

# Website Planning Report

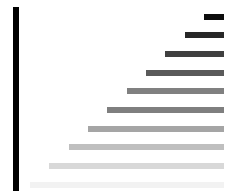
— — assistivetechguide.com — —

An Online Guide to Assistive Technology Solutions

**Prepared by:** John R. Porter

**Prepared for:** Prof. Dave Farkas (HCDE 437)

**Date:** February 13, 2010



## Background

The field of assistive technology is ever growing. As technology progresses in general, more and more novel solutions are developed which leverage the limited abilities of the physically impaired to improve their interactions with the world of computing. Unfortunately, for many disabled individuals, the single hardest part of becoming properly equipped with the assistive technology solutions they need is simply finding out what options are available. The sheer quantity and variety of assistive technology systems, both hardware and software, can be overwhelming for an individual when first stepping into the world of assistive technology.

Currently, a user's only options for finding out what assistive technology options are out there independently are to either systematically check the websites of individual manufacturers (which is incredibly tedious) or to refer to the inventory of online commerce sites focusing on assistive technology (which often limit their inventories based on contracts with specific manufacturers and provide very little information about the products they sell). However, the tedium of these two methods is simply unacceptable for many, and as a result disabled individuals are often ultimately forced to work with potentially expensive "expert consultants." These experts, whom typically specialize in a particular branch of assistive technology, will provide information regarding the status quo of the field and make specific product recommendations based on the customer's physical limitations and their desired computing capabilities.

This situation presents a unique opportunity for web development. A website which could provide the specificity of detail found on individual manufacturer web presences, the broad range of available technology found on the sites of resellers, and at least some of the filtering and recommendation ability of assistive technology consultants would be an almost immeasurable boon to the disabled community. The content, and even expertise, exists in the vastness of the internet. What is needed is the motivation and skill to gather as much of this information as possible and present it in an appropriate manner so as to meet the needs of the user.

## Statement of Purpose

The purpose of this website is to meet this significant and exciting opportunity. When completed, assistivetechguide.com will be the first comprehensive and maintained catalog of assistive technology solutions with an emphasis on the user. Assistivetechguide.com will build upon the example of other websites in similar veins while addressing and improving on their shortcomings. It will not simply present the user with a massive list of product titles with links to their official websites, nor will it merely break down the larger set of included technology into high-level product type categories without properly addressing the target user's abilities and limitations. Upon launch, assistivetechguide.com will...

- Provide a comprehensive catalog of both hardware and software assistive technologies
- Allow the user to readily locate products based on several factors such as:

- Product type
- The nature of the disability or disabilities the product is suited for
- The kind of computer interaction it affords the user
- Provide detailed product information, reviews, and performance information for as many of these technologies as possible
- Support users in making informed decisions regarding the assistive technology that's right for them
  - By emphasizing product capabilities and user aptitudes rather than only tech specifications
  - By connecting new users to a knowledge base of experienced users willing to serve as volunteer "experts"
- Direct the user to external sites where individual products can be purchased
- Be fully compatible with and optimized for text browsers / screen readers, switch interfaces, visual magnification software tools, and speech recognition software

## **Audience Analysis**

The website's audience can be broken into three groups (primary, secondary, and tertiary) based on their motivations, goals, and requirements. The primary and secondary audiences are the most important to consider from a content and design perspective, and therefore their needs will weigh most heavily into the decision-making processes.

### **Primary Audience**

The primary audience of this website is what I refer to as the "disabled user" group. The term is used in a slightly broader sense than may seem obvious. Not only does this group include actual users of the website with physical disabilities, but also for the sake of consolidation includes friends, family, or attendants of these individuals who are likely to share the same principal goal. That goal, of course, is to find and ideally fit piece of assistive technology to meet the user's needs.

Individuals in this group will likely have varying degrees of expertise/confidence in working with computers. This impacts the development of the site in two ways. First, the structure and activity flow of the website itself must be very clearly defined and obvious to the user. Second, it means that the content of the site cannot overwhelm the user with technical specificity. That's not to say that such detail cannot be included -- to the contrary, it is believed to be necessary for the site to meet its goals -- but rather that individual listings of products must present a simplified overview in addition to whatever detail is included to maximize understandability for our users.

A second significant aspect of the disabled user is the mechanism by which they are accessing the website. Some users may be viewing the site with a normal browser and no assistive technology, while others may be using text browsers for screen reader optimization, cycling

switch interfaces which will allow users to navigate with a single switch, or any of the myriad other types of assistive technologies. It must be ensured that, no matter what method the user is employing to access the website, their experience is not adversely affected or limited.

