even claims its own cuisine as if it were a separate country—it's the smallest Austrian state but also the most populous at over 1.5 million, which is one-fifth the population of the entire nation. Join us as we tour the country that gave us apple strudel and weinerschnitzel.

Information provided by the Austrian National Tourist Board

Austrian Recipes


- [Apple Strudel \(Apfelstrudel\)](#)
- [Bohemian Omelets \(Bohmische omeletten\)](#)
- [Chocolate Hazelnut Pudding \(Mohr Im Hemd\)](#)
- [Cottage Cheese Dumplings \(Topfenknodel\)](#)
- [Holiday Butter Cookies \(Weihnachtsgebäck\)](#)



Figure 10: Screenshot of www.globalgourmet.com, section 'Destination: Austria' (last accessed in December 2010).

Here's a recipe from Austria

Chocolate Hazelnut Pudding (Mohr Im Hemd)



Ingredients (serves 6):

- 2-1/8 oz. butter (unsalted)
- 3/4 oz. powdered sugar
- 3 egg yolks
- 1-3/4 oz. white bread, diced
- 3-1/3 fl. oz. milk
- 3/4 oz. chocolate
- 3 egg whites
- 1/2 oz. granulated sugar
- 1-3/4 oz. hazelnuts, grated
- 1-3/4 oz. bread crumbs
- 1/2 oz. cake flour

Figure 11: ScreenShot of www.globalgourmet.com, section 'Recipe: Chocolate Pudding' (last accessed in December 2010).

A selected recipe from Austria is also presented in English as well as the ingredients and units of measurements refer to American culture. The Austrian flag link acts as sign of the presence of a foreign culture and as an invitation to ‘learn more’ (see Figure 11), but there are no comparisons or contrasts between American and Austrian cultures.

So, design guided by the *observer at a distance* metaphor allows us to attend to users that are only marginally interested in cross-cultural exposure. Designers may assume that they will occasionally agree to take the opportunity to learn just a few facts about a foreign culture.

4.1.3. The Guided Tour Visitor metaphor

The *Guided tour visitor* metaphor’s intended effect on the expression of design is that of cultural mediation (see Figure 12). The foreign culture is presented through interface signs and interaction forms borrowed from this culture’s practices. So, the cultural markers of another culture appear to the user as ‘illustration’ (e.g., a typical foreign ingredient is present, but a similar local one is also suggested).

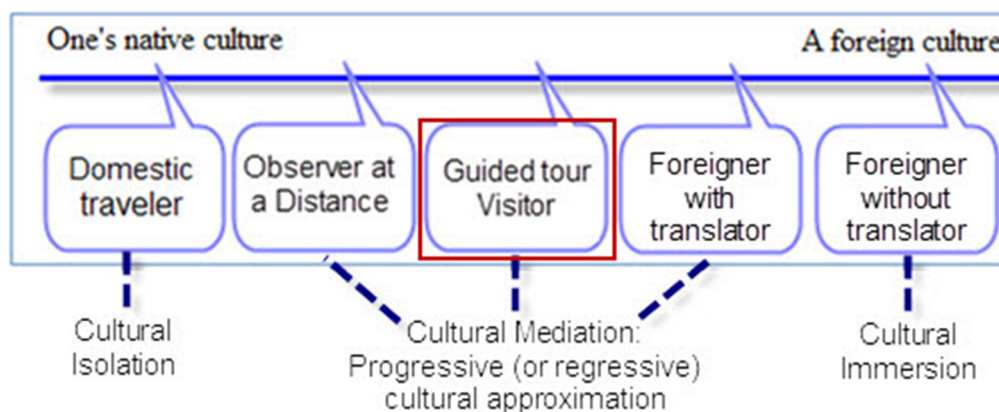


Figure 12: The *Guided tour visitor* Metaphor.

The metacommunication features should ideally contrast the two cultures by interpreting the foreign culture to offer different signs, from the other culture, but intermediated by the interpreter’s selection, view and comment. The cultural variables are presented, discussed, and explained in the user’s language. However, the foreign culture is presented through interface signs and interaction forms borrowed from the foreign culture’s practices (see Table 4).

