Paul A. Pangaro, Ph.D.

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Professional Experience

President, General Cybernetics, Inc.   *January '12–present*

Responsible for vision, product concepts and prototyping of a new generation of software with the goals of increasing velocity of insight and reliability of agreement. Fully funded, GCI is creating for its first major client, based in Brazil (www.reddrummer.com), "Shared Whitespace", a shared surface for team coordination, and thoughtshuffler, "the new way of reading and the next way of writing."

Co-Founder and CTO, CyberneticLifestyles.com   *January '06–December '11*

Responsible for consulting practice focused on product vision and pragmatic development roadmaps, at scales from startups to global brands. Deliverables include product designs, frameworks for establishing collaboration across internal teams and external partners, and plans for evolving organizational teams and processes. Recent clients include Nokia, Samsung, Citigroup, Intellectual Ventures, Poetry Foundation, Ogilvy & Mather, Instituto Itaú Cultural (São Paulo) and Alcatel-Lucent.

Examples of strategy, planning, and innovation projects

- Designed a new framework for mobile computing based on core mission of global device manufacturer. Created a unifying framework for delivering recommendations for user activities and content/media consumption across vertical service lines in the company. Designed data mining heuristic to extract patterns across social networks to extrapolate useful recommendations from minimum user history.
- Proposed a 5-layer services architecture for next-generation mobile computing platform, including prototyping plan and organizational processes, for global consumer electronics company.
- Designed a strategy for creating long-range ROI based on developing intellectual property in software for investment firm. Created evaluative frameworks, performed research on current trends, and proposed targeted research agendas with specific investment allocations and assessments of risk. Applied the methodology to search engine software and "Big Data".
- Created a new approach to client engagement for advertising and marketing agency of 2,000 employees. Held 50 interviews at all levels, from executive management through production, capturing wide range of issues from process complexity to inefficient conversations. Visualized new relationships among team members and clients such that each phase of engagement is more effective and lower cost.
- Developed concept for new retail platform for innovation team of international financial institution. Articulated vision and created scenarios with benefits to company, consumers, and partners.
- Collaborated in the creation of three "concept maps" to define innovation, play, and the creative process, funded by Alberta College of Art & Design, in collaboration with Dubberly Design. Developed and presented prescriptive models of innovation and organizational transformation in academic and corporate contexts, including École Nationale Supérieure des Mines de Paris, MIT Sloan School of Management, Instituto Itaú Cultural in São Paulo, Ernst & Young, and City University of New York Graduate Center.

Examples of design of product processes, teams, and roadmaps

- Developed and facilitated the creation of new vision and product direction for ad-based Internet business, in collaboration with the executive, product, marketing, and engineering teams.
- Designed new search functions for PoetryFoundation.org, and subsequently guided the evolution of its overall infrastructure, team, and processes, resulting in a new search interface for achieving the organization's mission of "increasing the appreciation of great poetry". Outcomes included a novel "poem rank" search algorithm, a new metrics strategy, new team processes, and new infrastructure.
- Framed the process and led design effort for revitalizing content navigation of online consumer health portal. Based on models of user journey and in collaboration with product team, moved from company's broad positioning statement to a differentiating and competitive stance, specific user benefits, and a structured set of features. Created a conversational model of user lifecycle of site engagement.

Founding CTO, Snap.com   *September '04–November '05*

Responsible for initial product roadmaps for next-generation search engine company by Bill Gross at Idealab. Snap.com broke the industry paradigm of "keywords in, listings out" by giving users unprecedented control over their search experience and displaying previews of results pages in advance of user selection.

- Championed user research and usability testing as part of up-front product design process, leading to key hires and successful iterative product development.
- Worked closely with VP Engineering on product processes, team development, and hiring. Designed and facilitated twice-yearly product off-sites with executives, product team and investors.

Senior Director, Sun Microsystems   *April '01–August '04*

Recruited into Sun in April '01 to integrate and manage multiple groups as a unified Developer Web Services organization, a 70-person, geographically-distributed team dedicated to operating and evolving the company's developer web portals, including java.sun.com that received more than 3.5 million hits/day. Managed the contributions of internal design resources, external design agencies, content staff and IT infrastructure staff.

