A tale in motion; ascended learning

Stacey Houghton
A Tale In Motion
Ascended Learning

Rochester Institute of Technology
A Thesis submitted to the Faculty of the College of Imaging Arts and Sciences, School of Design

In Candidacy for the degree of Masters of Fine Arts.

Submitted by: Stacey Houghton
Date: May/2007
A Tale In Motion: Ascended Learning
www.taleinmotion.com
by Stacey Houghton
Title: A Tale In Motion: Ascended Learning
An interactive learning tool using the popular children's book entitled *I Love the Rain* by Margaret Park Bridges. This project is designed to make reading more enjoyable through the use of animated text.

Rochester Institute of Technology
A Thesis submitted to the Faculty of the College of Imaging Arts and Sciences, School of Design

In Candidacy for the degree of Masters of Fine Arts.

Submitted by: Stacey Houghton
Date: May/2007
Title- A Tale In Motion - Animated Typographical Children's Book/Learning Tool

Submitted by- Stacey Houghton

Date- May 2007

Thesis Committee Approval -

Daniel DeLuna, Assistant Professor, Computer Graphics Design

Signature of Committee Chair

Chris Jackson, Associate Professor, Computer Graphics Design

Signature of Committee Member

Virginia Orzel,

Signature of Committee Member

Patti Lachance, Associate Professor, School of Design

Signature of Administrative Chairperson

Reproduction Granted:

I, [Signature], hereby grant permission to Rochester Institute of Technology to reproduce my thesis documentation in whole or part. Any reproduction will not be for commercial use or profit. [Date]

Inclusion in the RIT Digital Media Library Electronic Thesis and Dissertation (ETD) Archive:

I, [Signature], additionally grant to Rochester Institute of Technology Digital Media Library the non-exclusive license to archive and provide electronic access to my thesis in whole or in part in all forms of media in perpetuity. I understand that my work, in addition to its bibliographic record and abstract, will be available to the worldwide community of scholars and researchers through the RIT DML. I retain all other ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles and books) all or part of this thesis. I am aware that Rochester Institute of Technology does not require registration of copyright for ETDs. I hereby certify that, if appropriate, I have obtained and attached written permission statements from owners of each third party copyrighted matter to be included in my thesis. I certify that the version I submit is the same as that approved by my committee.

Signature of Author Date
### Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Pages</td>
<td>1-3</td>
</tr>
<tr>
<td>Signature Page</td>
<td>4</td>
</tr>
<tr>
<td>Abstract</td>
<td>6</td>
</tr>
<tr>
<td>Description of Target Audience</td>
<td>7</td>
</tr>
<tr>
<td>Breakdown Description</td>
<td>7</td>
</tr>
<tr>
<td>Scenarios</td>
<td>7</td>
</tr>
<tr>
<td>Thesis Problem</td>
<td>8</td>
</tr>
<tr>
<td>Design Research</td>
<td>9-12</td>
</tr>
<tr>
<td>Aesthetic Decisions</td>
<td>13-17</td>
</tr>
<tr>
<td>Technical Issues</td>
<td>18-20</td>
</tr>
<tr>
<td>Conclusion</td>
<td>21</td>
</tr>
<tr>
<td>User Testing Survey</td>
<td>22</td>
</tr>
<tr>
<td>User Testing Response</td>
<td>23</td>
</tr>
<tr>
<td>Appendix A - Original Proposal</td>
<td>A</td>
</tr>
<tr>
<td>Appendix B - Stills of Web Site</td>
<td>B</td>
</tr>
<tr>
<td>Appendix C - Acknowledgments</td>
<td>C</td>
</tr>
</tbody>
</table>
Abstract:

The education of children in their early development is an essential time for them to develop their minds both cognitively and creatively. Reading, in particular, is one of the most important factors within this developmental stage, and thus needs to be fully grasped by children. A widening gap of illiteracy in America may be lessened by a more interactive and creative approach to learning.

With the advent of the computer and motion graphics software, this thesis proves that there is now a more engaging way of educating our youth. Using the characters within the words to create imagery, rather than a series of lines, this thesis adapts the story of the popular children's storybook *I Love the Rain* by Margaret Park Bridges. It attempts to make a visual link between elements of the story and the typographical contents within. An example of this is a portion of the story that likens the raindrops to race cars zooming down the school bus window. Unlike traditional print media, the format of this book, which this thesis proposes, allows for children as users to interact with the story itself.

Once a child between the ages of four and ten reads a section of the book, they are rewarded with an animation. That is to say, this thesis aims to show children that reading can be a rewarding and enjoyable learning experience. Please visit this thesis' web site at www.taleinmotion.com.
Description of Target Audience:
The target audience for this thesis project is boys and girls between the ages of four and ten who are in the beginning to intermediate stages of their reading skill development. This audience will range in educational experience from pre-kindergarten to fourth grade.

