



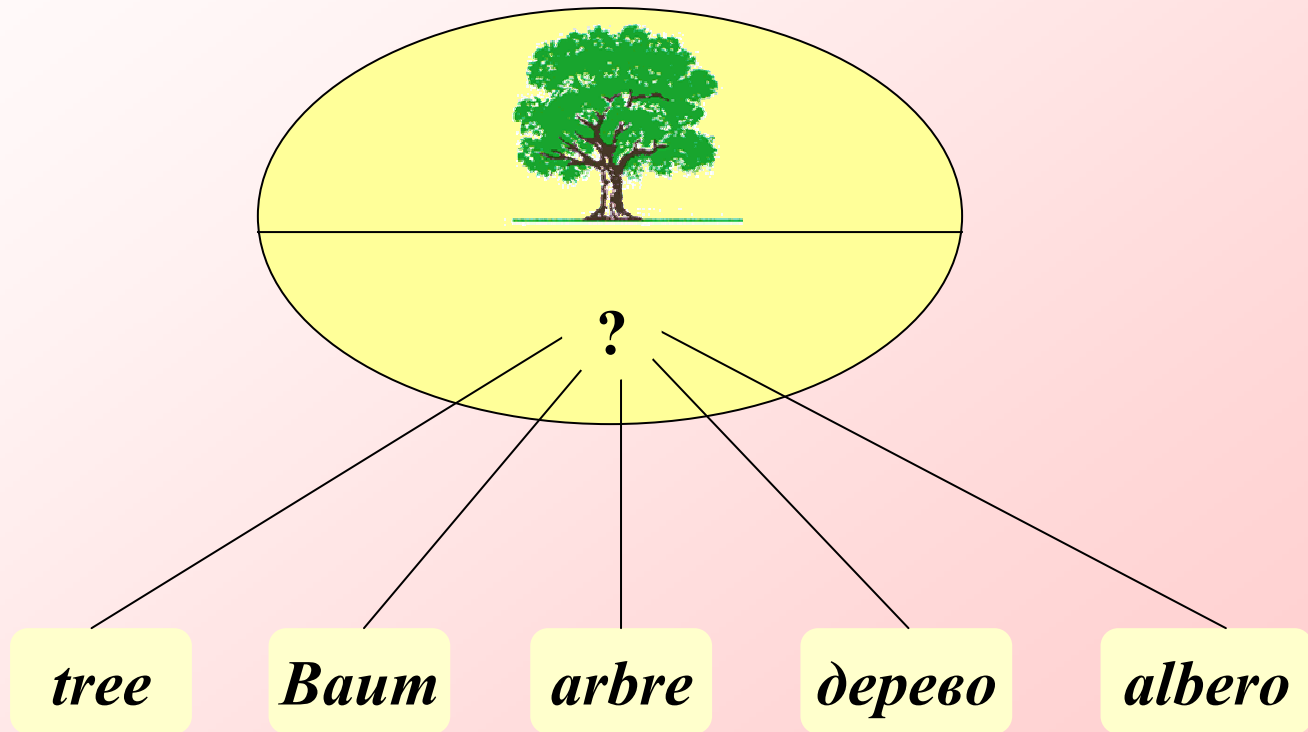
Language, Culture, and Software



Uta Seewald-Heeg
ESUG 2004
Hochschule Anhalt (FH), Köthen
9 September 2004



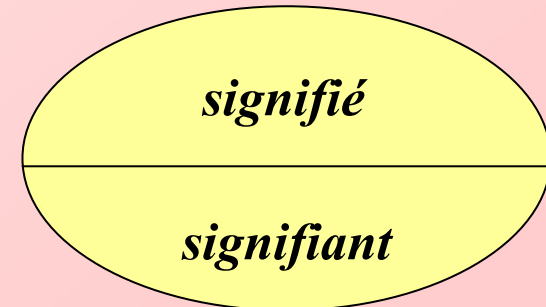
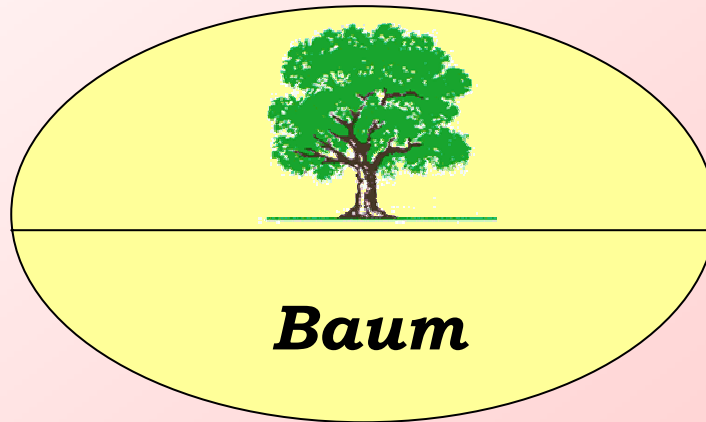
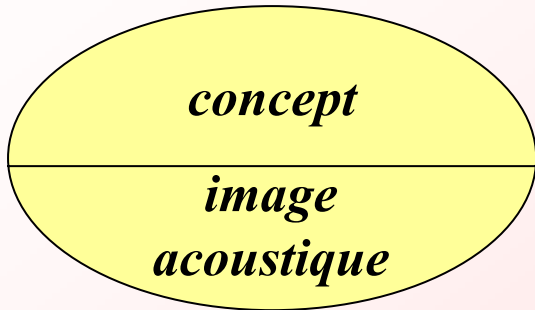
Language





