Online Resources for Product Developers

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The October 2000 issue of *Visions* presented results of a survey, "What Do Product Developers Read?" One observation in that article was that, increasingly, product developers do not read print media but instead turn to various online sources. Consequently, the author of the previous article has teamed with the present coauthor to discover how developers use online sources.

The Survey

We sent an e-mail survey to 6112 valid addresses from mailing lists that we maintain. We received 193 usable responses for a response rate of 3.2 percent. Interestingly, the response rate

> We suspect that... the "Internet revolution" has not fully caught on with product developers yet.

for the first survey was 21 percent. This sizeable decrease might be attributable to the fact that this survey was somewhat more complex than the earlier one, However, we suspect that is also because fewer people actually get product development information online, compared to those who are still using print media. That is, the "Internet revolution" has not fully caught on with product developers yet.

Our survey asked two questions:

1. If you need information on a *specific product development issue,* where would you start an online search?
2. Which online services do you use to *regularly keep up to date* on product development best practices?

To ensure that respondents considered a variety of sources that they might use, we suggested several categories for each question. For example, for the first question, we asked whether they used search engines, specific websites, online subscription services, or corporate libraries or intranets. Then, for each of these categories, we invited

them to list the specific sources they used, for instance, the specific search engine preferred. This semi-structured approach allowed respondents to answer either simply or in considerable detail.

Types of Sources Used

Figure 1 on this page tallies responses to the first question, that Is, the types of sources developers turn to for resolving a *specific product development issue.* About 70 percent of the respondents (137 of them) use search engines for this task. About half as popular are specific websites, which they presumably have bookmarked. Then, in decreasing order, are online corporate resources, such as libraries and intranets, followed by services for which they pay a fee to use, and finally, online versions of traditional periodicals, such as *JPIM, Design News,* and *NASA Tech Briefs.*

Figure 2 on page 16 similarly addresses Question Two: types of sources used to *regularly keep up-to-date* on the latest advancements. Notice that the number of responses is lower for this application: apparently online sources are not as popular for ongoing updating as for addressing specific issues. Also notice that different types of sources are used for this different task. Only online publications and corporate libraries and intranets show up on both lists.

Most Popular Search Engines

Respondents mentioned thirty different search engines, but only about half of these received more than

a single mention. Figure 3 on page 16 shows the top six. Google and Yahoo deserve special mention, because they are not only the most popular, but they are also closely related. Strictly speaking, Yahoo is not a search engine, but instead a directory. Humans compile its listings, whereas an automatic software spider compiles search engine listings. When you conduct a Yahoo search, it first lists "Web Sites" and then "Web Pages." The former come from the Yahoo directory, while

Fig. 1 Leading online means for resolving a specific product development issue.
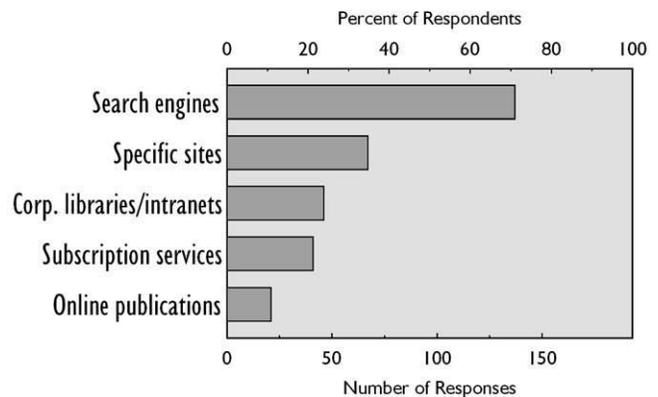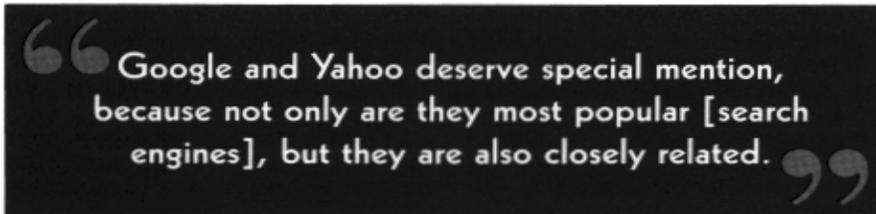
the latter, which are usually far more numerous, come from the Google spider's database, not Yahoo. With this in mind, Google is clearly the leader.

