Technical Communication
&
User-Centered Design

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Overview

- Part 1: Introduction to Technical Communication (TechComm)
- Part 2: Usability & User-Centered Design
- Part 3: How to Get Started in the field of TechComm
Part 1

Introduction to Technical Communication
What is Technical Communication?

- Conveying technical information in an understandable way for a specific audience and presenting it in the most appropriate format to meet the audience’s needs.
What do Technical Communicators do?

› Develop and design instructional and informational tools needed to assure safe, appropriate, and effective use of science and technology as well as products and services.
## About the TechComm Field

<table>
<thead>
<tr>
<th>Interdisciplinary field</th>
<th>Collaborative field</th>
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<tbody>
<tr>
<td>TechComm incorporates knowledge from:</td>
<td>Technical communicators work with:</td>
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<tr>
<td>- Communication</td>
<td>- Engineers</td>
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<tr>
<td>- Linguistics</td>
<td>- Scientists</td>
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<tr>
<td>- Computer science</td>
<td>- Designers</td>
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<tr>
<td>- Design</td>
<td>- Developers</td>
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<td>- Human factors</td>
<td>- Product managers</td>
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<td>- Psychology</td>
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<td>- Sociology</td>
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TechComm Job Opportunities

› Technical writer/editor
› Information architect
› User experience designer
› User researcher
› Usability specialist
› Instructional designer
› Project manager
Kejun Xu

Information Architect
Bargain Network, Inc.
Santa Barbara, California

- Chinese student
- Studied English in China
- Received master's degree in Tech Comm from IIT in Chicago
- Current Tech Comm PhD student in University of Washington
- Employed as an Information Architect

Find more about Kejun at kejunxu.com
Part 2

Usability & User-Centered Design (UCD)
What is Usability?

› A measure of whether or not the end user is able to use the product efficiently, effectively, and is satisfied with the experience of using the product.

› According to Jakob Nielsen, a usable product is:
  • efficient
  • memorable
  • learnable
  • easy to recover from errors
  • satisfying
What is **User-Centered Design**?

- A design process that tries to incorporate how people can, want, or need to work, rather than forcing the users to change how they work to accommodate the design.
How usable are these products?

Teapot

Elevator buttons
Making a product usable

- Few techniques:
  - Audience analysis
  - Personas and scenarios
  - Usability testing
What is audience analysis?

- Process used to determine *why*, *how*, and *where* the intended audience will use the product.
- Intended audience = End users
- First principle: You are not your user
Children: a specific audience

- 4th grade children playing an e-learning game
What is a persona?

› Characteristics of a typical end user drawn from the intended audience.

› Example:
  • 4th grade in public school
  • 8-9 years old
  • Male or female
  • Computer literate
  • Average household income
What is a scenario?

› Representative task that a persona is likely to perform on the product.

› Example:
  • In the following game you are going to explore a museum and assist in the capture of a villain by completing 4 tasks. Complete the math game to retrieve a part of the robot.
Deliverable: Video Clip of Game

› Reminder: Switch to CD to show the game
What is **Usability Testing**?

- A methodology used to test a product with users who might use the product.
  - Users perform typical tasks using the product
  - Usability specialists record time and error
Other Usability Methods

- **Contextual Inquiry** — a methodology that involves collecting detailed information about customer work practice by observing and interviewing the user while they actually work.

- Example:
  - Observing users search for medical information online
Other Usability Methods

› **Field Studies** – a method for observing users in their environment as they behave naturally with products or processes.

› **Example**
  - Observing users use their iPhone during their daily life
Findings from Usability Studies

Final usability reports to clients include:

- Test results
- Usability problems
- Recommendations
5. Findings and recommendations
This section lists the usability problems observed and recommendations for solving them. Common problems observed in both groups of participants are listed first, followed by issues observed in only one of the groups. Included in the tables are the numbers of participants who encountered the respective issue at some point during the test. The findings are sorted by severity rating:

- high: frequent cause of task failure
- medium: occasional cause of task failure
- low: cause of annoyance and confusion but not failure

### Common usability problems

<table>
<thead>
<tr>
<th>Severity</th>
<th># Users of 190</th>
<th>Finding</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>18</td>
<td>1. Site structure confusing</td>
<td>The site structure represented by tabs and menus is not simple and clear. Particularly confusing were: Orthopaedic Yellow Pages, Educational Resources Catalog (for non-members), Library &amp; Archives, Health Policy. Members Only under PEMR.</td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>2. Global search facility not helpful</td>
<td>Participants frequently were returned no, or irrelevant, results when searching for information. On average, only 14% of searches returned somewhat useful results. Specific issues with the search feature are provided in Appendix 1: Heuristic evaluation.</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
<td>3. Local search facilities missing or not helpful</td>
<td>Missing or non-functional local search facilities were frequent causes for task failure. Various sub-sites have their own searches, placed in different locations, behaving differently. Some pages do not have a search field or link.</td>
</tr>
<tr>
<td>High</td>
<td>9</td>
<td>4. Sitemap not helpful in locating information</td>
<td>Participants resorted to the sitemap only when other methods for locating information failed. But only 2 of 12 attempts to use it were successful.</td>
</tr>
</tbody>
</table>
Findings from Usability Studies

» Localization – the process of translating/designing product for a different culture or country.

» Example: Pizza Hut
Findings from Usability Studies

› **Globalization** – translation/dissemination of ideas across cultures and international markets.

› Example: Microsoft
Part 3

Getting Started in TechComm
Core courses at IIT

- Document Design
- Online Design
- Technical Editing
- Research and Usability Testing
- Documentation and Project Management
- Entrepreneurship in Technical Communication
Resources

› Research on usability websites:
  • Jakob Nielsen’s Alertbox: useit.com

› Research on user-centered design:
  • UCDChina.com

› IIT UTEC web site with posted copy of this lecture:
  • http://iit.edu/usability (click on Latest Projects)
Thank you

› Thank you for your attention! 😊

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  - jovanova.com