Breakdown Description:
Age Range: 4-10 years old

Gender/Ethnicity: Female and Male/Any Ethnicity, Must Understand Written English

Educational Experience: Pre-Kindergarten to Fourth Grade

Interests: Bugs, Dolls, Race Cars, Playing on the Playground, Video Games, Puppies, Rain Puddles, Having Fun, and a Slight Interest in Learning

Technical Knowledge: Must be able to navigate through a DVD menu, or at least have parental supervision during this portion of the project. If viewed via web site, must be able to navigate through a simple Flash-based web site.

Technical Requirements: Computer with access to the internet, or a DVD player with remote. Viewed via web site, Flash Player 7 is required to view the full extent of content.

Scenarios:
Kelly is a six-year-old girl who is about to begin first grade. Kelly's kindergarten teacher told her mother that Kelly was not developing her reading skills as fast as the other children in her class last year. Concerned for Kelly's further development, Kelly's mother seeks alternative ways of teaching Kelly how to read. Kelly's mother comes across this project over the summer and shares it with Kelly, which in turn keeps Kelly's interests for reading and helps to develop her reading skills, as well as her confidence for the upcoming school year. This project coupled with her traditional learning experience in school will strengthen her reading skills significantly.

Jimmy is a ten-year-old, over-active boy with Attention Deficit Disorder. His third grade teacher has strongly recommended to the principal of Jimmy's school that he not be advanced to the fourth grade due to his lack of reading skills. Frightened of the repercussions to Jimmy's self-esteem, his teacher, Mrs. Lee, suggests to Jimmy and his newly single father that they spend a few minutes every day after school working through this project. She feels it will strengthen his reading abilities, all the while building his confidence, concentration, and enjoyment in reading.
Thesis Problem:

During the preliminary education of a child, there is a select set of skills learned that carries throughout the child's life. These skills help him/her to communicate with others, and thus be productive within society. One such skill is the ability to read; our culture is centralized around the fact that we can all communicate with each other through written language. If this essential skill of reading is not mastered at an early age, illiteracy becomes a huge problem for the rest of the child’s life.

The animated subjects within this project consist of type characters placed in specific ways to form pictures. As opposed to creating traditional imagery to illustrate the story, the typographical elements themselves come alive to visually depict the ideas presented within. As each section of the book unfolds, the user is rewarded for his/her reading skills by an animation that directly relates to that part of the book. This will take the literary education of children to a new level by incorporating typographical elements with an exciting and innovative perspective on reading.

My thesis consists of an interactive learning tool that facilitates reading in children between the ages of four and ten years of age. The thesis project is available through two media formats. One is a DVD format accessible via DVD player, either stand-alone or on the user's computer. The other format is an interactive web site offering extended information regarding the animated elements within the project.

Through this form of reading, and in turn learning, the child is given the confidence and skills needed to confront all of the added trials and tribulations that life has to offer. Without this essential skill, life will be much more complicated and trying on the child’s development.
Design Research:

Before I began this project, I researched several popular children's web sites that used interactivity in a simple, yet useful way. One such site entitled WebKins.com has simple rollover functions that give a meaningful, yet simple response to the child rolling over one of the buttons. Another great aspect of this site is that the creators used simple vector-based graphics that are easily identifiable, Figure 1 and 2. Instead of using realistic photos of stuffed puppy dogs, they transformed these realistic stuffed animals, that children can purchase in stores across America, into vector-based icons that children find easy to identify and fun to play with.

![WebKins.com character and setup screen](image1)

Fig. 1 and 2. WebKins.com character, and character set-up screen from one of the games, 2005-2007.

Another such site that I looked at is created by the Lycette Brothers, and is entitled Not My Type. This site showcases four short animations using type characters instead of lines to generate the main characters and surrounding environments. The plot line circles around an office scenario, where a man has emotional interests in a woman that he works with. The story plots evolve throughout the four separate movie shorts. Although this site is not educational in any way, and merely for adult fun, I found it interesting when I began

![Lycettebros.com Type In Motion characters](image2)

Fig. 3 and 4. Lycettebros.com Type In Motion characters.
Design Research (con't):

creating my characters. The way that the creators used large single characters, Figure 3 and 4, to give a gestural feel to the figures is a very interesting way of outlining them. This gave me ideas for my digital illustrations.

Compared to this very expressionistic way of creating these types of characters seen in Not My Type, another site became a significant interest to me during my research. This web site, entitled Words At Play, used a more detailed approach to creating their imagery. The way in which they use the typography throughout this site is in more of an experimental fashion, compared to what I had set out to attempt through my thesis project.

This site is used in an educational fashion, although it is meant more for adults than for children. Within the pages of this web site, popular scholars and writers are illustrated through actual letter characters rather than lines, as can be seen in Figures 5 and 6. The characters fly into the screen to begin to form the face of the popular individual.

Fig. 5 and 6. WordsAtPlay.com example of animated typography. This example is of Lord Byron, 1788-1824.

