# Japanese Hospitality and its impact on Interaction Design

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**Abstract**: If the reaction of a person or device matches with our expectations, we will intuitively understand how to react. The understanding of human interaction is one of the keys to the creation of good Human-Machine Interaction Design. This paper shows aspects of Japanese hospitality – Motenashi – as an example for smooth human interaction. It gives hints on how to include Motenashi in Interaction Design in order to enrich the sensual value of product interfaces. The analysis was undergone with literature of social studies on Japan, guided interviews with Japanese of different age and gender and a documented visit of a traditional Japanese guest house. Three principles of attitude: 1. The host's anticipation of the guest's needs, 2. The host's and guest's flexibility towards the situation and 3. The understatement about the efforts involved, are outlined in this paper. Furthermore three characteristic key elements: 1. Shitsurai – the preparations for the guest, 2. Furumai – the behavior and attitude of host and guest and Yosooi – the dressing code are described and applied to Interaction Design. Thereby Shitsurai, with its idea of a seasonally adjusted decoration, becomes a user interface that changes with season or daytime. Furumai reveals the importance of appropriate interactive behavior for human-machine interaction. This involves the flow of tasks  and the voice/speech style  as well as the consideration of the evolution of the user's relationship to his device. In its final part this paper proposes a conceptual approach to the design of interfaces which consider Motenashi.

*Key words: Interaction and Interface Design, Culture, Human Behaviors, Emotion*

## 1. Introduction

Interaction Designers are challenged with the creation of interfaces for multi-functional digital products. Those combine many operations that are physically not tangible. To make them intuitive, knowledge of the user's intrinsic experience is needed. Humans have knowledge and instincts about their environment and objects which are used frequently. People are also familiar with the complexity of interpersonal interaction. The logic with which we confront new products comes from former experiences in our life. If the reaction of a new device matches with our expectations it can be handled without great learning effort. In order to improve

Human-Machine Interaction this analysis looks Japanese Hospitality – Motenashi as a special version of human interaction. Japan is famous for its excellent service and friendliness. If parts of the sensitivity of Japanese hospitality were applied to products, their level of emotional experience for the users could rise significantly. Therefore this analysis reveals valuable aspects of Japanese Hospitality that can help to enrich products.

## 2. Method

The analysis of Japanese Hospitality and its impact on Interaction Design follows three steps:

1. The definition of Motenashi and its expression in words, actions, objects

2. Selection of Motenashi aspects which are applicable to Interaction Design

3. Proposal of ideas for the implementation of Motenashi in user interfaces

The information gathered in this analysis is based on English literature on Japanese politeness, the usage of honorific and humble language, the perception of Japanese customs in western countries and specific cultural aspects of Japanese hospitality like the wrapping of presents and language. Furthermore qualitative interviews of 45 minutes each where conducted with 3 females and 3 males Japanese aged from 29 to 56years. The interviews had the following central questions:

- Where and how have you experienced Motenashi so far?
- How do you feel when you receive or provide Motenashi?
- What makes you feel like that in those Motenashi situations?
- What is typically Japanese about Motenashi?

Finally the author also spent and documented a weekend in an exquisite Japanese Inn to experience Motenashi.

## 3. Motenashi

### 3.1 Motenashi Philosophy

Despite from being a very modern society, Japan is still holding fast to her traditions. Motenashi, traditional clothing, honorific language, etc. are still actively used and can be found in various situations in Japan [7]. Typical situations like a traditional Guesthouse visit, a Japanese style Host-Guest situation and the treatment of customers in a fashion brand store have been described in detail by the interviewees. Thereby the Guest-Host-Relationship stands for all those because their main feature is the host's special effort in satisfying the guest's needs. To achieve the perfect Motenashi experience hosts have to consider three principles:

1. Anticipation of the other's needs

    The host should respond to guest's needs before the latter feels such need himself.
2. Flexibility to the situation

    It also refers to the appropriate amount of formality or casualness respectively.
3. Understatement

    The host should not display his efforts, in order to create a natural feeling for the guest.

