Susan Hosking is an experience designer/human factors researcher. With degrees in cinema and learning technology, she first worked in film and television, with an emphasis on documentary filmmaking. Later she found an opportunity to apply her love of storytelling to products at Leapfrog Labs, where she performed user testing and product research.

Throughout her coursework at Stanford University and her work at Leapfrog, Susan became an advocate of using a human-centered approach to the design of products and services, which led her to a fellowship with the Hasso Plattner Institute of Design at Stanford University (aka the d.school). At the d.school, Susan taught and practiced empathic methods and experience prototyping, niche methodologies developed by Stanford and IDEO.

Susan maintains her involvement with Stanford as a researcher for a course on the Future of Engineering and continues to iterate on the design of a library/café space at the d.school.
06 TECHNOLOGY AT AGE EIGHT

This study examines the effect that toys, media and the act of play have on the emotional and cognitive development of children.

08 BUILD?SF

We designed a curriculum on architecture and urban sociology, collaborating with Build SF, an after school program for at risk high school youths.

10 ITERATING ON THE FLY

I performed user testing at Leapfrog and compiled collections of video clips to illustrate the specific user interaction for the Fly pen.

12 PAPERLESS MATH?

An assessment and redesign of open source math software called Primary Math.

14 CANDY CANDY CANDY!

Our attempt to teach abstract concepts with a real world context. A lesson and software prototype demonstrating surface area and volume is enhanced by rewarding the learner with m&m's.

16 INTO THE CLASSROOM

Dynamic geometry software fails to connect the virtual explorations with a hands-on experience. We did something to change that.
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CHILD DEVELOPMENT AND NEW TECHNOLOGIES
Is developing an emotional attachment to Furby, Nekotcha and i-robot pets healthy for kids? How and what do children learn from Leapfrog products? And what about surfing the web? Does Net Nanny or Cyber Sitter really “protect” your child? This study examines the effect that toys, media and the act of play have on the emotional and cognitive development of children.

Meet Iris. She learned to read at age 4 with Peter Rabbit Software. Today, she even has her own computer, with a Wifi connection. She checks the weather in Eastern Europe, to make sure her grandparents are okay, plays with virtual paper dolls on myscene.com and bratz.com and is super excited about her new Barbie detective CD-Rom. It worries her mom that Iris views CNN.com and that Iris will ask her, “Mom can you google this” rather than doing research, but overall, her mom feels confident about Iris’s social and cognitive development, despite the hesitations she has about children and the web.

“Iris, digital girl”
This curriculum was designed in partnership with Build San Francisco Institute, a collaboration between The Architectural Foundation of San Francisco and the San Francisco Unified School District. We developed an 8-week spatial, experiential, hands-on introductory course in architecture and urban sociology for at risk high school youths.

Build?SF begins with questions and sessions which introduce the students to topics in urban sociology situated in San Francisco. We start at a personal level, where they contemplate what it is like to live in San Francisco and what their neighborhood feels like. We provide sessions on basic architecture and the design of high rises before we introduce the larger context, which is the proposed redevelopment of San Francisco’s South of Market district. Upon completion, the students will have developed an informed opinion around every aspect of the proposed redevelopment of the SOMA district.
USER TESTING AT LEAPFROG
Leapfrog lab performs and records testing with 2500 kids per year on various platforms. I did testing and compiled collections of video clips to illustrate the specific user interaction for many Leapfrog products, including what was at the time their latest product in development, the Fly pentop computer. The video library that I put together helped Leapfrog’s production and technical teams realize important issues with current product iterations.

A secondary task was a self-initiated project, based on the insight that I could improve efficiency of the testing and the quality of video produced by developing a protocol to train producers on the equipment and the testing procedures. I designed, tested and implemented a product/user specific manual explaining how to operate the video equipment, set up the environment, and adjust the cameras for optimal video data capture.
LEARNING DESIGN AND TECHNOLOGY
David, a software developer and fourth grade father, wanted an assessment of his open source math software—Primary Math. This included a competitive landscape, design review, learner study and suggested redesign. Using video as a tool for data capture, our research team compared how the paper and automated worksheet process affects learning. This data revealed concerns with the software in the categories of reinforcement, scaffolding, learner control, age appropriateness, learner needs and assessment. These screenshots illustrate our redesign of the “Statistics” page, now titled “My Scores.” Students should be able to look at this page and easily assess their skill level.

