How to Develop a Corporate Intranet Standard

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- Intranets vs. GUI Applications
- Webtop Design
- Intranet Standardization
- Quality Site Design

By Human Factors International Inc.
We Make Software Usable

Eric M. Schaffer, PhD, CUA, CPE
CEO, Human Factors International

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INTRODUCTION

The Project Directors at HFI. Over 400 years of experience in usability engineering.

Developing a usable, consistent intranet is challenging work. The latest technology is "cool," but it can often lead to a chaotic, confusing, and awkward site.

After 17 years of trying, we have failed to develop a magic pill to ensure usability. Usability requires a concentrated, coordinated, and holistic effort, but it must be the *key* focus of your development team to avoid disaster. This guide shares some of the methods and strategies we have developed to assist you.

Creating a usable and consistent intranet is a daunting task. But cheer up! There is a systematic methodology that can help. We will give you an outline of it here, and maybe a little laughter, too.

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Eric M. Schaffer, PhD, CUA, CPE
CEO, Human Factors International, Inc.

IF YOU CREATE A USABLE AND CONSISTENT INTRANET

You get:

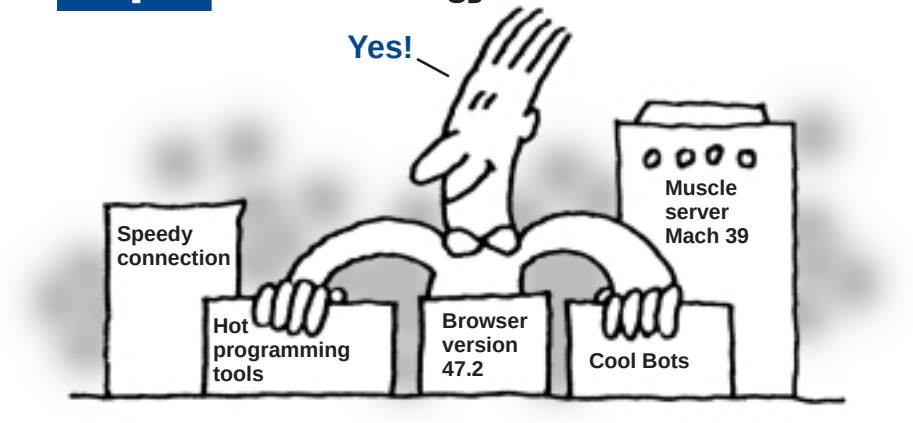
- Widespread use and acceptance
- Time savings
- Error reduction
- Decreased training costs
- Decreased support costs

Happy! Happy! —Joy! Joy!