Language

after Ferdinand de Saussure (1857-1913)





Language

- System of signs
- By convention



Structural Differences between Languages

dt. *Schloss*



fr.

château
castle



serrure
lock



Mensch

Mann

Ehemann

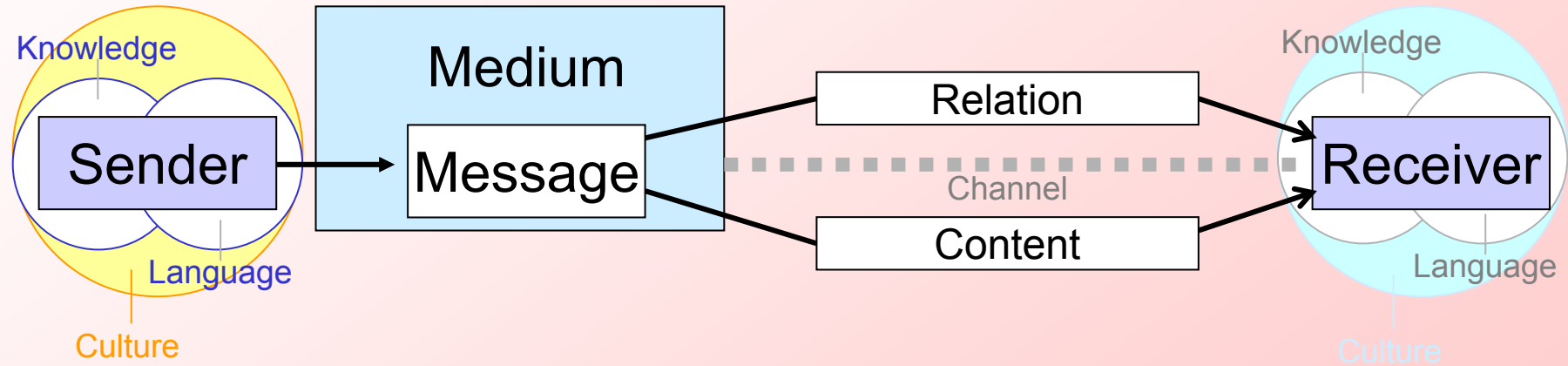
homme

mari

époux



Communication





Culture


Culture

lat. *colere*, to build on, to cultivate, to foster



Culture

- Theory for interpreting the world and knowing how to behave
[Gudykunst & Kim 1984:13]
- Ideals, values, and assumptions about life that are widely shared among people and that guide specific behaviours
[Brislin 1993]



