ITGS 30IB

Project Report

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**Lewis Carroll’s ”Through the Looking Glass“**

**Identification of the Need**

As computers and other modern information technology tools become more and more important in the way that we entertain and educate ourselves, traditional media will need to be adapted to the new medium. In order to compete for a generation weaned on TV, the presentation of content must be very exciting. In order to do that, the content taken from books must be able to capture someone’s interest very quickly. In order to preserve the culture from important and interesting works they must be transferred to this new medium. However, a certain degree of care must be taken in doing this because, as demonstrated by the software industry in the early days of computer CD-ROM’s, “shovel-ware” is less interesting than the original.

**Analysis of the Problem arising from the Need**

Migrating information from books and print media to digital format is very important because it can be applied to such a range of subjects. My “Through the Looking-glass” project is a good example. “Through the Looking-glass” can be categorized as either entertainment or education. Entertainment content needs to be presented in a way that is dynamic and interesting. Entertainment is best distributed in an on demand format, so that the user can access it when and how they *want* it. An example of this would be the sounds in my project wich only need to be listened to if the user wants. For professional training new information must be provided in a timely fashion and should be linked to the program or information that it is trying to teach the user. Professional training applications could easily be distributed over an intranet. Formal education (Highschool, etc) needs a somewhat different approach, static content presented so that it has very high interest for the students. Migrating content from linear text to a nonlinear hyperlinked multimedia format is very time consuming and requires many skills. In order to create a truly effective migration the final audience must be known. Either of these approaches could be applied to a cheap presentation created in the home.

**Planning IT Solutions**

My overall goal in the production of this project was to create a sample conversion of static text, “Through the Looking Glass,” into a multimedia hyper-linked presentation suitable for distribution over an intranet or the Internet. Unfortunately that technology doesn’t currently exist so I am pursuing the possibility of burning a CD. In planning the project I spent considerable time in choosing a book. From the original idea I had already decided to do a book that was available from the Gutenburg Archives (http://www.aligrafix.co.uk/oxford/guten.html). The Project Gutenburg Archives is a collection of books that have been converted into digital format and released on the Internet after their copyrights have expired. Once I discovered that “Through the Looking-glass” was available from the Project I began planing:

1. Select Tools. This required finding out what tools were available to me and which of those would be useful to me in developing the project.
2. Find content to enhance the presentation. This included finding or creating images, video clips, and voice clips.
3. Organising and digitizing the material. This included scanning the images, capturing the video and recording the dialogue.
4. Reviewing HTML from CS490 (a web development course at the University of Regina) and configuring Netscape Gold.
5. Assemble pages from bits and pieces prepared in previous steps.
6. Test and Revise.

I used several tools in each step as explained below:

1. I found all the available tools by two methods, browsing the Mac at school and my computer at home and using Web searches for shareware. Then I needed to download the shareware (using Netscape and Cute-FTP), unzip and install it (winzip-32).
2. To create the content I used several different tools:

a. To edit and create images I used a Paint Shop Pro (Shareware) at home and Photoshop at school. The airbrush tool on both of these programs was very useful. In the special case of the Animated Gif file on the intro page I used Paint Shop Pro to create the frames and the Gif Construction Set to assemble them into the animation.

1. To record and edit the voices I used SoundForge. I started using GoldWave but it was inadequate for increasing the volume as it gave too much static in the final product so I switched to SoundForge which has much better final quality.
2. For video taping I used the school’s Video Camera.
3. To scan the images I used Umax Scanner software on the Quadra 650. To capture the video clips I used quite a range of programs, all on the Quadra 950 at school. They included some Quicktime tools for viewing the video and making sure it was queued to the proper position. I attempted to use Videovision to capture the video but was unable to do so. Then I switched to Adobe Premier. However when it asked me if I would like to switch off AppleTalk, I selected “no” and so was unable to do video capture. As a result I needed to do frame by frame capture. Next time I was in the lab I discovered that apple talk had been my problem but I no longer had the original tape. Then to get the video clips off the Mac and home, I used the “flatten” feature in Premier to convert the Quicktime Video into the version of that format that is readable to PC’s. Then I used a Mac program called Zipit to compress the files onto floppies. The sound was already digital.
4. The Review of HTML used a combination of Netscape Gold and Windows Notepad. This went without a hitch.
5. Assembling the bits used more of the same tools and much more Netscape.

**Testing and Refinement of the Solution**

During development I asked friends to come over and browse through the project. With guidance from my family and friends my plan changed from through the Looking-glass to just Chapter Seven. After I had set most of the text to HTML, I also had them look over that and Chris Gerber pointed out that I had better change the colour scheme because the background that I had chosen was too complex and was overpowering the text.