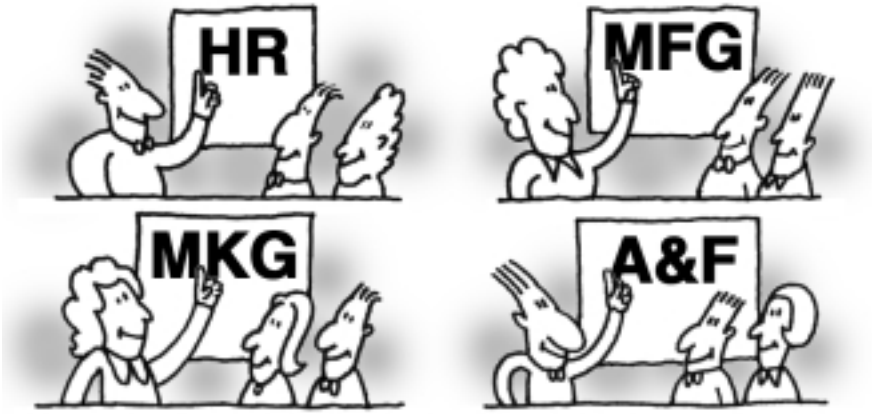
ORGANIC VS. CONTROLLED INTRANETS

The Nightmare Scenario

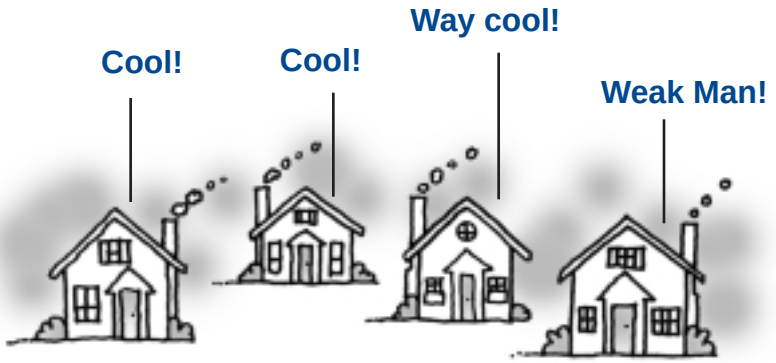
Step 1: Get technology



Step 2: Begin pilot projects



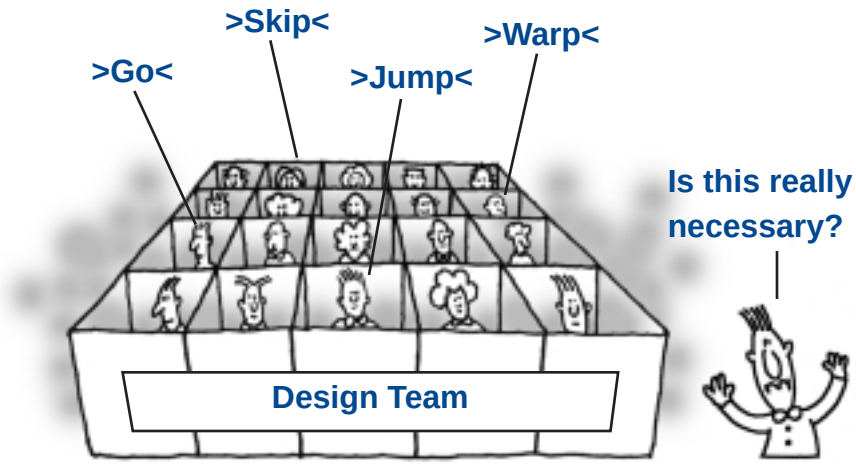
Step 3: Add new sites nights and weekends



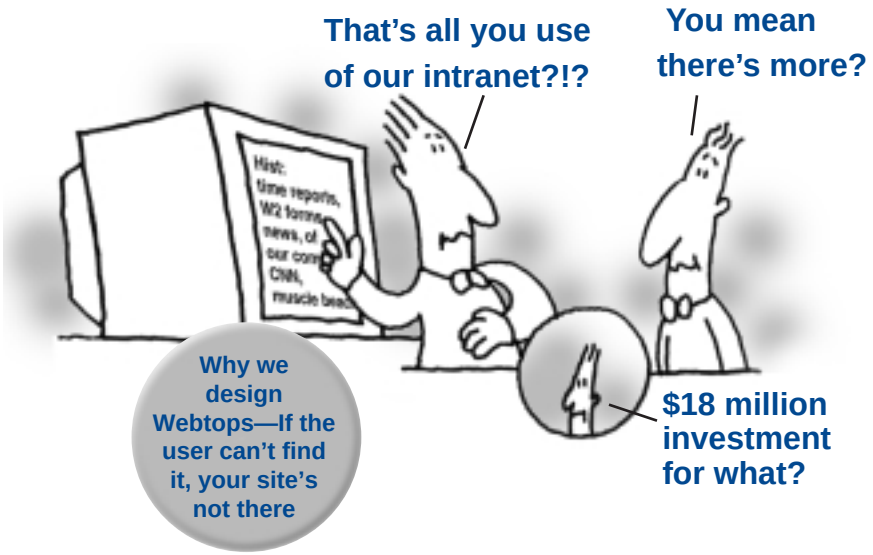
Step 4: Build a home page that connects to. . .not much

Step 5: "Invest" over 200K reinventing interface designs

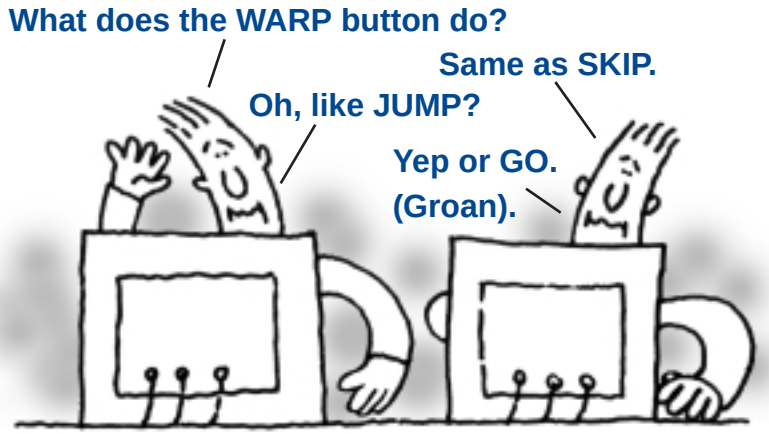
Step 6: "Invest" over 500K recoding and testing



Step 7: Discover that the average staff member uses 6 sites



Step 8: Discover the cost of training and confusion



WAIT!

You are about to standardize and organize your Web. Web technology is supposed to mean FREEDOM! CREATIVITY! INDIVIDUALITY!

It means the midnight hacker with code soaring into the night. Trails of HTML into the stars of PERL.

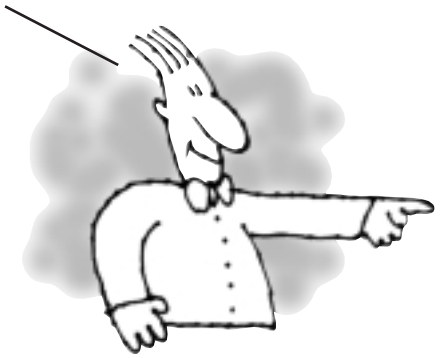
No analysis!
No painstaking design!
No usability engineering!
Just pure creative code!

COBOL in a garage was freedom too. Until we got professional about it. Now we design applications with a systematic methodology and a skilled team. We win a lot more with a systematic approach.

