

Rochester Institute of Technology

A Thesis Submitted to the Faculty of
The College of Image Arts and Sciences
in candidacy for the degree of
Master of Fine Arts

The greatest designers in American graphic design history
URL://www.rit.edu/~exa7251/thesishtml

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Date: 06/23/00

This thesis is dedicated to my parents,
Chang Ki An and Sang You Lee.
Their unconditional love have guided me to study abroad.
I also appreciate that my family help and support me to
achieve my goals.

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Introduction

Today, we are surrounded by web media. With new technologies, web design has been advancing day by day. The web industry continues to expand in its commercial use. As a result, designing web graphics is an essential part of graphic design. As a computer graphics designer, it is natural to study web design to develop good design skills.

For my thesis, I wanted to research good design solutions for web graphics and make a prototype from the results. From the research, I wanted to learn the differences and similarities between printed media and digital media in graphic design using the topic, "The Greatest Designers in American Graphic Design".

There are two reasons that made me choose my thesis topic. After studying graphic design as an undergraduate student, I was interested in some of the greatest graphic designers in the world. The Bauhaus, the Crystal Palace, and many other historical subjects were enough to make me excited about the subject. The first reason I decided on my thesis subject was to reflect my interests in the history of graphic design and to learn more about these graphic designers' artwork and their huge influence on graphic history. The other reason is that there are not enough web sites about graphic designers or the history of graphic design itself on the Internet for my research. Most information can be accessed on the Internet but I hardly found any useful web sites about graphic designers. As a result, my thesis will provide a good chance for students and other people related to the field to find out some information on design.

The content of the site should focus on these factors. First, the content should be historical. It will have to include each designer's chronology, biography, and artwork. Second, the content should be informative. From the beginning, thesis projects start under the precondition of providing information to students who study graphic design as well as graphic designers. The site should inform interested people like other educational web sites. Third, the content should be simple. Even though the thesis project provides important information for designers, its content should be simple. Due to the fact that people easily lose patience with web sites, my thesis site should not include a lot of text to grasp the user's attention continuously.

The thesis has been broken down into the following:

Part I: *Information Design*

Definition (thesis subject and goals) - Define target audience and environment - What do users want? - Planning - The Flowchart

Part II: *Interaction Design*

Define design concept - Storyboard with the Flowchart

Part III: *Presentation Design*

Prototype - Implementation

Part IV: *Evaluation*

Test - Evaluation

From my thesis project, I would like to learn more web design technology and design strategy. At the same time, it is a good opportunity to develop a web site from the information design to evaluation. It will give me the chance to get an idea about how to design the web site.

Research

Part I : Influences in American Graphic Design History and Design Style

Paul Rand

Perhaps more than any other American designer, Paul Rand initiated this American approach to modern design. When he was twenty-three years old, Rand began the first phase of his design career as a promotional and editorial designer for the magazines *Apparel Arts*, *Esquire*, *Ken*, *Coronet*, and *Glass Parker*. His magazine covers broke with the traditions of American publication design. A strong knowledge of the modern movement, particularly the works of Klee, Kandinsky, and the cubists, led Rand to the understanding that freely invented shapes could have a self-contained life, both symbolic and expressive, as a visual-communications tool. His ability to manipulate visual form (shape, color, space, line, value) and skillful analysis of communications content, reducing it to a symbolic essence without being sterile or dull, allowed Rand to become widely influential while still in his twenties. The playful, visually dynamic, and unexpected often found their way into his work. A *Direction* magazine cover shows the important role of visual and symbolic contrast in Rand's designs. The hand written Christmas tag on a crisp rectangle contrasts with an edged collage element; a Christmas package wrapped with barbed wire instead of ribbon was a grim reminder of the spread of the global war. Rand seized upon collage and montage as means to bring concepts, images, textures, and even objects into a cohesive whole.

From 1941 until 1954 Paul Rand applied his design approach at the Weintraub advertising agency. His collaborations with copywriter Bill Bernbach (1911-82) became a prototype for the now ubiquitous art/copy team working closely together to create a synergistic visual-verbal integration. Campaigns they created for clients, including Ohrbach's department store, featured entertaining puns and wordplay supported by Rand's whimsical integration of photography, drawing, and logo. The image visually reinforces the headline. After leaving the agency, Rand became an independent designer with increasing emphasis on trademark and corporate design. *Thoughts on Design*, his 1946 book illustrated with over eighty examples of his work, inspired a generation of designers.

Rand understood the value of ordinary, universally understood signs and symbols as tools for translating ideas into visual communications. To engage the audience successfully and communicate memorably, he knew that the designer's alteration and juxtaposition of signs and symbols, or reinterpretation of the message, was necessary to make the ordinary into something extraordinary. Sensual visual contrasts marked his work. Playing red against green, organic shape against geometric type, photographic tone against flat color, cut or edges against sharp shape forms, and the textural pattern of type against white margins were some of the contrast in which he delighted. In addition, Rand took risks by exploring unproven ideas. In his cover design for the American Institute of Graphic Arts, design becomes play and the futurist concept of simultaneity is evoked.

For all his visual inventiveness, Rand defined design as the integration of form and function for effective communication. The cultural role of the designer was defined as upgrading rather than serving as the least common denominator of public taste. During the early period of Rand's career, he made forays into the vocabulary of modern art but never parted from an immediate accessibility of image. This is the major hallmark of his contribution-perhaps there is a limit to how far a designer can follow the modern painter into the uncharted realm of pure form and subjective expression without losing the vital foothold on public communication.

- Philip B. Meggs (*A history of graphic design*, 1998), 337-339

Alexey Brodovitch

A migratory progress began slowly, then reached a crescendo by the late 1930s, as cultural leaders from Europe, including many graphic designers, came to America. The design language they brought with them, and the changes imposed on their work by their American experience, forms an important phase of the development of American graphic design.

Shortly invited Alexey Brodovitch to become art director of Harper's Bazaar,

where he remained from 1934 until 1958. Brodovitch, a Russian who had fought in the czar's calvary during World War I, immigrated to Paris and established himself as a leading contemporary designer there. Before heading to the razor-sharp type on clear, open pages, he rethought the approach to editorial design. He sought "a musical feeling" in the flow of text and pictures. The rhythmic environment of open space balancing text was energized by the art and photography he commissioned from major European artists, including Henri Cartier-Bresson, A.M. Cassandre, Salvador Dali, and Man Ray. His cropping, enlargement, and juxtaposition of images and his exquisite selection from contrast sheets were all done with extraordinary intuitive judgement. He saw contrast as a dominant tool in editorial design and paid close attention to the individual page, the spread, and the graphic movement through the editorial pages of each issue.

During the early 1950s Brodovitch designed the short-lived visual arts magazine *Portfolio*. At the height of his graphic powers, Brodovitch gave this publication a seldom matched elegance and visual flow. The pacing, cropping of images, and use of color and texture were extraordinary. Large images, dynamic space, and inserts on colored white paper. The tactile and perceptual experience of reading a magazine was intensified.

- Philip B. Meggs (*A history of graphic design*, 1998), 337-339

Lester Beall

Beall was a Kansas City native who moved to Chicago and earned an art history degree in 1926. He was primarily self-taught; his extensive reading and curious intellect formed the basis for his professional. After gaining experience in the late 1920s and early 1930s as a graphic designer whose work broke with American traditional layout. Beall moved to his studio to New York in 1935. In the challenging social and economic environment of the Depression era, he attempted to develop strong, direct, and exciting visual forms. Beall understood Tschichold's new typography and the Dada movement's random organization, intuitive placement of elements, and role of chance in the creative process. Admiring the strong character and form of nineteenth-century American wood types, Beall delighted in

incorporating them into his work of this period. Often, flat planes of color and elementary signs such as arrows were combined with photography, as Beall sought visual contrast and a rich level of information content.