There is a very poetic and imaginative feeling to these pieces that I enjoyed. Throughout the creation of my pieces, I would frequently look through this web site for inspiration. I found it to be an exceptional way of displaying this type of information, and thought the children could significantly benefit from such a learning tool.
From here, I started looking at popular children’s books that I felt would be best suited as an illustrated web site. Upon researching dozens of children’s books such as *Where the Wild Things Are*, *Goodnight Moon* and *the Rainbow Fish*, I came across a book that I thought had an excellent moral to it. This book is also illustrated in watercolor drawings that I found intriguing. This book is entitled *I Love the Rain* by Margaret Park Bridges, Figure 7.

The illustrations, Figures 8 and 9, have a very carefree feeling to them, which I gravitated to. These are done by artist Christine Davenier and are what I loosely based my characters from. The combination of these illustrations and the excellently written story line made this book perfect for the type of project I wanted to produce.

Fig. 7. *I Love the Rain*, childrens book cover by author Margaret Park Bridges.
Design Research (con’t):

Fig. 8 and 9. I Love the Rain, childrens book illustrations by Christine Davenier.

The next step was to get the approval from the publisher and the author to use this book in my project. As laborious as this was, it was fairly painless. It took a lot of persistence on my part, but luckily that is one of my strong suits. I first wrote an e-mail to the publisher asking for approval. Then, the publisher needed to get the approval of the author, who agreed to let me use her book. I then simply asked the publisher for a written e-mail stating that I had the publisher’s and the author’s approval to use this book in my thesis project, and I was ready to go!

All in all, I would say this whole experience was much more tedious than anything else. I wanted to make sure that I had researched all that had been done currently, such as the *Not My Type* and *Words At Play*, so that I could gain as much information as possible and make my project that much more successful, by comparison.
Aesthetic Decisions:

From the onset of this project, I knew that I wanted to make the web site portion of it as simple as possible to keep the focus on the reading. For the DVD part of the project, I decided I wanted it to be as similar to the web site as possible, while still remaining easy to navigate. As I went through my research, I noticed that what seemed to work best for this was to merely make the buttons enlarge a bit as they were being rolled over. I then started to sketch out what possible buttons might look like.

When I read the study entitled *Usability of Websites for Children: 70 Design Guidelines* by the Nielsen Norman Group, I decided that shapes and bright colors were what most young children responded the best to when in an online learning environment. Keeping

"I love the rain!"

Fig. 10. The first state of the button, in an umbrella shape.

Fig. 11. Early button images for the web site of this thesis project. The images to the left are for the "Read Story" section, and the images to the right are preliminary images for the "Play All" section.
Rochester Institute of Technology
Stacey Houghton

Aesthetic Decisions (con't):

this in mind, I started sketching out different shapes, mixed with both my hand-drawn and digitally-created images to see which worked best.

In one of the early stages of the buttons, I designed them in the shape of umbrellas, using letters to create them rather than lines, Figure 10. From a design perspective, this wasn’t the best choice for this important action. The buttons needed to be more recognizable, and larger. When these types of buttons were put into the DVD menu, the children became lost within the navigation, and thus became frustrated and didn’t want to watch it anymore. After much trial and effort, I decided on the circle as the background, as can be seen in Figure 11.

I had thought about sound effects upon roll over of the buttons, although my user testing had shown that parents were less receptive to their children going to web sites with lots of noises. Because of the fact that these noises took away from the child’s learning attention, I decided to stick strictly to the sound effects within the animations.

After minor tweaks of what the images on top of the red circles would be for the buttons, I decided to do some user testing in a DVD format. I tested children between the ages of five to eleven years of age. One thing that resounded throughout all of their replies was that the children really wanted to have a section where the story was read to them, and they could sit back and watch the animations. After hearing this, I decided to create such a section. This section became known as “Listen to Story.”

Before this section was added, there were only the following three categories, Read Story, Play All and Contact Me. This fourth section added a new dimension to the web site and the DVD menu. I decided to use my own voice, since women’s voices seem to be more soothing to children.

In choosing the colors, I knew that I wanted to stay with primary colors, red, yellow and blue, with a few secondary colors such as purple and green added in. The reason for this was to make this project seem as seamless of a transition as possible from the child’s educational arena at school. In school, the decorations and posters mainly consist of primary colors to keep information simple and easy to understand. The colors featured in Figure 12 were originally chosen to be showcased throughout the site. Although after doing test runs on the DVD format of the project, the reds and blues seemed to be too saturated. So, the colors in Figure 13 were finally selected due to their less-saturated state. This proved to be less problematic in many factors. Some older computer monitors had a hard time processing the higher saturated colors, and would make the reds turn strange burgundy
Aesthetic Decisions (con't):

Fig. 12. The original color palette for this project.

Fig. 13. The final color palette for this project.

colors, and the blues odd violet hues. So, by changing the overall hue and saturation of the color scheme, it would look crisp and beautiful on virtually every monitor.

After the color palette was set into place, it was time to nail down the design of the sub-navigation areas. I decided to stick with the circular background images from the main navigation, and manipulate it a bit to look similar yet distinctly different. In place of the iconic graphics, I placed still images of each of the scenes. I re-used the idea of making the still images grow as the user rolled over the buttons to keep with the same theme, Figure 14.