If you think a usable and consistent intranet happens by hanging around…

- **Good luck**
- **Go home**
- **Buy a case of diet cola**
- **Have fun puppy**

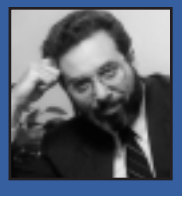
To find out what successful companies do, read on!



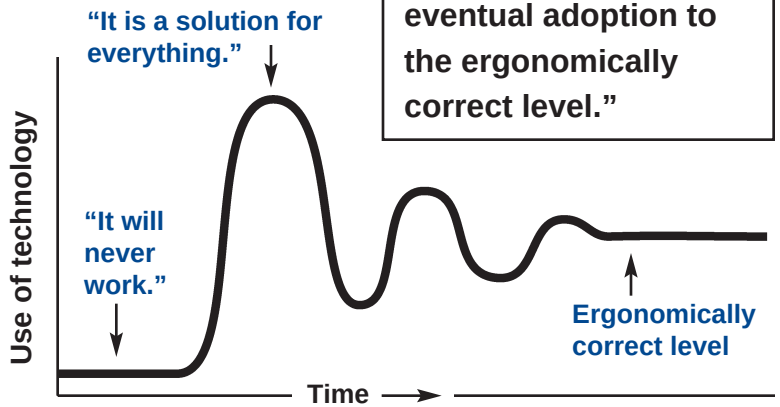
IT CAN'T ALL BE ON A BROWSER

The wide eyed visionary

The Schaffer Curve



"All technology introductions follow a common path—skepticism, elation, disillusionment, and eventual adoption to the ergonomically correct level."



Reality

GUIs have advantages:

- Response time
- Window management
- Error handling
- State control
- Control display quality

Most dedicated users need the power of a GUI. The GUI can use the intranet as a backbone. But the user interface is not in a browser. It's a Net-aware GUI.

Have a clear strategy

Browser

- Disseminates business intelligence
- HR updates
- Management reports

GUI

- Design workstation
- Customer service
- Business tools

WEBTOP DESIGN

When we say “Webtop” we refer to a single point-of-entry page that provides…

- a migration path for new users
- access to the corporate sites and tools
- accommodation of different classes of employees
- knowledge of what sites are new
- motivation for returning to the home page(s)
- accommodation for thin and fat client environments
- a mental model of the overall intranet
- efficient navigation to corporate sites

Without an effective Webtop the employees see the intranet like this:

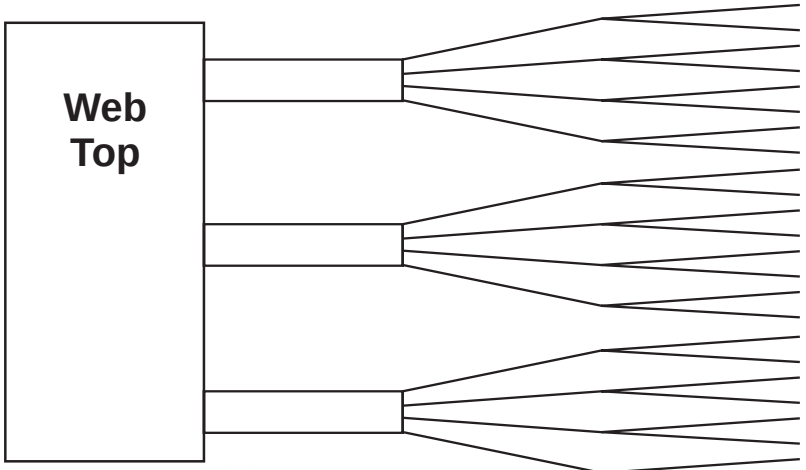
Favorites List → **A few useful sites**

Corporate Home → **A few useful paths**

Search Engine → **Lots of wonderful stuff**

Lost in cyberspace

With an effective Webtop



With our Webtop I understand our intranet as a whole.

Example: A powerful Webtop design

USER INTERFACE DESIGN STANDARDS 1965 → 1985

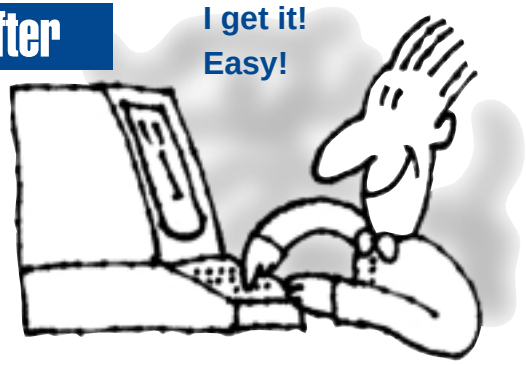
Human factors specialists worked to make user interfaces fast, accurate, and easy-to-learn.

before

"Grep," what?

after

I get it! Easy!



1985 → present

We realized that ***usability*** was not enough.
We needed ***consistency*.**

This system uses "D" to move down a page. Easy!

This system uses "D" to delete all files. Also easy!

Standards became important

Examples of the three types of standards

1. Methodological standards

This is a checklist to remind developers of the tasks needed to create usable systems.