## Secondary Audience

The secondary audience of this website is composed of return-users that are not interacting with the site for the specific purpose of seeking out since assistive technology to address the physical limitations. Instead, it is hoped that these users will be motivated to return to the website in order to participate in a community dedicated to sharing information, asking and answering questions, and keeping the site up to date (this is not to say they will directly maintain it themselves, but rather they will be able to make suggestions and requests).

For a user to fall into this group, it is assumed that they will have a higher level of general computer knowledge and domain knowledge (i.e. knowledge of assistive technologies) than novice or first-time users. Therefore, it is not necessary for features of the website targeting this audience to be as simplistic as the primary feature-set of the website. Their methods of accessing the website will not foreseeably be any more diverse than those of the primary audience, therefore this aspect of the secondary audience poses no additional challenge.

## Tertiary Audiences

The tertiary audience group is composed of both developers/manufacturers of assistive technology and resellers which specialize in assistive technology. In the case of both of these audiences, it is anticipated that their reason for visiting the site will be to learn about assistivetechguide.com and, depending on what they think of it, establish a relationship with it. This facet of the audience represents little in the way of design influences. Establishing the site's reputation and significance, something already an obvious necessity, is the dominant task concerning them.

## Business Model

Assistivetechguide.com is going to launch in a reasonably tentative state in terms of its business model. I intend to register the domain out of my own pocket, and host the site on a subdomain of my shared server. This way, the site's initial overhead cost will essentially be nothing. If and when the website's traffic level reaches a point such that the bandwidth usage is placing too much of a load on my server, the site will continue under one of two possible business models.

Option 1 would be to have the site independently hosted on its own shared server. This option would afford the most continued autonomy, as the site would be a completely independent and self-sufficient entity. Depending on bandwidth usage and traffic, however, hosting fees could conceivably climb quite high. Therefore, this option would require the site to have some income. In this situation, advertising would be the most logical income avenue. Such advertising would need to be for online resellers rather than manufacturers and developers; as a significant element

of the site will be product reviews, it would be a conflict of interest to accept funding of any sort from the parties being reviewed.

Option 2 would involve affiliating the site with the AbleGamers Foundation -- a group concerned with assistive technology and the accessibility of video games. I have briefly spoken with the founder about this idea, but no firm details have yet been considered. As the foundation owns and operates their own dedicated web server, this option would in all likelihood not impose a hosting cost on the site. Continued registration fees for the domain would also foreseeably be shifted to the foundation in this case. Despite the lowest continued overhead for myself, I consider this option to be a "plan B" as I would prefer to avoid the logistics and politics involved in such an affiliation (such as the foundation imposing creative and editorial control) if at all possible.

## Discussion of Design

### Theme and Style

When a user arrives at assistivetechguide.com, they should feel as if the site is saying to them:

*"Assistivetechguide.com is a comprehensive, reliable, and community-oriented online resource dedicated to guiding you through your search for the assistive technology you need."*

This is critical, because there are already so many sites in existence which deal with assistive technology yet completely fall flat regarding providing adequate information. It's important, therefore, to quickly establish to the user that this website is going to succeed where others may have failed them. Establishing this trust quickly through the site's theme is the most important first step towards ensuring that the users invest time exploring the rest of the site.

When a user arrives on the home page, the apparent content will not necessarily convey the full comprehensiveness of the information found within. The community aspect will hopefully be suggested by the fact that "Community" is one of the four second-level pages, but even this does not capture the scope of the community interaction that will hopefully be a major point of the site. The home page's introductory text will, therefore, need to address these two factors explicitly to make clear the purpose and scope of the site at a glance. Regarding reliability, little beyond the professional and (hopefully) high-quality design of the site can instill in a first-time user much in the way of trust.

The visual style of the website will be clean and professional while not being excessively "stuffy" and sharply gridlike. While alignment will always be adhered to in order to avoid visual clutter and an amateurish appearance, I intend to use curves and a nontraditional header to show that this site is different than others users may have come across in the past. In the header, behind the curved "plate" that runs across the width of the page, I intend to put a logo along with the site's name (and possibly a slogan of some sort) atop a background image. It will most likely be a collage of highly lightened/desaturated small images of individuals making use of assistive

technology. This collage will be a persistent callback to the visually dominant slideshow element on the homepage showing a gallery of images of the same type.

