

Home Medical Devices

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Human-Computer Interaction Laboratory

Interdisciplinary research community

- Computer Science & Psychology
- Information Studies & Education

(www.cs.umd.edu/hcil)



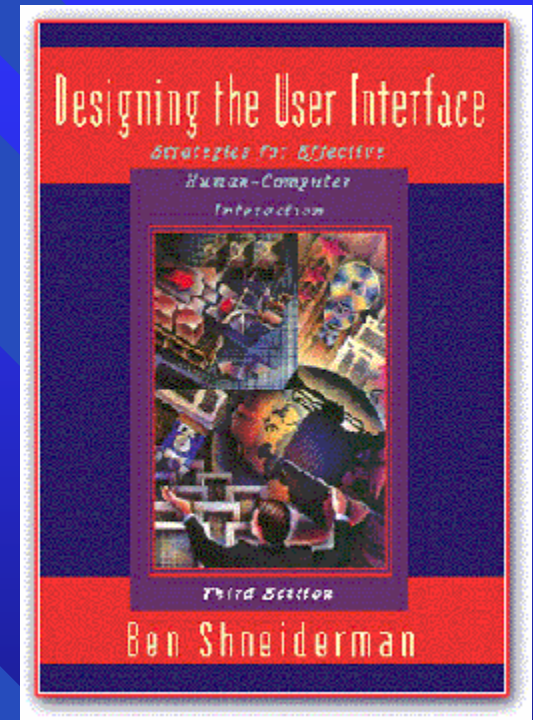


Scientific Approach ~~(beyond user friendly)~~

- Specify users and tasks
- Predict and measure
 - ❁ time to learn
 - ❁ speed of performance
 - ❁ rate of human errors
 - ❁ human retention over time
- Assess subjective satisfaction
(Questionnaire for User Interface Satisfaction)
- Accommodate individual differences
- Consider social, organizational & cultural context

Design Issues

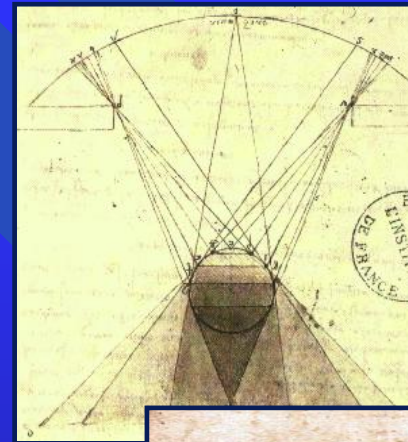
- Input devices & strategies
 - ❖ Keyboards, pointing devices, voice
 - ❖ Direct manipulation
 - ❖ Menus, forms, commands
- Output devices & formats
 - ❖ Screens, windows, color, sound
 - ❖ Text, tables, graphics
 - ❖ Instructions, messages, help
- Collaboration & communities
- Manuals, tutorials, training



www.awl.com/DTUI
hcibib.org
useit.com

Goals for The New Computing

- 1) Usable: Reliable
& comprehensible
- 2) Universal: Diverse users
& varied equipment
- 3) Useful: In harmony with
human needs



Standardize & Improve Home Medical Devices

Monitors

- **Glucose**
- **Bathroom scale**
- **Thermometer**
- **Blood pressure**
- **Breath**
- **Fat**

Issues

- **Ease of use**
- **Accuracy**
- **Interpretation**
- **Logging**
- **Annotation**
- **Save/Send**
- **Visualize**

Blood Glucose Monitoring

Home Diagnostics, Inc.
Dedicated To Diabetes Management



The Smart Choice™ for Diabetes Monitoring



HOME

PRODUCTS

DIABETES INFORMATION

CUSTOMER SUPPORT

INSURANCE COVERAGE

ABOUT HDI

UPLOAD TEST RESULTS

ESPECIALLY FOR ...

- ▶ **HEALTHCARE PROFESSIONALS**
- ▶ **PHARMACISTS**
- ▶ **BUSINESS PARTNERS**

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Home Diagnostics, Inc. (HDI) – a leader in diabetes management and blood glucose monitoring systems – helps millions of people with diabetes enjoy a better life.

