

Work Experience

- **Design Lead – Product Design and HCI** at *Thinklabs*, Mumbai since October 2008.

Thinklabs, a division of TRI Technosolutions Pvt. Ltd. is a venture associated with the stream of robotics, primarily in the educational and entertainment space. It offers a variety of robots, robotic kits, components and software-based programming tools for children/students of varying age-groups, helping facilitate scientific and technical education.

Nature of Work:

- Product Design activities associated with the design of the robotic kits and components: conceptualization, functionality-associated design, design for kids, product form evolution, dimensional and manufacturing-based detailing, mock-up prototype preparation, 3D modeling and Packaging design.
- Conceptualization and detailed design, and other related activities such as user study and testing, associated with the creation of a Visual Programming Application for kids to program robots.

- **Design & Usability Specialist** with the Usability Centre of Excellence at *Persistent Systems Ltd.*, Pune from September 2007 till September 2008.

The Usability Centre of Excellence at Persistent Systems is a premier consultancy firm in India, offering world-class usability services to reputed clients such as eBay, Oracle and Microsoft.

Nature of Work:

- *User-Centered Design activities*: Ideation and conceptualization, user research, expert reviews, wireframe designing, task flow review and design, and usability testing.
- Client dealing and Project Management activities as part of design projects.
- Executing projects in different domains such as e-commerce, finance, life sciences, databases, community space etc.

- **Freelance Product Designer**; associated with *IdeaForge Pvt. Ltd.* Mumbai, from April 2008 to Oct 2008, involved in the conceptual design of alternate charging solutions for mobile phones.

- **Assistant Manager** in the Research & Development Department of *Subros Limited*, Noida from July 2003 till June 2005 (Prior to Master's).

Subros Limited is the largest manufacturer of automotive air conditioning systems in India, supplying its products to Maruti Suzuki, Tata Motors, and Honda.

Nature of work:

- Member of the R&D department, looking towards the design and development of Heat Exchangers for the air-conditioning systems.
- CAD Activities – 3D conceptual design and analysis of components using Catia V5.
- Handling the IPR related issues; filed the first patent for the company.

Educational Qualifications

- **M.Des.** in Industrial Design from the **Industrial Design Centre** at IIT Bombay in June 2007.
- Graduated as B. Tech in Mechanical Engineering from National Institute of Technology, Jalandhar in 2003 with an aggregate score of 69%.

Achievements

- Won the **Business World – NID Design Brilliance Award 2008** for Best Student Concept, for the academic project 'Mobile Phone for the Unlettered'.
- Received the **Best Paper Award** at the **Conference on Advances in Usability Engineering 2008** for the paper titled 'Industrial Design and Usability: Indifferent Neighbours?'
- **Filed the first patent for Subros Limited** on *Integral Receiver Drier Condenser*. Played a key role in conceptualizing the idea and generating embodiments of the same.
- Received topmost grades in both the final year design projects at IDC.
- Received special promotion from Graduate Engineer to Senior Engineer within first year of employment at Subros Ltd. for exceptional performance.

Areas of Interest

- Consumer Products
- Game/Toy Design
- Interaction Design
- Usability

Key Design Projects

- **Robotic Kit Design** (*Professional Project – Version 1 released*)

The project concerns product design of a modular robotic kit meant for kids to assemble their own personal robot. Specific tasks include resolving existing ergonomic/comfort issues, designing casings for components (form design/CAD detailing) and creative design for structural variations.

- **Visual Programming Application** (*Professional Project – Version 1 released*)

Designing an application meant for children to write programs and instruct their robots to carry out specific tasks using a visual medium that is simple and instinctive to use. Specific focus towards younger children who have trouble picking up complicated programming languages such as C.

- **Price Optimization Application** (*Professional Project*)

The project involved conducting an expert review of the financial application, followed by the review and redesign of its key tasks and screens. Issues affecting the application at different levels of strategy, navigation, interaction, layout, and data presentation were recognized and addressed.

- **Mobile Phone for the Unlettered** (*Academic Project*)

The mobile phone for the unlettered, people not adept at reading and writing; enables them to use it competently without any kind of literacy constraints. Responsibilities included developing suitable features, interfaces and product form for the phone with the specific users in mind.

- **Mobile Messenger** (*Professional Project*)

Design for the mobile counterpart of a popular messenger service was carried out by addressing the specific issues associated with a small screen space and limited interaction patterns. A crisp and intuitive interface was developed with a number of new features included into the application.

Technical Skills

Rendering:

Interface/Web Design:

Product Modeling:

Adobe Photoshop

Visio (expert), Flash & Dreamweaver (elementary)

Solidworks, Rhino, Catia V5, Think3, Alias

Publications

- *Industrial Design and Usability: Indifferent Neighbors?*, Proc. Conference on Advances in Usability Engineering (CAUE) 2008 at Pune, India, Nov 27 – 28, 2008
- *Recent Trends in Automotive Condensers*, Proc. SAE 2005 World Conference at Detroit, MI, USA, April 11 - 14, 2005.

Training and Workshops

- 'Emotional Design' by Atul Joshi, CEO, Design Incubator.
- Workshop on 'Client Communication' by System Consultants, Pune.
- Workshop on 'Patenting in India and abroad' by Prof. S.D. Tase at Mumbai.
- Catia V5 training at CSM Software Pvt. Ltd., New Delhi.

Extra-curricular Activities

- In-charge of conducting the Induction training session for Usability Engineering at Persistent Systems, and was responsible for imparting the 'Product-Awareness' training at Subros Ltd.
- Member of the college cricket team.
- Active participation in other games like handball and badminton, as well as adventure sports.
- Participation in debates, dramatics and musical activities.

Personal Details

Date of Birth: 9th May 1981
Father's Name: M. L. Karwall
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