Metaphor Expression	Effects on the organization of Interactive Discourse		
	Metacommunication features	Cultural variables	
		Language	Cultural Practice
GUIDED TOUR VISITOR. Cultural markers from another culture are ‘illustrated’ to the user (aspects of cultural issues are exemplified and explained in the user’s language).	Design provides contrast between the two cultures. An interpreted view and commentary on the foreign culture mediates the user’s approximation and contact with cultural diversity. The user’s own culture is dominant and serves as reference.	User’s	Foreign

Table 4: The *Guided tour visitor* Metaphor expression and the effects on organization of Interactive Discourse.

The metacommunication message using the *guided tour visitor* metaphor will include the following elements, among others:

“We [designers] assume that you [users] are interested in learning more about foreign countries and cultures. So, whenever there are relevant cultural differences associated to what you are doing, the system will give you the opportunity to engage in cross-cultural contact. The interface will systematically communicate with you in your native language, but it will let you choose between foreign or native cultural practices and provide you with useful explanations.”

Again, with reference to our hypothetical scenario of a culinary website, a case of using guided tour visitor metaphor takes place when an American user chooses a recipe from a foreign country and he engages in a cross-cultural contact. Foreign recipes are presented by contrasting directions, ingredients and so on of the users’ culture with the foreign culture.

The Culinary.net website¹², for instance, is a culinary website that offers recipes of typical Brazilian food in such way that we almost sense their delicious

¹² www.culinary.net.

smell (see Figure 13). From the first page, the title “A taste of Brazil” reveals that anyone can bring a taste of Brazil home any time by cooking a Brazilian typical dish. The recipe’s description, in turn, explains what is a “torta de limão e cachaça” and offers alternative American ingredients to substitute the Brazilian ones (see Figure 14).



Figure 13: The www.culinary.net website (last accessed in December 2010).

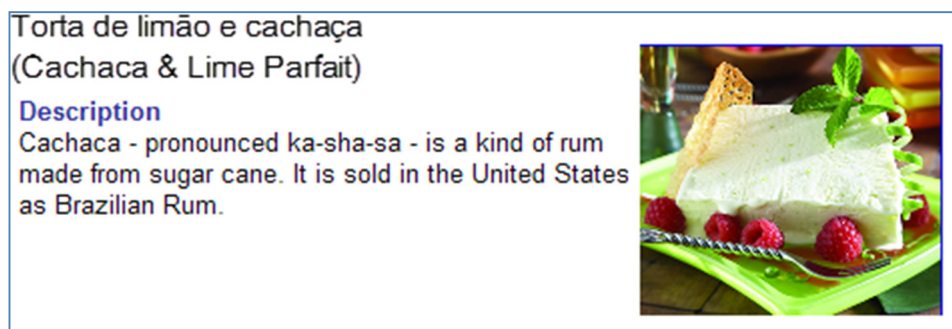


Figure 14: The www.culinary.net website (last accessed in December 2010).

The Just Brazil website¹³, in turn, presents typical Brazilian food with its original names (see Figure 15) and shows the ingredients with the units of measurement of both the American and Brazilian cultures (see Figure 16). The website also presents the most popular dishes’ images with a detailed explanation.

¹³ www.justbrazil.org/brazil/recipes/.

BRAZIL RECIPES

Here is one of the most popular dishes and best known of Brazilian food, which is the **Feijoada**, considered as a national dish, their main ingredient are beans that can be black, white or red having like supplement the meat of pork, sometimes accompanied by rice. This dish has its origins in the homes of black slaves and now it has a national and international consumption.

Now, for accompaniment any meal, the main drink, symbol of Brazil is the world-famous **Caipirinha**, in whose preparation, takes the main role of the cachaça (liquor native of this country, and the outcome of distilled cane sugar), complemented with the lime, sugar and ice. Note the secret to enjoying this drink is to drink for a straw from the bottom of the container which sits the lime juice and sugar is gradually mixed with cachaça.

