In 1997, when search engines were relatively new, Jaime Teevan took an internship at Infoseek the summer before her senior year at Yale. William Chang, the chief technology officer, put her in a room with some research and told her to “find something fun to do.” She came up with some ideas for judging link quality and helping people navigate the company’s search engine, and she wrote the code to implement the changes. “Once, I brought the search engine down for a couple of hours,” she says with a laugh.

But she also discovered a career path. Today, the Microsoft researcher is a leader in using data about people’s knowledge, preferences, and habits to help them manage information. She studies the ways people navigate the flood of information available in the digital age and builds tools to help them handle it.

By now, personal information management has become an Internet buzzword. But Teevan pioneered the field as a graduate student working with David Karger, a professor in MIT’s Computer Science and Artificial Intelligence Laboratory. “She literally almost single-handedly created this whole area,” says Eric Horvitz, a principal researcher who manages teams pursuing advances in search and retrieval at Microsoft Research.

She began by studying how people search the Internet. They use such different strategies, she found, that a one-size-fits-all search engine can never satisfy everyone. So Teevan started building tools that sort Internet search results according to a user’s personal data, previous searches, and browsing history.

One of her first tools was a search engine called Re:Search. Early on, Teevan discovered that people are often looking for information they’ve already
found before; more than half of all Web-page visits and a third of all search queries are repeats. But since the Web is always changing, people often have a hard time finding a site again. Re:Search relies on information from a user’s past searches to determine which items are more relevant to him or her. Teevan found that people tend to remember the first item in a list of previous search results, as well as items they clicked on; they also tend to get confused if the results they clicked on have changed position in the list. So she designed Re:Search to keep clicked links in their previous positions and insert new links in positions where they will be noticed without being confusing or distracting.

6 One of Teevan’s key ideas is that search engines can employ information about users to help them zero in on the results they need. Since she joined Microsoft Research in 2006, she’s developed a number of experimental browser plug-ins that work with Internet Explorer and that will refine search results for each user. One, called PSearch, uses an index of documents, e-mails, and other material on the user’s hard drive to customize the results delivered by an Internet search engine. For instance, if she types her husband’s last name into a typical search engine, the top hits are for a financial-services firm that shares his name. When she turns PSearch on, the first sites listed relate to her husband.

7 Horvitz says that PSearch has been piloted internally at Microsoft for a number of years and has proven very promising. “What I like best is that all the personalization is going on on your desktop,” he says. In fact, PSearch never shares a user’s personal information with the search engine—the results are re-sorted after they’re delivered to the user’s computer.

Bing’s home page reflects the results of Jaime Teevan’s research about Internet searches. The “Search History” feature on Bing uses personal information to allow users quick access to previous searches.
Teevan’s programs have yet to be released commercially, and because search is such a competitive area for Microsoft, both she and Horvitz declined to discuss any such plans. But both eagerly talk about her contributions to Microsoft’s new search engine, Bing. Teevan says she met regularly with Bing’s developers to help them understand how people search and how that knowledge might be used to improve search results. Horvitz points more directly to the left-hand column of the Bing search results page, where a short list titled “Search History” appears. “You see just the tip of the iceberg right now in the current Bing search.” Teevan’s work is actually more advanced, Horvitz says. Hinting at things to come, he adds, “You might watch that corner of Bing over time.”
Digital Dad Versus the Dinosaurs

by Emily Bingham

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1 Sometimes, being right hurts the most. I imagine that’s how my father, Barry Bingham, Jr., would have felt about the crisis that could end America’s golden age of print journalism. My great-grandfather bought *The Courier-Journal* of Louisville, Ky., during World War I, and my father ran the paper from 1971 to 1986. Now it’s going through the same layoffs and cost-cutting measures that are happening to newspapers across the country. Lately, I’ve wondered a lot about what my father would be thinking right now—because he saw all of this coming.

Addressing his classmates at their 25th college reunion, my father predicted that by the time they met for their 50th, “most of what we read will be transmitted into our homes or offices electronically.” This was a strange thing to say in 1981, when the revolution in personal computers had scarcely begun and no one had heard the words “World Wide Web.” Unlike almost everyone else in the media industry back then, my father anticipated the coming era of electronic news, and he was genuinely excited about it. He believed newspapers could save themselves from extinction—but only if they adapted early and intelligently to new technology.

2 It became his passion—a subject of countless family dinner discussions. But as a gangly 16-year-old, I tuned out most of the talk. I was more interested in finding a party and a boy to kiss.

I wasn’t the only one who turned a deaf ear. Newspaper people are a crusty lot, and Gutenberg’s technology, with a few tweaks over the centuries, had held up well enough for most. My father would buttonhole colleagues at meetings, where they grumbled that he was distracting from what they considered their business: getting news onto paper and into a reader’s hands. One former publisher told me recently that Barry Bingham, Jr., “was the visionary among us. He said what we didn’t want to hear and we ran from it.”
And so, when the news broke late last year that subscribers to the *Detroit Free Press* would soon get home delivery just three days a week, I turned to my kids and told them their grandfather knew this would happen. He was a third-generation publisher, but he was keenly aware of how "new media" could positively affect the family business: his grandfather bought a radio station in 1922 and his father entered the TV market in 1950.

