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What We Mean by *Interactive Form*

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The following blog post is edited from an email conversation between the authors about the concept of interactive form, which incidentally is the name of a course given at Linköping University. If you do teach a course, it might be a good idea to understand the meaning of the course name.

Mattias: I thought I would ask what associations come to mind when you hear the term *interactive form*. We have a course with that name for students in graphic design and communication, but I have never really been comfortable with its name. I have taught it for many years but never much used the term. Stefan Holmlid was the one who decided the course should have that name, almost 10 years ago. So, here goes—this is my initial understanding of interactive form:

Interactive form is the totality of a design's interactive elements and the way in which they are united, without consideration of their meaning. The non-interactive formal elements are things like color, dimension, lines, mass, and shape; the interactive formal elements are interactivity attributes [1] like concurrency, continuity, expectedness, movement range, movement speed, proximity, and response speed. The user experience of mystery and intrigue that a piece evokes is an informal effect of the user's response.

We can contrast this definition of interactive form with the related concepts of interaction style and interaction design patterns. Interaction style is *how* people interact. This is a question of what steps and means they employ in the interaction (*quibus auxiliis*), and with what attitude or manner they interact (*quo modo*). Design patterns are schematically described compositions of elements that are used in response to recurrent problems. Since I've never felt completely at home with the term *interactive form*, I avoided it and instead focused the course on interaction style and interaction design patterns. So, Jeff, Jonas, and Stefan, what are your takes on the notion of interactive form?

Jeff: I think the problem is partly that *form* has a lot of meanings in English, and when you put *interactive* in front of it, it becomes easy to misread *form* altogether. The deeper issue is that form in the traditional aesthetic sense typically characterizes features of an object—the formal elements of a poem, sculpture, or fugue and their composition. With interaction, this becomes a problem, since the form that matters isn't in and of the artifact itself, but rather of the human-artifact interaction. Jonas's work on concepts like pliability [2] helps reveal the difference and its significance. I think if you use *form* to qualify *interaction*, we're sort of hardwired to go to the object, the artifact—so you're starting the game with a negative score. You might not be able to rehabilitate that word from that usage. I wonder if *formal qualities of interaction* gets at what you want?

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Jonas: I agree that form in the context of design is tightly bound to the object and its features, and the construct you propose (formal qualities of interaction) might actually do the trick. It sets the right object (which is interaction), yet still uses the word *formal*, which pulls in the direction of appraisal. Aesthetic appraisal, that is, in a suitably wide sense; connoisseurship and criticism rather than user testing.

Mattias: I'm on board with interaction qualities, but if we say *formal qualities*, we don't necessarily imply the experiential qualities of interaction. Formal qualities of interaction would relate more closely to the sensory fabrics of the interaction. Then we add an interpretative level to get to the meaning, that is, what an interaction might mean to someone. Perhaps we should think of the formal qualities of interaction as how a designer conceives the designed elements and their composition contributing to certain experiences and responses. This is basically what Jonas said: aesthetic appraisal, connoisseurship, and criticism.

Jeff: You might just use the word *poetics*, which I understand to mean how formal qualities of aesthetic objects contribute to, cause, or shape human experiences (e.g., how hamartia in a tragedy leads to feelings of pity and fear in the audience). So, the question is where you want to situate this: in the elements and compositions of interactive objects or in interactions. It sounds like you have at least ruled out situating it in the phenomenal experience of the subject (which makes sense to me too).

Mattias: Now we're getting somewhere. If we're speaking of the formal elements and compositions of interactions, then I would speak of the entry, the body, and the exit of joint action [3]. That would allow us to take a closer look at the composition and elements of the entry, the body, and the exit. This could help the students to appraise the details of the interaction in different designs.

Stefan: I would say that interactive form is about the experiential, aesthetic qualities of (or in) interacting. It is then important to articulate, discuss, and critique how these phenomena are formed, and how a designer can approach an understanding of them. A jumble of questions that can be used as a reflexive sounding board:

- Are the phenomena situated in the experiencing subject alone?
- In what way can they be viewed as cultural constructs?
- How are the material manifestations of interactivity correlated to the phenomena of the experiencing subject?
- How are ideas about aesthetic and experiential qualities manifested by making new contexts, by creating new possibilities for extending our situated cognition, or by forming new ways of mediating our acting in the world?
- How are the articulations formed by conventions, expectations, and individual and joint instrumental goals?
- How can a designer explore designs to not only form an understanding of an interactive form but also extend his/her experiences of *different ways* of experiencing, understanding, and articulating interactive form?

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To me, that last point goes beyond the ordinary understanding of the concept of repertoire. However, *interaction gestalt* [4] is also a related term that we could use in this context.

Mattias: I think it relates well. It seems that when we speak of interactive form, it relates to the constituents and constellation of the designed artifact, that is the primary qualities, but also the subjective experiences it gives rise to, the secondary qualities. Interaction is, however, about the relation between the artifact and the subjects interacting with it; hence, qualities of interaction can be said to be tertiary qualities. As you note, Stefan, the qualities of interaction do not take place in a vacuum, nor do the experiences they give rise to. This means that the topic of interactive form must be understood as being inherently cultural, historical, and social, not only subjective experience or objective materiality. Interactive form can also give rise to an interaction gestalt, a composition that gives rise to an expression in a unified concept or pattern that is more than the sum of its parts.

This will indeed prove to be an interesting course for both the students and teachers in graphic design and communication. It also highlights an important issue for the interaction design community: What do we actually mean when we speak of form in interaction design?

Endnotes

1. Lim, Y-K., Lee, S-S., and Kim, D-J. Interactivity attributes for expression-oriented interaction design. *International Journal of Design* 5, 3 (2011); <http://www.iidesign.org/ojs/index.php/IJDesign/article/view/718>
2. Löwgren, J. Pliability as an experiential quality: Exploring the aesthetics of interaction design. *Artifact* 1, 2 (2007); <https://scholarworks.iu.edu/journals/index.php/artifact/issue/view/106>
3. Clark, H.H. Arranging to do things with others. *Proc of CHI '96*. M.J. Tauber, ed. ACM, New York, 1996, 165-167. DOI: <http://dx.doi.org/10.1145/257089.257234>
4. Lim, Y-K., Stolterman, E., Jung, H., and Donaldson, J. Interaction gestalt and the design of aesthetic interactions. *Proc. of the 2007 Conference on Designing Pleasurable Products and Interfaces*. ACM, New York, 2007, 239–254. DOI: <http://dx.doi.org/10.1145/1314161.1314183>

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