Lester Beall helped launch the modern movement in American design during the late 1920s and early 1930s. During the last two decades of his career, Beall created pioneering corporate-identity programs for many corporations, including Martin Marietta, Connecticut General Life Insurance, and International Paper Company. He also contributed to the development of the corporate-identity manual, a firm's book of guidelines and standards for implementing its program. Beall's manuals specifically prescribed the permissible uses and forbidden abuses of the trademark. If a plant manager in a small town retained a sign painter to paint the trademark and name on a sign, for example, the corporate design manual specified their exact proportion and placement. In discussing his mark for International Paper Company, one of the largest paper manufacturers in the world, Beall wrote, "Our assignment was to provide management with a strong mark that could be readily adapted to an immense variety of applications. This ranged from its bold use on the barks of trees to its intricate involvement in repeat patterns, carton designs, labels, trucks. In addition to its functional strength, the new mark is a powerful force in stimulating and integrating divisional and corporate identity with positive psychological effects on human relations." The International Paper Company trademark was initially controversial: The letters I and P are distorted to make tree symbol, and critics questioned whether letterforms should be altered to this extreme. The continuing viability of this mark since its inception indicates that Beall's critics were overly cautious.

- Philip B. Meggs (*A history of graphic design*, 1998), 370-371

Part II: Usage Profiles

Image processing

1. Photoshop:

The world-standard image-editing solution for print and the Web.

Photoshop is the first integrated tool set for taking images from concept to completion in print and on the Web, maximizing efficiency while helping the user achieve the finest-quality output in both media.

2. Illustrator:

The industry-standard vector graphics creation software for print and the Web.

Now users can use these fast, flexible tools to transform creative ideas into sophisticated graphics for use on the Web, in print, or in dynamic media projects.

Create compelling artwork for print, presentations, and the Web with this industry-standard illustration software.

Image compression

1. ImageReady:

Adobe ImageReady™ 2.0 software for advanced processing of Web graphics.

2. Fireworks:

Fireworks 3 brings efficiency to Web graphics production. Quickly create buttons, animations, and page comps. Everything remains editable, including files from leading graphics applications. Save production time with the History panel, step-by-step button maker, and the Library. Integrate Fireworks code seamlessly into Dreamweaver and other leading HTML editors.

Animation

1. Flash: Flash 4 is the solution for producing and delivering high-impact Web sites. Pulsing musical tracks, sound effects, gorgeous animations, and innovative interfaces all converge in Flash. All graphics created in Flash 4 appear smooth on screen (anti-aliased) so that users see what the Web designer intended. Beyond their good looks, Flash sites are also about speed. The vector-based sites play as they download.

2. Director:

Director combines graphics, sound, animation, text, and video to create streaming, multiuser interactive Web content that is easy to deploy for CD, DVD-ROM, and the Web.

Multimedia

AfterEffects:

The ultimate tool for motion graphics and visual effects Adobe After Effects 4.1 software offers extraordinary creative freedom and control for designing sophisticated motion graphics and visual effects for film, video, multimedia, and the Web.

HTML Editor

1. Dreamweaver:

Develop groundbreaking sites, automate production, and enhance team efficiency. Control the code with Roundtrip HTML and the revolutionary Quick Tag Editor. Dreamweaver can be customized using HTML, JavaScript, and XML.

2. Golive:

Create and manage cutting-edge Web sites with the innovative visual-design tools in this Web authoring program.

Process

Part I: Information Design (What is the product?)

Definition (thesis subject) - Define target audience and environment - Planning - Organization -
The Flowchart

Definition (goals and topics for thesis project)

- To learn graphic design history
- To learn the greatest designers' work and their contribution in American graphic design history
- To learn graphic design strategies for web design
- To learn how to research and write contents for web media
- To learn web and multimedia technology
- To plan the interface design and construct an actual web site

Define target audience and environment

The conditions under which an interactive product is used can influence its design as much as the content itself.

Target Audience

The target audience should be interested in graphic design history. More specifically they should want to know specific historical facts about American graphic design history. In addition, they should be familiar with using computer programs, especially software which deal directly with the Internet.

Environment

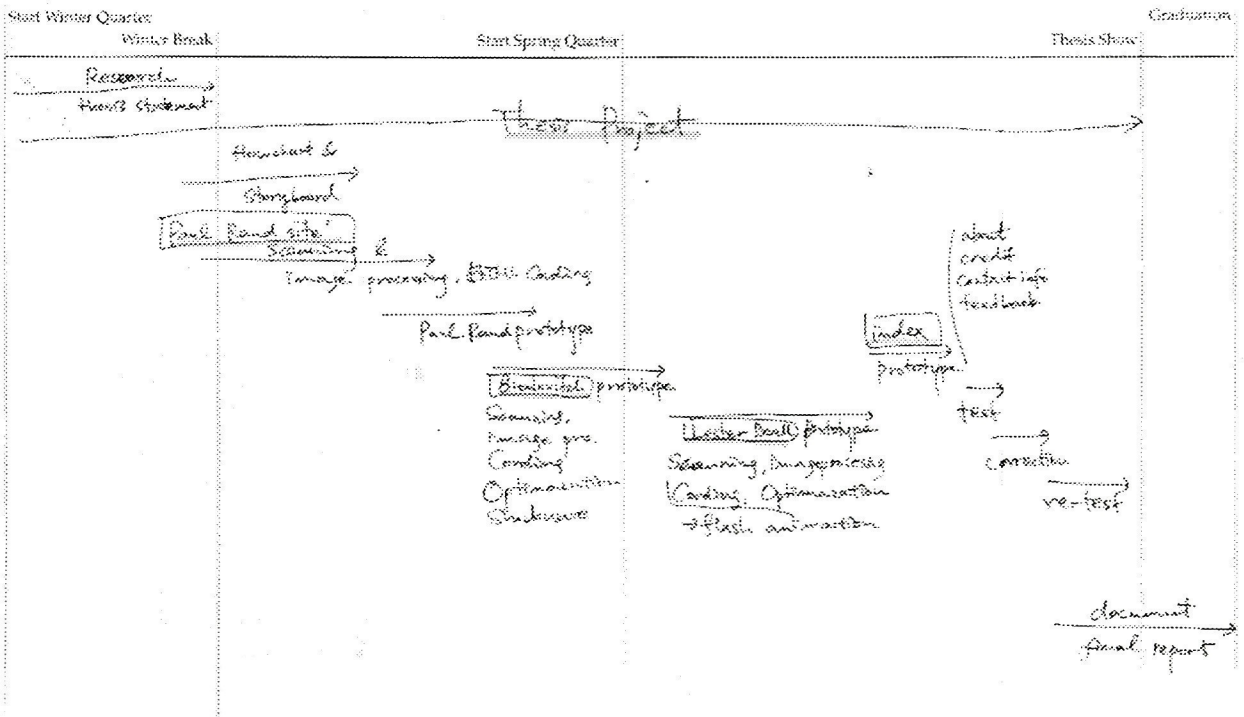
- Usage: Used at home or school for educational purpose.
- Equipment: Mac or Windows supported HTML, QuickTime, Shockwave, and Flash animation with Sound.