- **User interviews ....check**
- **Task analysis.....check**
- **Task design .....check**
- **Search engine dominance plan ...oops! I forgot.**

2. Design standards

This is The Building Code. A set of absolute legal requirements that ensure a consistent look and feel.

Good design standards are template-based. They are formed around a set of reusable standard page types.

Button Menu

Hierarchical Menu

Form

CRUD

3. Design principles

These tenets of good design help developers work well within the design standard's rules. Good design principles are specific and research-based.

Thou shalt...

- **use short words**
- **use short sentences**
- **write in the active voice**
- **avoid using all capital letters as they will lose 14–20% in reading speed**

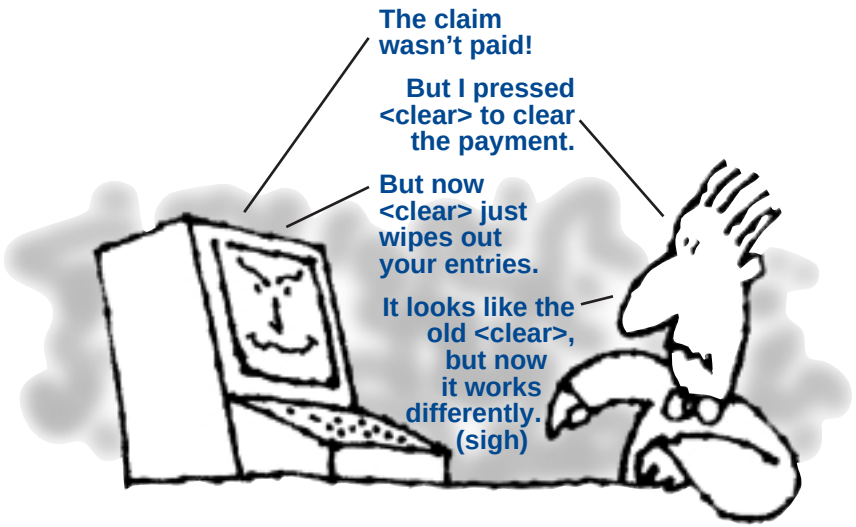
BENEFITS OF STANDARDS

Consistency is good

While most designers have a negative emotional response to standardization...it's worth it. And of the three types of standards, you must at least have a design standard.

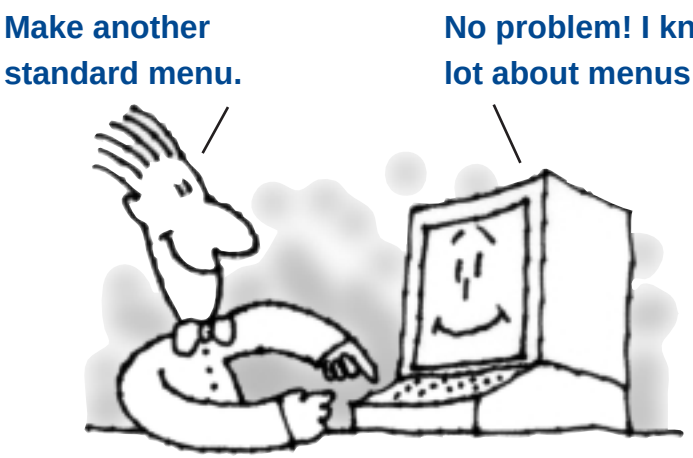
Users benefit

Training requirements are reduced since skills can be generalized from previous experience. Also, we avoid problems from proactive inhibition (the tendency of users to do it the old way by accident, even though they know the new way is different).



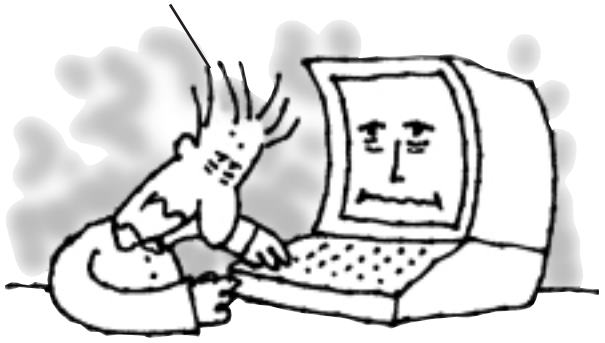
Developers benefit

No wasting time reinventing the wheel. Also, you can build reusable routines and instantiate rules in the toolset.



Maintenance benefits

Changes are easier when code is consistent.