Because of the emotional character of Motenashi and its idea of flexibility a great variety of objects and actions related to Motenashi were mentioned by the interviewees. Japanese seem to share a mutual understanding about Motenashi. The Japanese social scientist TAKASAWA[6] defines it with the following terms:

[Shitsurai しつらい] preparations for guest

    Lots of effort is put into the preparation of a guest's visit. This includes the set up of the facilities, the preparation of food and drinks, the gathering of material for the guest's entertainment, etc.

[Furumai ふるまい] behavior & attitude

    Hosts and guests interact and behave in a way that is appropriate for the occasion. E.g. topics and way of speaking differ greatly between business dinners and birthday parties.

[Yosooi よそおい] dressing code

    People attending an event dress and style accordingly to the occasion. E.g. black for funerals, colorful Kimono for the summer fireworks, suit for client visits, etc.

## 3.2 Motenashi in Interaction Design

In the course of the analysis a lot of objects and actions were mentioned to be related to the creation of the Motenashi experience. Those words have been grouped and applied to the categories of Shitsurai, Furumai and Yosooi. The author translates those actions and items into the language of Interaction Design and discusses how they could be implemented in interfaces.

[Shitsurai しつらい] is the aspect of hospitality that deals with the preparations for the guest including invitations, choice of decorations, materials & food, as well as a preselecting entertainment contents.

Events in Japan usually have a very clear beginning and ending to separate them "from the time surrounding them". At meals "the first mouthful should always be preceded by an expression of receipt, namely itadakimasu, and the end of a meal with […] gochisosama deshita…"[4] If we regard the use of a device as a kind of ritual, a Motenashi approach would be to welcome the user into the device's world and in the end to greet him goodbye and encourage his return. This can be accomplished by start-up and shut-down sound or light patterns as well as messages or motions of the device/GUI.

In the physical world Japan's Shitsurai specialty is the seasonal adjustment of decoration, material and food. Depending on the time in the year or the hour of the day, the user is presented with flowers, calligraphic decorations or materials that emphasize the mood of the moment. Most typical are the cherry blossom in spring and the red maple leaves in autumn whose coloring and shaping dominates visually during their season. Furthermore colors and materials are also changed to reach a cooling or warming effect. In winter the warm texture of wood is preferred, in summer rather the coldness of stones.

In Japan this sensitivity is already applied to some product and interface designs. E.g. the graphics in mobile phone's standby screens and menus usually change with daytime or season or just at random to increase the user's experience. Besides through graphics Shitsurai thinking can also add value to Interaction Design through lights and sounds. Most digital products already provide the technological base for visual and audible operation feedback. A distinct sound or light pattern can convey a meaning. E.g. a painful beep warns the user of errors or a red light raises attention to a problem. But there lies a high potential to create a richer sensual experience through it. The device's graphics, sounds and lights should not add stress but naturally blend into the user's life scenario as does the behavior of the guesthouse lady (Okamisan) in the guesthouse (Ryokan). Interaction Design has to consider informational as well as emotional aspects like a good host would do for his guests.

In the guest-host situation the entertainment is provided by the host who prepares music, information, games, etc. so that the guest can enjoy a worriless time. It is difficult for a device to predict the needs of all its potential users.

Nevertheless it is favorable if the device can provide each user with his desired contents and even good surprises. Therefore products need to be able to learn from the user's actions. An oven e.g. learns what the user usually cooks and proposes a new variation of the dish. The products become advisors – like a good store's clerk who gives the client advice on which outfit fits the client best or a Ryokan's Okamisan who can tell everyone individually how to best spend the day around her inn.

Good interaction design gives the user meaningful advice. The advice has to consider the situation and goals of the user. A sales clerk also has to do this. If the client wants to purchase winter boots, he is probably not too interested in sandals. Such situations however still appear with interfaces where users face an overwhelming palette of menu options. A Motenashi design will present the user with a good preselection instead of a functional overflow.