- Led the transition of three separate content-development teams into a single, cohesive group by revising group processes and managing engineering, operations, web production, and content. Handled $6M/year external program budget, resulting in savings by consolidating functions while significantly improving quality. Maintained focus on internal as well as external customers based on hard-core product management processes, metrics, and rewards.
- Staffed and led a new team to originate a site for developers of wireless applications, Sun's first (wireless.java.sun.com).
- Created a strategic model to segment and target high-value developers as prioritized by Sun's value propositions & market.
- Led the first major redesign of Sun's major developer sites (including the 100,000+ page java.sun.com site) by managing the creation of a new identity, information architecture and look-and-feel, which resulted in traffic growth of 150% in 9 months despite market downturn. Overcame organizational resistance to install new processes across business units and deliver greater value to developers. Achieved complete buy-in across internal groups and disciplines.

In September '02 became founding director of "Voice to the Developer" group, responsible for external messages, internal communications, and competitive intelligence for developer programs.

- Originated the "Co-evolution" theme and messaging to describe the relationship between Sun and developers that became the basis for the company's "next-generation developer relations." Using the co-evolution framework, developed press and analyst materials, executive briefing content for the EVP Sun Software, conference presentations, and web content.
- Originated "Coding for Currency" outreach to developers as a means to enhance their careers, influence, and commitment to Sun. Applied direct experiences as a software developer, business owner, and marketer to create positioning that distinguished Sun as the best advocate for developer interests.

Appointed Distinguished Market Strategist (a parallel to Distinguished Engineer, created for managers not reporting up into the engineering organization) in February '04 to recognize extraordinary contribution to developer relations. Given broad scope to direct research and strategy, resulting in clear prioritization of efforts to grow Sun's developer community worldwide. Responsibilities included developer perspective in JavaOne Conference messaging, keynotes, and alumni/alumnae events.

Part-time Faculty, Interaction Design MFA Program, School of Visual Arts   *Spring '10—Fall '13*

Lecturer, HCI Program, Stanford University   *Autumn '01—Autumn '07*

Adjunct Faculty, Service Design Program, Parsons/The New School   *Fall '10*

Courses aimed at designers of interactions, products, and services, which offer methods and models for understanding human needs, for measuring the capacities and limitations of proposed designs for achieving those needs, and for planning design processes and the teams needed to execute them.

- Developed and taught "Introduction to Cybernetics and Systems for Design" with Hugh Dubberly, a practical course in applying systems models to the design of interfaces, in Terry Winograd's renowned HCI program at Stanford University.
- Taught 3 similar courses to MFA students in the Interaction Design program at the School of Visual Arts (SVA) in New York. Also taught undergraduates in service design at Parsons/The New School in New York Fall 2010.
- Taught the Thesis Presentation course to MFA students in interaction design at School of Visual Arts in Spring 2011.

President, The Pangaro Group   *September '99–December '00*

Chief executive and principal for a small firm offering product and strategy consulting for startups and established companies developing new products or entering new markets.

- Developed business plans, market-based business strategies, competitive and market analyses, technology assessments, and product and organizational requirements documents.
- Delivered on engagements in areas of e-commerce, community, browser evolution and browser companion applications, training, vertical portals, knowledge management, and content delivery. Served a breadth of clients including Netscape, Verity, Cadmus Publishing, Makeover Networks, Fresher Information, and Zadu.

Chief Technology Officer, Verano   *November '97–August '99*

Responsible for product vision and roadmap for a venture-backed startup building enterprise solutions for collaborative intranets, delivering productivity by sharing and re-using knowledge.

- Member of executive team and contributor to competitive analyses, market definition, product design, engineering processes, strategic partnerships, and fund raising.
- Created a 3-year product road map for product releases within the parameters of prior code base, resources, market direction, and competition.

