# A shift of focus: an inspiration from users' *reception* of computer interface design

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ABSTRACT: By borrowing from so-called *reception theory*, which was originally applied in literary studies, and through empirical case studies of users' reception of computer interface design, the author argues that users have their own preferences and use their own *tactics* to deal with the designs – *strategies* – imposed by designers. In the article, the author also attempts to reinforce the concept that creative design is not the *creation of the perfect design* according only to the decision of designers, since this goal could never be reached, as the needs and wants of users are diverse and continuously changing. Rather, creative design should be geared towards a cooperative outcome that relies on the designer's professional knowledge and the user's participation. Borrowing from these concepts, the author further proposes that design and engineering education should shift in focus from the designer and the design to the user.

## INTRODUCTION

These days, digital, computer and information designs go in two major directions: the development of creativity in idea, and in technology. This means that some people seek to generate theoretical ideas and concepts that have never been thought of before, while others seek to make technological discoveries and inventions that can break down the barriers restricting the implementation of creative ideas and concepts.

With respect to the latter, governments and industries have invested a lot of resources in order to play a leading role and secure market share in this competitive and rapidly changing world. For example, with the aim of establishing Hong Kong as a centre of innovation, the Chief Executive of the Hong Kong Special Administrative Region Government has injected up to more than US$60 million to support research in high technology fields [1].

Continuous breakthroughs in technological development and the production of purportedly creative ideas seem able to bring about future benefits. However, whether all of these really fit the needs and wants of users is debatable. Moreover, although the approach of user-centred (user-oriented) design has been proposed for many years, attention is still mainly focused on the creativity of designers (including design engineers), but relatively less attention has been paid to their *ways of using*. This means design practice (as well as the focus of design and engineering education) is still heavily focused on designers and designs, but not on users [2].

The practices of users have seldom been seriously investigated or well respected and designers still position themselves, or are still positioned, as *professionals* at designing things, generating perfect designs and making final judgements.

## DESIGNER: THE ONLY EXPERT?

It is the dream of many designers for their designs to fit *all* users. However, after several decades of struggling in design, they still find that *design for all* is difficult to achieve. In order to be satisfied with this dream, one of the claimed creative and well-appreciated methods used by designers is to set up more and more standards, plans and programmes that seek to fit all, or at least most, users and, in turn, to bring them a better quality of life.

In fact, setting up standards is not a new design method. While it bears a sense of internationalisation and globalisation, it also carries a meaning of the desire for *normalisation* of people's needs and preferences. More or less, it inscribes some of the thoughts of the pioneer and master of modernist thinker, Le Corbusier. It is clear that Le Corbusier's assumptions seem today to have been circumscribed by the limited perspectives of his own time [3]. Although a number of people have questioned the inhumanity of his modernist thinking, his way of thinking continues to influence many designers' fundamental ways of thinking today. For example, although many designers today would not say explicitly that they are professionals and that only experts should make decisions for other people. However, many designers would, in their hearts, agree that: *My task, my search, is to try to save these men of today from misfortune, from catastrophes, to establish them in conditions of happiness, of everyday happiness, of harmony* [3].

It cannot be denied that increasingly more designers have started to consider the diversity of users [4-6]. Design and engineering education also place more focus on training their students to consider users (or clients). However, is it enough for designers only to bear in mind or be reminded that they should design – generate creative ideas – for diverse users? The facts indicate that current designers still find that their (creative)

ability falls short of their ambition. Their self-claimed creative ideas cannot design suit a broad range of users, and no product or environment can ever be used by everyone under all conditions. Then, what can designers do? Or how can education improve this situation?