Planning (Time Table)

Thesis timeline

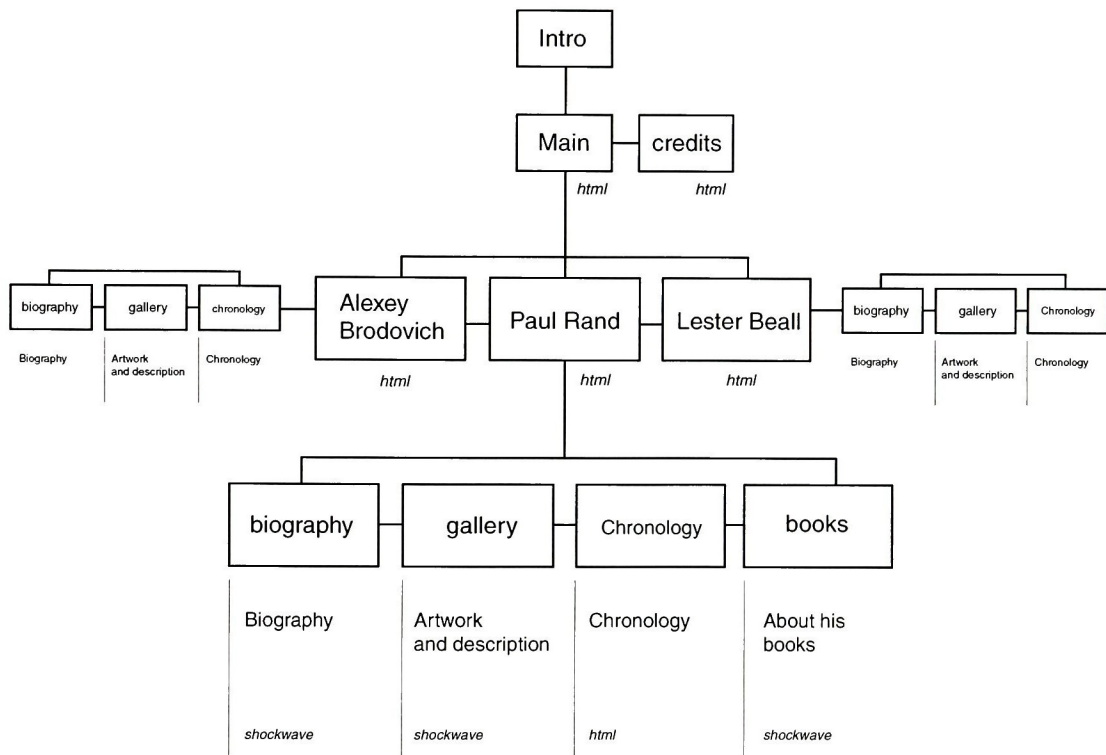
Known Dates

Name of thesis The greatest designers in American graphic history



The Flowchart

Web Architecture ---- The greatest designers in American graphic design



Part II: Interaction Design (How should it work?)

Define design concept - Storyboard with the Flowchart

Define design concept

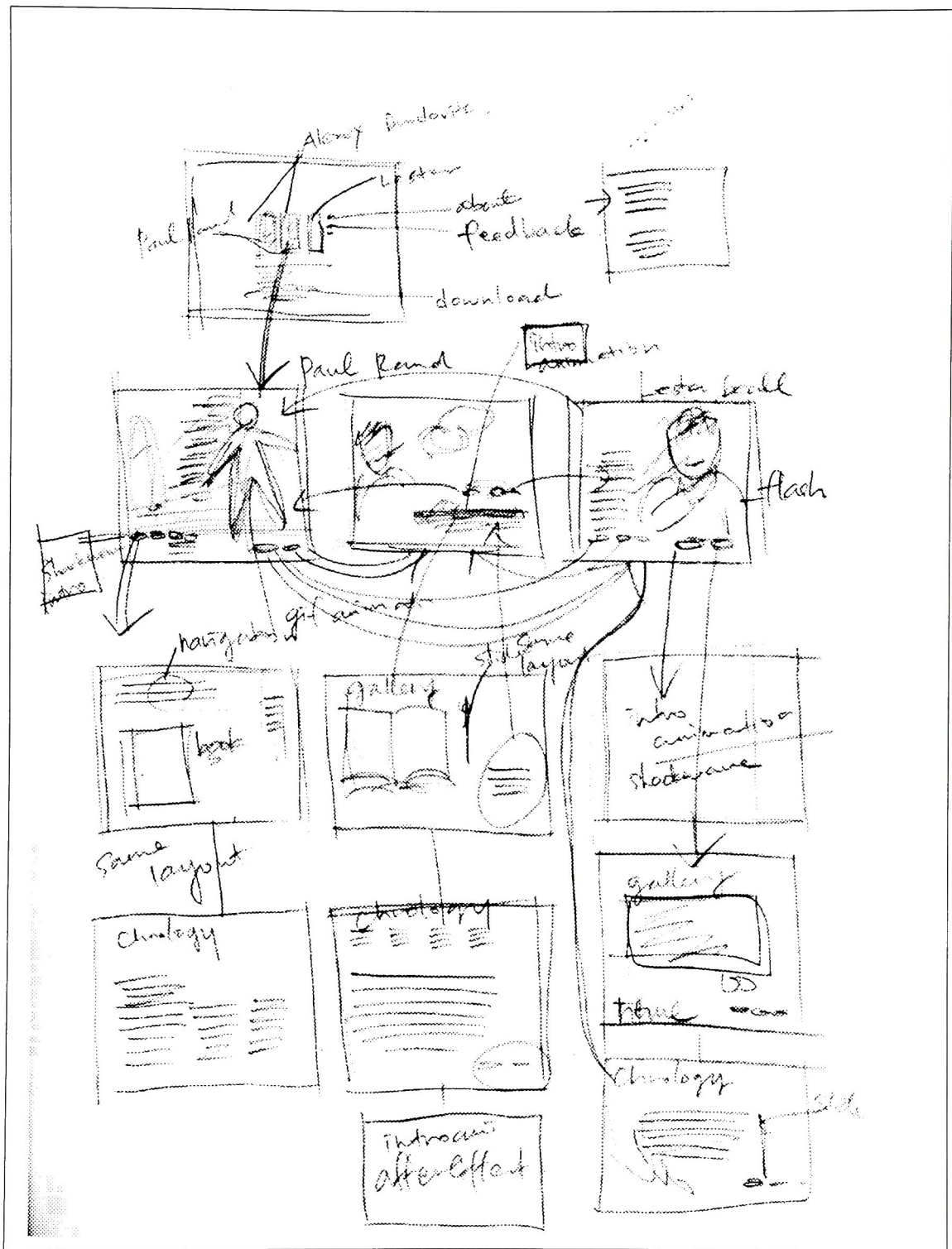
The thesis project is divided into three different sites based on each designer. The index page has the function of combining three different windows and integrating various designs. In other words, each site presents its own design concept based on the specific designers' style. For example, Rand's site emphasizes simple and neat mood design.

Because this project will not be used for a commercial purpose, the structure should be simple, linear and the depth of interactivity should not be too high. This is to make sure the audience doesn't lose their attention while reviewing the project. Although the audience may have some computer experience, most of them will not be professional multimedia users. That is, they are not proficient at chasing a complicated structure. However, an overlay structure will be used in certain sections for any necessary explanation.

I will use "open window" behavior in the HTML editor. Unlike other web sites, web pages can be resized so that the design is not destroyed by the controlling status bar at the bottom of the window.

Previously, there was no way to show the audience my text body in any font other than the default font, which is usually Times Roman. Web designers were handcuffed, not being able to present their text using other font styles. Therefore, I can not expect my own design to stay the same when seen on different systems. The best way to solve this problem is to use Cascading Style Sheets. The other way is to use image-based typography. By using one of these two techniques I am able to use any font I want without worrying whether my audience has the font resident on their system or not. I choose the second solution because I do not have a lot of text information.

Story board with the Flowchart



Part III: Presentation Design (How should it look?)

Prototype

1. Creating Index page

After finishing all the individual web sites, the index page was completed. Because my original concept was to reflect each designer's style on each site, it was difficult to combine the three unique styles on one screen. As a matter of fact, the final index image was created after several changes. (see Figure 1-1)

I decided to use each designer's photograph as a navigation button because of its clear ability to convey information. Instead of simple photographs, I created GIF animations. They also had rollover functions. When the users clicked these buttons, the open window function displays each designer's site.