Regarding color, I have not yet made a decision. I definitely intend to primarily work with grayscale, but I do not know what color set I will introduce to augment this baseline (if any at all). Whichever way I elect to take the site's color scheme, I will err on the side of maximizing contrast. Not only do I feel that this can in certain cases give a site a more professional appearance, but it is also a highly beneficial design choice when trying to optimize for users with certain types of visual impairment.

## Content

The content to be included is listed below, broken down by the page or section in which it will be included for easiest readability:

- Homepage
  - Introductory text
  - Flash slideshow of images of individuals using assistive technology
- "About Us" page
  - Text describing the origin of, purpose of, and (possibly) future plans for the site
- "Community" page
  - Text describing the goal of the site's intended community interaction
  - Link to separate web forum (actual forum may not be ready at time of launch, as it is a development project in its own right)
- "External Resources" section
  - List of similar websites to assistivetechguide.com (those that I deem to be of a high enough quality)
  - List of online resellers of assistive technology
- "The Assistive Technology Guide" section
  - Content for as many individual products as can practically be gathered by launch
    - Each product will have a title, brief synopsis, thumbnail image, and possibly a rating/review

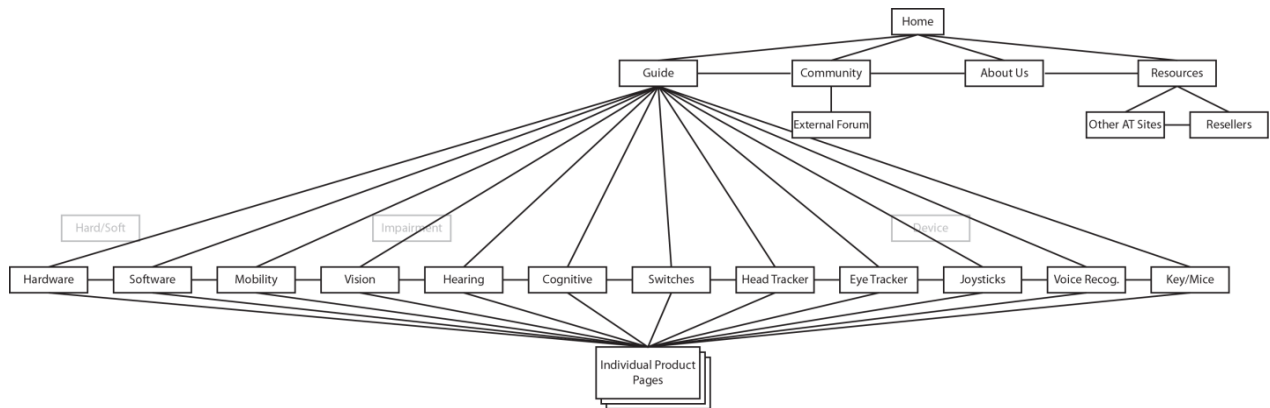
## Content Acquisition

Content acquisition should, for the most part, be easy enough as it is up to me to gather the vast majority of it; I am not dependent on waiting to receive most of it from someone else. Thus far, I have spent a fair amount of time browsing through manufacturer websites to catalog products and record the URLs where detailed information can be retrieved later. I should have upwards of 30-40 distinct products listed on the site at the time of launch, with the specific number greatly depending on how quickly other elements of the site's rollout can be tackled.

