

## **ID583-037 / IPRO 497 – 304**

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### **Background:**

Honeywell, Inc. with headquarters in Minneapolis, Minnesota and laboratories in India, is excited about establishing an IPRO project with Illinois Institute of Technology and its Institute of Design in collaboration with the Indian Institute of Technology, Bombay and its Industrial Design Centre (<http://www.idc.iitb.ac.in>). The team will coordinate with Honeywell International's Industrial Technology Solutions Laboratory (<http://www.honeywell.com/sites/india/HTSL.htm>) in Bangalore, India. The principal liaison for the IPRO project team is Mr. Fred Rose, Director of Technology and Strategy, Honeywell Technology Solutions Lab, Minneapolis, MN.

### **Problem Statement & Objective:**

The purpose of this project that will begin in Spring 2007 is to increase the "footprint" of health care workers in rural areas of India, that is, leverage the time and expertise of the workers to achieve a bigger and broader benefit to those who need health care. The basic question is how to increase the ability of health care workers to see more patients, increase their diagnostic capabilities and track patients on a regular basis within the existing rural environment.

## **Methodology:**

The scope of the project will likely require (1) characterizing the current health care delivery environment in rural India (some of this effort has already begun via IIT-Bombay), (2) understanding the capabilities and limitations of rural health care workers, (3) summarizing the range of health care needs and the extent to which they are being met, (4) evaluating the current level of technology used by rural health care workers, (5) identifying opportunities for using or adapting information or medical diagnostic technologies within the rural India setting, (6) determining the extent of education and training needed to introduce solutions, (7) creating a decision matrix that offers a way to evaluate the extent to which new design concepts and IT solutions can impact the performance and effectiveness of the rural health care worker in India, etc. Investigation of the above issues will lead to consideration and evaluation of various concepts and solutions. These concepts and solutions will be prototyped in an iterative fashion that integrates new ideas and constraints and can lead to follow-on projects for further development.

During the course of this workshop we will implement the formative stages of a user-centered design process by developing and prototyping design concepts aimed at increasing the "footprint" of health care workers in rural areas of India. The flavor of this effort will be a practical or professional one, working towards implementation and design refinement.

At the end of this experience, you'll have:

1. a solid understanding of methods and artifacts necessary to conduct design research internationally
2. a basic understanding of the challenges faced by health care workers in rural India and how design can help address these
3. established professional relationships with Indian designers who share a human-centered mindset
4. a portfolio-ready project, complete with a recognizable client

## **Schedule**

This workshop will be divided into 3 main work phases:

1. Research & Concept Development (8 weeks)
2. Prototype Testing I (3 weeks)
3. Prototype Testing II (4 weeks)

1.18 | Research & Concept Development | Orientation and discussion of project statement and goals

Assignment: Conduct a broad industry survey in order to establish a basic understanding of existing products and best practices in this arena(individual assignment).

1.25 | Research & Concept Development | Introduce client, form teams and begin research planning

Assignment: Develop a preliminary research plan and draft of protocol.

2.1 | Research & Concept Development | Finalize research plans and match with partners in India

Assignment: Contact partner in India and begin the data collection process.

2.8 | Research & Concept Development | Working session

Report on research efforts. Refinement of research plan if necessary.

Assignment: Continue with research efforts implementing refined plan. List insights and begin developing corresponding design recommendations.

2.15 | Research & Concept Development | Working session

Report on research efforts. Refinement of research plan if necessary.

Assignment: Analysis and brainstorming: List research insights and begin developing corresponding design recommendations. Begin visualizing design concepts (thumbnails).

2.22 | Research & Concept Development | Submit brainstorming results

(Key insights, design recommendations and thumbnail concepts)

Assignment: Visualize design concepts(3+) in sketch form.

3.1 | Research & Concept Development | Working session

Internal design review with guest designers & engineers

Assignment: Pick the most promising design concepts and develop sketches to further explain design idea if

necessary. Develop Phase 1 presentation.

3.8 | Research & Concept Development | Present research results & first concepts to Honeywell.

Assignment: Based on feedback, build mock-ups and develop plan for prototyping phase (to be conducted in Chicago).

3.22 | Prototype Testing I | Working session

Discuss and finalize prototyping plan.

Assignment: Test prototype.

3.29 | Prototype Testing I | Working session

Discuss prototype testing and refinements to process if necessary.

Assignment: Prepare presentation to discuss prototype testing results and implications for design refinement.

4.5 | Prototype Testing I | Present prototype testing results internally.

Assignment: Begin developing prototyping plan for Phase 3.

4.12 | Prototype Testing II | Working session

Discuss and finalize prototyping plan.

Assignment: Contact researcher in India and build prototype.

4.19 | Prototype Testing II | Working session

Discuss prototype testing and refinements to process if necessary.

Assignment: Prototype testing.

4.26 | Prototype Testing II | Working session

Assignment: Prepare presentation to present final design to Honeywell.

5.3 | Prototype Testing II | Present final designs to Honeywell