luck
wealth
creativity
generosity
honesty

vicious
unclean
parasitic
spread disease
steal food



Different traditions – different expectations





Different traditions – different expectations





Different traditions – different expectations





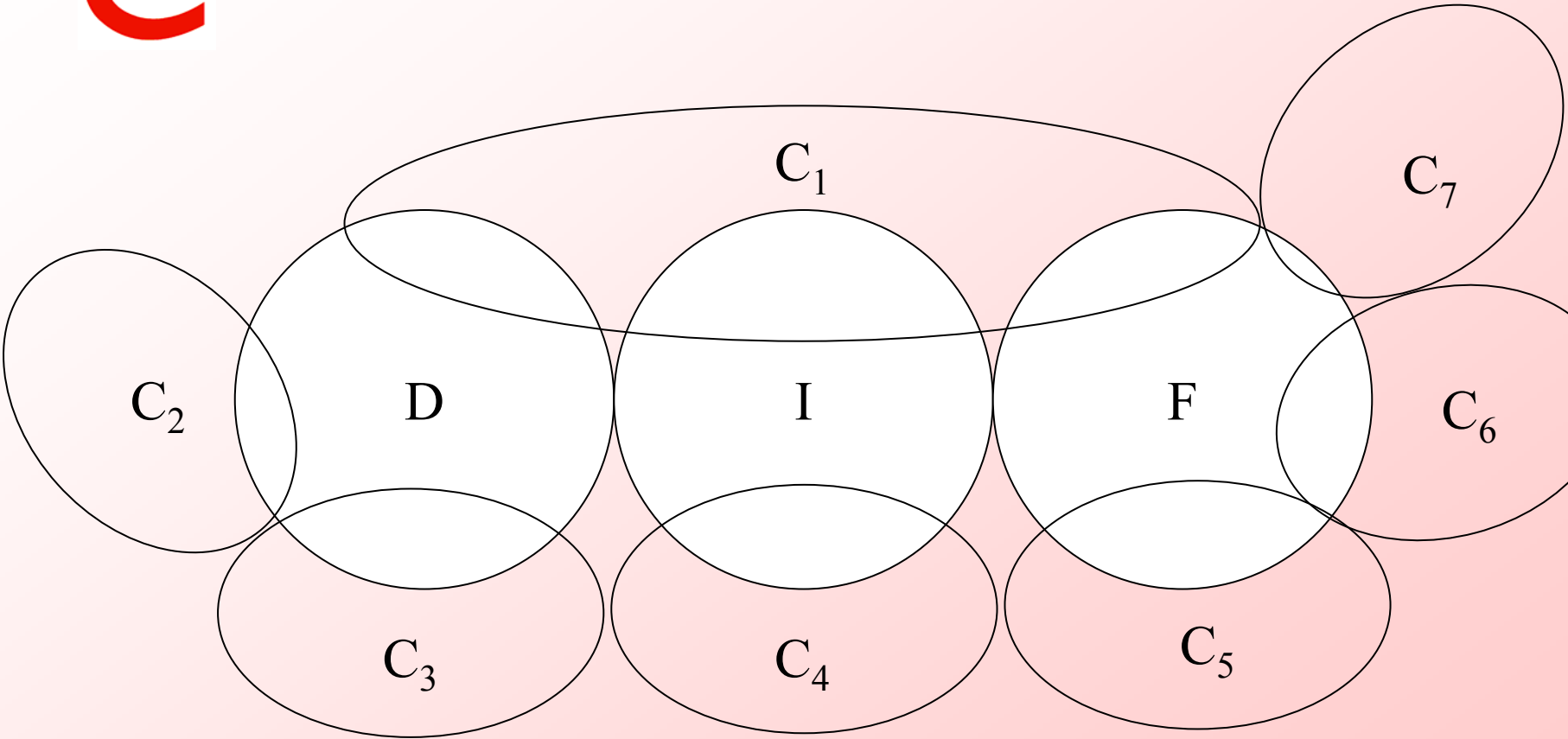
Language and Culture

- Language is the dominant sign of any culture.
- The language of any group is directly connected to the world view of the group.
- Humboldt: "Die Verschiedenheit der Sprachen ist nicht eine Verschiedenheit an Schällen und Zeichen, sondern eine Verschiedenheit der Weltansichten."





Languages and Cultures





Language and Culture

To understand a word, you need to know the culture

www.ushuaiasolutions.com

Wilson
NFL
Official

[Football]

ushuaia
solutions

[Football]

info@ushuaiasolutions.com

Your best choice for Latin America and Spain.



Globalization and Cultural Differences

- **Globalization**

- We are connected, interchanged, denationalized
- Influence on the national cultures
- The world is interconnected
- Flow of information has only very limited borders

[Stephan Dahl , <http://www.stephweb.com/capstone/0.htm>, 30.08.2004]



Globalization and Cultural Differences

- **Despite Globalization**
 - We are not the same
 - Some people still refuse to become world citizens
 - Somehow the British are still British, and the Germans still Germans
 - We still speak different languages

[Stephan Dahl , <http://www.stephweb.com/capstone/0.htm>, 30.08.2004]



Software

WinZip Setup



Select "Wizard" or "Classic", then click "Next"

You can start with the "Wizard" or "Classic" interface. It is easy to switch between the two interfaces, and you can always change the default later.

The Wizard automates the most common tasks involving Zip files and is ideal if you want to quickly unzip files or install software distributed in Zip files.

Start with the WinZip Wizard

WinZip Classic is much more powerful and is recommended if you are comfortable with Windows and Zip files.

