Accessibility

Note that this lab is due to a student project developed by Mike Winterberg, Johannes Kienzle and Dan Snyder.

Purpose:

Our society places the responsibility of caring for the less fortunate, at least in part, on its own shoulders. We have governmental programs designed to help those will all forms of disability, be it financial, physical, mental, or otherwise. We have laws that regulate what businesses can and must do in order to allow access to what they offer for all people, and this includes our industry. What special needs arise in accessing software or web-pages? What responsibilities do we as designers have to make our work accessible?

Procedure:

Part 1: The World Wide Web Consortium

1. What is the W3C? When was it founded, and for what purpose?
2. What relevance does it have to you now? How will it be relevant to you as a software engineer?
3. What is the Web Accessibility Initiative (WAI)? What are the key issues of completing this task?

Part 2: Accessibility and the Code of Ethics

Imagine the following scenario:

> *You are working on a software project for a big company. The project is nearing completion and you realize that the software is extremely difficult to use by visually impaired people. You know your project manager will say that the budget does not allow working on accessibility features.*

According to the Software Engineering Code of Ethics, explain briefly what you could and should do.

Part 3: Accessibility in the Real World

1. Visit at least 5 different commercial websites/websites of companies that develop accessibility software and rate them using the "Accessibility Template for Websites".
2. Choose one software application (either from the list in Appendix B or another accessibility-related application) and rate using the "Accessibility Template for Software".

Part 4: Applied Accessibility

Note: Be certain to leave an appropriate amount of group time for this part!

1. Choose a software application that reads web-pages (such as the free trial of IBM Home Page Reader). Choose a member of your group to be your "accessibility tester" and have him or her blindfolded.
2. Decide a simple task for your tester to complete (i.e. look-up movie times for San Luis Obispo, find a certain book and add it to your shopping cart on Amazon, etc.)
3. Have the tester use the chosen application to attempt the task.
4. Repeat for every member of the group. You can use the same application and task for each student, or have a unique set for everyone.
5. How easy was the program to use as a disabled person? What did the program lack?

Part 5: Conclusion

1. Write a paragraph of conclusion that touches on these points:
   - What did you learn or experience in this lab that was new to you?
   - What regulations exist to help disabled people access our products?
   - Is anything lacking from these regulations, or are they too restrictive? Are they just right?
   - What does this issue of accessibility mean to you as a developer and as a member of society?

2. Prepare a 5 to 7 minute presentation for the class. This presentation should focus on your experiences with using the software as a tester, in addition to any unique experiences group members might have had with this issue. Your presentation should conclude with your group's answer to this question: "Why does accessibility matter to software engineers?"

Deliverables:

Individual:

1. Answers to W3C Questions
2. One paragraph response to the scenario in Part 2
3. Response to the individual testing experience in Part 4

Group:

1. Five templates from reviewing websites
2. One template from reviewing a software application

3. Procedure followed for testing in Part 4 (i.e. website, task, etc.)
4. Concluding paragraph
5. In-class presentation

Appendix A:

Online Resources Concerning Accessibility:

- Web Content Accessibility Guidelines 2.0 Working Draft
  <http://www.w3.org/TR/WCAG20/>
- IBM Developer Guidelines to Software Accessibility
  <http://www-3.ibm.com/able/guidelines/software/accesssoftware.html>
- Software Engineering Code of Ethics (especially 1.07)
- Rehabilitation Act (Section 508)
  <http://www.section508.gov/index.cfm?FuseAction=Content&ID=11>
- American Disabilities Act – Applying the ADA to the Internet
  <http://www.icdri.org/CynthiaW/applying_the_ada_to_the_internet.htm>
- Macromedia Flash and Accessibility
  < http://www.macromedia.com/resources/accessibility/flash8/>

Appendix B:

Examples of Accessibility Tools:

- Windows XP Accessibility Tools
  - Magnifier
  - Narrator
  - MouseKeys
- Microsoft Accessibility Tools
  <http://www.microsoft.com/enable/guides/default.aspx>
- IBM Home Page Reader
  <http://www-306.ibm.com/able/solution_offerings/hpr.html>
- Elinks (Linux only!)
  <http://elinks.or.cz/>
- Lynx
  <http://lynx.isc.org/release/>
- Xpress It!
  <http://www.conchbbs.com/xpress-it.shtml>
- Window-Eyes
  <http://www.gwmicro.com>