Fig. 14. Sub-navigation for "Read Story" section of web site.
Aesthetic Decisions (con't):

I decided to use the same idea of the circles with the still images for the "Listen to Story" section where the user can listen to the story being read to them and simply watch the animations. Although, here I changed the color of the circles to blue. I also added the sound wave graphics along the sides of the buttons to reinforce the fact that they were for the "Listen to Story" section of the site. I found that using the same design for both menus made it easier for the children to focus on the reading, rather than trying to re-

Fig. 15. Sub-navigation for "Listen to Story" section of web site. Learn a new menu format, Figure 15.

So, now that the main menus and sub-menus were identified design-wise, it was time to compile all of the finished Quicktime files for each section. This posed its own set of issues as I went through my user testing. Following, I will showcase three of the several user-tested children within my age group. I will explain to you their thoughts and concerns with reference to the beta version of this thesis project.

An eight-year-old child by the name of Andrew, whom I tested the preliminary beta version of my thesis project on, showed disinterest in the bandleader's mouth within Scene 5. He thought that it bordered on scary. He also mentioned that he would like the animations extended, and that a "Listen to Story" section would be nice. (This was of course the reason this section was added.)

Another sample user by the name of Alexandra, seven years old, was tested using this beta version also. She had mentioned to me that having rollover sound effects on the buttons would be too overbearing for her, while she was trying to learn. She also said that
Aesthetic Decisions (con't):

having a “Listen to Story” section would be very exciting for her as well. One of her final comments was that the subtle sound effects in the “Read Story” section of the rain and tap dancers, etc., was a nice touch that helped reinforce the actions that were taking place in the animations.

A young boy by the name of Jordan, who is eight years old, was one of the first that I tested this project on. He wanted to see the animations extended. He indicated to me that what would make this project “really cool” would be a section where the story was read to you, and you could sit back and enjoy the animations.

After extending the animations within each scene, and adding my voice to the “Listen to Story” section pieces, it was time to compile them all together for the “Play All” area of the project. I decided to use the Quicktime files without my voice on them for this section, to keep the focus on the animations rather than my voice. I noticed that it seemed a little confusing to my users to have my voice and the constant animations play.
Technical Issues:

Throughout the construction of my thesis project, there were four main computer programs that I used, After Effects 7, Flash 8, Photoshop CS2 and Illustrator CS2. The first step was to figure out an effective way to create the motion paths of the letters within After Effects. After doing several letters by hand, I decided to try a different approach. This was to create the paths in Illustrator using the pen tool, and then copy their paths into After Effects. Due to the fact that Illustrator’s pen tool has better control than the pen tool in After Effects, I found it easier to manipulate the points.

Once these were in place, I then needed to figure out a way to get the QuickTime movie files from After Effects to Flash. I first tried to export FLV files out of After Effects to use in Flash. This made the audio stutter. So, then I decided to make QuickTime files out of After Effects using the Animation compression setting to get the best quality possible for the “.mov” file. Then I batch captured all of the QuickTime mov files using the Flash 8 VideoEncoder. I coded the Flash file to load the FLV files externally through a Flash component. This seemed to make the audio within the FLV files not stutter and skip when played online. It took a second or two longer to load completely, however.

The next issue came when I was trying to create the buttons within the sub-navigation windows. I took screen shots of the animated QuickTime movies, and then imported these images into Flash. When I rotated these images slightly to make them look more interesting, however, the crisp lines became jagged and not straight. To overcome this problem, I put a slight blur on them within Photoshop, and then turned on “Allow Smoothing” within the Flash library settings.

Once all of these steps had been made, I spent the rest of my time trying to code everything correctly using ActionScript 2.0 to make everything work together. Most of all, the content is loaded dynamically through the main shell FLA file. I did this by creating a FLV component from the library within the sub-navigation FLA files, then I initialized the name of the FLV file in the Properties section. This told the component which external FLV file to load when that frame was chosen. Then I loaded the sub-navigation SWF files into an empty movieclip within the main FLA shell. Since everything is loading into the main shell, I cut down on the load time for each section. Everything loads initially, and then the child does not need to wait to view each animation; they are pre-loaded already.

Rochester Institute of Technology
Stacey Houghton
Technical Issues (con't):

• DVD Menu Construction

Once the main QuickTime files were finished for the animations, it was time to construct the DVD menu. I used the software DVD Studio Pro to put together the menu, and Photoshop to comprise the buttons. I had a few technical difficulties with this stage of the project. One of these issues was the image quality of the Photoshop images once they were imported to DVD Studio Pro. Every time I would bring a higher quality, 150 dpi, image into DVD Studio Pro, the program would automatically reduce the image quality down to 72 dpi. After I figured out this was an inherent quality of DVD Studio Pro, I decided to take out all of the text that was incorporated into the Photoshop files and generate it within DVD Studio Pro instead. This way there was better image quality that took place when it came to the text, and I could get clean edges.

One essential thing that I needed to remember was that this DVD was primarily for people who could not get to a computer, more for grade schools. In realizing this, I found out after playing the DVD on my home DVD player that televisions have a lower quality resolution than computer monitors, and thus the quality of the images were just fine when viewed via a DVD player.