S

WinZip 8.1 Deutsch



Willkommen beim Setup der deutschen Testversion von WinZip 8.1.

Wählen Sie "Setup" um die Installation fortzusetzen.

Setup

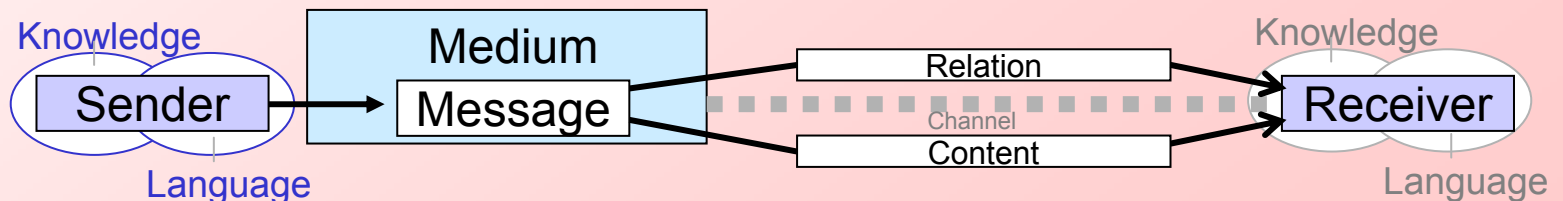
Schließen

Info...



Software as communication

- *Software is communication*
 - Communication with a machine (HCI)
 - Communication between the client, the software architect, the software engineer, and the coder
- Software must be readable
- Software must be understandable



Software Quality Characteristics

Operational Qualities

- Functionality: suitability, accuracy, interoperability, security, compliance
- Reliability: maturity, fault tolerance, recoverability, compliance
- Usability: understandability, learnability, operability, attractiveness, compliance
- Efficiency: time behavior, resource utilization, compliance

Maintenance Qualities

- Maintainability: analyzability, changeability, stability, compliance
- Portability: adaptability, installability, co-existence, replaceability, compliance

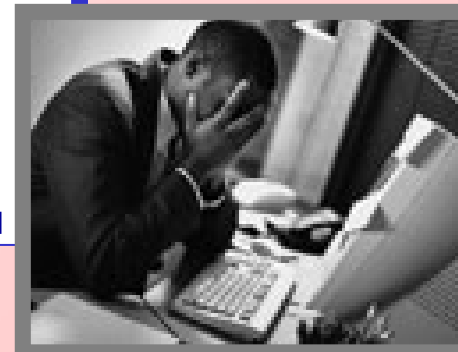
Source: ISO Standard 9126 Software Quality Characteristics



Users

- Basic activities:
 - Knowing
 - Changing
 - Managing
- Types of users:
 - naive
 - uninitiated
 - expert

Anthony A. Aaby 2004-01-21, <http://cs.wvc.edu/~aabyan/FAS/book/node120.html>]





Users

- want to maximize their efficiency and effectiveness
- differ in perceptual and psychomotor abilities
- speak different languages



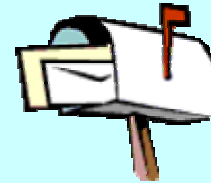
- Values of the users drive user interface design activities
 - Human Centred Design
(DIN EN ISO 13407)



Software Localization

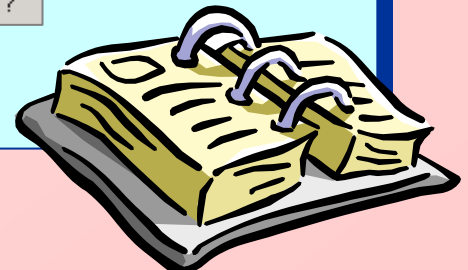
Adaptation, i.e. translation of software products or Web-sites to a local market

- with **linguistic** characteristics
- with **cultural** characteristics
- with desired *look-and-feel*
- with special **technological** methods and tools



File Edit Cursor View Project Options Window Help

Datei Bearbeiten Bewegungen Ansicht Projekt Extras Fenster ?

