The Construct of Webflow for Capturing the Web User Experience

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EXTENDED ABSTRACT

In his visionary book, Mihaly Csikszentmihalyi [2] describes the construct of flow as the holistic sensation that people feel when they act with total involvement. Hoffman and Novak [6] take a more serene approach and suggest flow for studying consumer behavior in the context of electronic commerce. More recently, there has been a growing interest towards using the flow concept for understanding user experience in information systems [see, e.g., 9, 8, 7].

Flow is a state which occurs when navigating in an information space and which is intrinsically enjoyable, self-reinforcing and accompanied by a loss of self-consciousness; it can exist in both experimental and goal-oriented types of behavior [5]. As a measurable concept, flow can be inferred from its antecedents and consequences. A primary antecedent condition that is necessary for the flow state to be experienced is that skills and challenges are perceived to be congruent and above a critical threshold. If the skills of the users are high, but the challenges are low, (s)he may fall into boredom, while if their challenges are high, but the skills are low, they may fall into anxiety. If both the challenges and skills are too low, users may fall into apathy. Oinas-Kukkonen [11] has modified the general flow concept into a Web-specific construct:

Webflow is an optimal perceived user experience which improves a web user's orientation and navigational use, as well as vice versa, and which is predicted by balanced user skills and the feeling of the web to be enjoyably challenging, the feeling of being in control of web use, and the perceived ease of use and usefulness of the web.

Based on this definition a research vehicle for measuring *webflow* has been presented [11]. (See Figure 1). *Webflow* implies that the user's feeling of being in *control* over the system in use may cause a positive user experience. *Ease of use* is an intermediate variable between *skills* and webflow. In the model, high skill level implies that the system is easier to use, which may cause webflow. *Usefulness* is an intermediate variable between *challenges* and webflow. These are supported by the widely utilized research models, which suggest that perceived ease of use and perceived usefulness predict technology acceptance and use [cf. 3, 14]. In the model, higher challenges mean that consumers perceive the system useful, which may cause webflow. Two intermediary concepts, *learning* and *focused attention*, may also be found in the hypothetical model between the content and features provided by the system and the skills and challenges. Learning is an intermediate variable between skills and system, because through using the system users may learn new skills. Focused attention is an intermediate variable between challenges and system, because through persuasive content and functionality user attention focus may rise. In all of these features the 'web' includes both the web application and the web as a platform. Content and features provided by the web help keep user skills and challenges above a critical threshold through focused attention and learning.

The webflow and its antecedents and consequences can be measured through simple and straightforward web-based surveying to see which of the hypothesized relationships in the 'ideal model' are found to be true in each context.
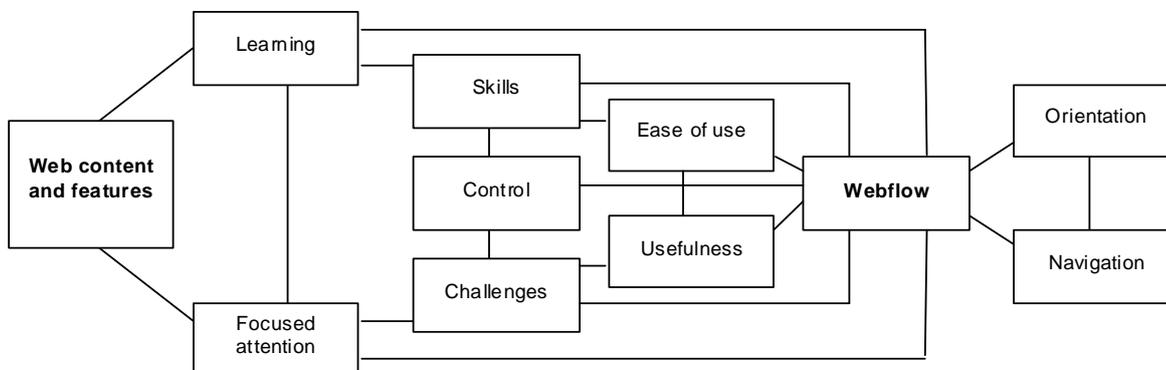

Figure 1. Research model for studying the webflow user experience [cf. 11].

We have conducted many kinds of surveys using the webflow instrument. In addition to web environments, we have also studied the flow user experience on mobile environments, ranging from early WAP [10] to modern smartphone implementations [12]. An interesting finding was reported in our study of mobile heathcare [12]. Balanced orientation and navigation within the system use and the feeling of being challenged have a direct effect on gaining optimal user experience. (See Figure 2.) Surprisingly, ease of use and usefulness were not found to have direct influence on user experience. Indeed, the ease of use in itself is not a virtue. Most importantly the information provided for the users has to be helpful. Finding relevant pieces of knowledge becomes essential, which emphasizes the roles of orientation and navigation.
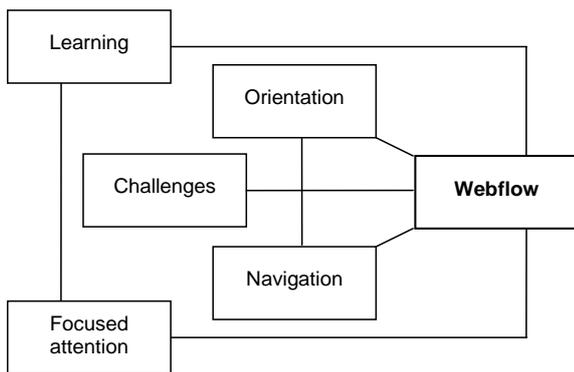
Figure 2. Found prerequisites for webflow [12].

In the same study, learning was found to strongly correlate with the webflow. Previous research has suggested that learning is a consequence of flow, i.e. people who perceive flow have better learning outcomes than people who do not perceive flow [cf. 5, 1]. The findings in this study point out that the interplay between webflow and learning truly is more complex than previously thought. When a knowledge worker learns (s)he perceives webflow, and when (s)he perceives webflow (s)he learns. Webflow seems to have a dual role both as a consequence and as an antecedent. The findings of this study also relate closely with the very nature of flow experience, which is facilitated by interactive relations between user's individual characteristics, the characteristics of the artefact, and the characteristics of the primary task [4].

Our future research will include further studies using the webflow model with different problem domains and technological platforms. We also plan to develop qualitative webflow approaches on par with the quantitative ones. A specific research challenge is to study the rapid changes and wearing out of flow that may happen during computer-human interaction [cf. 13].

All web scientists are invited to join this user experience research. We believe that understanding the construct of webflow can help advance the web as a field and open up new research avenues for it.

Keywords

User experience, flow, webflow, technology acceptance, technology use, orientation, navigation.

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