As a little girl visiting him at *The Courier-Journal*’s office in downtown Louisville, my favorite stop was the deafening press room. I was too young to make sense of his efforts to modernize the operations, but under his management, the newspaper was at the vanguard of technological change. In 1973 he began replacing typewriters with word processors. The composing room was one of the first to be computerized, and my father marveled at the way content flew paperlessly around the building.

Out of this petri dish of the 1970s, my Datsun-driving environmentalist dad hatched his vision of what he called the "electronic newspaper." It would arrive, "Jetsons"-like, via cable, satellite or telephone lines, accessed and updated around the clock. Subscribers would pay lower rates. Trees would be spared, fuel conserved. Information was his passion, and his goal was to offer as much of it to as many people as possible. (He was such an info junkie that, many years later, when I was pregnant, he couldn’t comprehend my decision not to find out whether I was carrying a boy or a girl.) He believed that the future of news lay in allowing readers to decide what was most important to them, as with today’s customizable home pages. To most editors, this was heresy. This frustrated him and he made little effort to hide it. “This business,” he snapped to a reporter in 1983, “is like the last dinosaur in the swamp.”

In 1986 *The Courier-Journal*’s pilot electronic edition, accessible by modem, made a promising debut. But within a few years, several family members decided to sell their stock in the company, and the Gannett Co. purchased the paper. His parents supported the sale over his objection. He lost his job and his platform.
As the Internet exploded, my father took a certain satisfaction in being right. But he was never a finger-wagger. By the time he died in 2006, at 72, he could have easily gotten his news online. Yet he kept his print subscriptions and read *The Courier-Journal* and *The New York Times* over breakfast. The swamp clung a little—even to him.

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English II Reading
Connecting Selections

Do you think Jaime Teevan in “2009 Young Innovators Under 35: Jaime Teevan, 32” and Barry Bingham, Jr., in “Digital Dad Versus the Dinosaurs” have anything in common? Explain your answer and support it with evidence from both selections.
Score Point 0—Insufficient Response to the Question

Insufficient responses indicate a very limited reading performance.

These responses have one of the following problems.

- For one or both selections, the idea is not an answer to the question asked.
- The idea is incorrect because it is not based on one or both selections.
- For one or both selections, the idea is too general, vague, or unclear to determine whether it is reasonable.
- No idea is present from either selection. Sometimes the response contains only text evidence from one or both selections. At other times there appears to be an idea; however, this idea cannot be considered an answer to the question because it merely repeats verbatim, or “echoes,” the text evidence.
In this response the student does not offer an idea. The student provides only textual evidence from “Digital Dad Versus the Dinosaurs.” Because this response contains only textual evidence and no idea that applies to both selections, it indicates a very limited reading performance.

The idea presented for “2009 Young Innovators Under 35: Jaime Teevan, 32” is reasonable. However, the student presents an idea that is not an answer to the question asked because the idea compares Teevan to the author of “Digital Dad Versus the Dinosaurs,” not Barry Bingham, Jr. Therefore, this response is insufficient.
Score Point 0
Although textual evidence from both selections is provided, the student does not offer an explanation as to why Jaime Teevan and Barry Bingham, Jr., don’t have anything in common. The simple assertion, without explanation, that Teevan and Bingham, Jr., do or do not have something in common does not constitute a reasonable idea. Because no explanation is presented, this response is insufficient.

Score Point 0
The student presents an idea for each selection that is merely a restatement, or “echo,” of the text evidence provided. Ideas that are “lifted” directly from the texts cannot be considered an answer to the question asked; therefore, this response is insufficient.
Score Point 1—Partially Sufficient Response to the Question

Partially sufficient responses indicate a basic reading performance.

These responses have one of the following characteristics.

- The idea is reasonable for both selections, but the response contains no text evidence (from one or both selections).

- The idea is reasonable for both selections, but the text evidence (from one or both selections) is flawed and does not adequately support the idea. Text evidence is considered inadequate when it is
  - only a general reference to the text,
  - too partial to support the idea,
  - weakly linked to the idea, or
  - used inappropriately because it wrongly manipulates the meaning of the text.

- For one or both selections, the idea needs more explanation or specificity even though it is supported with text evidence from both selections.

- For one or both selections, the idea represents only a literal reading of the text, with or without text evidence (from one or both selections).

- The response contains relevant textual evidence from both selections, but the student offers an idea that is reasonable for only one selection.

- The response contains an idea and relevant text evidence for both selections, but the idea for one selection contains an inaccuracy.
Score Point 1
The student presents the reasonable analysis that both Jaime Teevan and Barry Bingham, Jr., dedicated their careers to transforming technology and advancing the use of the Internet. However, no text evidence is provided to support the analysis, making this response partially sufficient.