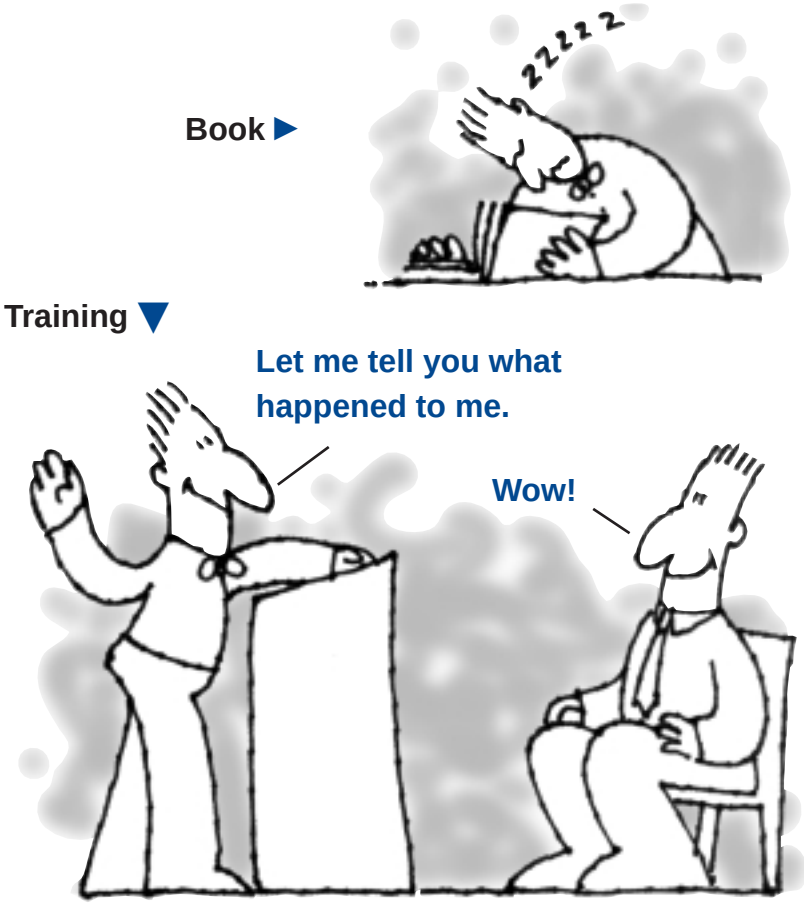
SOME MAJOR PITFALLS

Pitfall #1: Mix standard types

If you mix the three types of standards together in one book, you'll get standards stew (a thick jumbled mess nobody can chew). It will also take forever to finish!

Pitfall #2: Make a design principle standard

Design principles have been published. We'll sell you a copy—cheap! But, people don't absorb principles from a book. Quality training is a better solution for understanding design principles.

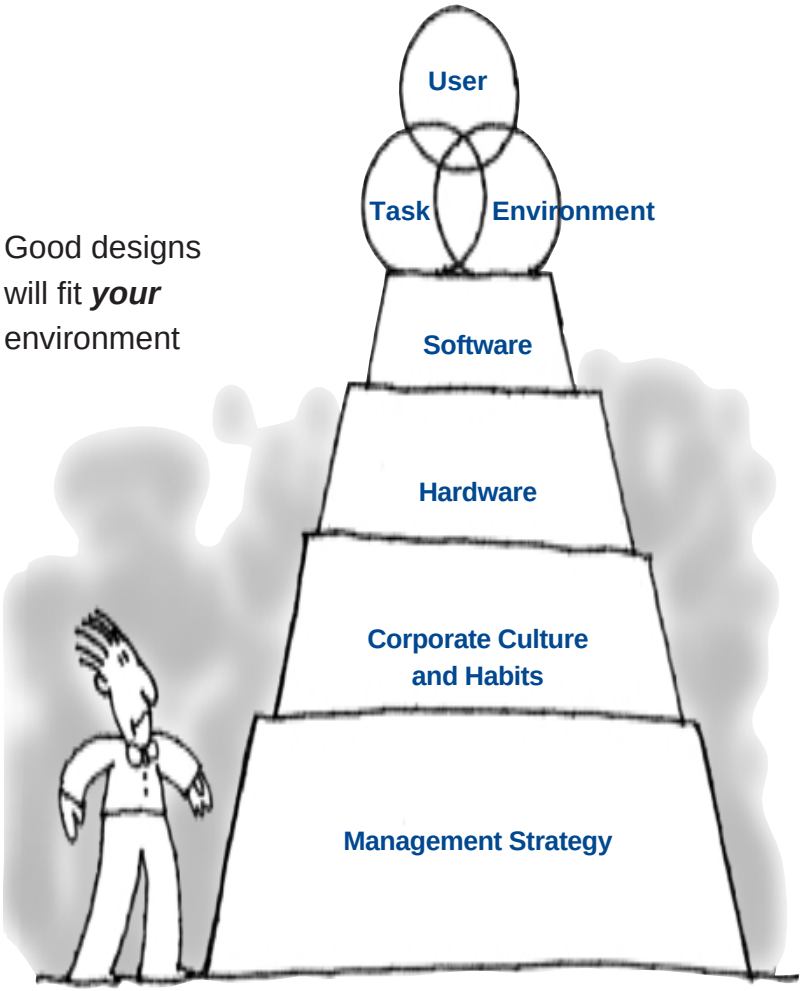


Pitfall #3: Just copy "good" pages from the public Web

Internet pages are designed for the public.

They may not fit well with the needs of your intranet. They may also **not** be "good" designs.