Another culinary inspiration from Brazil is his well-known **Quindim**, which is a traditional dessert in northeast Brazil and in whose preparation is used egg yolks and coconut. Although it has a high content of cholesterol, its nutritional value is very high and even cause delight the most discerning palate.

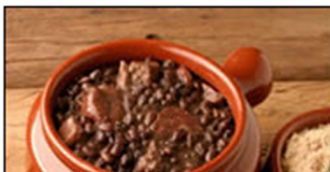


Figure 15: The www.justbrazil.org/brazil/recipes/ website (last accessed in December 2010).



CALDEIRADA DE MARISCOS

Ingredients:

- 225g/½ lb fresh Calamari (squid)
- 450g/1lb fresh white fish
- Salt
- 4 ripe Tomatoes, chopped
- 2 Onions, chopped
- 240ml/8fl.oz. Coconut Milk
- 3 tbsp freshly chopped Coriander
- 4 tbsp Lemon Juice
- 6 tbsp Olive Oil
- 2 Garlic Cloves, chopped
- 225g/½ lb Cooked Clam Meat
- 225g/½ lb Shelled Cooked Prawns (shrimp)

Figure 16: The www.justbrazil.org/brazil/recipes/ website (last accessed in December 2010).

The Sonia Portuguese website¹⁴ is another good example of this metaphor (see Figure 17). The Brazilian colors (green and yellow) and images of typical places give us the idea of being in Brazil. The recipes' names and ingredients are presented in two languages (Portuguese and English). So, the user is in contact with foreign units of measurement with a parallel in their native culture.

Brazilian Recipes

I love cooking so I decided to put some typical Brazilians recipes on my website. I hope you will enjoy cooking and savoring Brazilian dishes while learning Portuguese at the same time.

1. [Appetizers and Savory Snacks](#)
2. [Cakes and Pies](#)
3. [Drinks](#)
4. [Fish, Meat and Poultry](#)
5. [Pasta, Rice and Beans](#)
6. [Salads and Vegetables](#)
7. [Soups](#)
8. [Sweets and Desserts](#)

1. Appetizers and Savory Snacks

PORTUGUESE	ENGLISH
Petiscos e Salgadinhos	Appetizers and Savory Snacks
Batata frita	French fries

Figure 17: The www.Sonia-portuguese.com website (last accessed in December of 2010).

Some additional tips are given about how to find the ingredients, the main brands, the type of packaging, and so on (see Figure 18).

Pão de queijo (Cheese bread or cheese rolls)

"Pão de queijo" is typical Brazilian and it's a delicious snack, which can be found at every "lanchonete" in Brazil.

Remarks:

- This recipe makes about 70 small cheese rolls.
- Tapioca starch can be found in Asian grocery stores. It comes in a clear plastic bag and the standard pack has 450 grams.
- Brazilians usually knead the dough by hand. It's really hard work. I prefer to use a mixer to knead the dough.
- "Pão de queijo" can be served as an appetizer or snack.
- "Pão de queijo" can be frozen and baked directly from the freezer. Tip: Place the cheese rolls on a tray lined with baking paper. Put the tray in the freezer. When the cheese rolls are frozen, put them in a plastic bag and put them back in the freezer.
- You can find "pão de queijo" mix (Yoki) in Brazilian supermarkets. It's very practical and convenient for those people who don't have time or don't like cooking.
- "Pão de queijo" is gluten-free.

Figure 18: The www.Sonia-portuguese.com website (last accessed in December 2010).

¹⁴ www.Sonia-portuguese.com.

Designing with the *guided tour visitor* metaphor in mind allows designers to present, explain, and enable contact with cultural diversity in a much more explicit way. Instead of just providing information about cultural features (as the *observer at a distance* metaphor does), designers may go into demonstrating what these features are. The idea is to elaborate a metacommunication that motivates users to feel some of the impact of finding themselves in the context of a foreign culture.