RECEPTION

In reviewing literary theories, the ideas of so-called *reception theory* (or, in a broader sense, *reader's response*) offer a new perspective of readers, otherwise known as users in design practice. According to reception theory, the reader is both an active participant in the text and a detached spectator of it. The advocates and supporters of reception theory believe that neither author nor text can fully control the reader's actualisation and the divergences of response [7-10]. A reader's subjectivity of individual interpretations is motivated by his/her personal psychic needs. Moreover, a literary work is not an object that stands by itself and offers the same view to each reader in each period. On the contrary, readers and readings are always historically situated within specific conditions of reading. Thus, literary work should be studied in terms of the impression or impact that it makes on its contemporary audience, and that literary value is judged according to how much the view of a text alters over time.

Therefore, there should be a shift from the formalist view of the text as a static, timeless, piece of language to the epistemological stress on the dynamic, temporal and subjective stance of the responding reader who actualises the text. In other words, as Storey states, *Although the text is produced by the author, it is the reader who brings the text to life, and thus brings the work into existence. It is in the act of reading that meaning is realised* [11].

A NEW WAY TO SEE USERS' RECEPTION

Although reception theory was originally utilised in literary subjects, its arguments provide valuable insights into studying human behaviour, that is, exploring how users interact with designers and designs, and, in turn, understanding how designs can fit users. For example, computers involve mental and physical interaction. How users interact with a computer, particularly their responses to interface settings and configurations that claim to be the means for users to give instructions and data to and receive feedback and information from the computer, is crucial for the success of its design. Similar to the idea of the incompleteness of text or other formats of discourse, it can be said that a computer design, for example, a computer interface design, is full of gaps or has no real existence. It is incomplete until it is used and it initiates a performance of meaning rather than actually formulating meanings itself. Without the participation of the individual user, there can be no performance. In other words, the user should be seen as the true producer of a design because he/she actualises the design by filling in its gaps or indeterminacies of meaning. This kind of user creation and participation can be called an act of production – an art or a creative act [12][13]. Moreover, these kinds of acts on a design do not stop. They produce and continuously reproduce according to different periods of time and different environments.

An example of this is Web page design and how users respond to Web pages. Nowadays, many unexpected pop-up Web pages will come out when a person visits a Web site or surfs around different Web sites to look for information. The designers' major intention of these pop-up Web pages is to provide additional or urgent information. In 2001, a study was conducted to investigate how people responded to such pop-up Web pages. In the study, the pop-up Web page was defined as an additional Web page generated by the computer that was not expected by the person visiting the original planned/intended Web site. A group of university design and engineering students (N=42) were invited to participate in the study. The study was mainly based on the following key elements.

Preliminary observations were made to investigate how several students surfed Web sites in order to understand different major types of responses from students to pop-up Web pages.

A survey was also carried out to study the responses of students when they saw pop-up Web pages, which:

- Appeared at a Web site that students had visited before (or they were familiar with);
- Appeared at a Web site that students had not visited before;
- Appeared and that students were not allowed to switch off (ie the pop-up Web pages could not be closed easily and, therefore, had to be read by users).

Student responses to these three situations were as follows:

- Responses to a pop-up Web page (when visiting a previously visited Web site):

  - 38 students closed the pop-up Web page without reading it;
  - 3 students *may read* the pop-up Web page before closing it;
  - 1 student read the pop-up Web page before closing it.

- Responses to the pop-up Web page (for visiting a new Web site):

  - 34 students closed the pop-up Web page without reading it;
  - 6 students *may read* the pop-up Web page before closing it;
  - 2 students read the pop-up Web page before closing it.

- Responses to the compulsory reading of pop-up Web page:

  - 37 students felt irritated;
  - 4 students closed the pop-up Web page by continuously clicking the *close* button as soon as possible (ie faster than the computer's reaction);
  - 1 student gave no comment.