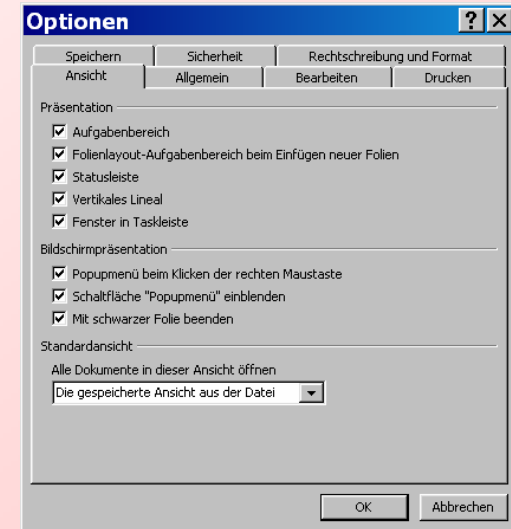
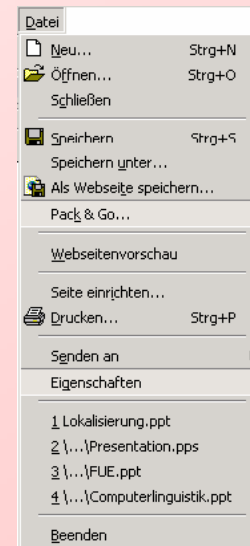
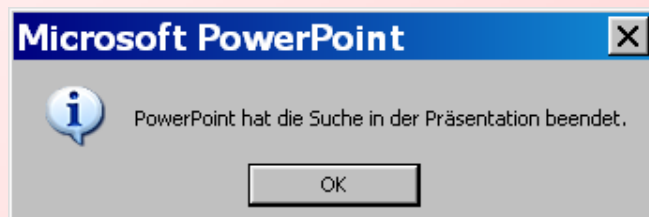




Graphical User Interface

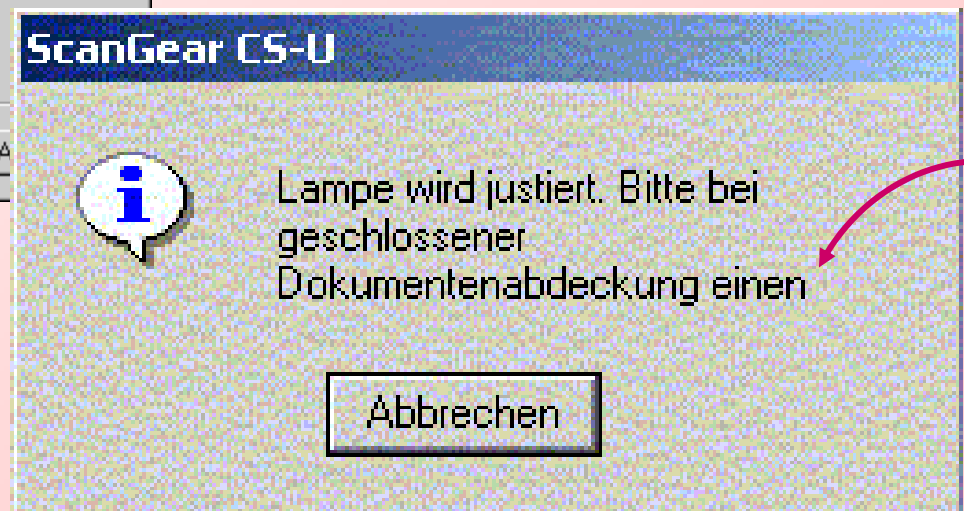
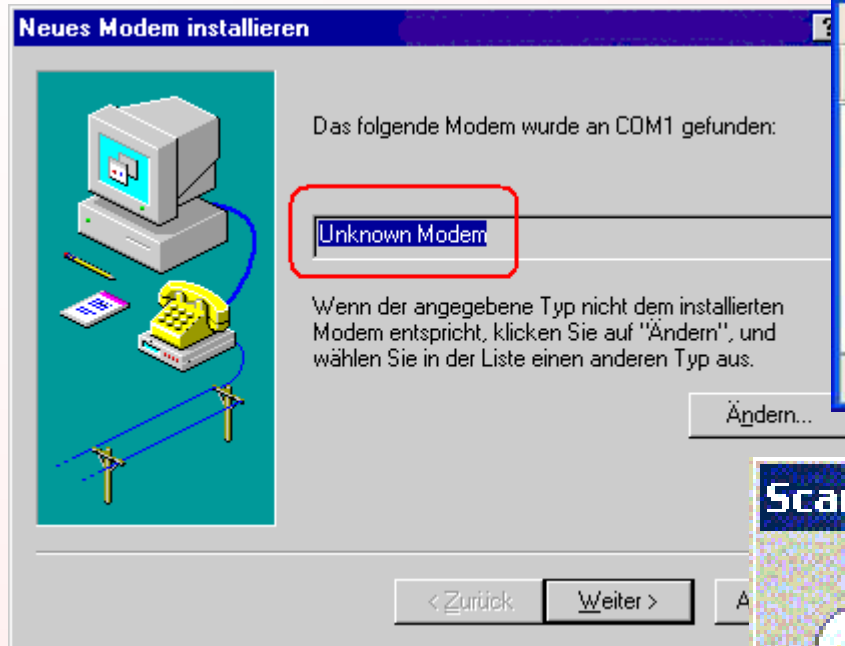
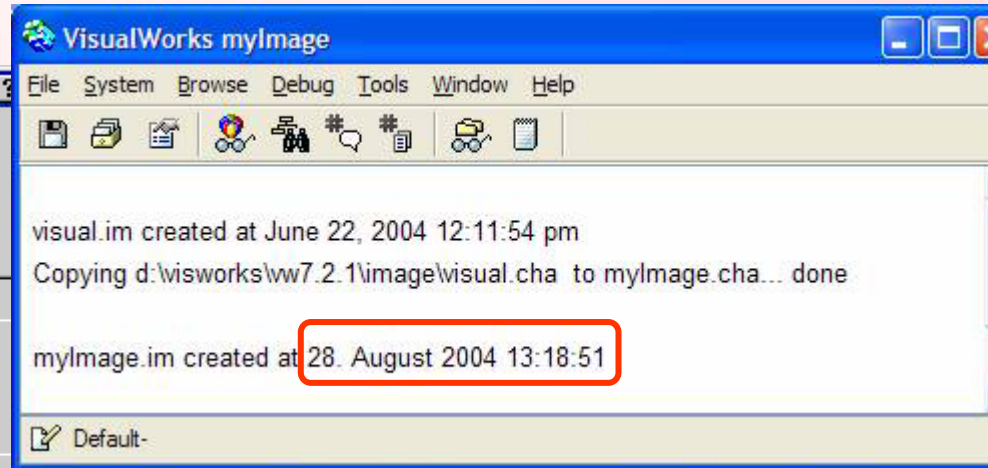
Visual Design Elements

