

# Usability Issues in Shipping

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When everything goes wrong...





In search of a word to describe the experience of:

- Daily calls to various "Help Desks"
- Error prone software
- Frustrated & angry users
- Inconsistent User Interface
- Requiring frequent informal training
- Software time consuming to install on a new PC (8 hours)



Search the Web, but what is the keyword?

**USABILITY**

Web Results 1 - 10 of about 36,800,000 English and Greek pages for usability [definition]. (0.17 seconds)

Usability - Wikipedia, the free encyclopedia

Usability is a term used to denote the ease with which people can employ a particular tool or other human-made object in order to achieve a particular goal. ... en.wikipedia.org/wiki/Usability - 40k - Cached - Similar pages

Web usability - Wikipedia, the free encyclopedia

Web usability is the application of usability in those domains where web browsing can be considered as a general paradigm (or "metaphor") for constructing a ... en.wikipedia.org/wiki/Web\_usability - 19k - Cached - Similar pages

Usability.gov

Your guide for developing usable and useful Web sites. www.usability.gov/ - 15k - Cached - Similar pages

useit.com: Jakob Nielsen on Usability and Web Design

Alertbox column, Web usability, usability engineering, and Jakob's minimalist approach to Web design; Jakob's biography. Conferences and training events. www.useit.com/ - Similar pages

Usability 101: Fundamentals and Definition - What, Why, How (Jakob ...

What is usability? How, when, and where can you improve it? Why should you care? This overview answers basic questions and explains how to run fast and ... www.useit.com/alertbox/20030825.html - Similar pages

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Usability Consultants

Search for usability consultants Post projects for consultant bids HFscout.com

Usability

Prototypes for Usability Testing Try Axure RP for Free! www.Axure.com/

User Interface Design

We provide focused and streamlined user experiences for your customers momentumdesignlab.com

Does Usability Matter?

You bet it does. See how cutting edge UI accelerates your business. www.laszlo.com

Usability Test Software

Analyse the usability of any

# Looking for books at Foyles...



# Usability: a new field ?

Roots in ergonomics, and has taken contributions from:

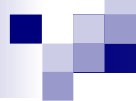
- Psychology & Cognitive sciences
- Sociology
- Human factors/Ergonomics
- Industrial & graphic design
- Computer graphics
- Information visualization, etc



# What is USABILITY?

Factors that determine a software product's **USABILITY** include:

- How much time it takes to complete a task
- How much training is needed
- Whether the product motivates people to use it



**Usability** means that the people who use the product can do so quickly and easily to accomplish their own tasks

Usability is a combination of factors that affect the user's experience including:

- **Effectiveness:** a measure of user productivity, how well a user can perform his job accurately and completely.
- **Efficiency:** a measure of how quickly a user can perform work, taking into account the resources expended to accomplish the task.
- **Satisfaction:** the degree to which users like the product - a subjective response in terms of ease of use, frustration, and usefulness.

# USABILITY on board a vessel

- Effectiveness & Efficiency are very important
- Satisfaction may not be that important

