

Interface Currents: Supporting Fluent Face-to-Face Collaboration

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While large displays, such as tabletops and walls, are being developed to technically support collaborative work, the design of interfaces that support face-to-face collaboration is still a challenge [Scott et al. 2003]. We present Interface Currents – flexible containers which provide controllable, automated movement of interface items – in order to support the creative flow during collaborative tasks and to enable intuitive organizing and sharing of digital information around large horizontal displays.

1 Introduction

The fact that many common work practices involve collaboration is driving the need for interfaces that enable sharing of digital information among groups of people. Since traditional tables naturally support group work, digital tabletop displays offer a great potential for the design and development of collaborative interfaces that provide access to digital information and media in a natural and intuitive way [Scott et al. 2003]. In addition to facilitating information sharing, interfaces for large displays should also support the creative flow that emerges during group meetings. However, problems relating to reaching items at the far side of the display, supporting mobility of people, and sharing and passing of digital information still need to be addressed. Devices such as lazy susans, conveyer belts and sushi canals have been developed to mitigate these problems in the physical world. For digital displays, the idea of dedicating a fixed narrow path at the perimeter of the table for information flow has been used to support peripheral monitoring and filtering [de Bruijn and Spence 2001]. However, the fixed and inflexible interaction provided by this approach limits its applicability. Interface Currents extend this interaction with flexibility and mobility. Currents support casual browsing which allows people to concentrate on communication or other task activities.

2 Concept of Interface Currents

An Interface Current provides an adjustable flow in a flexible, mobile container [Hinrichs et al. 2005]. Digital information such as text or pictures placed on an Interface Current will flow like leaves on a river current. The information can be placed on a Current individually or as groups. Also, a file folder can be opened into a Current. As in the Café Table [de Bruijn and Spence 2001], the Current’s flow can be easily started, stopped and reversed. To provide flexible containers, the graphical implementation uses subdivision curves [Hinrichs et al. 2005], allowing direct manipulation of the Current’s borders. Items on a Current are scaled to fit the space available. Thus, changing the Current’s width or size will affect the size of information items, making it possible to magnify regions

of information and to compress items not immediately needed (see Figure 1(a)).



(a) Peripheral and pool Current. (b) Current-supported group work.

Figure 1: Sharing and browsing through information with Currents.

As Currents are resizable, reshapable and mobile, people can tailor their workspace configuration according to task. A peripheral Current (see Figures 1(a) and 1(b)) allows groups to browse through large amounts of information. The flow of information makes it easy to share the items: every member of a group has access to the same set of information. This makes it possible to immediately concentrate on the task goal without having to deal with sharing issues first. In order to make information visible to multiple users working on a digital tabletop, items placed on a Current are automatically oriented towards the Current’s outside border. Furthermore, the continuous flow of information can help to activate creativity because it evokes new associativity strings. Pool- and stream-shaped Currents (such as the peripheral Current) placed in the middle of the workspace help users collecting, categorizing and organizing information for further work (Figure 1(b)). The flow on Currents helps all group members around the digital table to keep track of all information collected.

3 Conclusion

Interface Currents provide an intuitive interaction, enabling the sharing large amounts of information between several people working together around large horizontal displays. They offer an intuitive way to organize and categorize information while supporting the creative flow during group work.

References

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