- Dialog boxes
 - Specification of options
 - Often as register cards
- Menus
 - Menus with elliptic elements (...) lead to dialog boxes
- Strings
 - Error messages, questions etc.
 - Difficult translation, no context information
- Icons





Linguistic Adaptation






Quality of Localization

The screenshot displays the ScanGear CS-U software interface. The main window shows the 'Farbe' (Color) tab with the following settings:

- Grundinst. (Basic Settings): **Ferbtone** (Color Profiles) and **D660U** (Color Management System) are circled in red.
- Gamma: 2.20
- Kanal (Channel): Master
- Ändert den Ferbton über Spezial- oder benutzerdefinierte Ferbtonkurven (Changes the color tone using special or user-defined color curves): A red arrow points to this text.
- Slider: 0,45 (left) to 2,20 (right)
- Graph: A color calibration curve is shown.
- Zurücksetzen (Reset) and **Rückstell** (Apply) buttons are at the bottom, with 'Rückstell' circled in red.

An information message box is overlaid on the bottom left:

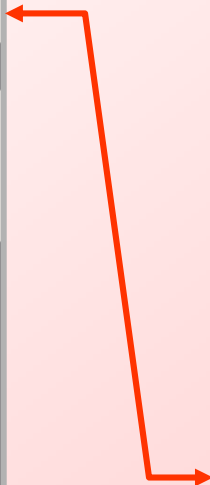
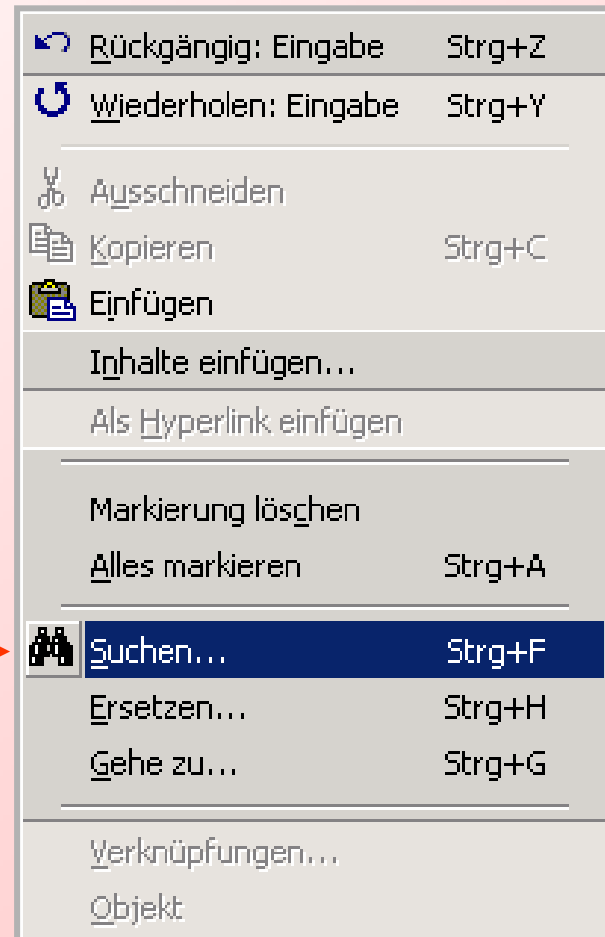
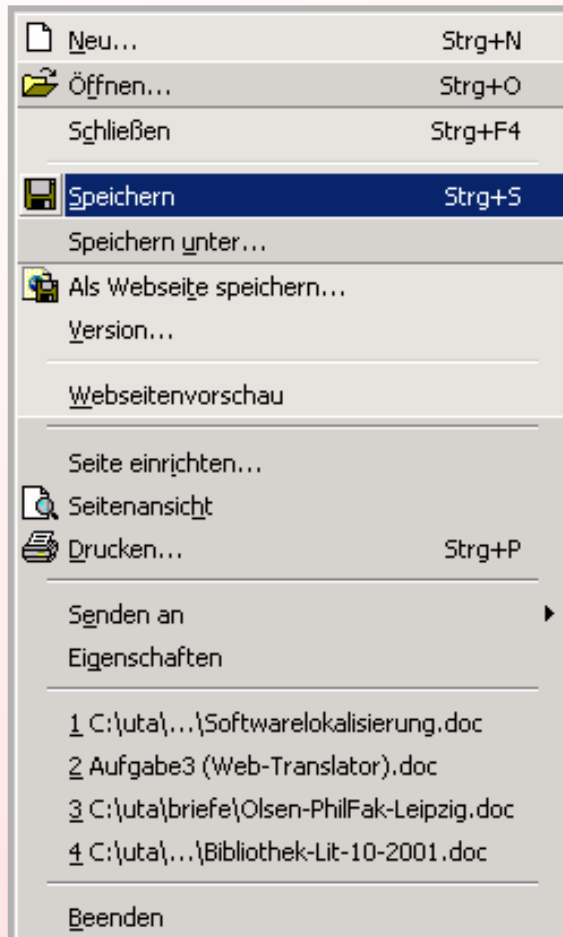
ScanGear CS-U

 Lampe wird justiert. Bitte bei geschlossener Dokumentenabdeckung einen Moment warten.

At the bottom of the window, the status bar shows: 600 dpi, 3,60, 2,40, 1417KB, and Seiten: 0/0.



Adaptation of Shortcuts





Localizing Software

- Globalization (G11N)
- Internationalization (I18N)
- Localization (L10N)



Internationalization

Development of a cultural model

- Comparison of the similarities and differences of two or more cultures