Score Point 1
The student presents the idea that both Teevan and Bingham, Jr., illustrate that change is important: Teevan does this by changing the way people search the Internet, and Bingham, Jr., does this by changing the way people view newspapers. The text provided from both selections is flawed. The student attempts to provide relevant textual evidence in the form of paraphrased text from “2009 Young Innovators Under 35: Jaime Teevan, 32,” but this text does not directly support the idea that Teevan created a search engine. In addition, the student makes only a general text reference to “Digital Dad Versus the Dinosaurs.” A general text reference is not specific enough to be considered accurate and relevant text. Therefore, this response is only partially sufficient.
Score Point 1
The student presents the idea that both Jaime Teevan and Barry Bingham, Jr., tried to change something. This idea needs more explanation or specificity even though it is supported with textual evidence from both selections. To receive a sufficient score, the student must clarify what Teevan and Bingham, Jr., tried to change.

Score Point 1
The student offers the reasonable idea that both Jaime Teevan and Barry Bingham, Jr., were ahead of their time. Teevan created a very advanced search engine when search engines were relatively new. She came up with a very modern idea during the start of search engines. Bingham predicted that digital news will come during his 25th college reunion. He was able to predict a digital age even though most people never even heard of computers or internet. Both Teevan and Bingham did something very amazing during their time.

Score Point 1
The student offers the reasonable idea that both Jaime Teevan and Barry Bingham, Jr., were ahead of their time and further explains how this idea is evident in each selection. Although the inclusion of paraphrased text from “Digital Dad Versus the Dinosaurs” supports the idea that Bingham, Jr., is progressive, the direct quotation provided from “2009 Young Innovators Under 35: Jamie Teevan, 32” is too partial to support the claim that Teevan came up with a modern idea. Because the idea is not fully supported with relevant textual evidence from both selections, this response represents only a basic reading performance.
Score Point 2—Sufficient Response to the Question

Sufficient responses indicate a satisfactory reading performance.

These responses have the following characteristics.

- For both selections, the idea is reasonable and goes beyond a literal reading of the text. It is explained specifically enough to show that the student can make appropriate connections across the selections and draw valid conclusions.
- For both selections, the text evidence that is used to support the idea is accurate and relevant.
- For both selections, the idea and text evidence used to support it are clearly linked.
- For both selections, the combination of the idea and the text evidence demonstrates a good understanding of the text.
Score Point 2
The student presents the reasonable idea that both Jaime Teevan and Barry Bingham, Jr., understood the importance of upcoming technology. The student provides a direct quotation from each selection to support the idea, making this a sufficient response.

Score Point 2
The student offers the reasonable idea that both Jaime Teevan and Barry Bingham, Jr., saw new ways of improving their respective fields. Direct quotations from the selections support this idea and indicate a good understanding of the texts. Therefore, this response represents a satisfactory reading performance.
Score Point 2
The student presents the reasonable analysis that Jaime Teevan and Barry Bingham, Jr., do not have anything in common because she wants to help people use computers while he wants to help conserve the environment. Clearly linked textual evidence is provided to support each idea, making this a sufficient response.

Score Point 2
The student presents the reasonable idea that both Jaime Teevan and Barry Bingham, Jr., used their knowledge of technology to better the world. A direct quotation from each selection is provided to support the idea, demonstrating a good understanding of the texts.
Score Point 3—Exemplary Response to the Question

Exemplary responses indicate an accomplished reading performance.

These responses have the following characteristics.

- For both selections, the idea is perceptive and reflects an awareness of the complexities of the text. The student is able to develop a coherent explanation of the idea by making discerning connections across both selections.

- For both selections, the text evidence that is used to support the idea is specific and well chosen. Overall, the evidence strongly supports the validity of the idea.

- For both selections, the combination of the idea and the text evidence demonstrates a deep understanding of the text.
Score Point 3
The student presents the idea that both Jaime Teevan and Barry Bingham, Jr., are trying to adapt so they can improve the future. The student develops a perceptive idea by explaining the intended effects of how their companies will benefit from their actions. For both selections, the text evidence used is specific and well chosen, strongly supporting the validity of the idea.

Score Point 3
In this exemplary response, the student presents the idea that both Jaime Teevan and Barry Bingham, Jr., possess ambition, which helps them become innovators in their respective fields. Further analysis clarifies the idea and shows that the student can make discerning connections across the selections. Overall, the textual evidence provided strongly supports the validity of the idea.
Score Point 3
The student develops a coherent response based on the idea that both Teevan and Bingham, Jr., found ways to adapt in an ever-changing, technology-based world. The student demonstrates an ability to effectively connect a perceptive explanation to well-chosen textual evidence. Overall, the evidence provided strongly supports the validity of the idea in this accomplished reading performance.

Score Point 3
In this exemplary response, the student presents the perceptive idea that Teevan and Bingham, Jr., were visionaries who enacted change in the world. Well-chosen direct quotations from each selection support the validity of the idea in this accomplished reading performance.