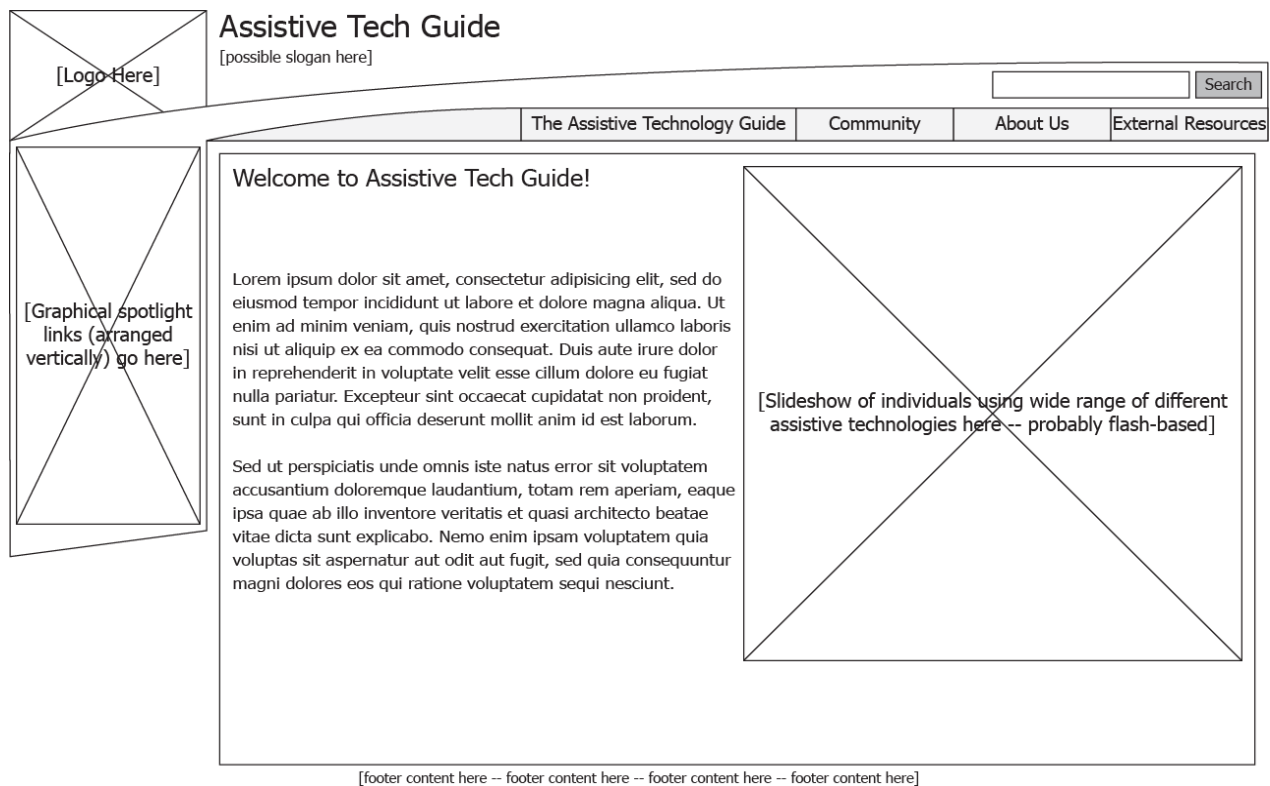
The one challenge of content acquisition that presents itself for this site is in terms of images. Those that will be used in the banner and slideshow (i.e. those of assistive technology being used) will in all likelihood be stock photography. If at all possible, I will stick with images that have been released under a Creative Commons Share Alike license, as this would allow me to make any necessary modifications to them. With respect to the thumbnail product images, I am not certain what IP restrictions would control or limit them. To be safe, I intend to contact product manufacturers to obtain permission to use thumbnail images from their websites.