- Use of *international variables*
 - Categories organizing cultural data
 - Cultural data – reflection of national, corporate cultures, cultures of international markets
- Useful to assess the degree of localization



Examples of Cultural Variables

| | |
|----------------------------|--|
| Political | <ul style="list-style-type: none">•Trade issues•Legal issues•Political tradition and symbolism |
| Economic | <ul style="list-style-type: none">•Wealth perception•Overall economic status |
| Social Organization | <ul style="list-style-type: none">•Importance of age•Business etiquette•Family and social interaction•Discrimination and prejudice•Popular culture |
| Religious/Spiritual | <ul style="list-style-type: none">•Significance of religion/spirituality•Taboos: Food, behaviors and relationships |
| Educational | <ul style="list-style-type: none">•Literacy•Common body of knowledge•Learning style |
| Linguistic | <ul style="list-style-type: none">•The target language•Official national language•Text orientation•Writing style |
| Technological | <ul style="list-style-type: none">•Level of technology |



Internationalization

- Dates and date formats
- Currency and currency formats
- Number formatting
- Units of measure
- Time, time zone and time formats
- Graphics
- Colours
- Text directionality
- Writing styles
- Technology (electrical outlets, computer keyboards, printer page-size capabilities)
- Page size
- Forms of address and titles
- Geographic references
- Legal information (warranties, copyrights, patents, trademarks, health and safety-related information)
- Wrapping



Colours

Good luck?



Bad luck?