Another example is how users deleted files corresponding to the provided or recommended procedures designed by the programmers and computer interface designers. In general, in a Windows environment, users could delete file in three ways (see Figure 1). In Figure 1, Methods (a) and (b) indicate two general methods that a user can pursue in order to follow the instructions designed by the programmer/designer to delete a file. During the deleting process, a confirmation button appears for the user to confirm the delete action. Even when a delete
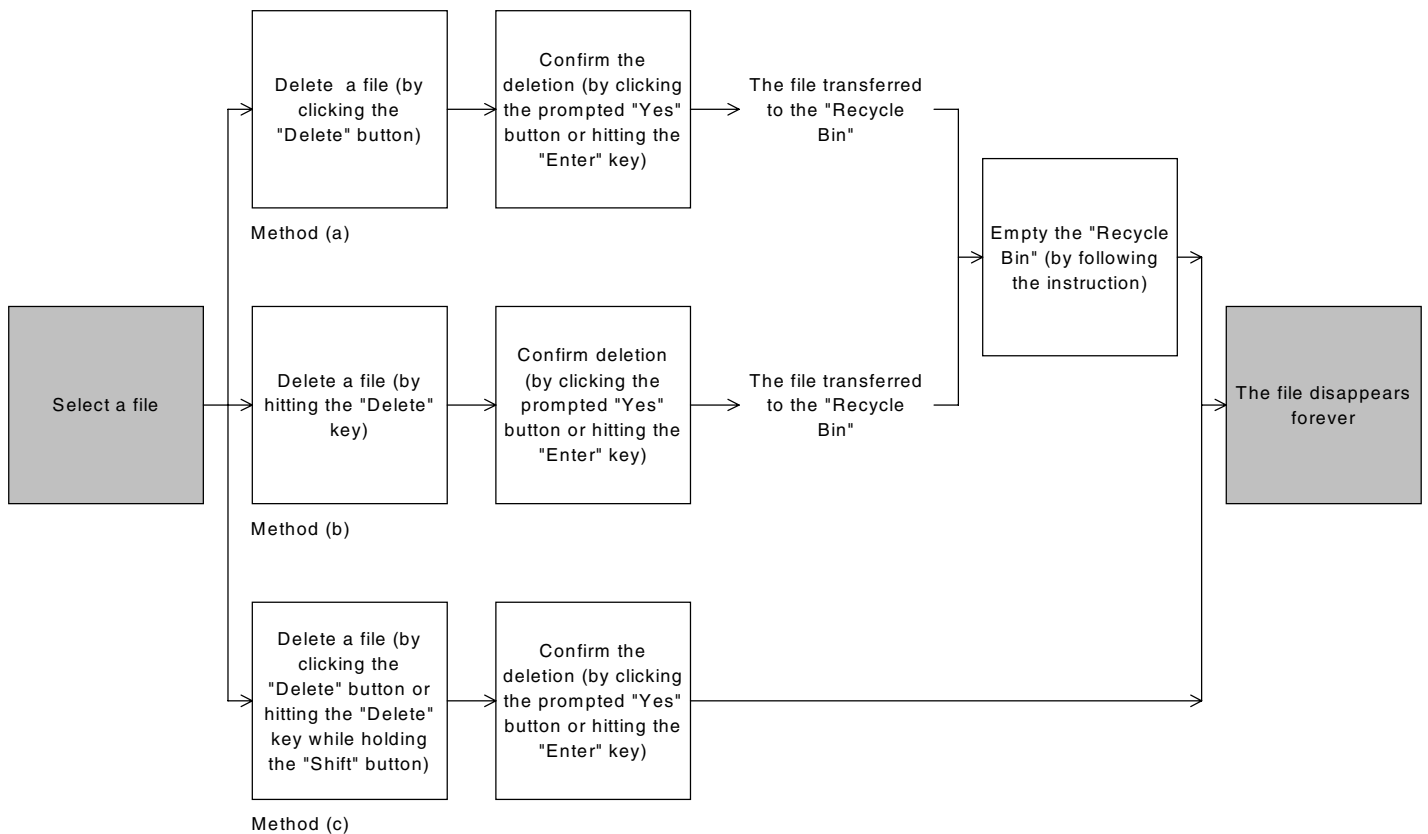
Figure 1: Three general methods of deleting a file in a Microsoft Windows environment (by the author).

action is finished, the file is still placed in the *Recycle Bin*, which allows the user to recover the file. Only after the user empties the *Recycle Bin* (which also requires a confirmation) will the file disappear forever. However, by using Method (c), the user can bypass all of the constraints and confirmation steps designed by the programmer/designer and the file will disappear forever.