[Furumai ふるまい] is the fitting of behavior and attitude of host and guest towards the occasion. Behavior here involves various elements like the tone of the voice, the amount of speech, the speech style, the speech contents and the content's timing.

If we look at speech, people in Japan express their needs and thoughts less direct than Westerners. "Some things should be left deliberately unclear, and talking too much closes off the possibilities for flexibility. […] western logic leaves no room for nuance, discussion or argument."[4] But also in the western world "Talk is silver but silence is golden". An overflow of information is considered as "noise" anywhere.

Looking at Interface Designs today, products of Japanese Origin are very much based on words and explanations. A lot of the Home Appliance products in Japan give a vast amount of audible feedback in spoken phrases or melodies. The two desires of being symbolic but also to show as much care as possible for the user are difficult to balance. A typical example is train announcements. Tokyo is easy to navigate for visitors as there is non-stop bilingual information. But for people who use these trains everyday it becomes a disturbing noise. Navigating Europe's cities like Berlin as a visitor on the contrary is difficult since there is hardly any announcement.

For Europeans it might be very strange to hear Japanese microwaves speak in sentences. On the contrary one Japanese interviewee said that audible feedbacks in western products are "unfriendly" because instead of phrases only keywords – like "menu" – are given. In the discussion with Japanese Interaction Designers of Home Appliances and Car Navigations it became clear that for Japanese it was not disturbing to have devices talking like humans. The reason for this different perception might lie in the religious roots. As for Japan Shinto has a long and profound tradition. It is a form of animism [5] which refers to the belief that spirits exist in animals, plants, tress, stones, etc. in addition to humans. [3] For Japanese this perception is applicable to objects of the modern society too. Shinto imagines life and soul in objects like stones that for western eyes are inanimate. Therefore Japanese people do not find it strange to be talked to by a device either. This aspect opens different ways for Interaction Design depending on the targeted culture.

The author also experienced differences between Japan and Europe in the tone of voices for TV-shows, train announcements, etc. In Japan artificial speaking styles that represent youth and innocence or powerfulness are common. The female voices are usually high pitched and the male voices very deep. In Europe on the contrary deep warm female voices seem to be preferred and the male voices are neutral and friendly. This insight still needs validation but it shows that it is important for the success of audible global Interface Design to find the most appealing tone for each language.

Beside the voice the use of words holds high importance in Japanese hospitality. Thereby the way people speak

to each other usually depends on their relationship. People's relations differ anywhere in the world. But in the Japanese language there is a much higher differentiation than e.g. in English or German. FUKUSHIMA[2] describes that in countries like the US positive politeness patterns dominate which means that the speech style hardly differs between friends or strangers. On the contrary Japanese with its principle of negative politeness has many politeness levels. Here for each person and also each situation with the same person the appropriate amount of politeness has to constantly change. [4] In her analysis of "language wrapping" in Japan, HENRY[4] gives an example for this with the phrase "where are you going?". In English this sentence does not change among people with different relationships. In Japanese this phrase changes strongly with its context: "Doko iku no/どこ行くの" is spoken language, used with friends/close persons but would be rude towards superiors or strangers. "Doko he ikimasu ka/どこへ行きますか" is a neutral, since it uses the correct grammatical form. However, it does not express anything about people's relationship. "Dochira he irashaimasu ka/どちらへいらしゃいますか" is the way to express respect towards the other. It is used towards superiors or clients.

This example shows three steps but in reality the nuances are more delicate. One interviewee said it made a strong difference whether the honorific terms were written in Kanji (Chinese characters) or Hiragana (Japanese alphabet). Furthermore in the same text the writer has to define its position – lower himself or raise the reader or meet on eyelevel - newly for each phrase depending on the content. HENRY[4] states that to write everything as polite as possible is not desirable since it might create a strong distance between writer and reader.