Date Formats

10. März 2004

10.03.2004

10/03/2004

10/03/2004

10-03-2004

10 mars 2004

03/10/2004

March 10, 2004

10 March 2004

2004-03-10

German
(DIN 5008, 2001)

French

American

EU
(ISO 8601 / EN 28601, 1992)





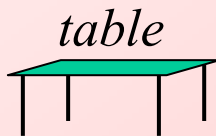
Localizing Graphics



Netscape



MS Internet Explorer



MS Word

~~*Tisch*~~



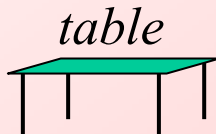
Localizing Graphics



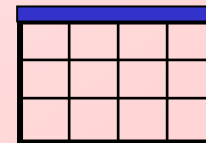
Netscape



MS Internet Explorer



MS Word



Tabelle



Notiz

Adaptation of writing systems

The screenshot shows the Al Jazeera website in Arabic. The browser window title is "Microsoft Internet Explorer". The address bar shows "http://www.aljazeera.net". The page content includes a navigation bar at the top with links like "الرئيسية", "مركز المساعدة", and "إلى الجزيرة". A main headline reads "هرب أميركا" (America flees) with a sub-headline "انتشان ... خبير في الأمم المتحدة يقول إن القنابل العنقودية" (Antichan ... UN expert says cluster bombs). Below the headline is a photo of a woman in a headscarf sitting amidst rubble. The article text below the photo discusses the death of three Palestinian children in a military operation. On the right side, there is a vertical menu with various categories like "الاخبار", "الاقتصاد والأعمال", "العلوم والتكنولوجيا", etc. At the bottom, there is a footer with "Fertig" and "Internet".

Navigation bar

Text string from left to right

Dates

Navigation bar: الرئيسية | مركز المساعدة | إلى الجزيرة

Page header: الجمعة 8/8/1422 هـ الموافق 2001/10/26م (آخر تحديث الساعة 12:46 مكة المكرمة), 9:46 (غرينتش)

Section: **هرب أميركا**

Sub-section: انتشان ... خبير في الأمم المتحدة يقول إن القنابل العنقودية

Image: A woman in a headscarf sitting amidst rubble.

Text: استشهد ثلاثه فلسطينيين في عملية فدائية بغزة

Text: استشهد ثلاثة من الجناح العسكري لحركة حماس في اشتباك مع قوات الاحتلال الإسرائيلي بعد أن حاولوا التسلل لمسوطنة في قطاع غزة، في هذه الأثناء وبعد لقاء بين مسؤولي الأجهزة الأمنية الفلسطينية والإسرائيليين لتسوية التلويح بعد أن قررت الحكومة الإسرائيلية انسحابها على مراحل من سكت مدن في الضفة الغربية... [التفصيل](#)

Text: طالبان تعلن اعتقال أحد زعماء تحالف الشمال

Page footer: Fertig | Internet



Localization of Product Names

(Localisation *Faux Pas*
ed. by Localisation Research Centre)

- *Mist Stick*
Clairol curling iron
- *Silver Mist*
Rolls Royce car
- *Irish Mist*
Irish alcoholic beverage

Mist (German) ⇒ "manure".



VW-Lok

Localization Tool for VisualWorks Smalltalk Applications

- Localization Tool for VisualWorks didn't exist so far
- Objectives:
 - Development of a tool that satisfies the special characteristics of the programming environment
 - Development of a user interface that satisfies the demands of a localizer
 - Creation of an experimental platform for research in the field of localization



VW-LOK

Localisation Tool for Visualworks Smalltalk

System to Catalog

Read System Catalogs Target Directory: Target Language: Country:

Select Catalog -> Message -> Method Select Method -> Message

| Catalogs in System: | User Messages in Catalog: | Methodes including this User Message: |
|---|--|---|
| advanced browser database dialogs dlcc examples external labels localisationTool menus net | % Match abort closing Accept Path Accept Translation Catalog to Catalog Catalogs in Source: Catalogs in System: Country: discard Informations Edit Existing Translations: | L10n.CatalogToCatalogLocalisatorUI class windowSpe L10n.SystemToCatalogLocalisatorUI class windowSpe |

Translate

Source Default String:
Country:

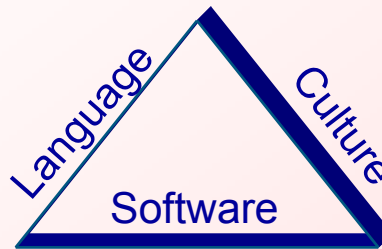
Target Default String:

% Match: Existing Translations:

Your Translation:
Land:



Conclusion



- Language and culture are crucial for
 - software design
 - succesful use of software
- Software developers should be aware of linguistic and cultural differences
- Bachelor course in Information Management / Software Localization at Anhalt University
 - Multidisciplinarity