After this was settled, I designed the menu look-and-feel, and then I was ready to burn it to DVD. I had been used to using the program Toast to burn the DVDs, using the file content information from DVD Studio Pro. Although, when I tried to find Toast on the computers I was using at our school lab, I discovered that it was too expensive and thus taken off the computers; and the license was not renewed. This was a distressing moment in the project, since I was not interested in purchasing the program with my own money. There is a possibility to burn DVD's straight out of DVD Studio Pro, although it is very unpredictable and unreliable. I would have to burn and then check each DVD.

Fig. 16. Look of the main menu within DVD.
Technical Issues (con’t):

individually, instead of being assured that each one worked. Also, about one in four DVD’s would not burn correctly, and thus I would have to throw them away. This became costly after burning several of these disks.

I had wanted to create rollover functions within the DVD menu using the text and the image buttons; however, due to the fact that the text I imported from Photoshop looked horrible, I decided to forgo this idea and stuck with the rollover function strictly on the words themselves, not the buttons as well. Other than that, I am extremely proud of the way the DVD menu turned out.
Conclusion:

With the creation of e-learning, I was sure there was a more interesting way of displaying information for children. I am working on taking this project to the next level of development where it is a program owned by schools. It would let the child's parents and the teacher know that Johnny has read the book assigned to them this week. This project would make Johnny more interested in reading, as well as show him that reading can be an enjoyable and even fun experience.

In addition, I want to take this project a step further, and have the parents notified by an online book selling company, such as Amazon. They would be informed that Johnny had just finished reading this book, in case the parent wanted to purchase that book in a hard copy format, and/or other books from the series for Johnny to read.

Reading is a fundamental part of our society and needs to be mastered by our youth as early as possible to make their further development easier and more seamless. I believe that this project has facilitated such an action, and is designed in a fashion that makes it accessible for children of different ethnicity and social climates.
Rochester Institute of Technology
Stacey Houghton

Survey for *I Love the Rain* DVD:

- Below is a copy of the survey I passed out to children and teachers after they viewed my thesis project to get their feedback regarding the DVD.

Thank you for watching this interactive DVD. Please take a few moments to look over this survey and let me know what you think of my thesis project for Rochester Institute of Technology. Any feedback that you could provide would really help me with the completion of my thesis project. Any added comments you may have are welcomed at the bottom of this page. Please rate the answers from 5 being excellent/yes to 1 being very bad/no. Thanks again.

1. Are the images and animations distracting or enjoyable?

   5  4  3  2  1

2. Would it better if there was an option to listen to the story, as well as read it on your own?

   5  4  3  2  1

3. How easy was the DVD menu to navigate through? Were there any parts that confused you?

   5  4  3  2  1

4. Do the children feel more interested in reading books after viewing this DVD?

   5  4  3  2  1

Comments: (Any other comments or suggestions you may have are appreciated below.)

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you!

Stacey Houghton
smh2565@rit.edu
Rochester Institute of Technology
Stacey Houghton

User Testing Survey:

The following is a summary of the survey that I created to have children and teachers fill out after viewing this thesis project at a local Western New York school:

Comments:

Teachers:
• Another option would be to have the words read if you hover the mouse over it. When a child hovers their mouse over a specific word, a voice would pronounce the word for them, to help with pronunciation. The kids loved the animations!

• My students were very engaged throughout the DVD. I would love to see the DVD surrounded by a specific learning strategy, such as word families or comprehension strategies. I enjoyed it myself!

• The children liked the DVD. They were engaged to know/hear more stories on DVD.

Children:
• I like that the author made pictures from numbers and letters.

• Awesome Job! I liked when she said what are we having for dessert? Sugar cookies with sprinkles.

• I like it how it rhymed and made sense too.

• I liked it because of the little pictures after the words. It was cute.

• I think the moving pictures are funny. I think it should be on headphones.

• I really liked the pictures. I like the story too.
Thesis Proposal for Master of Fine Arts Degree

Rochester Institute of Technology
College of Imaging Arts and Sciences
School of Design
Computer Graphics Design

Title- Typology - Animated Typographical Children's Book/Learning Tool

Submitted by- Stacey Houghton

Date- Sept. 2006

Thesis Committee Approval -

Daniel DeLuna, Assistant Professor, Computer Graphic Design

[Signature]
Signature of Committee Chair

Chris Jackson, Associate Professor, Computer Graphic Design

[Signature]
Signature of Committee Member

Virginia Orzel,

[Signature]
Signature of Committee Member

Your signatures on this page authenticate that you are all committed to work with me in my effort to complete this thesis project for the time period indicated on my timeline.
Ascended Learning: An Animated Typographical Children’s Book/Learning Tool
by: Stacey Houghton
May 25th, 2007
Abstract:

The education of children in their early development is an essential time for cognitive and creative development. Reading in particular is one of the most important factors within this development stage, and thus needs to be fully grasped by the child. A widening gap of illiteracy in America may be lessened by a more interactive and creative approach to learning.