4.1.4. The Foreigner with translator metaphor

The *Foreigner with translator* metaphor's intended effect on the expression of design is that of weak cultural mediation (see Figure 19). When designing guided by the *foreigner with translator* metaphor we will give our users a *preview* of what it is like to be immersed in a foreign culture. The only scaffold provided for the experience is a *translation* of textual material into the users' native language.

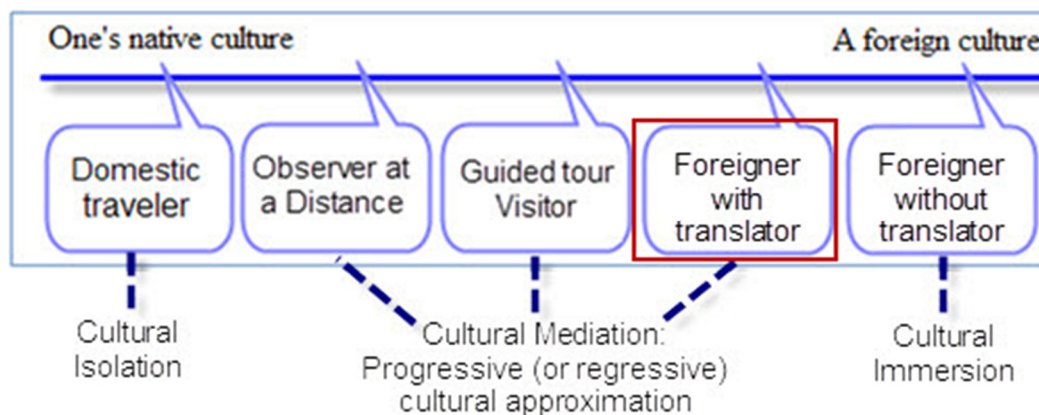


Figure 19: The *Foreigner with translator* metaphor.

Cultural markers are presented directly, without introduction or explanation, in the same way as they are shown to users that are native in the approached culture. The result of designing guided by the *foreigner with translator* metaphor is that the designer *will not* provide any additional support to international users other than linguistic translation. Material is presented in the same way it offered to the native users from the other culture. So, users directly experience the cultural practices of a foreign culture and only the users' native language is retained in interface signs and interaction forms (see Table 5).

Metaphor Expression	Effects on the organization of Interactive Discourse		
	Metacommunication features	Cultural variables	
		Language	Cultural Practice
FOREIGNER WITH TRANSLATOR. Cultural markers of another culture can be directly ‘experienced’ by the user, although in the user's own language.	Communication content is presented in the same way it as to the native users from the foreign culture. Only a linguistic translation is done.	User's	Foreign

Table 5: The *Foreigner with translator* metaphor expression and the effects on the organization of Interactive Discourse.

The metacommunication message using the *foreigner with translator* metaphor will include the following elements:

“We [designers] assume that you [users] want to get in touch with foreign countries and cultures. So, cultural markers from a foreign culture will be shown in the same way as they are offered to the natives of that culture. The interface will always communicate with you in your native language, but it will drop you right in the middle of foreign cultural practices, without further explanation.”

Keeping with the example of a hypothetical scenario of a culinary website, a case of using the *foreigner with translator* metaphor takes place when recipes of other cultures are only translated to the users’ native language, but everything else refers to the foreign culture. So is the case of Brazilian Recipes website¹⁵, where many Brazilian recipes are offered in English, but there is no extra explanation, images or videos, for instance (see Figure 20 and Figure 21).

¹⁵ http://brazilianrecipes.org/brazilian_food/.



Figure 20: The http://brazilianrecipes.org/brazilian_food/ website (last accessed in December 2010).



Figure 21: The http://brazilianrecipes.org/brazilian_food/ website (last accessed in December 2010).

Notice that there are clear indications that in this particular context the *foreigner with translator* metaphor is not a good design choice. Nevertheless, we can find a number of international websites on the Internet whose design causes exactly this sort of effect on their users. In some domains, however, this metaphor can make perfect sense. Portions of international search websites such as Google's Advanced Search, for example, can be used as an illustration of the kinds of effects achieved by designing with the *foreigner with translator* metaphor.