The first problem that I encountered in executing the plan was that VRML (Virtual Reality Markup Language) was too complex to include effectively. In order to replace the VRML that was going to be representative of the king and Alice running into town I decided that I could use video. In order to create the video I borrowed the video camera from the school library and took it downtown to Victoria Park with the intention of Video Taping a sequence that would be from the perspective of Alice and the king as they ran into the town square to see the lion and the unicorn. Unfortunately the first time that I tried this the battery on the video camera was dead. Second try I took three takes from different perspectives and at different speeds. Then I took the video into the Lab at school and eventually (as out lined in the tools section of step 3) managed to get some of the video captured. My next task was to take apart the video into individual frames that could be exported and modified to insert the characters from the story. Premier has a feature to separate the video into frames but when I tried to use it, the program would only take the first 31 frames. At first I thought that the cause might be lack of disk space, but then I tried again on another drive and encountered the same problem. 30 frames would be enough if I could get them at the end when the other characters would be in view. After exploring ways that I might be able to get the last 30 frames as opposed to the first 30, I found that there was no way to do this. As my time in the lab was running out I decided to concentrate on getting the video that I had onto floppies to take home. In an effort to do this I used a Mac shareware program called Zipit. Zipit was supposed to compress files in the Zip format. But before I could compress the files they needed to be flattened. Mac computers have a 2 prong file system, one branch of the file contains that data and the other contains the header and other identification information. PC’s only have one part in a file. So First I saved the file in standard Mac Quicktime format and then checked all of the available Quicktime accessories for a utility that would allow me to flatten the files. That proved to be unnecessary as Premier has a plug-in that flattens movies. So after the videos were flattened and Zipped up (in segments) I transferred them to disks. When I got them home and tried to unzip them or even to play the one that I hadn’t needed to compress they were identified as invalid file formats. So in then end the video was also omitted.

I also had an opportunity to run a novice user through the project. The user was able to find their way through the pages with minimal effort. Two problems did arise however. First the user was unable to get back to the main page once they had left it to the other pages I could have solved this with a “Return Home” button but the browser has one that works. The final problem was more concerning. As soon as the first sound was finished loading the user tried to play it, at this point the browser returned an error message claiming that it could not find the Wave file. After encountering this error the browser was also unable to find any of the other sound files. Upon investigation I found that this problem was most easily resolved by allowing the entire page to load before playing any of the sounds. To notify users of this problem a note was placed on the introductory page. However this problem has occurred several more times with no apparent cause.

Our projects are to be evaluated at school and since my project is to large to transport to school on disk or by similar means I undertook to revive my dial-up networking server. This was actually relatively easy. The steps necessary for this were installing the Microsoft plus pack and configuring the server software. During testing with friends last year several problems arose that I will mention only briefly as they were not undertaken with this project in mind although they do effect it indirectly. First the modems were unable to connect, this turned out to be a modem configuration error on my part. Then the protocols were miss-matched, and finally I had to configure file sharing on my computers drives to allow them to be accessed remotely. In the actual presentation the computer at school didn’t have the proper driver installed and so I had to carry my computer to school. I discovered that it was a protocol problem while I was doing a parallel transfer between the computers.

I also went through some strife about copyright in Canada and how it related to Copyright in the US where Project Gutenburg is located, this is outlined in more detail under the Social Effects.

**The Social Effects of the Project**

The primary social effect of the project is to the effect that the migration of users and content to digital media. As outlined in the Description of the Need, much of society is turning more and more to computers and similar digital media for entertainment and education. As they do so there will be an increasing need to transfer content to a media that is both easily accessible and interesting to use, view or participate in, depending on how it is presented.

In an effort to make the content accessible to as many people as possible, access to computers capable of viewing and manipulating these types and amounts of data must be considered. At the current time computers of this type are commonly owned only by people who are quite well off, with considerable disposable income. This limits the audience of entertainment content quite considerably, however in educational settings a much larger audience has the computing power required to manipulate the data since companies and schools often have computers for their employees and/or students. In educational environments the same basic techniques and tools can be used to transfer content such as training manuals and software tutorials in a business environment or textbooks and other reference materials in schools. At the same time this would, with an appropriate networking solution, allow all the resources to be stored in a centrally administered electronic library. This would save a lot of time and money in that many people could use the same materials at the same time while also cutting down on staff needed to maintain the resources.

However this still leaves people who are unable to gain access to the content. Over the short term this does not create many problems as there are many hard copies of important content available in traditional public libraries. However in the long term this type of migration away from paper by those who are able to will likely create as many problems for those who are unable to gain access to the necessary resources, as it creates advantages for those who can access the technology. If content were to make a complete shift into digital information then it would be conceivable that paper copies would become more difficult to find as the need for them was perceived to decrease. This type of trend would dramatically increase the trend towards a large gap between “the haves and the have nots.” Even without this mass migration of content to computers we are already seeing the first steps of this problem. People who have access to technology are using it at great benefit to themselves, and without changing the situation of those who do not have the technology, they are increasing this gap.

The other social effect that digital content has brought to light is the issue of copyright. On the Internet, which is currently the single lagest source of digital content, there are many people from all over the world creating, “borrowing,” referencing, and viewing content. This raises many concerns about what jurisdiction copyright concerns fall into. In the creation of my project I found “Through the Looking Glass” in the Project Gutenburg archives. Since the archives consist of only works that have expired copyrights...in the USA. It originally did not occur to me to check Canadian laws, but eventually I did some searches on the Internet and found that the copyright had also expired in Canada. Since I live in Canada and will most likely be distributing the project in Canada, I decided to only concern myself with Canadian law. This causes some concern because if I post my page to the Internet then, if the copyright has not expired in some other country, or if someone else has purchased the copyright somewhere else, such as England, then I may have trouble on my hands and since there is no practical way to check the status of copyright on a particular work in every country in the world there is nothing that I can do about it. To resolve these concerns two things must be done: First, laws concerning digital information and intellectual property must be created in areas where they do not currently exist, which right now is most places. Second some type of international agreement on these issues must be reached.

**Conclusion**

As with any new development, many social and technical issues of converting content into digital form must be addressed. Concerns of execution and presentation must be addressed, including how to present the content in a way that preserves the original meaning and intent while increasing interest. The social effect of this type of migration must also be considered, including copyright and access issues.