

EVIDENCE-BASED ARCHITECTURAL DESIGN: a user-centered design approach



Rudeen & Associates Architects is teaming with **Benchmark Research & Safety, Inc** to bring user-centered design to the traditional programming and design process. This new approach will combine Rudeen & Associate's architectural design expertise with Benchmark's ability to apply current research about human capabilities and limitations to offer solutions that are more acceptable and cost effective than would normally be extrapolated from a traditional design process.

What is User-Centered Design?

User-centered design is a systematic design approach that focuses on identifying user needs when interacting with the built environment, specifying requirements to meet these needs, designing solutions that meet the requirements, and evaluating the designs to verify that the requirements are met. This approach takes advantage of Benchmark's ability to learn about and understand intended users and apply what is known to facilitate successful designs. Based on the specific situation, our collaboration provides solutions that are intended to:

Increase

- *Productivity*
- *Reliability*
- *Quality*
- *Comfort*
- *Satisfaction*
- *Safety & health*
- *Ease of learning & use*

Decrease

- *Accidents, injuries & illnesses*
- *Fatigue and physical stress*
- *Absenteeism & turnover*
- *Training*
- *Liability issues*
- *Insurance rates*
- *Maintenance costs*

Who Benefits?

The built environment impacts all of us including customers, employees, management, maintenance, and other similar facility users. Appropriate solutions can have dramatic effects on all users including special populations such as older adults, children, prisoners, or other special needs populations. User-centered design solutions can also address the growing trend of accepting sustainable design elements within the building industry.

These research and design techniques can be applied to a wide range of built environments including:

- *Schools*
- *Hospitals and health care facilities*
- *Retirement communities*
- *Prisons*
- *Next-generation office space*
- *Manufacturing*
- *Communities and urban planning*

The traditional design process relies on building owners and architects to create solutions based on past experience and personal opinions versus quantitative analysis of specific building elements. Business solutions require the most cost effective and productive designs in order to provide the highest value for building solutions, thus the importance of this new approach.

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Benchmark Research & Safety, Inc.

Benchmark Research & Safety, Inc. is a human factors and ergonomics consulting firm that specializes in user-centered design, usability, product and occupational safety, research (design, ethnographic, perceptual), and training. Benchmark emphasize helping clients achieve their goals by providing innovative and cost-effective solutions that address complex issues. Benchmark's approach is to learn enough about the target audience to anticipate how new technology will be used and to carefully design interactions to create a safe and ideal user experience. One of our strengths is our ability to bridge the gap between academia, business, and technology by integrating the latest research about people's capabilities and limitations to the solutions we provide clients.

Eric Shaver, Ph.D. is a senior consultant specializing in human factors and ergonomics, user-centered design, applied decision making, safety, and research design & analysis. His work has emphasized achieving a good fit between people and technology to facilitate their safety, performance, and satisfaction. He holds a Ph.D. in Ergonomics Psychology from North Carolina State University and a M.S. in Human Factors Psychology and a B.S. in Psychology from the University of Idaho. He is an affiliate assistant professor of psychology at the University of Idaho and a full member of the Human Factors and Ergonomics Society (HFES).

Rudeen & Associates Architects has offices located in Boise, Idaho and San Francisco, California. The firm has been involved in a wide range of building types with the expertise to develop meaningful and often unique solutions to planning and construction problems. A small company of architects and planners, Rudeen & Associates provides the highest level of expertise possible to each project taking pride in the ability to team with diverse groups to bring solutions of significance to reality. Rudeen & Associates is a member of the U.S. Green Building Council.

David Rudeen is a veteran Architect with more than thirty years experience. With a B.A. in Architecture and a Masters in Business Administration, he has a strong background with diverse project types, with heavy emphasis on client communication, coordination and quality control. As a Project Manager, he has lead consulting teams through complex and technically challenging projects including laboratory and data center facilities. He enjoys the challenge of developing workable solutions for unique problems.

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