Featuring the Prestige Smart System.™

an unmatched combination of

accuracy

It's The Smart Choice™ for Diabetes Monitoring.

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<http://www.homediagnosticsinc.com/>



Body Fat

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Accu-Measure FatTrack Gold Digital Body Fat Caliper with MyoTape Body Tape Measure



The FatTrack GOLD is a new configuration of the successful FatTrack II, with a MyoTape Body Tape Measure added for extra measurement capability.

Recommended by Men's Journal, Muscular Development, Oxygen, Physical, Shape, Ironman, Muscle & Fitness Hers, Max Sports & Fitness, and Natural Muscle magazines. Also recommended by the World Natural Bodybuilding Federation, the FatTrack GOLD with MyoTape meets the stringent requirements of weightlifters, bodybuilders, and

powerlifters. Whether you are in the Body-for-LIFE challenge, a competitive lifter, personal trainer, or just trying to monitor your body fat to maintain great health, the FatTrack gives you the do-it-yourself ease and accuracy expected from expensive medical devices.

Each FatTrack GOLD product includes:

- A FatTrack II Digital Skinfold Caliper
- MyoTape Body Tape Measure
- User manual with instructions
- FREE copy of "Improve Your Measuring Skill," with practical pointers for getting the best measurement readings and valuable information on ideal weight and muscle



<http://www.linear-software.com/digitalcalipers.html>



Blood pressure & pulse rate

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Blood Pressure Cuffs

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Digital Blood Pressure/Pulse Monitor

The Manual Inflation monitor combines ease of use and affordability. This monitor combines the software technology of our automatic inflation monitors, but leaves cuff inflation control up to the user. The Manual Inflation monitor can assist in the management of hypertension, improve patient compliance to treatment of high blood pressure, and be used as a tool in a preventative health management program.

- Large, easy to read 16mm digital display
- Audible tone indicates proper inflation level
- Four week blood pressure logbook included
- Fast measurement
- Latex free
- Comes with instruction manual

<http://www.promedproducts.com/>



Heart Rate Monitors

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Heart Rate Monitors

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[Polar S210](#)

If you're an athlete looking for training guidance you'll get everything you need with the S-210. You can program the watch to store the training parameters (TZ, timers, recover) of your five most popular workouts. Just select the workout on the watch, put the transmitter on, and get going. The S-210 will coach you through your workouts.

- OwnIndex - Measures your VO2 max
- OwnCalS - Tracks nutrition expenditure
- OwnCode - Personal transmission feature
- Exercise Set - program the parameters of five key workouts (TZs, Timers, Recovery)
- View heart rate as a % of Max hr
- 3 Target Zones and Timers
- Average and Recovery Heart Rate
- Interval Trainer
- Lap Splits with avg. Hr
- Stores last full file and 5 summary files

Dynamometers, Thermometers, Inclinerometers

Dynamometers

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Jamar Hydraulic Hand Dynamometer

- Measures force from 0-200lbs.
- Stainless steel gauge is protected by an exclusive shock-resistant rubber protective cap.
- Wrist strap prevents accidental damage.
- 5 position handle easily adjusts to fit virtually any hand.
- Includes instructions and comes in an attractive carrying and storage case.
- 2 year warranty.



Inclinometers



Digital Inclinometer

Allows clinicians to easily and accurately measure ranges of motion that would otherwise be difficult. Clinicians can choose a zero reference point and hold the results for easy viewing without bending over. Includes arch attachment for measurement of X-ray and sacral base angles, and ruler attachment for measuring the angle between bony landmark which are far apart. Complete instructions to aid first-time users and seasoned clinicians by providing methods, guides and protocol.

Resources

Intel's Proactive Health

<http://www.intel.com/research/prohealth/>

http://www.alz.org/Researchers/ETAC/Intel_UbiquitousComputing.pdf

Univ of Rochester Future Health

http://www.futurehealth.rochester.edu/smart_home/

The old computing is about
what computers can do,
The New Computing is about
what people can do



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