Good designs will fit ***your*** environment

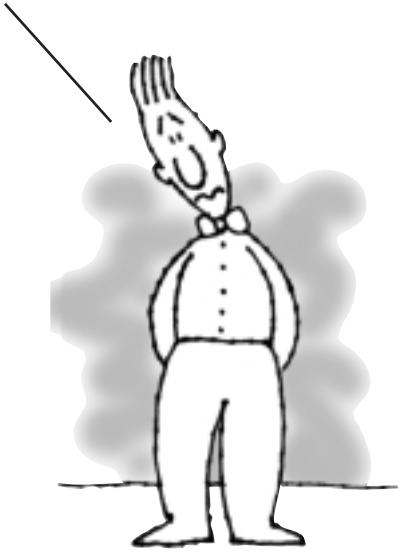


Pitfall #4: Give it to someone to write

Standards decisions are extremely complex. You must anticipate future interface needs and trends. Therefore, you must use the best people, including a:

- Human factors expert
- Graphic artist
- Systems analyst
- Web tools expert
- User representative

An ergonomically correct standard?
Wonder how you spell it?
Sure, I can do it.
I hope?
I'm gonna die.



Pitfall #5: Allow a "natural" project flow

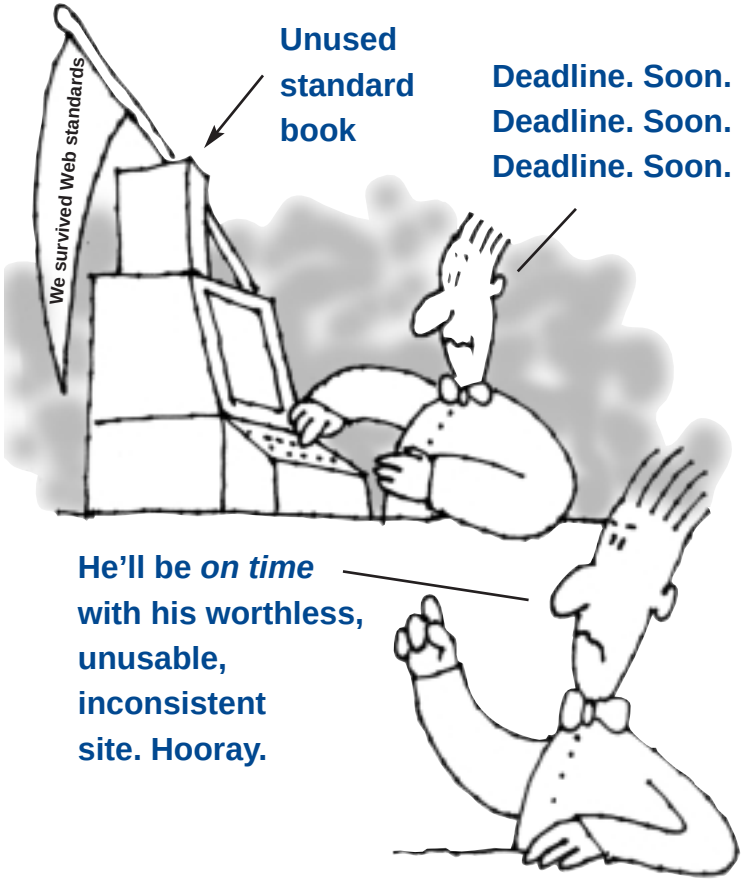
Unless a highly directed and specialized project method is used, it will take forever to complete. You may not even know when you're done.

Average time to develop an internal corporate standard —54 weeks*

***Ratner et.al. 1996.**
Traditional vs. Web Style Guides
Proceedings HFES p.365

The BIG pitfall

You can't just write a standards book and expect to succeed. The book does NOTHING. There must be an ongoing standardization process or momentum will be lost.



THE CLASSIC STANDARDIZATION PROCESS

For 15 years this was the best practice:

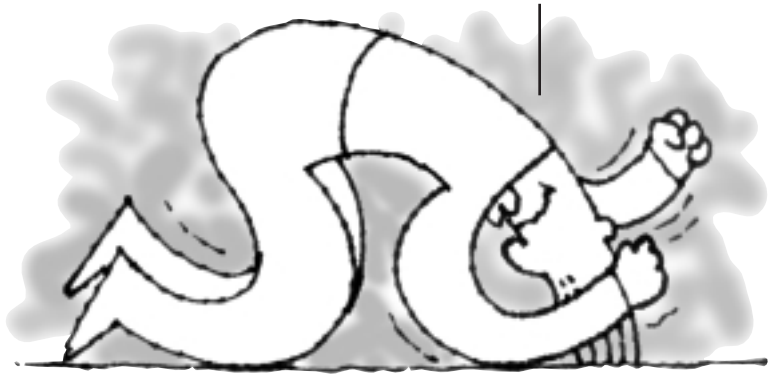
1. **Data gathering**
   Learn about users, task flows, environment, habits, corporate strategy, etc.
2. **Prototype display examples**
   Select page types that cover 85% of development. Make an actual page type of each based on state-of-the-art ergonomic principles.
3. **Committee meetings**
   Facilitate several in-house committee meetings to fine-tune design and decide on the rules.

4. **Write the book**
   Structure the document around the examples. Add sections on color, keys, buttons, etc.
5. **Review and iteration**
   Work with the committee and often a reviewers group to finalize the document.
6. **Follow through**

We still use the classical method for some situations.

