**Powerset (now part of Microsoft): Pioneering and deploying a breakthrough consumer search engine**

“The commercialization and collaboration partnership with PARC represented an important milestone for Powerset as a company... Powerset had a unique breakthrough natural language technology, a partnership with a world-class research organization, and a competitive position that we could leverage within the search industry and beyond.”

— Steve Newcomb, Powerset co-founder

“Now it’s time to parse this stuff and get at the real structure [of content on webpages]. Can that be done? A couple of years ago I would have said no, but I hadn’t seen the PARC natural language technology then, and didn’t know that an effort this concerted and well-funded was under way.”

— Barney Pell, Powerset co-founder & Chief Executive Officer

**OVERVIEW:**

**Situation Analysis**

Although the process of online searching has become an essential part of people’s daily lives, the search user interface has changed very little since the earliest information-retrieval systems. The dominant approach involves people inputting isolated keywords and operators into a search engine interface, and then hunting and pecking through a list of results to find relevant information. The founders of consumer search engine startup Powerset, Inc., were convinced that there had to be a better way to search the web. “We have this great gift of human intelligence based around language,” co-founder and CEO Barney Pell observes, “but why do we have to translate our intelligence into a grunting pidgin language in order to interact with computers?”

To address this gap, Powerset’s founders decided to create a consumer search engine based on natural language processing technologies, which enable people to interact more naturally with computers through normal language expressions instead of forced computer jargon.

**Solution**

Powerset realized the time was ripe for commercializing natural language search, thanks to advances in computing power, storage, and availability of information. Yet realizing this vision on a large scale would demand a seamless blend of complex technologies. After assessing different approaches and identifying requirements for a viable business model, Powerset selected PARC’s natural language technology platform as the only one that was ready, proven, and scalable. Supported by a strong intellectual property foundation, PARC’s natural language work leveraged three decades of theoretical, computational, and technology advances in the field of natural language processing. Other companies such as Scansoft (Nuance), Microlytics,
and Inxight had grown successful businesses using parts of PARC’s natural language portfolio – commercialized in products ranging from spell-checkers and speech-recognition packages, to linguistic compression technologies and business intelligence solutions. Most importantly, PARC’s fundamental approach to natural language provided broad and deep processing and retrieval to help computers understand meaning. By normalizing the many ways of expressing a single meaning, PARC’s system could encode synonyms, determine word classes, verify entities, and identify relationships among entities – without trading off efficiency and accuracy.

**Process**

After negotiating mutually beneficial partnership and licensing arrangements, Powerset and PARC signed an agreement that included technology licensing, patent licenses, and long-term collaboration in exchange for payments, royalties, and equity in the new company. To help Powerset attract venture capital, PARC’s interdisciplinary natural-language team rapidly designed and implemented a preliminary semantic search demonstration that integrated existing and new technology components, including novel techniques for indexing and retrieval. The PARC team worked closely with Powerset’s interface designers to modify the system for a user-friendly demonstration. Meanwhile, Powerset expanded by bringing on board PARC Research Fellow Ron Kaplan as its CTO/Chief Science Officer.

**Results**

By extracting the meaning behind a person’s search queries, Powerset’s innovative natural language search engine could improve all aspects of the consumer search experience – from precision and recall to power, usability, presentation, and interaction. For example, search results would be more relevant and accurate because the computer could understand both the intent behind a person’s query, and the information it was trying to retrieve and match to that query.

With PARC’s technology at the heart of its differentiation, within just 24 months, Powerset:
- Raised $12.5M in Series A funding and angel funding
- Recruited a world-class 60-person team
- Engineered a large-scale semantic search platform and interface
- Released a demo on its Powerlabs micro-site, where users could test-drive and provide feedback on the product
- Publicly launched its consumer search engine product, initially for Wikipedia

*Microsoft announced it was acquiring Powerset soon after the beta launch. According to Microsoft’s Senior VP of Search, “Powerset brings with it natural language technology that nicely complements other natural language processing technologies we have in Microsoft Research…Powerset brings to Live Search a set of talented engineers and computational linguists…This is a great team with a wide range of experience from other search engines and research organizations like PARC (formerly Xerox PARC).”*

**More Information**

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A global center for commercial innovation, PARC (Palo Alto Research Center, Inc.) works closely with enterprises, entrepreneurs, government program partners and other clients to discover, develop, and deliver new business opportunities. Previously known as “Xerox PARC,” PARC was incorporated in 2002 as a wholly owned subsidiary of Xerox Corporation (NYSE: XRX).