4.1.5.
The Foreigner without translator metaphor

Finally, the *Foreigner without translator* metaphor’s intended effect on the expression of design is that of cultural immersion (see Figure 22). The design intent is to fully expose international users to a foreign culture’s language and cultural practices, without translation or explanation about foreign interface signs and interaction forms.

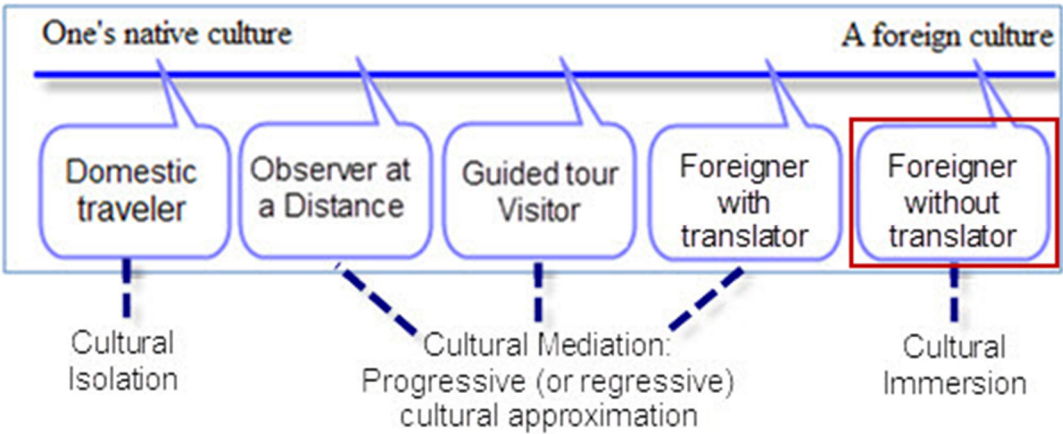


Figure 22: The *Foreigner without translator* metaphor.

Designing with the foreigner without translator metaphor in mind is practically the *domestic traveler* metaphor ‘in reverse’. In other words, all cultural markers, including language, refer to the foreign culture. The foreign culture is offered as it is. International users don’t have any special support, linguistic or otherwise, to interpret interface signs and interaction forms that have been designed for natives of a foreign culture (see Table 6).

Metaphor Expression	Effects on the organization of Interactive Discourse		
	Metacomunication features	Cultural variables	
		Language	Cultural Practice
FOREIGNER WITHOUT TRANSLATOR. Users are addressed as a foreign culture’s natives.	The culture of others is offered as it is.	Foreign	Foreign

Table 6: The *Foreigner without translator* metaphor expression and the effects on the organization of Interactive Discourse.

The metacommunication message using the *foreigner without translator* metaphor will include the following elements, among others:

“We [designers] assume that you [users] want to experience how it feels to be in foreign countries and cultures. So, the cultural markers from another culture will be shown in their whole extension. So, if you explicitly choose any opportunity to have contact with a foreign material, the interface will start to communicate with you using language and cultural practices that are not native to you.”

A case of *foreigner without translator* takes place in our hypothetical scenario of a culinary website if international recipes are presented without any linguistic translation, explanation or cultural adaptation. The Online Recipe Guide website¹⁶, for instance, is apparently an American website (see Figure 23) about Brazilian recipes for Americans. However, the Brazilian recipes are presented in Portuguese, even if the user chooses one of the available languages. Only the image can help an American user to realize what “Beijinho” is, a popular sweet enjoyed at Brazilian birthday parties.



Figure 23: The www.onlinerecipeguide.com website (last accessed in December 2010).

Although designing with the *foreigner without translator* metaphor in mind may at first seem like a mistaken design choice, there are certain advantages in it if this is not the only cultural viewpoint metaphor used by the designer, and if

¹⁶ www.onlinerecipeguide.com.

there are clearly marked ways to transition from one interface style to the other (say *guided tour visitor*).