The Search Centre (www.tka.co.uk/search/home.htm) offers useful engine-independent suggestions for conducting searches, and it goes beyond just search engines.

Most Popular Websites

Seventy-six websites were mentioned, but only twenty received more than a single mention. The top five were the sites of Management Roundtable (28 mentions, www.roundtable.com), PDMA (14 mentions, www.pdma.org), New Product Dynamics (6 mentions, www.newproductdyamics.com), the Institute of Electrical and Electronics Engineers (5 mentions, www.ieee.org), and the Project Management Institute (5 mentions, www.pmi.org).

> Google and Yahoo deserve special mention, because not only are they most popular [search engines], but they are also closely related.

Because we conducted the survey using e-mail lists from Management Roundtable (MRT) and New Product Dynamics (NPD), it is not surprising that their sites ranked high. However, even if we consider only NPD respondents, the MRT site still ranks number one for them.

Many of the mentioned sites are product-, industry-, or function-specific. For instance, many are related to software development. Some potentially useful general purpose sites are the Product Development Forum (www.npd-solutions.com/pdforum.html), the Society of Concurrent Engineering (www.soce.org), and Thomas Register (www.thomasregister.com).

Subscription Services

These are services for which one must pay a fee to access the bulk of the content. The top three here are NERAC (7 mentions, www.nerac.com), Teltech (7 mentions, www.teltech.com), and *The Wall Street Journal* (5 mentions, public.wsj.com/home.html). Some others of general interest are *Product Development Best Practices Report*

(www.roundtable.com/PDBPR/pdbpr_online.html), and Northern Light Special Collection (www.northernlight.com/docs/specoll_help_overview.html).

E-Mail Newsletters

Today, e-mail newsletters are easily the most popular means of keeping abreast of new approaches. (See Figure 2 on page 16.) This has not always been the case: a few years ago bulletin board systems (BBS) and then listservers were popular online forums, but our survey shows them to rank low today. There are no strong favorites here. Sixty-one e-newsletters were mentioned, but only 12 received more than a single mention. Top runners are The Critical Path (33 mentions, www.roundtable.com/Critical_Path/Critical-Path-Index.html), the Quick lip (10 mentions, www.newproductdynamics.com/quick_tip.htm), Computerworld (3 mentions, http://www.cwrld.com/nl/) and Information-Week (3 mentions, www.informationweek.com/newsletters).

Here again, our sample is biased, because MRT issues The Critical Path and NPD issues The Quick Tip. However, The Critical Path received three mentions by NPD respondents, which ranks it below only The Quick Tip among NPD respondents. The same can be said for the ranking of The Quick Tip by MRT respondents.

Because so many organizations issue e-newsletters, our suggestion here is to find Websites that interest you—sites listed elsewhere in this article and sites of pertinent professional organizations, suppliers, competitors, and online periodicals in your field—and browse them to see if they issue an e-newsletter. To manage the data load, you can filter all of these c-newsletters into a special mailbox. One area of general interest to product developers—teams—has two e-newsletters that surfaced in the survey: TeamWisdom Tips (www.partnerwerks.com/TeamTips) and Timely lips for Teams (www.qci-intl.com).

Online Publications

Online publications form a fragmented but popular group. Front-runners, out of the 52 mentioned, are *Design News* (5 mentions, www.manufacturing.net/magazine/dn), *JPIM* Online (5 mentions, www-east.elsevier.com/pim/), *ClO* (4 mentions, www.cio.com), *Information Week* (4 mentions, www.informationweek.com), and *Machine Design* (4 mentions, www. machinedesign.com).

In general, we observed that the more computer-savvy of our respondents were far more likely to use online sources. This is illustrated in the paragraph above by the fact that two information technology (IT) publications rank highly, even though IT is a relatively peripheral part of product development and is probably only lightly represented among those to whom the survey was sent. We also noticed a higher proportion of responses and more detailed ones from higher-tech areas.