It also has to be considered that relationships evolve over time. Strangers and colleagues become friends or family members, inferiors become superiors and children become adults. These changes cause an adjustment of language and behavior towards each other. The closer people get, the more they share intimate feelings and thoughts. If we apply this insight to Interaction Design we have to look at the evolving relationship between the user and his device too. The author proposes three different types:

> [Personal devices] are products of personal use like for health-care, shoes, mobile phones or mobile music players. Each of those items is exclusively used by one user.

> [Group devices] are shared by a defined group of people like a family or friends - people that have a close relationship with each other. This applies to most household items, TV sets, cars.

> [Public devices] are used by many people that do not know each other. E.g. ATMs, Vending machines, public screens.

The comprehension of those relations according to Furumai should result in an adjustment of communication style and contents. At the moment of purchase all products are strangers to the user. So they should introduce themselves in an appropriate manner. Then there are products which are used daily – like mobile phones. That means the user learns their handling quickly and after one week the device and the user know each other well. In a literal way they have become close. With that the speech style and content can also become more casual now. Other personal or group devices like digital cameras are not used every day so users might take longer to get familiar with them. But after a few months the camera has helped to create a great amount of personal information and therefore the speech style and content can become more that of a friendly relationship. For public devices on the contrary no such relation building process can take place. The next user is always unknown to the device. That is why the speech style will stay at its start level of formality all the time – expect if the device is enabled to identify the user. The start level of the speech style and the contents also depend strongly on the product concept and the target group. Products for a young audience might appeal with their immediate casualness, while products for an elder generation rather attract with their politeness.

The following graphic shows the change of the user-device-relationship for different products over time.
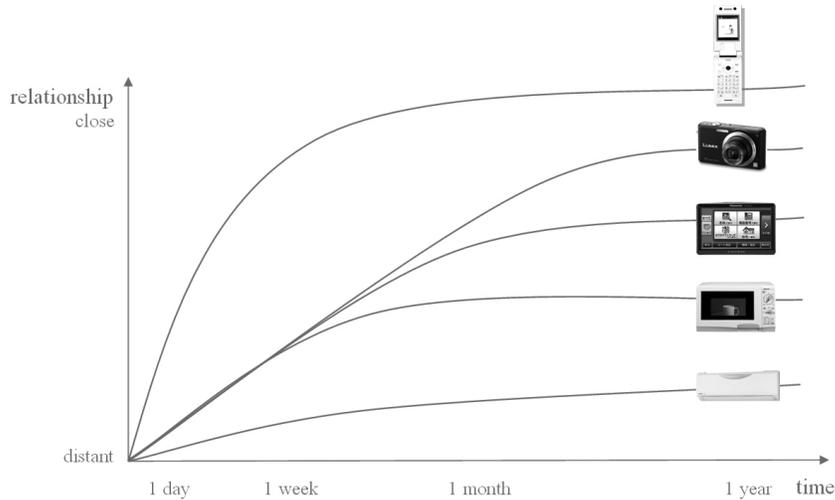


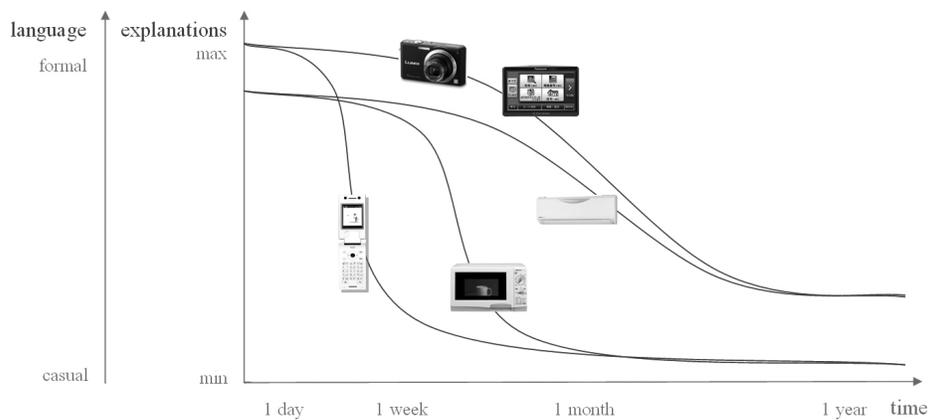Figure 1: Evolution of user-device-relationship over time



Figure 2: Evolution of language & amount of explanation for devices over time

To conclude this thought, a Furumai approach for Interaction Design would be to create a fluid interface which adjusts the amount of information and the style of the displayed information with time according to its concept as a personal, group or public product.