### Node-Link Diagram and Concept Sketches

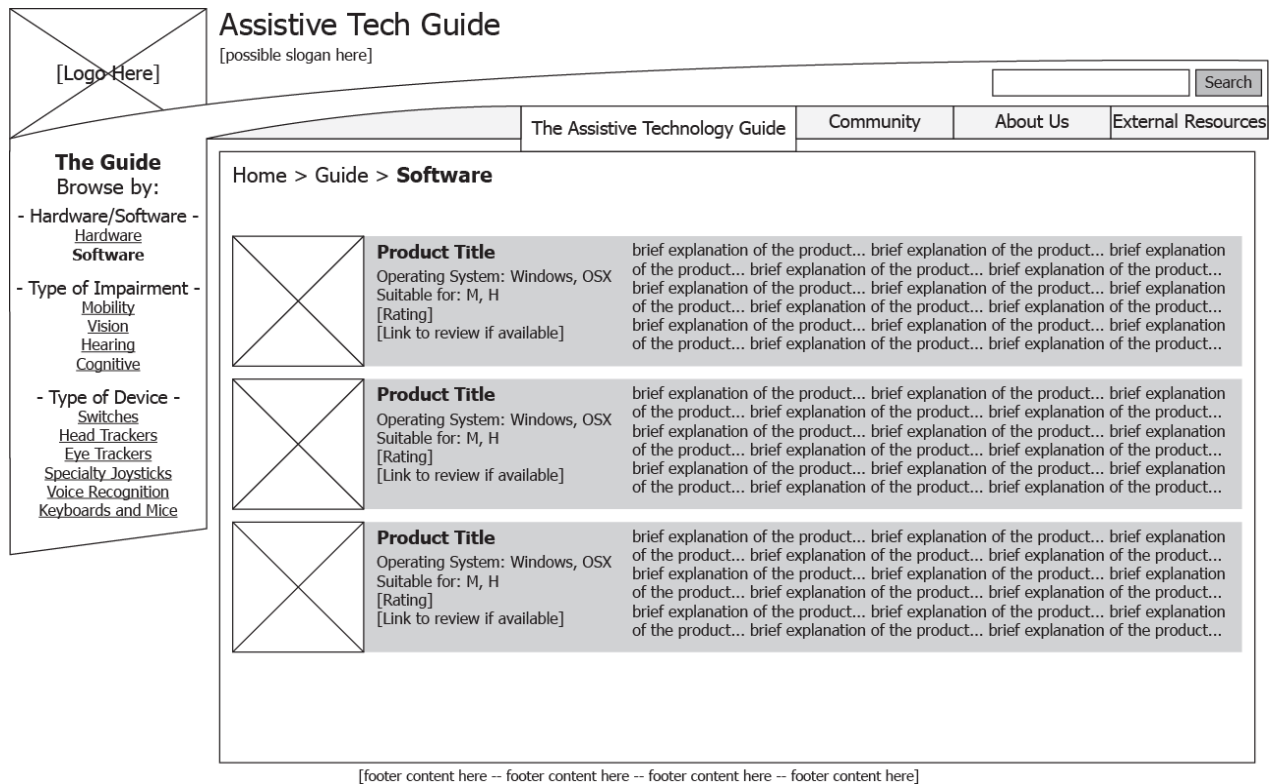
**Figure 1: Node-link diagram**



**Figure 2: Concept sketch of homepage**



**Figure 3: Concept sketch of interior page**



## Evaluation and Usability Testing

I plan to roll out the website in three distinct stages with two phases of usability testing in order to ensure maximum usability and accessibility.

By the end of week 7 or the beginning of week 8, I will launch a skeletal alpha version of the site. This site will have only placeholder content and likely not represent the final visual style. It will exist only to allow me to perform early usability testing on the site's navigation system as well as its compatibility with various assistive technologies. This phase of usability testing will consist of me sending the URL of the website to numerous disabled acquaintances with a wide range of impairments. It will be reasonably unstructured as they likely will not have a specific scenario given to them. Instead, I'll simply ask them to poke around the website and see if any of the elements cause problems or confusion with their assistive technology.

I have never before designed a website with the explicit goal of compatibility with all assistive technologies, so I fully anticipate that this alpha testing will reveal numerous issues I will need to address. Based on the findings, I will develop and rollout the beta build of the site which will represent the tentative final visual appearance and have some fully-realized content. At this point, I will run beta usability tests. These tests will be more structured, will be performed using a different subject set, and will likely involve specific tasks. I will ask the subjects to fill out a survey after completion of the test to enunciate any issues they encountered or suggestions they

have. Findings from the beta test will inform the refinement of the site and the launch of the final gold release.

## Requirements and Timeframe

The following will be necessary to develop assistivetechguide.com:

### Personnel and Equipment

I will be developing the site on my own, and therefore no other personnel is initially required. Usability test participants will be needed eventually, but I have not yet decided on any numbers. In terms of equipment/software, this project will require a LAMP web server, a computer, and the Adobe suite. I already have all of these things in my possession, so acquisition will not be an issue.

### Schedule (Beginning Week 3)

#### **Week 3 (January 18-22)**

Brainstormed project ideas

#### **Week 4 (January 25-29)**

Brainstormed project ideas

#### **Week 5 (February 1-5)**

Decided on project topic and obtained instructor approval

#### **Week 6 (February 8-12)**

Reviewed unsuccessful websites in genre

Created node-link diagram

Created concept sketches

Began gathering product information

Wrote planning report

#### **Week 7 (February 15-19)**

Continue gathering product information

Begin work on alpha site build

#### **Week 8 (February 22-26)**

Launch alpha site

Perform basic usability testing on alpha site

### **Week 9 (March 1-5)**

Use findings from alpha tests to develop functioning beta site

Launch beta site

### **Week 10 (March 8-12)**

Make final revisions (if necessary) based on findings from beta testing

Launch gold site

## **Plans for Future Development**

After the conclusion of this quarter, I hope to implement several features that are not launch critical and my schedule will prohibit me from completing by week 10.

1. Custom content management system for easier adding/changing of listed products
2. Multi-vector product filtering system to allow users to limit displayed products to those that satisfy more than one requirement
3. Forum (if not completed by launch)
4. "Expert" profiles on the community page