There are other buttons to open other windows. They are: About This Site, Credits, Contact Info, and Feed Back.(see Figure 1-2) I copied a CGI script from the RIT home page *help* and applied it in my feedback form.(see Figure 1-3)

2. Creating Paul Rand's site

The resolution of the main page is 400 x 400 (pixel). It can not be resized because I do not want the users to control the window so that they are not able to destroy the main design concept. (see Figure 2-1)

The square shape interface depicts simplicity. The main design idea originated from Paul Rand's book "A Designer's Art". He explained about the grid system and the modular system as graphic design formats when students study graphic design. Following his aesthetic, a pitched grid system and a changed modular human body are used as a main background.

This site uses two main image colors throughout the entire site. The background was created using Photoshop and compressed in ImageReady. For making smallest file, GIF file format was chosen. On the right side of the main page, a GIF animation plays a key role in catching the user's attention when this site is first loaded. The main graphic file was imported to ImageReady and sliced for rollovers. With the checking option, the ImageReady file made an HTML file. The next process was to delete junk *HTML Cords* and to add other essential *Cords* using Dreamweaver.

Square shapes are also used as buttons to jump to sub-sections. They are stressed by using rollovers. The function of rollovers is to present text information to help guide users.

In the Biography section, I made a Shockwave animation to present Paul Rand's biography. To make the Shockwave animation, I first chose eight pictures and adjusted color tones and contrasts using Photoshop. After that, the images were imported into Macromedia Director and recreated for the animation by saving them as a Shockwave movie.(see Figure 2-2)

In the books section, all of Paul Rand's books are displayed in chronological order. I tried to emphasis the book's pictures on the screen. Instead of using text typography, I used image-based typography as I mentioned before in the Design section.(see Figure 2-3)

In the Gallery section, the same colors were used. All artwork was scanned and scaled in Photoshop. I created an HTML file like the main page in ImageReady. For effective navigation, I applied Frame in the Dreamweaver.(see Figure 2-4, 2-5)

3. Creating Alexey Brodovitch's site

There are two reasons why I decided on the final design for this site. First, his strong and bold layout was enough to change people's prejudice about editorial design. This was mainly because he was the first graphic designer to use photographs in a two-page layout. The other reason is that I read an article that indicated he was a heavy smoker.

The resolution of the main interface is 600 x 300 (pixels). To emphasis a main image, I used only red and yellow tones for buttons and a title with black and white background. The smoke GIF animation was a successful visual impact on this screen. A GIF animation was created using four slightly different pictures and adjusting layers in ImageReady. I had to keep going back and forth between Photoshop and ImageReady to create the main image. I selected *Polaroid 22* font for a title and navigation for the two other designers' sites. (see Figure 3-1)

Like Paul Rand's site, the Biography section was playing as a Quicktime movie in an extra small window. The Quicktime movie lasted twenty-five minutes. It was transformed by adjusting scale, rotation, position, opacity, and through the use of some filters. I also used Media Cleaner to reduce the size of the Quicktime animation.(see Figure 3-2)

In the Gallery section, all the artwork was displayed with a slide controller. To reduce the loading time, I used 8 bit images in Director. The slide controller script will be provided in the Appendix.

Tables and Frames were used for the Chronology section. Two Frames are used for effective navigation for this section. Because it is not possible to adjust line spacing in the HTML editor, I typed all the text in Dreamweaver and made screen captures. The next process was to open the captured screen shots and change the line spacing. (see Figure 3-4)

The final process was to combine every element in the HTML files. I already had HTML files from ImageReady. Because these files had a lot of unnecessary *Cords*, I had to remove them, add other *Cords*, and insert Javascript.

4. Creating Lester Beall's site

Macromedia Flash provides fast vector animation. I decided to use Macromedia Flash because it gives me other navigational options; a slide controller in the Chronology section for example.

Like other typical flash web sites, the intro animation had an important role. I spent much more time on the intro animation than the interface because of its importance as a first impression. First, I scanned Lester Beall's photograph and imported it into Flash. I inserted a photograph to *Graphic Symbol* and applied *Trace Bitmap*. Usually, bitmap images make the Flash movie size bigger. The Trace Bitmap function increases the file size more than any other function as far as I know. Therefore, I only use one photograph to decrease the file size. Combining it with the effects from Flash's own vector animation, I created a key frame intro animation by controlling size, rotation and by using the Mask layer function. (see Figure 4-1)

I retouched Lester Beall's sketches and transformed them into vector graphics, using Adobe Illustrator, so that they could be used as buttons for the main interface.

In the Intro Animation section, I inserted a Quicktime movie made using After Effects. In the middle of the movie, there is a morphing between a young and old Lester Beall. The Morph 2.5 program was not difficult to use. Using two young and old Lester Beall pictures, I only had to change key points in the morph windows. It was exported to a Quicktime movie so that it could be imported into After Effects. (see Figure 4-2)

In the Gallery section, I decide to use HTML files to present Lester Beall's artwork. Before I mentioned bitmap images affects on the file size. Because over 10 pictures were supposed to be present in the Gallery section, using Flash was not a good idea. Instead, I created Photoshop files with a JPEG format and then sliced images. (see Figure 4-3)

The Chronology section, made with Flash, included many actions for navigation and control. Because there was a lot of information, the scroll controller was the best choice to present information in the small interface. After making the movie clip, a customized action was used. The last process was to insert the Flash movie into the HTML file. (see Figure 4-4)

Implementation (Upload data with FTP and Post on the Web)

After testing on the hard drive, I uploaded the whole file onto my GRACE account using Fetch. The URL is www.rit.edu/~exa7251/thesishtml

Part III: Test and Evaluation

Test

Testing was done using a MAC Operating System only.

Every single HTML page was tested right after saving using Dreamweaver. Nevertheless, the whole site was tested many times to search for any possible bugs. Originally, the thesis site is supposed to be viewed in Netscape 4.0 or higher. While using Netscape, I did not find any problems that needed to be fixed.

I also tested it using Internet Explorer. Internet Explorer did not support Layers for DHML so some rollovers did not show up on the screen. Except for that problem, everything else performed smoothly. The other thing is that some MAC Operating Systems did not support Flash Actions. I tried to find the reason and the solution, but I could not find out why the action was not working properly.

Evaluation

Overall, thesis project is successfully done.

From the audience, I heard that all windows were too small to read.

Most of them liked Brodovitch's site the most because of the strong impact of the main interface.

Appendix B. Lingo for Director Slide Controller

Conclusion

With my thesis, I would like to express all my design abilities while using the topic "The Greatest Designers in American Graphic Design." From the conception of the idea to posting a completed web site, the task was an uphill battle from start to finish. I tried to take advantage of all the techniques and web technology that I could for my thesis.

Since I started to learn multimedia design, web design has been a big challenge to conquer new technologies, different browser issues and the limitation of layout with HTML. To solve this problem, I had to attempt several different methods to achieve my goals. Typography for web design, however, still remains beyond my capability to overcome. A *Cascading Style Sheet* is the best solution in general. Even though new techniques are being developed everyday, different browser issues do not seem to be resolved for the time being.

Before starting the actual interface, I tried to go through the preparation process as thoroughly as I possibly could. It was composed of Information Design, Interaction Design, and Presentation Design. From making this thesis, I learned the importance of the preplanning process. Using this process, I was able to achieve all the goals I set out to accomplish.

Ray Kistof and Amy Satran said, "Every project has unique goals, content, and creative solutions. An interactive project might involve dozens of activities: research, writing, graphic design, interface design, video production, and programming. Balancing these can seem impossibly complex. But it doesn't have to be if you approach interactive design as a process." (1)

I hope that my thesis will be a good example of developing a web site for graphic designers who are looking for information on American graphic designers.