[Yosooi よそおい] which relates to the adequate visual appearance, is a globally understood principle. By common sense interface designer choose the coloring and styles that fit with the contents. Extensive studies exist about color perception and its global differences. Therefore this was not investigated further in this paper.

## 4. Global Motenashi Interaction story

Various hints on how to increase the hospitality of devices already came up in the previous chapter. In a final step the author wants to bring those scattered ideas together in a product Motenashi map. This map is a conceptual approach on how to define each device's interaction goal and Motenashi needs.

The Interaction Designer who wants to improve a product's hospitality has to enter the world of the product and answer various questions to differentiate his device from others. Each device stands for a different Motenashi experience – like Ryokan stay and Tea ceremony are both different in their goals and the targeted person's expectations. For each device, the designer considers:

・Target user: Is the product used by one person, a group or the public?

　　　　　　　Is the targeted user conservative, neutral or unconventional?

・Product concept: Is the product's character conservative, neutral or unconventional?

・The user-device relationship and its change over time: Is the device used daily, weekly or only monthly?

・The contents complexity: Does the device include many or few functions or only a singular function?

・Privacy: Is the amount of private contents high, low or is there no private information?

The interpretations that can be drawn from the answers help to create the Motenashi map for products. The following elements are included in it:

[menu structure] A personal device can have a personalized menu structure. A public device has to be usable by many people without learning. In this case the menu structure should be rather neutral.

[user support] The user will understand a device that he uses daily very quickly and will need no further instructions after a week. For a rarely used device instructions might be necessary each time again since people easily forget the usage. The goal is to give all needed information but to avoid an overflow.

[language] In their essence the interface "language" – words, sounds, and light effects – should fit the situation. So firstly the expectations of the targeted user towards the product have to be defined in order to decide for a start "language" level. If the target users are cool youngsters, the start "language" will be on a casual level right from the beginning. If the target is rather conservative the device should start to interact with a formal "language" style.

It is necessary to consider the development of the relationship between the user and his device. How often do they interact and how much private contents are involved? It can be assumed that the more they interact the more familiar user and device become with each other. As in a human relationship the "language" can change to a more familiar tone in this process. The speed of "language" change and the final level depend on the usage frequency and the familiarity of user and device. An exception are products that independently from their target users transport a strong message of luxury or juvenileness – like high class cars or toys respectively – here the language style probably should not change with time.

[emotionality] The previous interpretation also influences the amount to which a product interface can add spontaneous/emotional reactions to its ordinary behavior. An often used device might add some surprise moments in its light, sound or graphic effects to positively activate the user. In a hardly used product such effects will rather be irritating.

[accessibility] The knowledge of private likings enables the device to become a good host and to provide the user more precisely with needed functions and information. This can increase the efficiency and reduce

frustration for the user. Another very critical point that has to be solved in the context of privacy is the protection from misuse. This is especially important for devices for data exchange. Private devices like mobile phones or digital cameras contain a mix of confidential data and data which users want to share with close people or even the public. Interaction Design has to enable the users to distinguish his contents easily and create save ways for their storage and sharing.

[start & end] In Shitsurai we have seen that in Japan events are always framed by an introduction and a defined end. To round up the Motenashi Interaction Design, the Designer has to create a fitting start and end scenario for the product interface by means of sound, light effect, inspiring animations or messages.