VP & Chief Technology Officer, Grasp Information Corp.   *October '95–October '97*

Responsible for long-range technical vision and development of new technologies for early venture-backed startup focused on developing software products for intelligent search and desktop knowledge management.

- Brought software design experience and advanced prototyping to create new product vision for Grasp's KnowItAll™ knowledge management product. Played pivotal role in second-round funding.
- Conceived the approach and managed prototyping of "HTML Snipping" software with features previously unavailable.
- Co-designed SearchPal™, a toolbar for submitting Internet searches from any application, first product of its kind.

Founder & President, PANGARO Incorporated   *February '80–September '95*

Responsible for all aspects of management and systems consulting firm, including contract execution, marketing & communications, business development, software design, hiring & management of employees & contractors, finance.

- Founded and managed organization with US and UK staff and software development facilities. Led team of developers and subcontractors in long-term relationships with major clients including the UK Admiralty, the US Army, and Niagara Mohawk Power Corporation. Managed multi-year, multi-phase contracts requiring the conception, design, and implementation of large-scale software systems in the areas of training, job aiding, and collaboration.
- Designed and built hypermedia information browsers and training interfaces that possessed all the salient features of modern Web browsers, with personalized information delivery of greater granularity and accuracy than today's commercial offerings.
- Contributed to onsite teams at Lotus Development Corporation and Xerox in the area of strategic deployment of information technology (IT). Fulfilled the role of Workflow Strategist and Chief Methodologist, respectively.
- Executed a series of projects for Du Pont including formal studies of communication topologies in organizations, the role of IT in regulating complexity in design and manufacturing, and the sources of wealth creation in the "new economy".

Research Staff /Research Affiliate, MIT   *January '76–January '80*

MIT Architecture Machine Group, predecessor to MIT Media Lab.

Recruited by Nicholas Negroponte to be responsible for software applications development for one of the earliest color display systems.

- Conceived, designed, and led programming teams in the development of one of the first "PAINT" programs ever written (featured in a cover story in Technology Review), as well as a visually programmed, simulation-based animation system (described in an article written for Ted Nelson in Creative Computing Magazine).
- Frequent lecturer to graduate classes including Muriel Cooper's Visual Language Workshop.

Education

Doctor of Philosophy, Department of Cybernetics   *1987*
Brunel University, UK

Dissertation with Dr Gordon Pask on the application of Conversation Theory to individual and organizational learning, software design, training environments, and distributed collaborative research.

Bachelor of Science, Humanities & Computer Science   *1974*
Massachusetts Institute of Technology

Minor in Drama. Undergraduate thesis in film criticism. Courses in AI with Minsky and Papert, in biological cybernetics with Jerry Lettvin. Awarded the MIT Stewart Award for "Outstanding Contribution to the MIT Drama Program" for acting and producing.

Member of the Board of Artship Theatre/Dance Company of San Francisco.
Chair of the Trustees and Fellow of the American Society of Cybernetics.
Further information available at http://pangaro.com/.