(1) Ray Kistof & Amy Satran, *Interactivity by design*, U.S.A, Adobe Press, 1988

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David Siegel, *Creating killer web sites*, U.S.A., Haydon Books, 1999

Darcy Dinucci with Maria Giudice & Lynne Stiles, *Elements of web design*,
Berkeley, CA., Peachpit Press

Web Sites

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<http://design.rit.edu/design/Biographics/beall.html>
<http://design.rit.edu/design/Biographics/rand.html>
<http://www.52mm.com>
<http://www.363industries.com>
<http://homepages.tesco.net/~otto.greenslade/site.htm>
<http://www.flesh55.com>
<http://www.killersites.com>
<http://www.virtual-fx.net>

Music

Ayub Ogada (Kenya), *Kathbiro*, Putumayo World Music, 1997

Serge Chaloff, *All I do is dream of you*, the original Jazz master series vol.2 , DA Music

Thelonious Monk, *The man I love*, the original Jazz master series vol.2, DA Music

Programs

Photoshop 5.5, Illustrator 8.0, Dreamweaver 2.0, GoLive 4.0, ImageReady 2.0, AfterEffects 4.0,
Director 7.0, Flash 4.0, SoundEdit 16, Morph 2.5

Appendix A.

Screenshots of Web Site

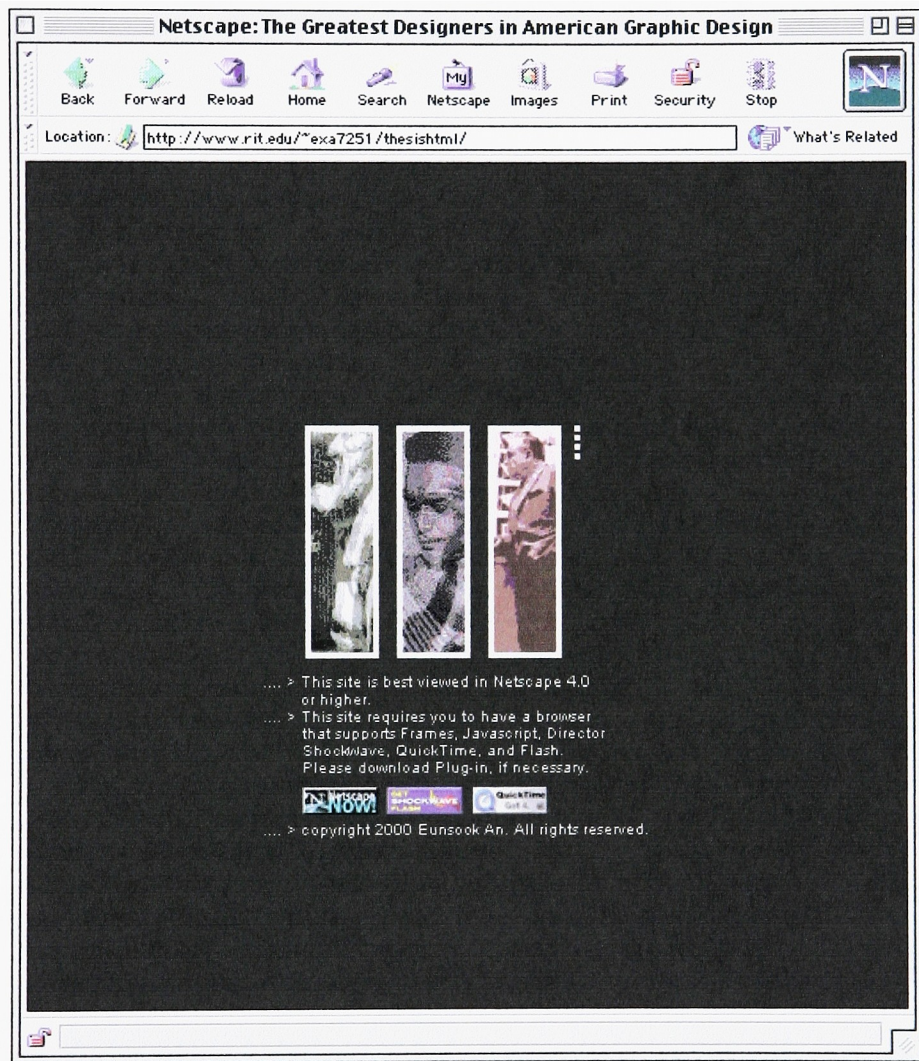


Figure 1-1

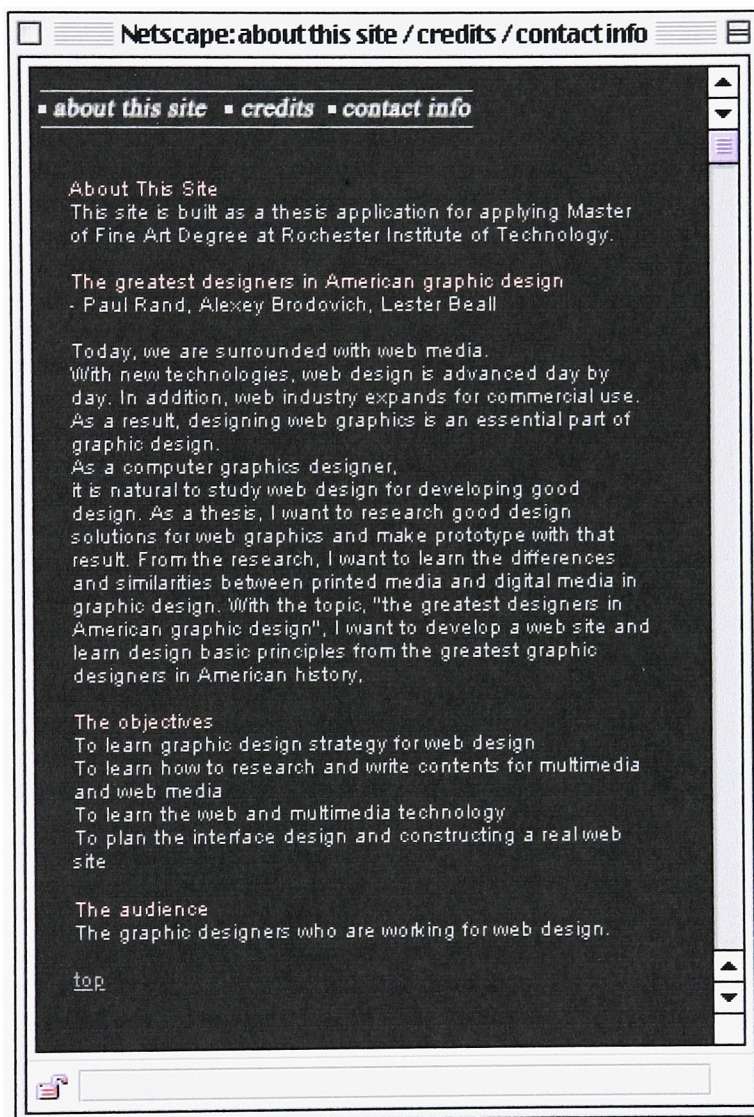


Figure 1-2



Figure 1-3

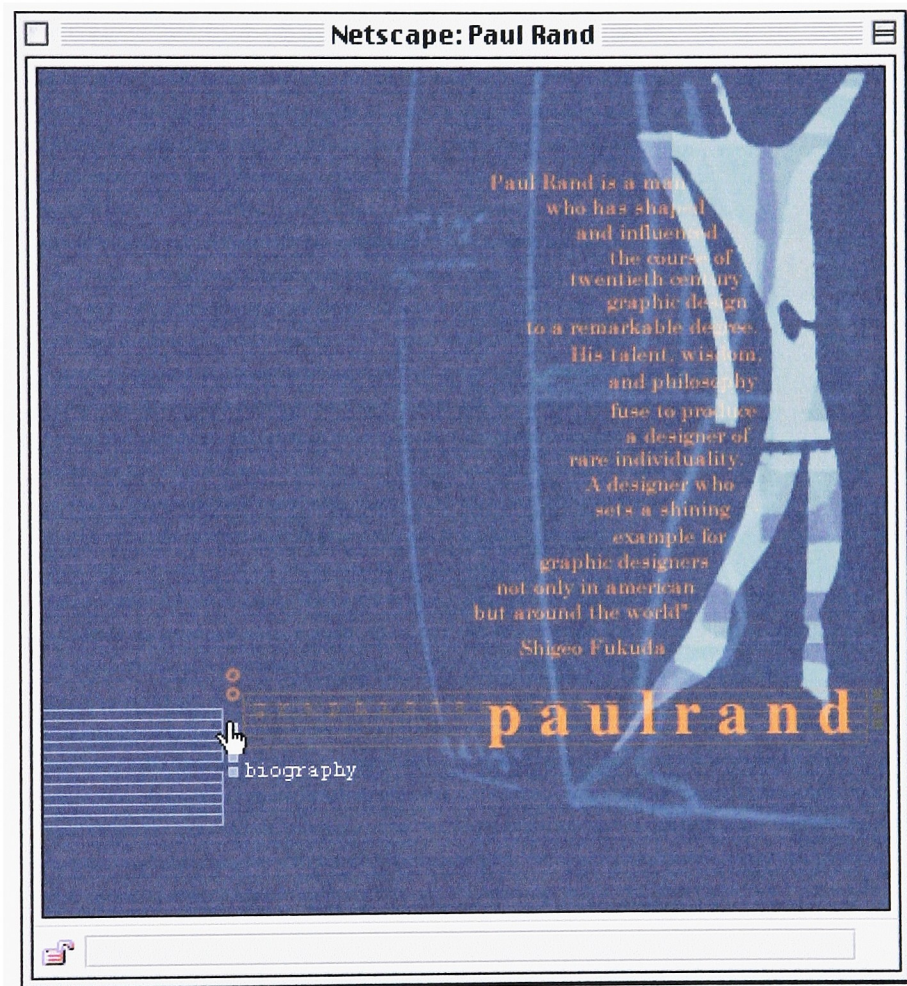


Figure 2-1

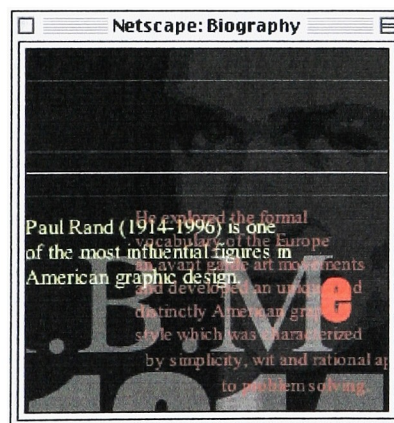
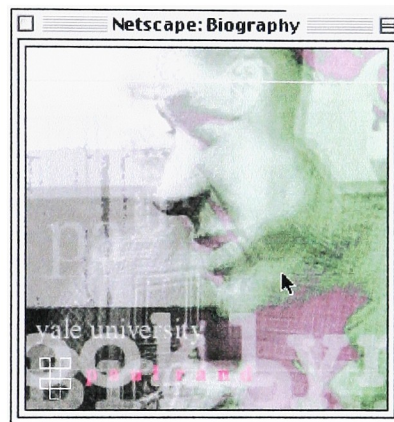
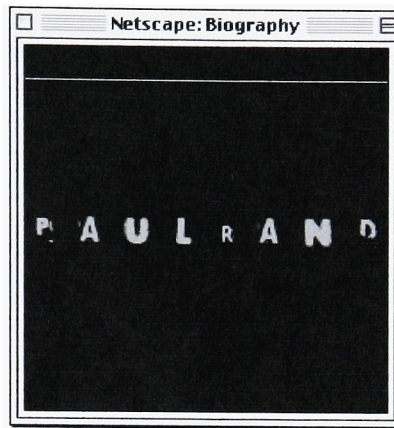


