

## Bill Hess

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### Skills Summary

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- User Interface Design professional experienced in developing user-centered designs. Expertise in customer research to select effective design solutions.
- Research tools:
  - Cognitive task analysis
  - Interactive simulation
  - Contextual interviews
  - Card-sorting
  - Use case analysis
  - Usability testing
  - Rapid and paper prototyping
  - User and expert interviews
  - Multimodal Interfaces
  - Driver distraction testing
  - Heuristic analysis
  - Competitive benchmarking
  - Ethnographic techniques
  - Personas
  - Wizard of Oz-type voice testing
- Proficient in Photoshop and Microsoft Office: Outlook, Word, Excel, Visio, and PowerPoint.
- Working knowledge of Flash, HTML, SPSS, and Minitab.

### Work Experience

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**Chrysler LLC**, Auburn Hills, Michigan  
*Interface Design Team Lead*

2007 – Present

- Product team lead for the development of next-generation vehicle touchscreen, passenger entertainment, and voice interfaces. Responsible for cross-organizational collaboration of feature strategy, customer experience, interface development, and user testing. Ensures that logic and flow specifications are delivered by the HMI team on schedule and with customer data to support those designs.
- Designed, tested, and launched the “Uconnect Touch” vehicle touchscreen interface. Managed HMI engineers, Flash prototype developers, user testing, and supplier implementation. Leveraged engineering experience to propose creative technical solutions to improve the usability and customer experience of the product. Decreased the attentional demands of the system through the implementation of a natural language voice interface. This product was highly praised by the press due to its high ease of use.
- Planned and implemented series of customer clinics to investigate the usability and use case scenarios of current vehicle remote key fobs. Determined the user requirements for future remote vehicle interfaces.
- Administered and collaborated on driving simulator research to determine the efficacy of a multisensory vehicle collision warning system. Applied relevant research base to enable rapid development of alternative and ultimately more effective vehicle cues. Developed a corporate multisensory vehicle warning strategy to reduce ambiguous and inappropriate vehicle warning usage.

**The Ohio State University**, Columbus, Ohio  
The Institute for Ergonomics  
*Cognitive Systems Engineering Researcher*

2001 – 2006

- Developed interface design criteria to decrease attentional demands of flight crews during engine malfunctions. Implemented a multidisciplinary approach that consisted of interviews with pilots and aircraft system designers, analysis of accident reports, examination of current cockpit feedback methods, and simulations of engine failures. The client for this research was NASA, in collaboration with Boeing.
- Investigated the driver’s ability to monitor and respond to multiple in-vehicle devices. Implemented GPS, radio, cell phone, and vehicle alert interfaces for delivery of cues simultaneously in as many as three sensory channels. The client for this research was the Center for Automotive Research.
- Researched the results of cell phone-induced driver distraction on navigational cue delivery. Determined that distraction effects lingered well after distraction task was completed. The client for this research was the Center for Automotive Research.

**Evans & Sutherland**, Salt Lake City, Utah  
*Technical Training Developer*

1998 – 2001

- Developed series of technical training courses to instruct technicians on the maintenance of advanced flight and driving simulator systems. Wrote and produced maintenance training DVD for international customers.
- Facilitated the development of user-centered operation and maintenance manuals by interviewing expert maintenance staff, observing repairs being performed and then interpreting the complex engineering documentation to align to those modes of work.
- Recognized for consistently completing technical training course development ahead of schedule and with much higher quality content than specified.
- Administered think-aloud protocol usability test for www.es.com web site. Designed and built usability test bed to support these tests.
- Designed user interface and optical control system for large aircraft simulator. Increased usability of the product significantly through task analysis, competitive benchmarking, and user interviews

**Battelle**, Columbus, Ohio  
*Electrical Engineering Intern*

1995 – 1998

- Supported development of military and commercial engineering projects.

## **Teaching Experience**

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**The Ohio State University**, Columbus, Ohio

2001 – 2006

Industrial & Systems Engineering and Freshman Engineering Honors Program

*Lecturer and Graduate Teaching Associate*

- Developed university course to teach engineers about the importance of human computer interaction and usability techniques in product design. Students were excited to apply their new skill sets to interface critiques and design projects. Lecture topics included usability testing, heuristic analysis, human error, computer supported collaborative work (CSCW), and decision support systems.
- Created hands-on product engineering lab modules for freshman honors program. Mentored students in the creation of autonomous robots to compete in head-to-head search and recovery missions.
- Improved the teaching methods of engineering teaching assistants by designing and implementing an educational techniques lecture series.

## **Education**

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**The Ohio State University**, Columbus, Ohio  
*M.S. Industrial & Systems Engineering*

Graduated Summer, 2006

- Cognitive Systems Engineering specialization
- Master's thesis topic: "Crossmodal and Intramodal Attentional Narrowing and Its Interaction with Aging." Designed and tested an advanced driving interface to overcome the effects of tunnel vision. Created realistic simulation of stressful driving conditions and determined which combination of visual, auditory and tactile alerts successfully captured the driver's attention.
- Co-founder and president of Human Factors & Ergonomics Society Student Chapter at OSU.

- Digital Design/Analysis and Electromagnetics specialization
- Member of Eta Kappa Nu and Tau Beta Pi Engineering Honoraries.
- Leadership Ohio State student mentor, Engineer's Council representative, Student Events Committee organizer, and Red Cross volunteer.

### **Professional Organizations**

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- Human Factors & Ergonomics Society (HFES), Society of Automotive Engineers (SAE) Safety & Human Factors Committee.

### **Press Reviews of Interface Design Work**

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#### **Uconnect Touch**, Chrysler Group LLC

"Chrysler's Uconnect controls use a big touch screen with large, clear on-screen "buttons." Coupled with redundant hard keys for common functions, it is a much easier interface to use than cross-town rival Ford's MyFord Touch system." – Consumer Reports – May 2011

"Chrysler's UConnect system is intuitive and easy to use." "They made very good use of the entire screen; the buttons are big and easy to find and the text is easy to read. If you have a massive iPod library, this system makes it extremely easy to find anything. It really easy to navigate your iPod [library via the system], it's almost as intuitive as using your actual device. ...If I had to choose, this would be in my car." - Cars.com – Jan 2011

"The new 8.4-inch touch screen navigation and entertainment system is refreshingly easy to use. In response to customer requests, Chrysler even went so far as to add redundant climate and audio controls below the touch screen for the most commonly used functions." – Motortrend – Jan 2011

"Its 8.4-inch touchscreen system doesn't offer all of the functionality of Ford's Sync or even Toyota's upcoming Entune, but it counters by being intuitive and user-friendly while still offering the weather, sports scores and gas station updates." - Leftlanenews.com – Jan 2011

"A large, 8.4-inch central touchscreen acts as the main driver interface, and it's a masterclass in functionality. No sub-menus and thousands of options, just clear, big buttons and a couple of knobs for the volume and heat." – Top Gear UK – Mar 2011

"...A touch screen full of graphic friendly features. The system is easy to use and lets you do everything from connecting your phone via Bluetooth for hands-free use to issuing voice recognition commands to select music and blast Johnny Paycheck." – Detroit News – Mar 2011