Cross-cultural systems interfaces can actually include one or more of the metaphors proposed. It may be desirable to adopt cultural isolation for certain tasks and activities supported by the system (*e. g.* credit card payment functions in e-commerce applications), but to intentionally expose the user to experiencing various degrees of *foreignness* in others (*e. g.* freight and delivery options for merchandise that is going to be purchased in one country and received in another). In other words, with applications involving commercial transactions, the interface for payment tasks may be best designed following the *domestic traveler* metaphor to avoid misunderstandings in transactions involving money. However, users might benefit from knowing that, unlike what happens in their native country, in the foreign country where the purchased goods are going to be delivered, the receiver does not get the goods at home. He or she has to go to a specifically designated location and redeem the goods, thanks to frequent cases of imported goods being stolen from delivery trucks on the road. Whether the communication of such relevant content is going to be expressed through the *observer at a distance*, *guided tour visitor*, *foreigner with translator* or *foreigner without translator* metaphor is a design choice. As a rule, the stronger the mediation, the higher the chances that users will get more and more selective bits of pre-filtered cross-cultural information (selected by design), getting increasingly farther from knowing which roles the information actually plays in the context of the involved foreign culture.

Designing systems with only one dominant metaphor is also possible. For instance, the amazon.com website can be used by users from all cultures. But for me, who am not native of North America, the experience is that of a *foreigner without translator*. For example, although rebates on notebook prices are boldly advertised on the first page, they are actually not applicable to users importing them into some other countries. This information is not conveyed up front, and in the absence of mediation it may go unnoticed well into the purchasing process, when the user finally indicates where the item is to be delivered. Links to international sites at the bottom of the page (see Figure 24 and Figure 25) lead to similarly designed websites, where residents of the website's owner's country are

domestic users and customers from other countries feel like *foreigners without translator*.

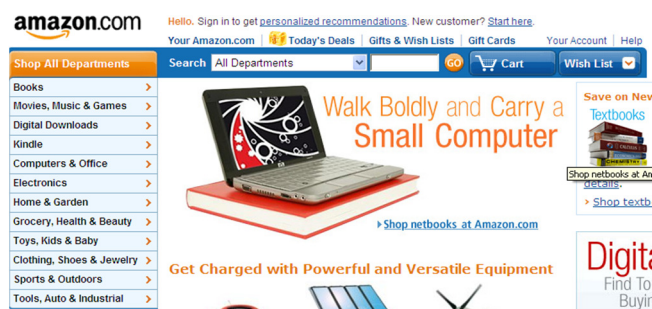


Figure 24: The amazon.com home page.

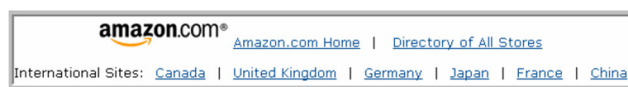


Figure 25: Footer of an amazon.com webpage with links to international sites.

To conclude this explanation, we should remark that the instantiation of portions of metacommunication messages presented here shows that designers can clearly achieve very different mediation rhetorical effects by choosing this or that cultural viewpoint metaphor. From cultural isolation at one end to total cultural immersion at the other, the metaphors not only represent, as mentioned, progressive cultural approximation landmarks, but they also suggest that some are better than the others if designers want to be more helpful and informative.

So far we have illustrated and explained the effect of our proposed viewpoint metaphors in design (see the current version, namely version 4, in Table 7). The next section presents how these metaphors evolved along this doctoral research.

Metaphor Expression	Effects on organization of Interactive Discourse		
	Metacommunication features	Cultural variables	
		Language	Cultural Practice
DOMESTIC TRAVELER. No markers from the foreign culture.	Design neutralizes cultural differences and makes the user's culture dominate.	User's	User's
OBSERVER AT A DISTANCE. The cultural markers of another culture are communicated as 'information' (not as an experience the use can 'feel').	Interface elements which represent cultural practices are presented according to the user's culture. Narrative about the foreign culture provides factual information about what is different from one's own culture.	User's	User's
GUIDED TOUR VISITOR. Cultural markers from another culture are 'illustrated' to the user (aspects of cultural issues are exemplified and explained in the user's language).	Design provides contrast between the two cultures. An interpreted view and commentary on the foreign culture mediates the user's approximation and contact with cultural diversity. The user's own culture is dominant and serves as reference.	User's	Foreign
FOREIGNER WITH TRANSLATOR. Cultural markers of another culture can be directly 'experienced' by the user, although in the user's own language.	Communication content is presented in the same way it as to the native users from the foreign culture. Only linguistic translation is done.	User's	Foreign
FOREIGNER WITHOUT TRANSLATOR. Users are addressed as a foreign culture's natives.	The culture of others is offered as it is.	Foreign	Foreign