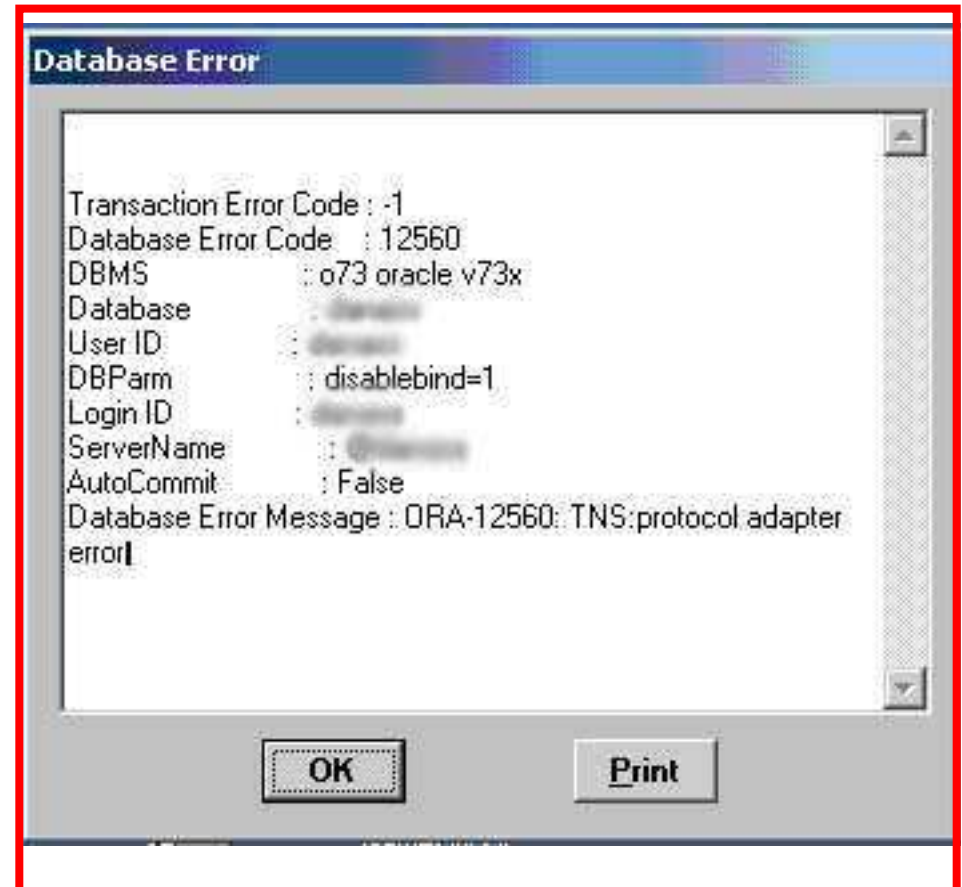
... but 2 more factors come into play:

- Error tolerant
- Easy to learn

Due to: insufficient training, lack of help desk, cultural differences, etc.

# Incomprehensible error message

It usually means:  
“you are disconnected.  
check your network  
cables or server”



# Incomprehensible error message

```
Received Inc.MSG.: 224549.          Date: Thu 16/Aug/2007 11:57
From: <Mail Delivery Subsystem <MAILER-DAEMON@mx-mstr-01.forthnet.gr>>
Subject: Returned mail: see transcript for details
Included (1) Attachment Files: <42781-194555-attachedMessage.eml>
TO : <<kavo@gmsa.gr>>
```

```
The original message was received at Thu, 16 Aug 2007 11:41:42 +0300 (EEST)
from mx-out.forthnet.gr [193.92.150.103]
```

```
----- The following addresses had permanent fatal errors -----
<tmakris@hellasnet.gr>
  (reason: Can't create output)
```

```
----- Transcript of session follows -----
procmail: Quota exceeded while writing "/var/mail/tmakris.hellasnet.gr"
550 5.0.0 <tmakris@hellasnet.gr>... Can't create output
Original-Envelope-Id: DANAOS InfoGate DSN-39909/264919
Reporting-MTA: dns; mx-mstr-01.forthnet.gr
Received-From-MTA: DNS; mx-out.forthnet.gr
Arrival-Date: Thu, 16 Aug 2007 11:41:42 +0300 (EEST)
```

```
Final-Recipient: RFC822; tmakris@hellasnet.gr
X-Actual-Recipient: RFC822; tmakris.hellasnet.gr@mx-mstr-01.forthnet.gr
Action: failed
Status: 5.3.0
Diagnostic-Code: X-Unix; 73
Last-Attempt-Date: Thu, 16 Aug 2007 11:41:42 +0300 (EEST)
```

```
**** FIRST EMBEDDED FORWARDED MESSAGE (INLINE) ****
**** TO SEE ALL PARTS PLEASE OPEN THE ATTACHED EML FILE ****
```

# Big improvements with a few corrections

- "The average UI has some 40 flaws.
- Correcting the easiest 20 of these yields an average improvement in usability of 50%.
- The big gain, however, occurs when usability is taken into account from the beginning. This can yield efficiency improvements of over 700%."

*(Landauer, 1995, The trouble with computers: Usefulness, usability, and productivity, MIT press.*

# Imagine this rock in your pavement !



# Big improvements with a few corrections

A bolt that can be fastened with any of 4 tools

A small cost increase, increases usability x fold



# Small tools, big everyday improvements

Supplying a left handed person with a special coffee pot or a special pair of scissors, will facilitate immensely some difficult tasks.



