

DNP: Creating a new media business opportunity and technology platform

Ethnography in action

“The project we engaged in with PARC resulted in a technology which we at DNP feel will innovate the way we conduct our information communication business. PARC has a unique competitive advantage. The ethnographic approach was very significant, and there are a variety of researchers spanning a variety of fields. They are able to create original solutions, and develop prototype systems that exceed the ability of competitors.”

—Fumio Saito, General Manager, DNP



OVERVIEW:

Situation Analysis

Founded in Japan more than a century ago, Dai Nippon Printing Co., Ltd. (DNP) is one of the world’s leading commercial printing companies, with an array of businesses in publication printing, smart cards, packaging, electronic components, and more. Though the company had a long history of delivering information on paper and other materials, it wanted to capitalize on the emerging trend of delivering information in digital formats. DNP aimed to deliver this information via mobile devices so it could maintain market leadership and adapt to Japan’s “ubiquitously networked” society.

Opportunity Discovery

PARC ethnographers are experienced in combining their systematic observations of target populations with their knowledge of emerging technology trends. The team helped DNP to brainstorm, filter, and select the most promising business concepts for information delivery using digital media. Together, they realized that DNP could draw from its deep well of content assets and technical capabilities – and combine them with PARC expertise in the latest context- and activity-aware computing techniques – to create a unique technology platform for a new business opportunity. The mobile platform would recommend information and content about local leisure activities, matched to the user’s location, time of day, and personal tastes – while attracting local and demographically targeted advertisers. This consumer-friendly technology concept suits a culture in which young people increasingly turn to mobile devices for gathering information, browsing the web, and downloading content.



Process

Completed within an accelerated 24-month timeframe, the project spanned three phases: opportunity assessment; technology platform design with feasibility testing; and platform engineering and technology transfer. PARC ethnographers led initial discovery efforts, which involved defining the new technology platform concept, rendering it into a conceptual prototype, and evaluating it with target users and realistic functional walkthroughs in Japan.

Next, to develop a working prototype, PARC ethnographers collaborated with PARC technologists – who combined in-house competencies in context modeling, preference modeling, recommender systems, location sensing, activity detection, mobile hand-held user interfaces, and text mining. Collaborating closely with DNP R&D groups, PARC scientists built a fully engineered prototype on a scalable server. They rapidly designed the base architecture for the system and implemented a skeleton platform upon which they built increasingly complex functionality and system intelligence, while DNP handled system refinements. Meanwhile, PARC ethnographers conducted fieldwork in Japan to ground assumptions about the user experience, gather specific system requirements, and ensure the product would be appealing to its target customers.

Results

Designed to create synergies with DNP's strengths in the publishing industry, the resulting system (code-named "Magitti") recommends information about local leisure activities based on the user's real-time physical location, personal tastes, time of day, past behaviors, clues extracted from message content, and more. Smart-phone owners can use a one-handed touch interface to obtain this timely and relevant information – without having to initiate a mobile-based search – since the system detects activities and even predicts preferences as it learns.

DNP used the PARC system as a prototype to further develop the platform while establishing relationships with Japanese retail outlets, content distributors, and mobile communication carriers. The company ran a number of user trials, most recently in Tokyo's Ginza and Yurakucho districts, through a downloadable iPhone application called "Machireco" (literally, "city" + "recommendation"). DNP plans to offer the service for all smart phones later in 2010.

At the conclusion of this engagement with PARC, DNP acquired the technology platform, technical expertise, and core intellectual property for a new digital media business – along with the know-how for seeding such innovation in their own organization.

More Information

Business Development
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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).