With the advent of the computer and motion graphics software, this thesis proves that there is now a more engaging way of educating our youth. Using the characters within the words to create imagery (rather than a series of illustrative lines) is how this thesis project will maintain its uniqueness from other such projects. This thesis adapts the story of the popular children's storybook *I Love the Rain* by Margaret Park Bridges and makes a visual link between elements of the story and the typographical contents within. An example of this is a portion of the story that likens raindrops to race cars zooming down a school bus window. Unlike traditional print media, the format of this project, which this thesis proposes, allows for children as users to interact with the story itself.

When children within this thesis' target audience (four to ten years of age) read a section of the book, they are rewarded with an animation. That is to say, this thesis aims to show children that reading can be a rewarding and enjoyable learning experience. Please visit the web site of this thesis at www.houghtondesigns.com/thesis06Site.html.
Rochester Institute of Technology

Audience:

Description of Target Audience:

The target audience for this thesis project is boys and girls between the ages of four and ten who have a beginning to intermediate reading level. This audience will range in educational experience from pre-kindergarten to fourth grade.

Breakdown Description:

Age Range: 4-10 years old

Gender/Ethnicity: Female and Male/Any Ethnicity, Must Understand Written English

Educational Experience: Pre-Kindergarten to Fourth Grade

Interests: Bugs, Dolls, Race Cars, Playing on the Playground, Video Games, Puppies, Rain Puddles, Having Fun, and a Slight Interest in Learning

Technical Knowledge: Must be able to navigate through a DVD menu or at least have parental supervision during this portion of the project. If viewed via web site, be able to navigate through a simple Flash-based web site.

Technical Requirements: Computer with access to the internet or a DVD player with remote. If viewed via web site, Macromedia Flash Player 7 is required to view the full extent of content.

Scenarios:

Kelly is a six-year-old girl who is about to begin first grade. Kelly's kindergarten teacher told her mother that Kelly was not developing her reading skills as fast as the other children in her class last year. Concerned for Kelly's further development, Kelly's mother seeks alternative ways of teaching Kelly how to read. Kelly's mother comes across this thesis project over the summer and shares it with Kelly, which in turn keeps Kelly’s interests for reading and helps to develop her reading skills, as well as her confidence for the upcoming school year.

Jimmy is a ten-year-old over-active boy with Attention Deficit Disorder. Due to Jimmy's lack of reading skills, his third grade teacher has strongly recommended to the principal of Jimmy's school that Jimmy not be advanced to the fourth grade. Frightened of the repercussions to Jimmy's self esteem, his teacher, Mrs. Lee, suggests to Jimmy and his newly single father they spend a few minutes every day after school working through this thesis project to strengthen his reading abilities. Using this thesis will build Jimmy’s confidence, concentration, and enjoyment in reading.
Project Description:

Thesis Problem:

The early stages of educational development for children include essential communication skills. These skills aid children in becoming productive members of society as they grow older. Because written communication is an important aspect of society, the ability to read and read well is a necessary skill for children to develop. This thesis seeks to assist children in developing strong reading skills through creative use of typographical storytelling elements.

The animated subjects within this project consist of type characters placed in specific ways to form pictures. As opposed to creating traditional imagery to illustrate the story, the typographical elements themselves come alive to visually depict the ideas presented within. This technique will take the literary education of children to a new level by incorporating typographical elements with an exciting and innovative perspective on reading.

Using the book I Love the Rain by Margaret Park Bridges this thesis consists of an interactive learning tool that facilitates reading in children between the ages of four and ten years of age. The thesis project is available through two media formats: DVD format, accessible via a DVD player either stand-alone or on the user's computer; the other being an interactive web site offering extended information regarding the animated elements within the project. One such example of this extended information would be during the race car's animated text scene. A highlighted area around the car implies that it is an interactive element of the story, and that when clicked by the user brings up further information pertaining to race cars that engages and interests children within the aforementioned age range. As each section of the book unfolds, the user is rewarded for their reading skills by an animation that directly relates to that part of the book.

Through this form of reading and, in turn, learning, the user is given the confidence and skills needed to confront all of the added trials and tribulations that life has to offer. Without this essential skill, the development not only as a child but also later in life as an adult will be much more complicated and trying on the individual.
Marketing Plan:

Competitions:

BolognaRagazzi Children's Book Award: Interactive Children's Book
VII International Computer Art Biennale - Rzeszów: Computer Graphic Art
Flash in the Can - Toronto, Canada; Hollywood, California 2007-2008

Exhibitions:

San Jose Museum of Art: San Jose, California
Strong Museum: Rochester, New York

Submissions:

Highlights magazine
Scholastic Books
Leap Frog
Fisher-Price
National Geographic Kids
Flash in the Can

Budget:

Web site:

$10 for a possible new domain name for this project.
$43 for more possible web hosting space.
$150 for 100 DVDs to put project on for competitions and colleagues.
$300 for printing costs: postcards, posters and flyers.
Methods of Completion:

This completed thesis project uses Macromedia Flash to construct the interactive web site as well as its interactive elements. The main part of the work will be completed in Adobe After Effects, including the motion graphics elements. The DVD menu will be constructed using Apple DVD Studio Pro, and Adobe Photoshop for the screen shots used throughout the menu.