The goal in redesigning the “Statistics” page was to make the displayed information promote self-assessment and reflection. Some added features include: Best Score and Total Points, Graphically Represented Information, Printable Artifacts, Class Average Data and Displays Past Assignments.

The exact number of turn around papers a fourth grader brought home from school in one school year: 1,132.
TECHNOLOGY FOR THE CLASSROOM
Nancy, a 6th grade educator sought assistance to help her students visualize and understand the concept of 2D to 3D, as well as the meaning of surface area and volume. We knew that the best way to teach something abstract is by putting it into a real-world context, so we posed this challenge to the students:

“Construct the largest possible box by cutting the corners out of a single sheet of paper. Your box will be filled with m&m’s!”

Students were first given a graph paper folding lesson and asked to do the calculations by hand. Next, we introduced our software prototype which visually folds a box and calculates volume, based on the dimensions they would input.

Additionally, we tried this in an 8th grade class and then in a 12th grade calculus class, as an optimization problem. The 8th graders wanted smaller graph paper, the 12th graders felt the need to prove themselves by solving the equation by hand and our data showed that M&M’s served to motivate all audiences.
A software-enhanced toolkit for students to explore and understand geometric relationships based on the insights that students are more likely to be attached to physical objects than images on a screen, and that existing dynamic geometry software fails to connect the virtual explorations with a hands-on experience.

Our tool consists of an applet which is a proof of concept for a software intervention to augment and enrich the students use of the manipulatives. The related lesson plan provides the details of the hands-on activity that make the virtual exploration more concrete. It uses transitional objects to help classroom conversations and collaboration.

We designed an entire geometry curriculum taught through the building of a collaborative artifact. Our prototype of this vision is the generation of a 3D puzzle of the Transamerica building. The software aids the design of 2D folding maps of the various 3D pieces of the puzzle. Topics that can be taught using this activity are scale, angles, volume, surface area and trigonometry.
CONTEXTUAL ISSUES IN HCI
A team of four students from a Stanford computer science class is currently seeking mobile phone owners who would agree to a one-hour interview regarding their camera phone usage for a project in collaboration with Synaptics, Inc. To qualify for the study, subjects should have owned a digital camera phone for a minimum of three months and use their phone to take pictures on a regular basis. Participants will be asked to meet with interviewers near the Stanford campus to share/discuss recent photos taken on their phone.

“My wallpaper is a picture of me when I was sad. I like it because it reminds me that I’m not sad anymore.”

“Thanks to camera phones, my long distance wardrobe consultant can SMS her approval back to me before I make a purchase.”

“I love to take spur of the moment shots, but lighting always seems to be an issue. When I go out at night I have to bring my digital camera.”
RESEARCH topics in HCI
This project is a mobile social software application that explores the intersection of three areas: location-aware mobile applications and the growing number of hardware platforms that support them in the US; social networking services, such as Friendster, Tribes, Dodgeball, and the Facebook, that promote discovery and interaction with both friends and strangers; and the nearly non-existent dating culture at Stanford University (and several other institutions of higher education).

Our design was informed by implementing the best features from existing systems, along with theoretical interaction models based upon our product research and usability studies.

“I was at Moonbeams this morning grabbing a quick cup of coffee, when I received a scamtext saying that someone I tagged was nearby and asked if I wanted to meet. So I was like—yeah!”
DESIGN AND MANUFACTURE
What began as a pocket sized tribute to my restaurant years morphed into something bigger, a wine opener with panache.

A competitive landscape on wine openers led me to believe that commercial openers remain hidden in drawers for a reason—they are ugly!