Figure 2-2

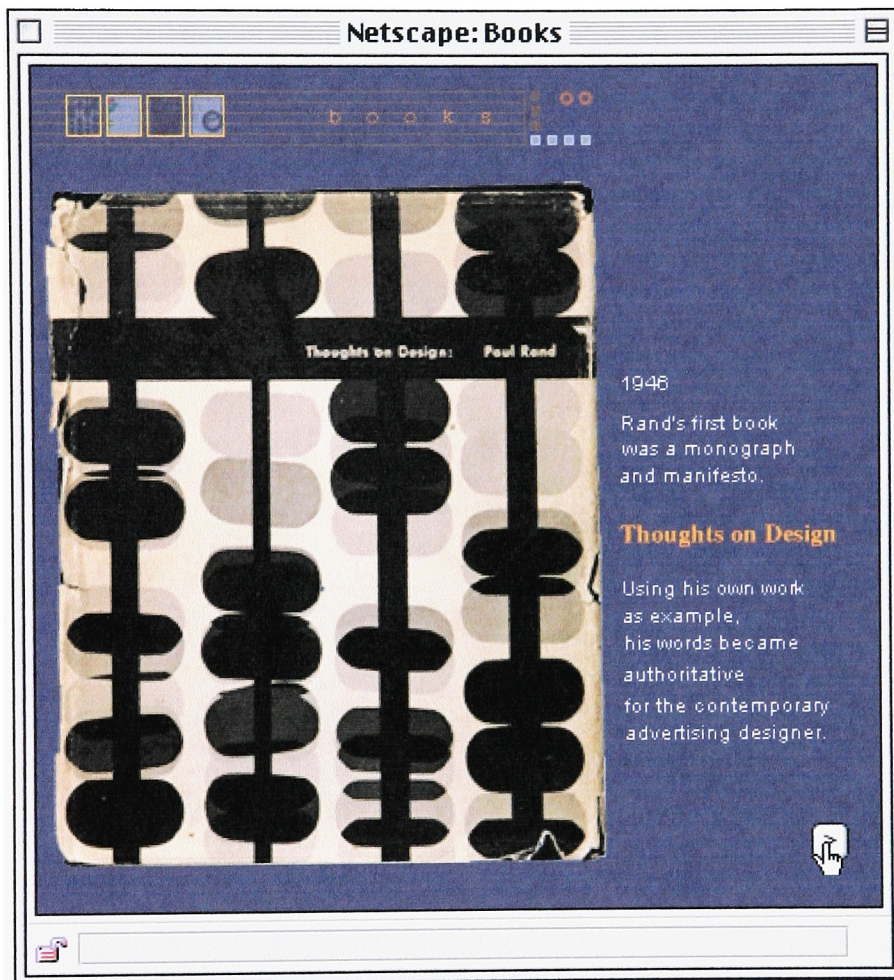


Figure 2-3

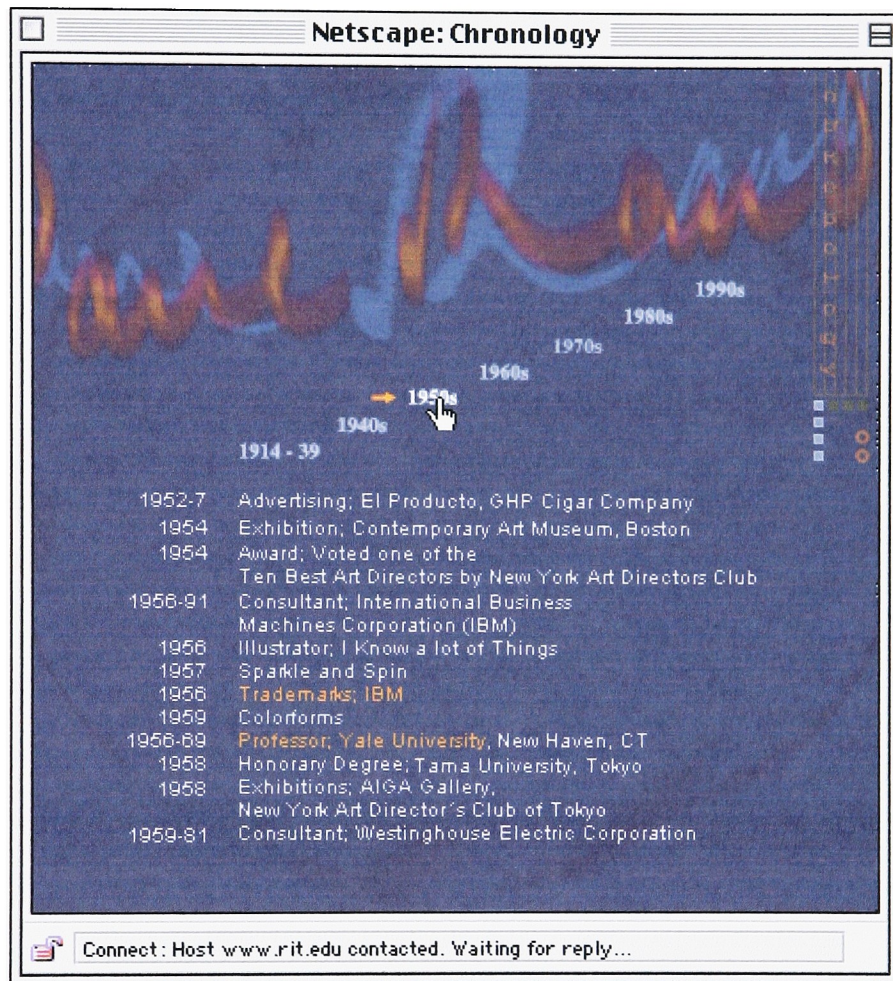


Figure 2-4



Figure 2-5

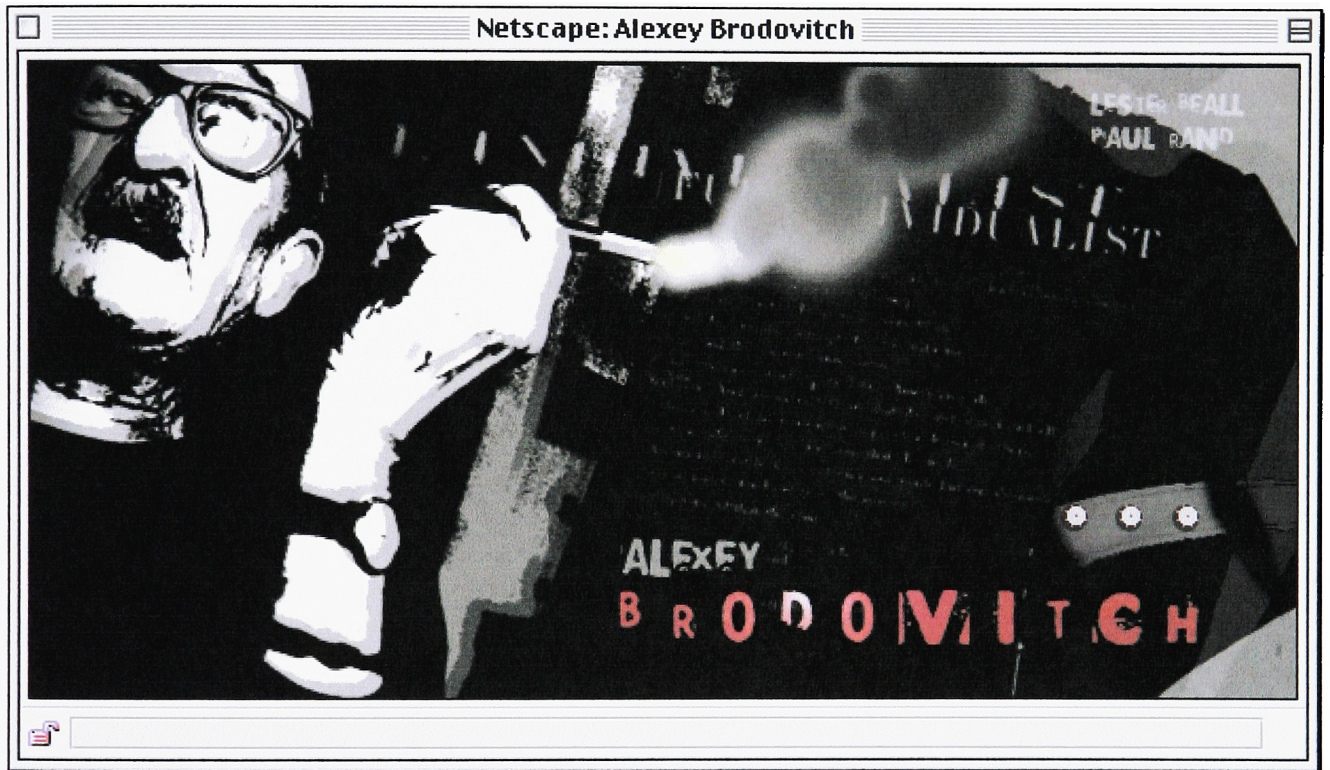