Selected Presentations

- "Dialog under observation: Hannah Hurtzig and Paul Pangaro," in conjunction with the exhibition, *As it were… So to speak: A Museum Collection in Dialogue with Barbara Bloom*, The Jewish Museum, New York, April 2013
- "School & Society, Conversations & Learning Networks", Cisco Plus Conference 2012, Rio de Janeiro 2012
- "Contributions to the Viennese Archives of Gordon Pask" (by video), Heinz von Foerster Congress, Vienna 2011
- "Conversation and Our Future: Co-evolving by Design", DOM5 Conference, Linz 2011
- "Design for Conversations & Conversations for Design", MIT Design & Computation Group, Cambridge 2011
- "An Economy of Insight: Conversations as Transactions in the Future of Commerce", Futurecom, Brazil '11
- "Design for Conversations & Conversations for Design", Social Business Innovation, coThinkTank, Berlin '11
- "From Page to Participation: Re-imagining Publishing", Random House Digital Speaker Series, New York '11
- "Rethinking Design Thinking", Redesign of Design topic track lead-in, PICNIC Festival 2010, Amsterdam '10
- "Society without School—Conversations, Learning, Networks", A Sociedade em Rede e a Educação, Brazil '10
- Closing Keynote, Instituto Itaú Cultural Symposium "Emoção Art.ficial", Brazil '06 '10
- "Leadership from a Systems Perspective", workshop for MIT Sloan Innovation Period, Cambridge '09
- "Interaction, Cybernetics, Design", École Nationale Supérieure des Mines de Paris, France '09
- "Designing for Conversation", Master Class Workshop, ad:tech Conference, San Francisco '09
- American Society for Cybernetics, National Meetings '83 '84 '86–'91 '93 '95 '98 '02 '09
- "Innovation, Language, and Organizations", Instituto Itaú Cultural, São Paulo, Brazil '08
- CIO Roundtable, Ernst & Young, New York '08
- Technology in the Academy Speaker Series, City University of New York, Graduate Center '08
- Digital Arts and New Media Program, University of California Santa Cruz '05
- Bartlett School of Architecture, London '05
- Ashby Centenary Conference, University of Illinois '04
- O'Reilly Open Source Conference Keynote '02
- Human-Computer Interaction Seminar, Stanford University '02
- BayCHI Chapter of ACM/Special Interest Group in Computer-Human Interaction Presentation '00
- MIT Media Laboratory Colloquium '88 '91
- Du Pont Futures Group '89
- NYNEX Media Laboratory '89

Selected Publications

- "Reframing Health to Embrace Design of our Own Well-being" (with H. Dubberly, R. Mehta and S. Evenson), in Interactions Magazine, publication of the ACM, May / June '10
- "Bio-cost: an economics of human behavior " (with H. Dubberly and CJ Maupin), Cybernetics & Human Knowing, Volume 16, nos. 1-2, '10
- "What is Conversation? How can We Design for Effective Conversation?" (with H. Dubberly) in Interactions Magazine, publication of the ACM, July / August '09
- "What is Interaction? Are There Different Types?" (with H. Dubberly and U. Haque), in Interactions Magazine, publication of the ACM, Volume XVI.1, January / February '09
- "Design for a Self-Regenerating Corporation" (with M. C. Geoghegan), Ashby Centenary Conference 2004, University of Illinois Urbana-Champaign; Special Issue of International Journal of General Systems, Vol. 38(2) '09
- "Instruction for Design and Designs for Conversation", Chapter III in *Handbook for Conversation Design for Instructional Applications*, edited by Rocci Luppicini, Information Science Reference Publishers '08
- "Brief History of the Gordon Pask North American Archive", Chapter 10 in *Gordon Pask, An Introduction*, Edition Echoraum, Vienna '07
- "Cybernetics and Service-Craft: Language for Behavior-Focused Design" (with H. Dubberly), Journal Kybernetes, Volume 36 Number 9/10 '07
- "The Past-Future of Cybernetics: Heinz von Foerster and the Biological Computer Laboratory", Chapter 8 in *An Unfinished Revolution?*, published in honor of Heinz von Foerster, Edition Echoraum, Vienna '03
- "Notes on the Role of Leadership and Language in Regenerating Organizations" (with M. Geoghegan, H. Dubberly, and P. Esmonde), Sun Microsystems '02
- "THOUGHTSTICKER", Journal Kybernetes, Volume 30, Number 5/6 '01
- "Gordon Pask Obituary", The London Guardian Newspaper, 16 April '96
- "Including the Whys and Wherefores in Procedural Training: Intelligent Training for Emergencies in Nuclear Power Plants" (with W. Lee, S. Gander, W. Wilkinson), IEEE Conference on Systems, Man and Cybernetics '91
- "Conversational Technology", Data Training May '85
- "Deleting the Knowledge Engineer" (with J. Nicoll), Conference in Machine Intelligence in Defence (UK) '83
- "Beyond Menus", Harvard Graphics Conference '83
- "Programming and Animating On The Same Screen At The Same Time", Creative Computing, November '80
- "Experiments in computer animation" (with N. Negroponte), SIGGRAPH Proceedings, ACM July '76