Testing:

This project will be tested on children within the age bracket of four to ten years of age, to make sure that the language used is appropriate for this age group, as well as to ensure that the navigation is simple enough for the above age group to work through on the DVD and the web site.

Presentation:

This thesis project will be presented on a DVD player via the computer, as well as on the web at http://www.houghtondesigns.com/thesis06site.html.

Design Issues:

The design issues I expect to encounter while completing this project are as follows: getting the image quality of the DVD menu up to professional standards; maintaining the language used through the piece to be easily understandable by this thesis’ target audience; creating simple highlighted areas for the web site portion of the project to be recognizable to this thesis’ target audience as areas of further information to be clicked on; the interface for the web site needs to simple and non-cluttered with peripheral imagery to keep the interest of the user on the task at hand.
**Rochester Institute of Technology**

**Literature Review:**

**Books:**

Thinking with Type: A Critical Guide for Designers, Writers, Editors, & Students  
by Ellen Lupton  
Princeton Architectural Press 2004  
Typography book that describes different type faces and their uses and proper functionality.

Texts on Type: Critical Writings on Typography  
by Steven Heller and Philip B. Meggs  
Allworth Press March 2001  
This book identifies the relationship between type form and expression, as well as the anatomy of the typefaces within the 20th century. It also explains the principles of typography, which leads into the present and past history of typefaces.

The Ten Commandments of Typography/ Type Heresy: Breaking the Ten Commandments of Typography  
by Paul Felton and Jonathan Barnbrook  
Merrell Oct. 2006  
This book presents the ten main rules or “commandments” of typography, and address issues of legibility, alignment and proper usage of type in different mediums. It also identifies “disciples” of typography which are world-renowned graphic designers such as Eric Gill, Jan Tschichold and Erik Spiekermann.

Advanced Web-Based Training Strategies: Unlocking Instructionally Sound Online Learning  
by Margaret Driscoll  
Jossey-Bass 2005  
This book provides understanding into how to create a productive and useful online learning experience for the user. It focuses on how to tailor your online teaching into a productive learning experience and is written for a teacher. This book shows the well-developed online learning areas, and how and why they work for teaching. This will be a useful source in relation to my thesis project to show what has already been proven to work in an online learning situation.

Designing Virtual Communities in the Service of Learning  
by Sasha A. Barab, Rob Kling, James H. Gray  
Cambridge University Press 2004  
This book describes the way in which teachers design for virtual communities in the service of learning. It is geared toward the teacher and focuses in on the common ground and critical differences in designing technical environments. This book includes studies preformed to show group behavior and learning in electronic forums, in a socio-technical approach. This book will help with my thesis project in that these authors have generated test results regarding online learning and group forums.
Assessing Online Learning
by Patricia Comeaux
Anker Publication Co. 2005
Within this book the author has created a case study of collaborative learning in design online. This book is for teachers who are trying to better design and manage student assessment in an online learning environment. The author believes that online learning can be profitable if accompanied by other teaching methods such as digital video. This book notes the pros and cons of online lecture series in comparison to a seminar-based course. It will be useful to me in that the author has done previous research in online teaching.

How To Be A Great Online Teacher
by Kay Johnson Lehmann
Scarecrow Education 2004
This book makes the claim that any teacher can be a “great online teacher” after reading this author’s instructions. It focuses on all of the aspects a “normal” teacher needs to be successful, and then applies these principles to the online sector of teaching. This book is focused toward a teacher who is looking to move into online teaching. This book will be invaluable to me in that it teaches the proper way to have successful online teaching.

Facilitating Online Learning: Effective Strategies for Moderators
by George Collison, Bonnie Elbaum, Sarah Haavind, and Robert Tinker
Atwood Publications 2000
This book explains how the effectiveness of moderation is a crucial, but often forgotten aspect of turning an online discussion group into a goal-oriented learning community. This book is focused towards teachers, and how having teaching material online can prove to be extremely important and useful for teachers all over the globe. This book will be a bit less useful to me in that it is basically discussing the effective “sharing” techniques teachers use to share information through the web.

Distance Learning and University Effectiveness: Changing Education Paradigms for Online Learning
by Caroline Howard, Karen Schenk, and Richard Discenza
Information Science Publications 2004
Within this book the author provides useful hypothesizes on how distance education classes can be at least as effective, and in certain situations more effective, than face-to face learning. It describes how in the future teachers will be practically forced into some form of online teaching. The author gives an intriguing look into the history and the future of teaching and how it has evolved into online education. This will be resourceful for me in that it will help me with the direction that online teaching is moving towards.
Web Sites/ Articles:

Words At Play
by Matteo Bologna and Roberto de Vicq de Cumptich
http://www.wordsatplay.com
Adobe Systems Inc.

Free talking eBook for Children
by Rolando Merino, Carol Moore
http://www.magickeys.com/books
Free online storybooks that have the option of turning on audio to read the book to the child instead of the child actually reading the book. Good for a wide age of children, 4-12 years old.