As with e-newsletters, your best approach in identifying online periodicals is to consider print publications that you find worthwhile, browse their sites, and see how

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Online Resources Survey

Most Frequently Used Resources— Partial List

Online newsletters
- The Critical Path
- The Quick Tip
- Computerworld

Online publications
- Design News
- JPIM Online
- ClO

Search engines
- Google
- Yahoo
- AltaVista

Subscription Services
- NERAC
- Teltech
- Wall Street Journal

Specific Websites
- Management Roundtable (MRT)
- PDMA
- New Product Dynamics (NPD)

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*Fig. 2, Leading online means for keeping up
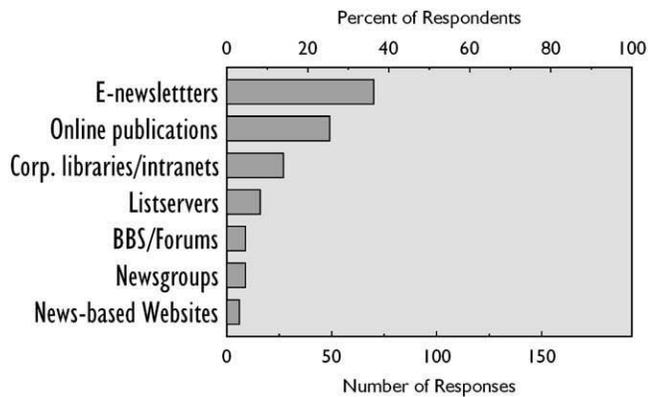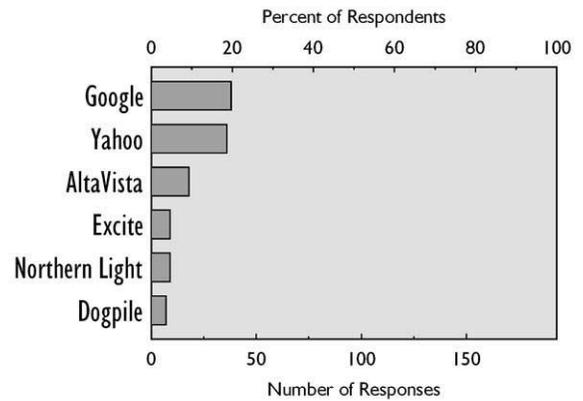to date on product development topics*

*Fig. 3, The top six "search engines"
for product developers*

Percent of Respondents

you might tap into them routinely online. One respondent (a software development manager) suggested *AvantGo* (http://avantgo.com/), software that allows you to download such Web content onto your PDA (personal digital assistant) for viewing later. We are reluctant to recommend this tool, since it could, if abused, have an adverse impact on the quality of your meetings.

Corporate Libraries and Intranets

Proprietary corporate online resources ranked strongly for both questions 1 and 2. Clearly, we cannot offer these proprietary sites to you, nor can we even visit them ourselves to assess their value to product developers. Such sites have the potential to increase your online effectiveness, as they should eliminate much of the clutter and many of the distractions that often characterize public sites.

However, these proprietary sources also have the potential to restrict your search to information that your employer considers fitting. That Is, they could lead unknowingly to censorship that limits your access to resources in the outside world. We observed that the people most likely to mention these proprietary sources were with large companies in mature industries where culture can become ingrown anyway.

To explore this possibility, we sent a secondary survey to those who mentioned using corporate sources in the original survey. We asked them four yes/no questions to explore how open their corporate sources are: specifically, does their corporate online service

– provide direct links to their direct competitors' Websites?
– provide direct links to suppliers/vendors that may not be approved by Purchasing yet?
– provide direct links to alternative methods of product development that may differ from their normal approved methods?
– provide direct links to conferences, seminars, or shows that they could go to in order to get such outside information?

We sent this secondary survey to 49 individuals and 31 responded, for a response rate of 63 percent. The "yes' and "somewhat" responses to the four questions were, respectively, 35, 23, 29, and 32 percent. We conclude that, by all four measures, few corporate sites encourage the consideration of alternatives.

One respondent suggested an easy way to build an open proprietary site: BookmarksPlus (www.bookmarksplus.com). You use it by building a proprietary set of corporate Web bookmarks on their server. Your bookmarks are password-protected, and any employee with the password can add to or use the bookmarks. This system is ideally suited to smaller companies that may not be able to afford more traditional corporate sources. If you would like something a bit more formal than this, visit Teltech or Northern Light (URLs above) and look at their knowledge management or business-to-business offerings, respectively.