Problems with the "classic" method

- **Time:** 3–4 months for delivery.



- **Cost:** 80–250K in fees to HFI. Plus 50–70 days of in-house time (mostly from the top developers).

- **Implementation:** Dissemination, training, library development, and enforcement are the most central points. But they cannot start until the standard is built. By then, the committee and usability champions are exhausted.

THE NEW STANDARDIZATION PROCESS

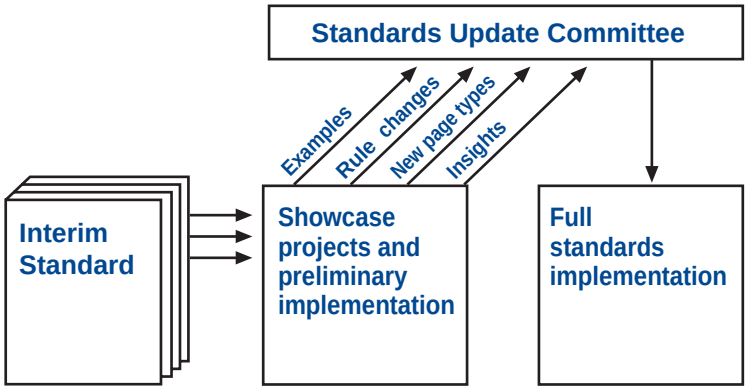
Special thanks to the Social Security Administration for helping HFI pioneer this strategy.

The design driven standard

1. **Get Web Baselines** from HFI
   A new product that standardizes Web page types
2. **Create *Interim* intranet standard**
   Eliminate obvious conflicts with your corporate environment.
3. **Implement on a trial basis**
   In 2–3 weeks, you start getting the benefits of standardization.

The trick!

In design driven standards, we customize the examples of rules as part of implementation.



4. **Use the interim standard and showcase projects**
   Instead of spending consulting dollars on standards development from scratch, use them to support real projects. Your funds will do double duty. They will pay for themselves and the project, as well as yield improvements and examples for the standard.
5. **Compile standards upgrades**
   Make changes and insert examples as determined by an internal committee.
6. **Roll out the finalized standard**

Time

An interim standard can be rolled out in 2–3 weeks.

Cost Efficiency

Significantly reduced costs to create the standard. The remaining work is done anyway for the specific design projects.

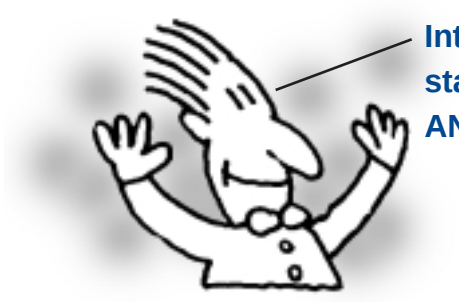
Quality

The final standard incorporates more real-world experiences as compared to the classic approach, and it more precisely fits the company environment. Also, it benefits from usability testing done during the showcase projects.

Implementation

By working with HFI staff, the showcase project will more deeply ingrain the standard into your corporate culture.

DETAILED DESIGN CHALLENGES THAT REMAIN



Intranet user interface standards: fast, cheap, AND good!

Sounds too good to be true. What's the catch?

THE CATCH

You still need…

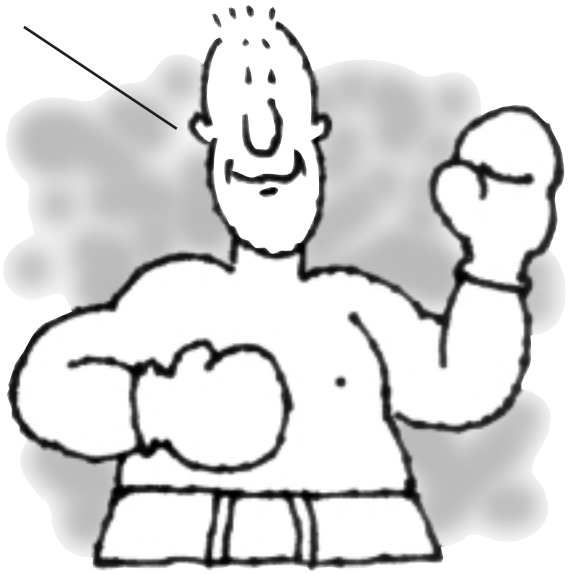
- **follow through**
- **good detailed design**

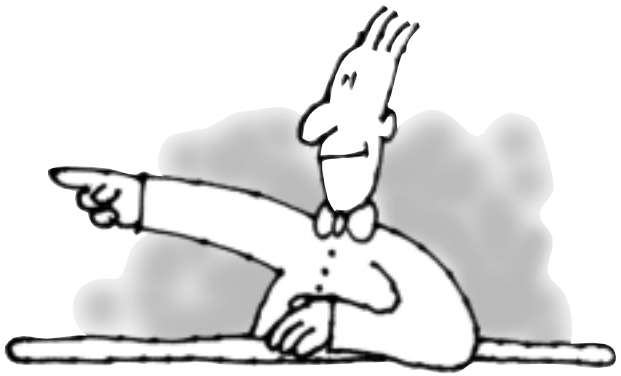
sigh!