The final graphic illustrates the Motenashi product map for 3 different products: a mobile phone, a camera and an air-condition device. It includes all the previously described Motenashi elements and shows where the interface designs should differ between those devices to reach a higher hospitality level.
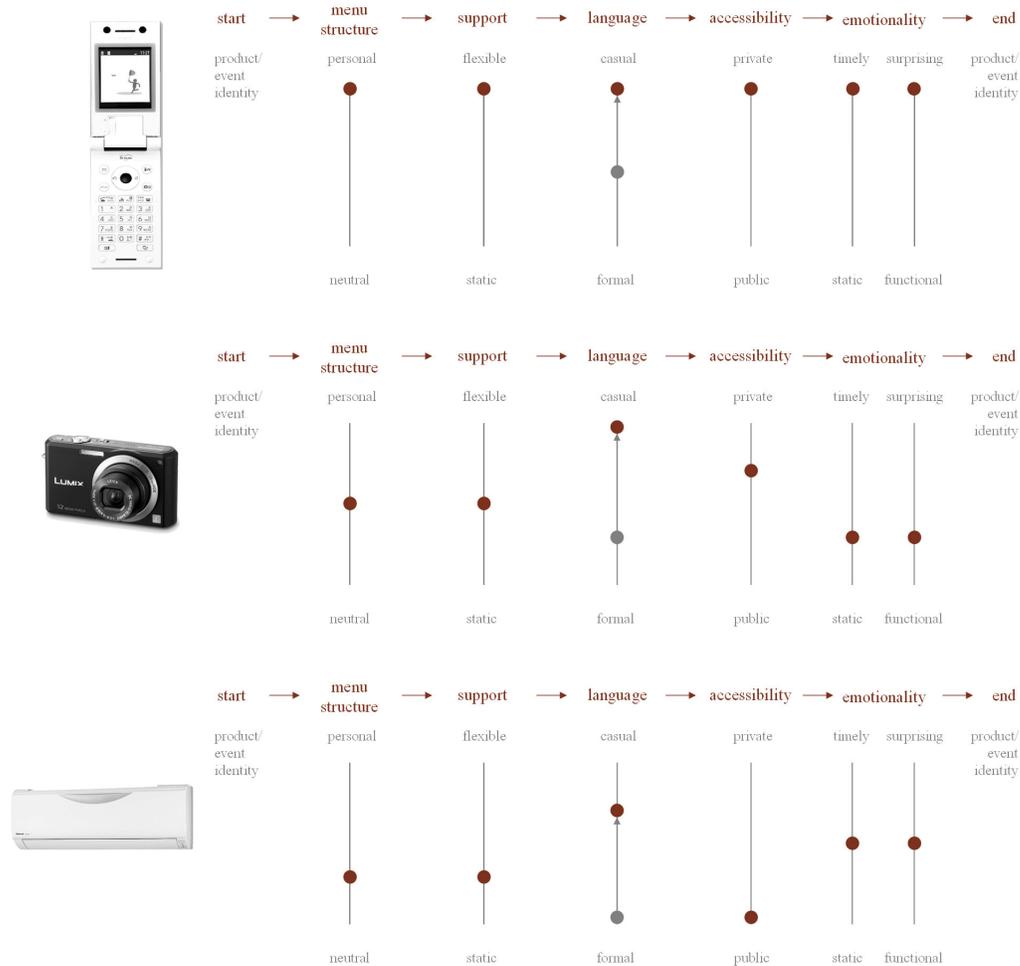


Figure 3: mobile phone, digital camera and air-condition as examples for the product Motenashi mapping

## 5. Discussion

To look at Interaction Design from the point of Japanese hospitality provided various ideas how to apply the philosophy of Motenashi to interfaces. Of course, many other approaches for the improvement of the emotional value of user interfaces exist. This analysis' outcomes are very much based on the author's interpretations of the gathered data and therefore need further discussion and validation in detail from here onward. Nevertheless it would be great if those in Interaction Design can take some inspirations into their work to improve their Interface Designs with some of the ideas given to add emotional value to their products by considering the principles of Motenashi.

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