Table 7: Cultural Viewpoint Metaphors current version (version 4).

4.2. Metaphors' evolution

CVM were originally proposed by us in 2009 (Salgado *et al.*, 2009b). Since then, they have been refined to suit identified needs through exploratory and empirical studies. Table 8, for instance, shows the changes in metaphors' names over the time. The concept brought by the CVM, however, has been maintained throughout this research. Changes have occurred only in the naming and explanation of each of the metaphors.

	Version 1 (2009)	Version 2 (2010.1)	Version 3 (2010.2)	Version 4 (2011.1)
1	located at home	domestic traveler	domestic traveler	domestic traveler
2	telescope observer	telescope observer	observer at a distance	observer at a distance
3	close observer	guided tour observer	guided tour visitor	guided tour visitor
4	foreigner with sub-titles	foreigner with sub-titles	foreigner with sub-titles	foreigner with translator
5	foreigner without sub-titles	foreigner without sub-titles	foreigner without sub-titles	foreigner without translator

Table 8: Cultural Viewpoint Metaphors' Evolution.

Shortly after proposing CVM we conducted a study with the AVIS Rent a Car website¹⁷ to explore the effects of designing with the proposed viewpoint metaphors. With this exploratory study we refined the metaphors and demonstrated how five cultural viewpoint metaphors can be used to frame cross-cultural HCI design. This study also provided the continuum of cultural approximation explained in Section 4.1 and a practical how-to guide for professionals and researchers interested in applying the metaphors to their own work (see Appendix A).

In order to empirically evaluate and refine our original proposal (version 1) we then elaborated a case study to evaluate CVM in practice at design and evaluation time (see Chapter 5 for details). The experiments using metaphors at design time, namely Avis Case Study - Step One were applied with the CVM's version 1. Table 9 shows the names, metacommunication features and examples. Notice that, in this version, the examples are completely different in each

¹⁷ <http://www.avis.com/car-rental/avisHome/home.ac>

metaphor. In metaphor 1 (one) we used a digital library; in metaphor two, we used a forecast website, and so on.

Metaphor	Cultural variables		Design metacommunication features	Examples
	Language	Cultural Practice		
(1) LOCATED 'at home' METAPHOR Without marking the presence of another culture.	From User	From User	Deemphasizing cultural differences and making the user's culture dominate.	When one's find a book in a digital library, for example, in one's own language and can read it in one's cultural way of reading and manipulating books.
(2) TELESCOPE OBSERVER METAPHOR The cultural markers of another culture appear to the user as 'information' (not as an experience).	From User	From User	Narrative about the foreign culture to provide some experience that is different from one's own culture.	One's may have information about a foreign country in one's own language and cultural practices in an International Weather Forecast website, for example.
(3) CLOSE OBSERVER METAPHOR The cultural markers of another culture appears to the user as 'illustration' (aspects of cultural issues are presented, discussed and explained in the user's language).	From User	From other culture	Interpretation of another culture to offer different experience, from the other culture, but intermediated by the interpreter's selection, view and comment.	When traveling one can use the service of a tourist guide, who speaks one's language and knows one's culture, so the guide can help bridge cultural gaps.
(4) FOREIGNER 'with sub-titles' METAPHOR The cultural markers of another culture appear to the user as 'experience', although the communication language is the user's.	From User	From other culture	Linguistic translations of another culture. Material is presented in the same way it is offered to the native users from other culture.	When one watches a foreign movie with sub-titles, for example, only the language is translated; the foreignness of everything else about the movie is there.
(5) FOREIGNER 'without sub-titles' METAPHOR The cultural markers of another culture appear to the user in the whole extension.	From other culture	From other culture	The culture of others is offered as it is.	When traveling one might decide to explore the culture without intermediaries, having as much direct experience and exposure as they can.