In 2001, a study was conducted to find out how people delete a file in a Microsoft Windows environment. A group of university design and engineering students (N=57) were invited to participate in the study. The study was mainly based on observations to see how students deleted a file. Each student was requested to use computers with the same settings and to delete a file in the same way they would usually. The results indicated that:

- 21 students used Method (a);
- 35 students used Method (b);
- 2 students used Method (c).

Although students using Method (c) represented only 3.5% of the total population, this illustrates that some computer users preferred to use this means of deleting a file instead of the *well-intentioned* and *creative* safety precaution and recovery function generated by programmers/designers. When these two students were asked whether they had ever had a bad experience by using their preferred method (for example, wrongly deleting their files but not being able to recover them), they both admitted that they had experienced this. However, they also said that they would still keep deleting files in the same manner. When further asking for their reasons, some of them simply said, *I like to do it*. And one pointed out, *It's more convenient using this method. I very seldom make the mistake of deleting a file which I do not intend to delete*.

With reference to the two examples above, there is no question that designers have *good intentions*. Their designs are more and more complicated (or else claim to be more creative) in order to eliminate unintended outcomes as much as possible. Alternatively, their designs are increasingly intended to control users so that they follow programmes that are designed to result in predetermined ends. In the first example, designers may intend to provide some important or useful information for users. In the second example, designers set up confirmation steps and the *Recycle Bin* in order to protect files and minimise the wrongful deletion of files. However, as mentioned above, users have their own preferences and ways of using – reception. Students clicking off pop-up Web pages without reading them, or the two students who neglected the good intention of the confirmation message for deleting a file, indicates that they did not appreciate the *good intentions* of designers.

In fact, the above cases are not simply an issue of right or wrong, stupid or intelligent, legal or illegal. They are more about the *how* and *why* of users acting differently from the intentions and decisions of designers. Obviously, designers can create more methods to achieve their intended outcomes or, say, to control users more and program their lives more. For example, designers can program pop-up Web pages in such a way that users cannot click off or bypass them (a method currently used by many sex and business Web sites) or designers can eliminate Method (c) cited above to delete a file.

The objective of this article is not to support illegal practices or misuses of design by users. The author only tries to argue that, besides considering the good intentions of designers, we should also consider *how* and *why* users expect and act differently from the expectations and decisions of designers. By quoting everyday life practices as examples, de Certeau, Giard and Mayol point out that the expectations of users often differ or

contradict those of professionals and policy-makers, such as the government, which most of the time owns, or is assigned the authority for, the right to speak [13]. The main reason for these differences and contradictions is that professionals always assume users to be passive and identical, or expect to use strategies to fix them into a predetermined mode of practice. However, in order to face these types of differences and contradictions, users seldom follow exactly what professionals expect and decide. Instead of calling this kind of reception a misbehaviour or illegal, de Certeau prefers to call it a *tactic*. This means that users, particularly deprived groups and poor people, are seldom directly against policies given, defined and designed by professionals. On the contrary, most of the time, users' means of interacting with provided designs (eg a policy, system, architecture or computer user-interface), much like guerrilla warfare, are implicit, dynamic and difficult to predict and discover.

## DESIGN AND ENGINEERING EDUCATION: A SHIFT OF FOCUS FROM DESIGNER AND DESIGN TO USER

Although increasingly more people consider and recognise the importance of user-centred (or user-oriented) design, this author attempts to go one step further to discern whether the needs and wants of users can be satisfied without understanding the ways of using. Borrowing this experience (and discussion), this author further attempts to propose that design and engineering education should shift attention from the designer and the design to the user. This shift of focus does not mean simply paying more attention to the diverse needs of users. The most important factor is whether designers (or design and engineering students) can recognise that they should not – and are not – able to make decisions for their clients: the users.

