Chapter 9
Interactive Reference:
Online Features to Enrich Content and Improve the User Experience

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ABSTRACT

This is a survey of the current state of online reference products and the variety of interactive features that can help make the next generation of these products more functional and their content more discoverable. Topics examined include: addition of multi-media content to text; interfaces for comparing texts; timelines and maps for browsing; taxonomy and ontology; improvements to search functions and search results; inter-linking of products; issues around saving data, personalization, and creation of custom publications; and mobile devices.

INTRODUCTION

What is the definition of "interactive reference?" The word "reference" refers to the product that aims to answer our questions in a way that is authoritative, accurate, and comprehensible. The "interactive" part refers to the product interacting with the user to do that job better. So what is the end goal for the ultimate interactive reference product?

In order to get a sense of this, let's first focus on the reference products provided online and accessed through libraries. We are currently in the midst of the same sort of transition as when movies were first being made or TV first came online. The initial attempts/products mimicked an older medium (theater for film, radio for TV), but eventually the medium matured and developed its own aesthetic sensibility. In the same fashion,

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the initial online reference products were derived from their print counterparts. Beyond providing search and some cross-linking capabilities, they were very similar to their print interfaces. There were few if any online features, with little or no hyperlinking and indexes that didn't link to the text. Many even preserved the page boundaries and numbering from the print work; many still do. The majority of early online reference products were just e-book versions of the print titles bundled together into an online platform. In contrast, other products were dubbed databases, and the content was extracted from its original print context to provide a subject or topic-based collection of content.

Over time, online products slowly started to develop interfaces and navigation and interactivity separate and different from the original books. Database products started this by separating the content from the original print container and presenting it in a new way in an online environment. Navigation is an area that diverged early on because in the book world there is a strong one-dimensional ordering that is placed on the contents of the book—entries have to be ordered front to back, often in an A-Z fashion. On the Web, the page has a stronger focus because interaction is mediated through a single screen. From the entry that the user is looking at, there are many different possible next places to visit, of which the next entry in the print order is only one such possibility and not even usually the best. For instance, if the user got to the entry by doing a search, it is potentially much more useful to give the user access to the next entry in the search results, or to other similar entries related through subject keywords. These different kinds of links provide different entry orderings, and no one ordering has the same overwhelming presence as page ordering has in a book.

Another aspect that is pushing change is the plethora of devices that people use to access these products. In addition to your standard computer monitor, users are increasingly using laptop and note-book computers, tablets, and smartphones all with different screen size, connection speed, and technology constraints. At a minimum, each device is capable of presenting text and images, usually in color. Sound can often be generated as well as animation and video. Input can be taken in the form of text, sometimes speech, and increasingly, location. With the advent of smartphones and other mobile devices, multi-touch sensors are standard, and increasingly, the devices know what time it is and where the user is located.

When thinking about interactivity of reference products, it may be useful to think along two different axes. The first is the content. The questions to ask here include: What kinds of interfaces and interactivity are best suited for different kinds of content? And how can different interfaces improve the way that the information is conveyed? Is it possible to unpack information hidden within the content or that was compiled during the production of the content but had no easy outlet in the print product? The second axe is the user, who comes to these products trying to answer particular questions for different reasons and with different goals. If the online reference product can anticipate the task that the user is trying to accomplish, it can provide tools to the user to help him/her accomplish that task. The main goal of this chapter is to examine interfaces through these two lenses and to look at features that try to enrich the meaning of the content as well as those that try to help users accomplish their goals. The industry is just starting down this path and where it will end up is anybody's guess, but there is no question that the reference products of the future are going to look increasingly less like their print companions.

CONTENT-CENTERED INTERACTIVITY

In this section we examine the interactive features that help increase the number of ways in which

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