Table 9: Cultural Viewpoint Metaphors Version 1 (2009).

In first semester of 2010, results from Case Study - Step One have led us to change some metaphors names, as shown in Table 8. In order to avoid

misunderstandings, the *located at home* metaphor, for instance, was changed to *domestic traveler* metaphor. Although participants had understood this metaphor, we noticed that its name was not a ‘noun’ like others. Furthermore, the name ‘*located at home*’ was similar to a widely concept in cross-cultural design, namely, localization.

The *close observer*, in turn, was changed to *guided tour observer* metaphor because (as presented in Chapter 5, section 5.2.1.4, some participants had difficulties to identify differences between metaphors 2, 3 and 4. Besides that, we noticed that some participants had to read the metaphors’ definition to remember their concepts, indicating that the name was not good enough. The CVM names were, then, defined as *domestic traveler*, *telescope observer*, *guided-tour observer*, *foreigner with sub-titles* and *foreigner without sub-titles*.

So, the pilot experiment of Case Study - Step two used the CVM’s version 2 with the new names mentioned above. With the participants’ help, we realized that the name changes were not enough to avoid misunderstandings between metaphors, so, after three pilot sessions we refined the metaphors’ names and descriptions and elaborated a unique didactical example (already presented in Sections 4.1.1 to Section 4.1.5) with a hypothetical culinary website to explain the metaphors concepts to participants. Table 10 shows the CVM’s version 3.

The main change here was the inclusion of a sentence in the *guided tour visitor* metacommunication feature: ‘contrast between two cultures’, to highlight the difference between this metaphor and the others (see Chapter 5 – Case Study for details).

Metaphors	Cultural variables		Meta-communication features
	Language	Cultural Practice	
DOMESTIC TRAVELER. Without marking the presence of another culture.	From User	From User	Deemphasizing cultural differences and making the user's culture dominate.
OBSERVER AT A DISTANCE. The cultural markers of another culture appear to the user as 'information' (not as an experience).	From User	From User	The interface elements which represent cultural practices (cultural markers) are presented in the user's culture. Narrative about the foreign culture to provide some information that is different from one's own culture.
GUIDED TOUR VISITOR. The cultural marker of another culture appears to the user as 'illustration' (aspects of cultural issues are presented, discussed and explained in the user's language).	From User	From other culture	Contrast between the two cultures. Interpretation of another culture to offer different experience, from the other culture, but intermediated by the interpreter's selection, view and comment.
FOREIGNER 'with sub-titles'. The cultural markers of another culture appear to the user as 'experience', although the communication language is the user's.	From User	From other culture	Linguistic translations of another culture. Material is presented in the same way it is offered to the native users from other culture.
FOREIGNER 'without sub-titles'. The cultural markers of another culture appear to the user in the whole extension.	From other culture	From other culture	The culture of others is offered as it is.

Table 10: Cultural Viewpoint Metaphors Version 3 (2010.2).

Then, the Case Study - Step Two were conducted with CVM's version 3 which has new metaphors' names (*domestic traveler*, *observer at a distance*, *guided tour visitor*, *foreigner with sub-titles* and *foreigner without sub-titles*), descriptions and examples.

Recently, our last analysis led us to the CVM's version 4 (see Table 7), extensively described in this Chapter, in Section 4.1. The only change was in the names of *foreigner with* and *without sub-titles* to *foreigner with translator* and *foreigner without translator*, respectively. The new names are more consistent with the semantic field of 'traveling', clearly stated in this thesis, while 'subtitle' is a word that comes from the domain of video (movies, TV, etc.), and does not lend itself well to the traveling idea of our metaphors.

The next chapter describes and presents results of a two-step case study carried out to assess the potential of CVM in designing and evaluating cross-cultural experience.