Why couldn’t I find an aesthetically pleasing one? I imagined a wine opener that could live among its’ counterparts, the olive oil bottle or the pepper grinder. With an embedded foil cutter at its base, my wine opener is made of anodized aluminum barstock and stands proudly on the table at 6 inches tall.
what's happening at the d.school?

d.school FELLOWSHIP
The Hasso Plattner Institute of Design at Stanford (aka the d.school) is a hub for Stanford students and faculty of engineering, medicine, business, humanities and education disciplines to learn design thinking and collaborate to solve real world problems in a human centered way.

We created an institute around the power of design thinking, with a focus on multidisciplinary teaching, prototyping, and research. What implications does this model have on the future of education? What qualifies someone as a design thinker? If we were to give out a design thinking certificate, what would it entail and how would it be viewed by students, by other disciplines on campus and by industry?

We set up operations in a small space on campus which was to serve as a classroom, breakout workspaces for student groups, hotelling offices, a conference room, computer lab, kitchen, library/cafè, etc. Turning ethnography on ourselves, we sought to define, prototype and iterate on our environment. We interviewed all stakeholders to identify the meaning that the space conveyed to us, to students and to outside visitors. How were we functioning in that space and how could we function better in this setting? The space became a working prototype.
While at Stanford, I took part in the development of three courses: Experiences in Design Thinking, an overview of the design process taught through a series of design projects involving products and services. Creating Infectious Action, a course on design and business in real time featuring projects for Mozilla Firefox and Fidelity Investments. Forecasting the Future of Engineering, a forward thinking lecture and discussion series on the future of engineering, developing provocations which would inspire the new 2007 Strategic Plan for Stanford’s Mechanical Engineering Department.
VARIous PROJECTS

Build?SF

Primary Math
http://ldt.stanford.edu/~mjmohr/PrimaryMath/Design_Review/Appraisal.htm

Candy Curriculet
http://trails-project.org/webapps/gorp/ViewCurriculet.do?id=63

Out of the Box
http://ldt.stanford.edu/~outofthebox/what_we_did/what_we_did.html
http://mathforum.org/library/view/66581.html

Scambook
http://hci.stanford.edu/srk/cs377a-mobile/project/final/grant-hosking.doc

STANford COURSES

Future of Engineering Education
http://www.stanford.edu/class/archive/me/me297/me297.1064

Creating Infectious Action
http://creatingaction.stanford.edu/information.htm

Experiences in Design Thinking
www.stanford.edu/group/dschool/projects/classes.html

ADDITIONAL ONLINE BIOS

www.stanford.edu/group/dschool/people/team_susan_hosking.html

MORE ABOUT LEAPFROG LABS

www.wired.com/wired/archive/13.11/leapfrog_pr.html
RESUME

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EDUCATION

2005         Stanford University        Stanford, CA
MA degree
Learning, Design and Technology

2001         San Francisco State University  San Francisco, CA
BA degree
Cinema

WORK EXPERIENCE

2005-06     Design Fellow, Hasso Plattner Institute of Design (aka the d.school)  Stanford, CA
Acted as a start-up team member for the institute.

2005        Research Assistant, Leapfrog Labs  Emeryville, CA
User testing, using video data to illustrate specific user
interactions on Leapfrog platforms.

2004        Research Assistant, Stanford Center for Innovations in Learning  Stanford, CA
DIVER project. Evaluated classroom use of DIVER.

2003-04     Project Manager, Coakley Productions  San Francisco, CA
Provided organizational and creative input into the
development of Planet Wine, an educational television show.

1999-03     Manager, Globe Restaurant  San Francisco, CA
Responsible for hiring, scheduling, designing/implementing training
programs and weekly wine tastings.

VOLUNTEER EXPERIENCE

2000-01     Life Counselor, San Francisco Suicide Hotline  San Francisco, CA
Telephone crisis counselor for suicidal and mentally ill individuals.

1997-98     Usher/Ticket taker, Sundance Film Festival  Park City, UT
Theatre duties such as crowd control, ticket taking and voter surveys.

AWARDS AND HONORS

2004        Board of Directors Scholarship Recipient
Sponsored by the Electronic Document Systems Foundation
thank you