Animated Typography: Not My Type IV, by the Lycette Bros.
by Greg Allen Sept. 2004
http://greg.org/archive/2004/09/06/animated_not_my_type_iv_by_the_lycette_bros.html
Article about an animated typographical piece by Mark & John Lycette, entitled Not My Type. Basic animation, figures aren't really detailed with expression. More for adults, not children oriented.

Lycette Bros. Animations
by John and Mark Lycette
http://www.lycettebros.com
Short animated spots using type to build the characters. Animations are primarily for commercial work, such as Nokia Nseries and ACMI Cinemas. Not all of their projects are using typographical elements, though. The series Not My Type 1-4 are all adult based animations using type to form pictures and characters. Implied shapes, rather than completely made. Basic color scheme using plain black text with accents of red.

Ni9e.com
by Fi5e and Max Asare
http://ni9e.com/typo_illus.html
Typographic Illustration of music industry artists, such as Bob Dylan, using the lyrics of the artist's songs to build their portrait and other various imagery, while the music is played in the background. Generated using flash-based programming.
Literature Review (con't):

Expressive Typography
by Paul Prudence May 2005
http://www.Actionscript.com
An article in a series devoted to typography in Flash. Author examines top industry leaders in the motion of type that which brings the type to life. Several examples are shared of such work like Typorganisms, Ni9e and Leogeo who all use typographical art in some way on within their work.

Intersection
by Zach Lieberman
Thesis Project from Parsons School of Design Nov. 2001
This web site is a thesis project from a masters student at Parsons School of Design that studies the typographical space. Experimental use of type with Flash interactivity.

Calliscope.One
by Paul AT
http://www.transphormetric.com/t4/_calliscope01.htm
Artist uses type to produce random interactive kaleidoscopes that are changed by the user's mouse movements on the screen. Experimental work using type as the medium.

Textension
by Josh Nimoy
http://jtnimoy.com/textension/
Textension is an exploration of type as an interactive element in abstract arenas.

For All Seasons
by Andreas Müller 2004
http://www.hahakid.net/forallseasons/forallseasons.html
A piece about memories and seasons using type to represent the author's memory in an interactive format. Experimental use of type as imagery.

Kinetext: concrete-programming paradigm for animated typography
by Chloe Ming-shu Chao
MIT Thesis Project 1998
http://dspace.mit.edu/handle/1721.1/29139

Literacy
Wikipedia
http://en.wikipedia.org/wiki/illiteracy
Illiteracy definition – not having the ability to use language to read, write listen, and speak. This site has numerous charts and graphs pertaining to illiteracy around the world.
Illiteracy on the rise in America
by Larry Roberts
World Socialist Web Site Oct. 1998
Within the American population of 191 million in 1998, as many as 44 million cannot read a newspaper or fill out a job application. One out of two Americans is a functionally illiterate, not possessing the minimum skills needed in modern society. During the post-World War II era the government denied that America had an illiteracy problem. In the 1982 English Language Proficiency Study (ELPS) 12 percent of Americans were found to be illiterate. In 1991 the US government initiated the National Institute for Literacy with the objective of “full literacy” in America by the year 2000.
Thesis Project Timeline:

**Milestones:**
- Proposal Accepted
- Web Site Started
- Finalize Committee
- Pass Thesis Defense
- Content Finalized
- 1st Prototype
- User Testing
- Committee Meeting
- Complete Final Project
- Plan Thesis Show
- 2nd Prototype
- User Testing
- Committee Meeting
- Graduation
- Thesis Show
- Report Revisions
- Publish Report
- Final Project
Welcome!

This interactive children's book was designed to engage imaginative children during their reading years and to help them enjoy reading more. Reading is a fundamental skill and essential to the development of young children. This web site was created to help facilitate that learning, along with adding a touch of fun to the experience.

By clicking the next button at the bottom right hand side of the screen, children can see the story come to life.

So, go on ahead! Let your child experiment through the site. Who knows, they may even learn something.
A Tale in Motion
A Tale in Motion

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Copyright © Stacey Houghton 2007
Acknowledgments:

I would like to thank all of the individuals on my thesis committee, Dan Deluna, Chris Jackson and Ginny Orzel. Their faith in my project helped tremendously when I felt overwhelmed. I would especially like to thank Ginny for being an awesome friend, and Chris for his amazing, unending patience with my coding issues.

I would also like to thank two of my classmates, without whom I could not have gotten through this trying year, Scott Bessey and Natalie Lowes.

My godson, Jordan Yarnell, was the inspiration for this entire project. Without his imaginative spirit and inquisitive nature, this project would not exist.

San Francisco Publishing company and Margaret Park Bridges, thank you for letting me use this wonderful book in my thesis project.

And last, but definitely not least, I would like to thank my fabulous mother and father, Joyce and Frank Houghton. Their love and patience are what kept me going all these years. They always saw the immense capacity for learning and creativity that I hold inside of me.

Thank you again to all of you!