In parallel with this recognition, design and engineering curricula should remind (give experience to) students to recognise that users are able to develop their own methods to actualise (ie create, modify and combine) designs that are the most suitable, for example, a more user-friendly input device, a more socially and culturally acceptable computer display method, or a more community-related open-space bench or rubbish bin.

In allowing users to actualise designs, user participation is one of the best ways to make the design process change from expert autonomous to user autonomous [14]. Obviously, user participation does not imply that designers do not need to do anything or should be ignored. Designers can take an active role in another way [15]. They should explore the diverse backgrounds, beliefs, needs, wants, preferences and satisfactions of users, since all kinds of findings can help them to understand users better and, in turn, benefit participation activities. In order to explore and thereby have a better understanding of users, as well as their own ways of using, design and engineering students can no longer be like traditional science and engineering students, hiding themselves in laboratories and studios. Curricula should provide more opportunities to motivate students to conduct more empirical studies outside their universities, such as carrying out more participant observations and direct interviews.

To conclude, in this article, the author does not intend to devalue the creativity of designers, nor creative thinking exercises and projects. By using reception theory and case studies in computer interface design, the author attempts to bring out the considerations that design and engineering students (future designers) should understand that they are not – and will not be – the only experts, and they should not impose their so-called perfect designs on others. The point of their creativity is not to teach users the meaning of designs and how to live. Rather, they should respect and explore users' ways of life and, in turn, apply their creativity by working *together* with users.

## AUTHOR'S NOTES AND ACKNOWLEDGEMENTS

## REFERENCES

1. 1998 Policy Address. Hong Kong: Printing Department (1998).
2. Clark, P.P., Book reviews: The Practice of Everyday Life. *J. of Modern History*, 58, 705-707 (1986).
3. Le Corbusier, *Precisions on the Present State of Architecture and City Planning* (translated by E. Schreiber Aujame). Cambridge: MIT Press (1991).
4. Jordan, P.W. and Green, W.S., *Human Factors in Product Design: Current Practice and Future Trends*. Philadelphia: Taylor & Francis (1999).
5. Story, M.F., Mueller, J.L. and Mace, R.L., *The Universal Design File: Designing for People of All Ages and Abilities*. Raleigh: North Carolina State University (1998).
6. Wood, L.E., *User Interface Design: Bridging the Gap from User Requirements to Design*. Boca Raton: CRC Press (1998).
7. Freund, E., *The Return of the Reader: Reader-Response Criticism*. New York: Methuen (1987).
8. Iser, W., *The Act of Readings: a Theory of Aesthetic Response*. London: Routledge & Kegan Paul (1978).
9. Jauss, H.R., *Aesthetic Experience and Literary Hermeneutics*. Minneapolis: University of Minnesota Press (1982).
10. Slatoff, W.J., *With Respect to Readers: Dimensions of Literary Response*. New York: Cornell University Press (1970).
11. Storey, J., *Cultural Consumption and Everyday Life*. New York: Oxford University Press (1999).
12. Certeau, M. de, *The Practice of Everyday Life*. Berkeley: University of California Press (1984).
13. Certeau, M. de, Giard, L. and Mayol, P., *The Practice of Everyday Life: Volume 2: Living and Cooking*. Minneapolis: University of Minnesota Press (1998).
14. Sanoff, H., *Integrating Programming, Evaluation and Participation in Design: a Theory Z Approach*. Aldershot: Averbury (1992).
15. Siu, K.W.M., *A New Focus in Design Education: Providing a New Perspective for Students to See 'Users'*. In: Swann, C. and Young, E. (Eds), Re-inventing Design Education in the University. Perth: School of Design, Curtin University of Technology (2002).