# What is the state of usability in our procurements?

- We have virtually no visibility of software product usability before we make procurement decisions.
- We do not know how to compare products or to plan for or measure usability costs.
- As dependence on C.O.T.S. and the web increases, so will the impact of usability problems and costs.

# Usability flaws: Case study

Recent data from a large shipping company:

- Spare Parts software abandoned in favor of Excel sheets.
- Provisions process “delete ordered item” abandoned in favor of manual process.
- Slower than older DOS solutions
- Reports that do not help the selection process
- A number with wrong format (“10.0000 PCS”) can destroy the reputation of user & developer

# What forces a company to abandon a software tool?

- 1) Loss of productivity
- 2) Slow reaction from developer

Relationship with developers: In our experience they react:

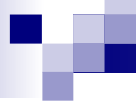
- Fast to our requests for bug correction, (Effectiveness)
- Slowly to our requests for more functions (Efficiency)
- Very slowly to our requests to modify features (faster transactions, error handling)
- Almost never to "graphic design" requests & better U.I. ("luxury")

# Wanted: the perfect user



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**"The Perfect User"**



# Time for a change

Functional Requirements used to rule our attention, but functionality is not an issue any more.

The experience with the shipping company made me think how much we are in need of Usability Requirements.

# Some Usability Requirements

- Time to complete a task
- Percentage of task completed
- Time spent on errors
- Number of commands or clicks used
- Number of calls to help desk

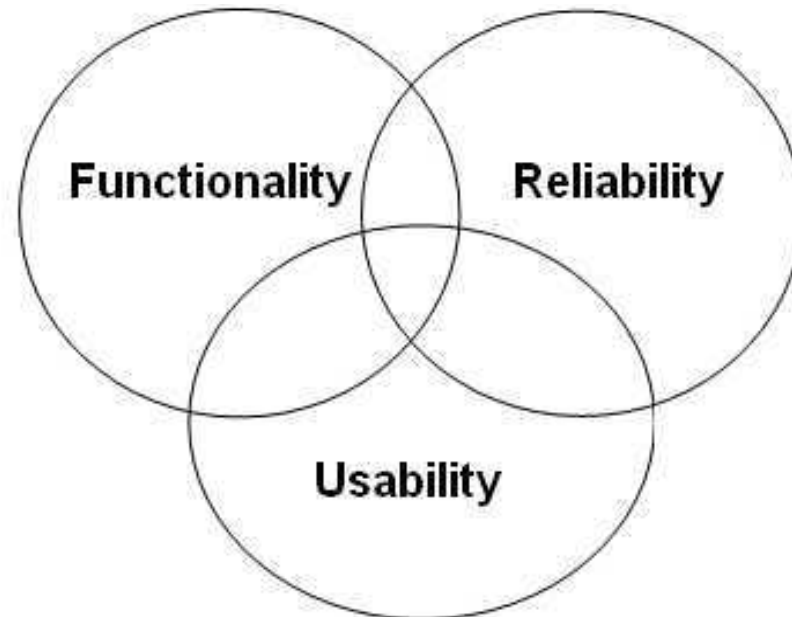
# More usability requirements

- Use Perfectly Accurate Words
- Build Error Details Right into the Program
- Put all functions on Menus
- Don't change Menus and Dialogs On-the-Fly
- Provide Help (context sensitive & user sensitive)
- Provide a short & easy Manual

# Target is to procure ...

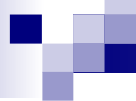
... computing systems that can be:

- Efficiently operated
- Effectively applied to support business processes
- Quickly learned



# An IT Manager's wish list:

1. Time to write down Usability requirements
2. Time to test Usability
3. Time to check if all users can use the functionality
4. Study if half of the flaws can be corrected
5. Tools to assess the Usability (0-100%) of a software (beyond the claimed functionality)
6. Get help from a Usability Consultant \*



# Whose fault is it anyway?

- We are all responsible to some degree, or it wouldn't have gotten that bad...

# What can we do?

- Admit that there is a problem...
- Educate ourselves about the problem
- Spread the word
- Demand quality
- ...
- ..



**Usability may be hard to find...**



**but when it's in front of us...**





**...we fall in love with it !**



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**Thank you!**