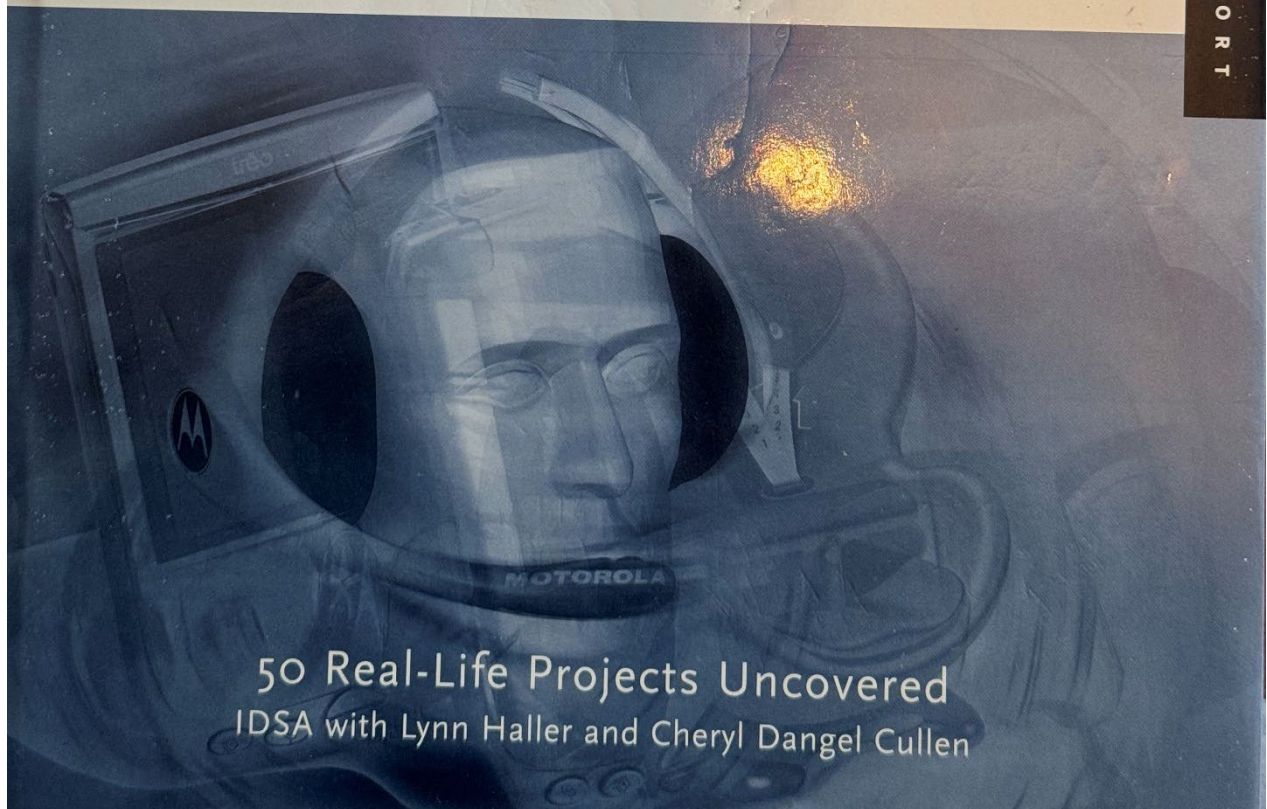




Design Secrets: Products 2

rockport



50 Real-Life Projects Uncovered
IDSA with Lynn Haller and Cheryl Dangel Cullen

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The Treo 270 Smart Phone is, indeed, smart. It is a **mobile communicator** that includes a **cellular phone**, wireless access to **email and Web browsing**, and a Palm OS personal **organizer**, all in one small **hand-held** device.



⊙ The Handspring Treo 270 is a full-color communicator that seamlessly integrates a mobile phone, a Palm OS organizer, and wireless applications like email, short messaging, and Internet browsing in one device. And it's an amazingly small communicator even with a built-in, backlit QWERTY keyboard and vivid color screen. Now text and graphics are crisper and more readable. Plus, Web browsing, photos, and games are more fun in color. The keyboard makes data entry and one-handed navigation a breeze. You can even look up a number and dial it with just one hand.

Jeff Hawkins, chief product officer and chairman of Handspring as well as founder of palmOne, met a financial analyst at a road show who dumped a phone, Palm Organizer, and Blackberry email device out of her purse and asked Hawkins, "Please fix this! I need one device that allows me to manage my life on the road!"

That incident propelled the project. The Handspring team focused on the user interface and the integration of phone and organizer, while the IDEO product design team focused on the product architecture, hardware, and industrial design.

"The market need was the clear driver in this case, but the product timing was facilitated both by evolving small form factor telecommunications technology (especially digital cellular networks) and The new demographics of an increasingly mobile workforce," says Peter Skillman, director of product design at Handspring.

Keyboard usability at a small scale was the biggest challenge. "We had to make the product as small as possible so it was iconically a phone, but still enable full email and keyboard usability," says Skillman. "Doing this meant building the smallest keyboard ever made. What's wonderfully counterintuitive here is that making the keyboard smaller is better. Compared to a traditional organizer, you can type with one hand and look up an address in three steps rather than two hands requiring six or more steps. At the same time, the IDEO team did a great job making the aesthetics discreet and professional, hiding the complex keyboard when the flip lid is closed."

The IDEO and Handspring teams together made hundreds of sketches and built more than 50 prototypes using Pro Engineer, Photoshop, and various custom user-interface bucks (nonfunctional form factor devices with a cable connected to a PC.) Each prototype was designed to validate a particular question such as product architecture, form factor, keyboard usability, or form. "These models were carried into meetings, worn in pockets, and treated like they were real," Skillman says. "This process helped validate user interface questions like lid integration with call answering functionality and test the overall portability of the product against social and personal expectations of scale and aesthetics."