Follow through

- Consensus
- Dissemination
- Training
- Reusable template library
- Enforcement
- Showcase projects
- Management support

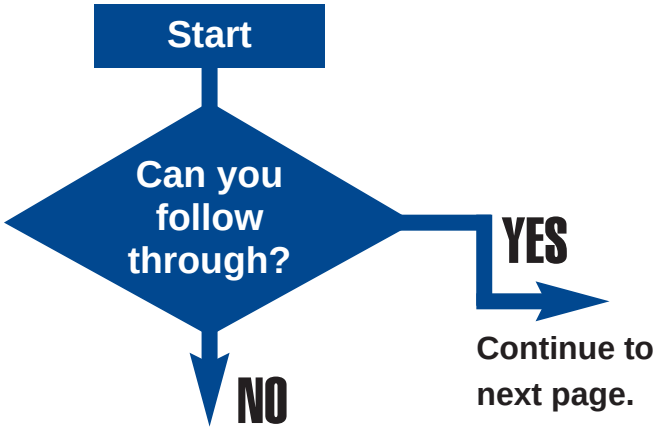
We'll make this *happen!*





PLEASE TURN BACK TO THE PREVIOUS PAGE AND READ IT AGAIN.

OK, now complete the following.



Continue to next page.

Stop here.

Burn this book.

Forget standards.

Forget consistent user interfaces.

Go home and take up gardening.

Detailed design

It is ***very*** possible to design an incredibly bad site that follows the standard.

Therefore, we provide the designer with training and consultative support in…

- User required analysis
- Task design
- Motivation strategy
- Graphic style, theme, and metaphor
- Site structure
- Use of controls and displays
- Operation
- Layout
- Wording
- Color and backgrounds
- Multimedia applications
- Graphic design and compression
- Localization to other cultures
- Error handling
- Usability testing

They both follow the building code.

THE INSTITUTIONALIZATION OF USABILITY ENGINEERING

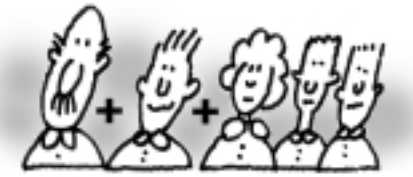
Usability engineering is tough work.
Today, it is a critical success factor.

Want to get good at it?

Every situation is different, but here is a generic strategy that works.

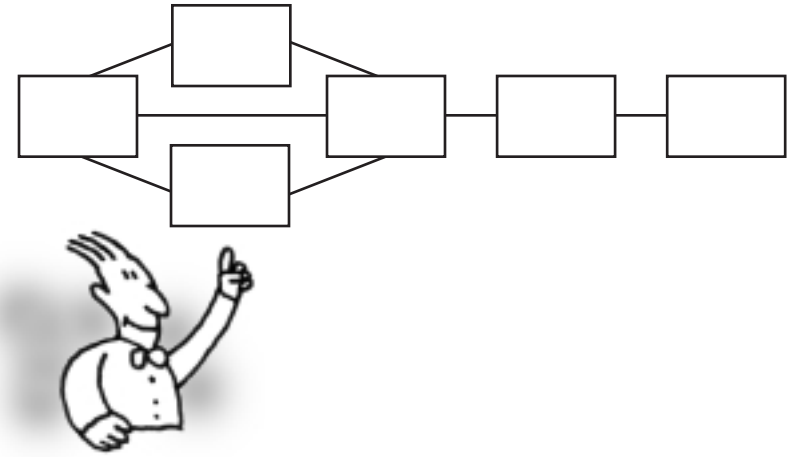
1. Identify

- Executive champion
- Line manager
- Consulting firm



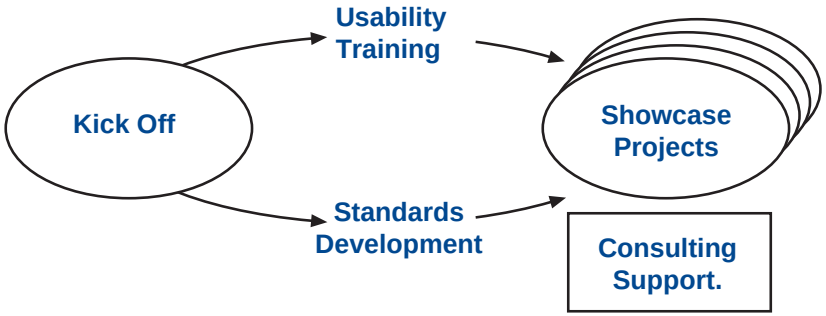
Executive, Manager, and Consultants

2. Refine your implementation strategy



3. Establish infrastructure, training, standards, and tools

4. Prove value



5. Create and build internal team

- Identify manager
- In-depth training of internal candidates
- Recruiting

6. Strategic advances

- Methodology standards
- Routine training
- Tool development
- Usability testing facility

7. Tactical action

- Project planning
- Coaching
- Evaluation
- Testing

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