Figure 3-1

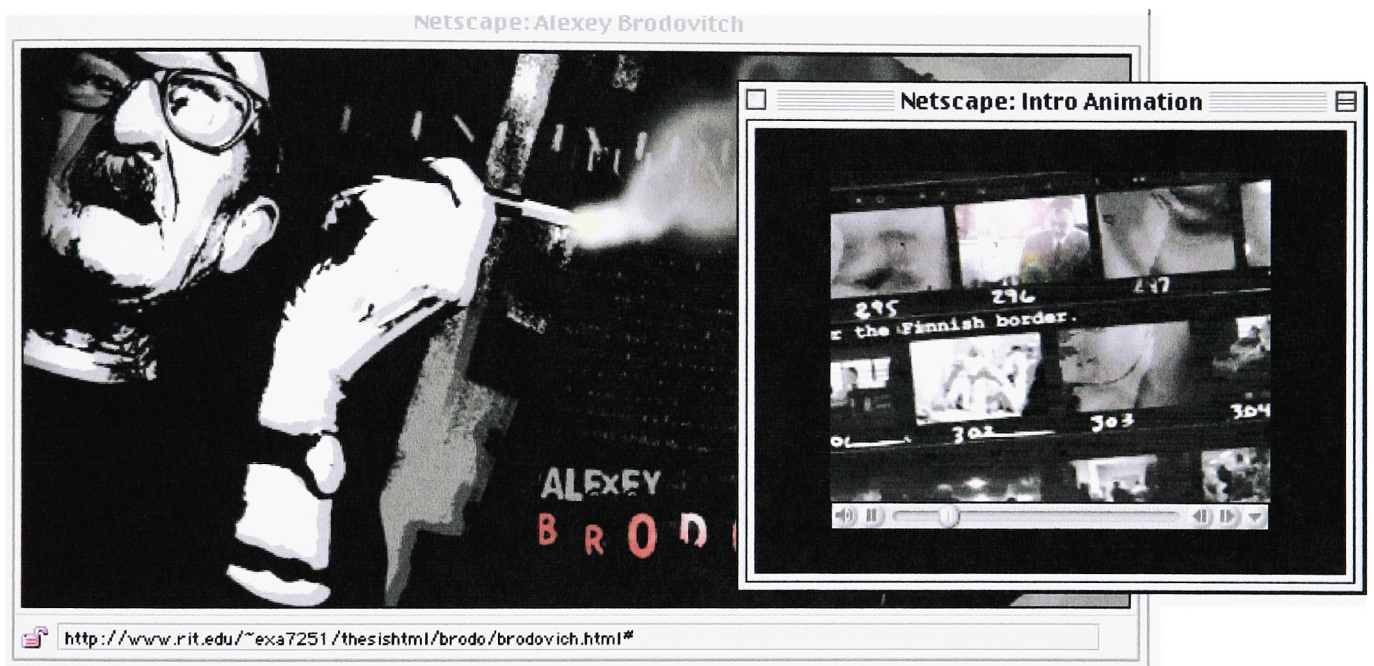


Figure 3-2

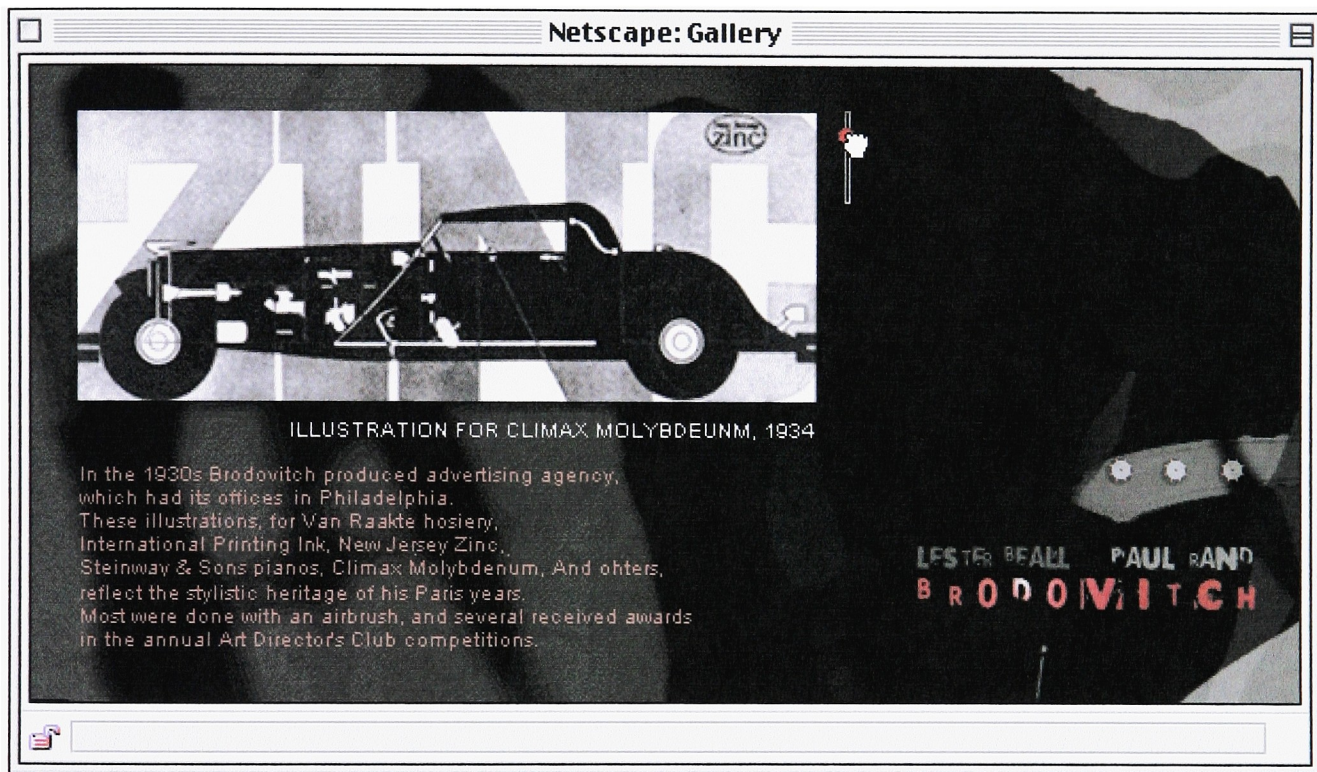


Figure 3-3

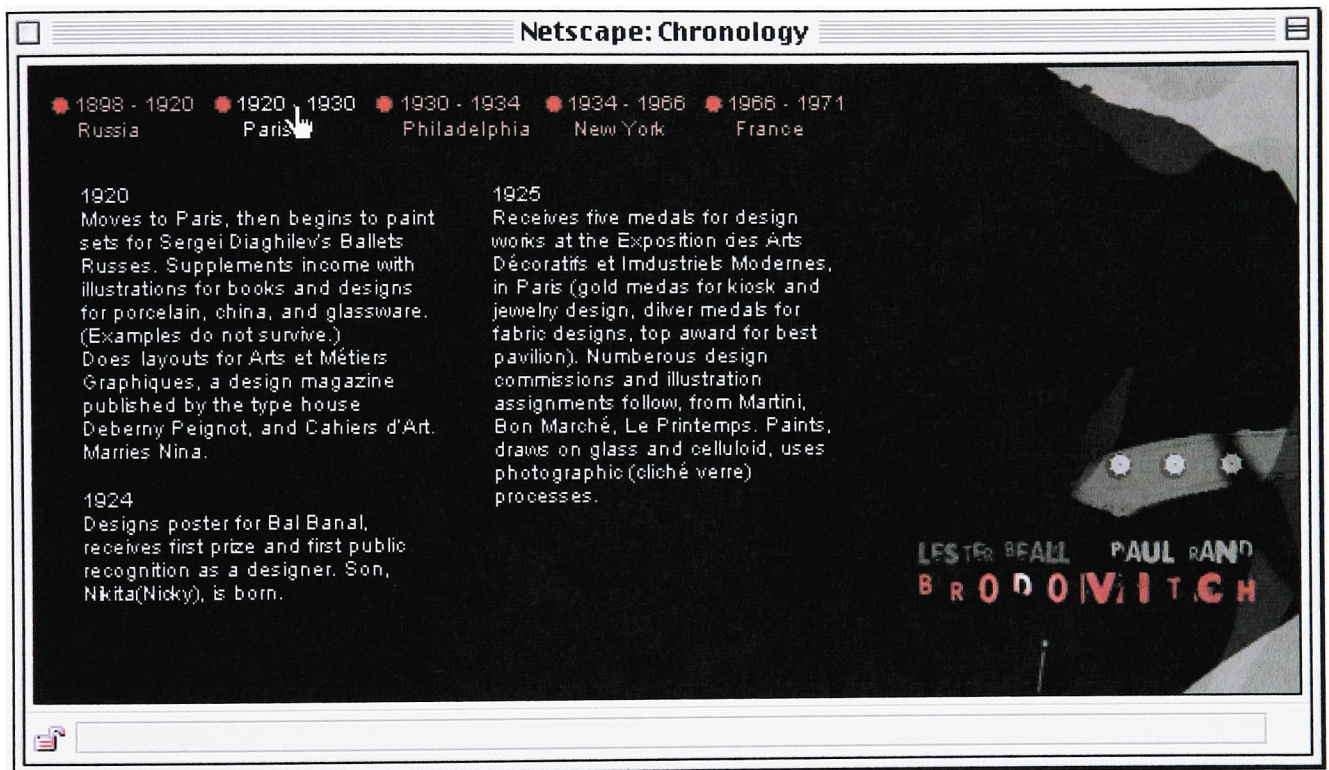


Figure 3-4

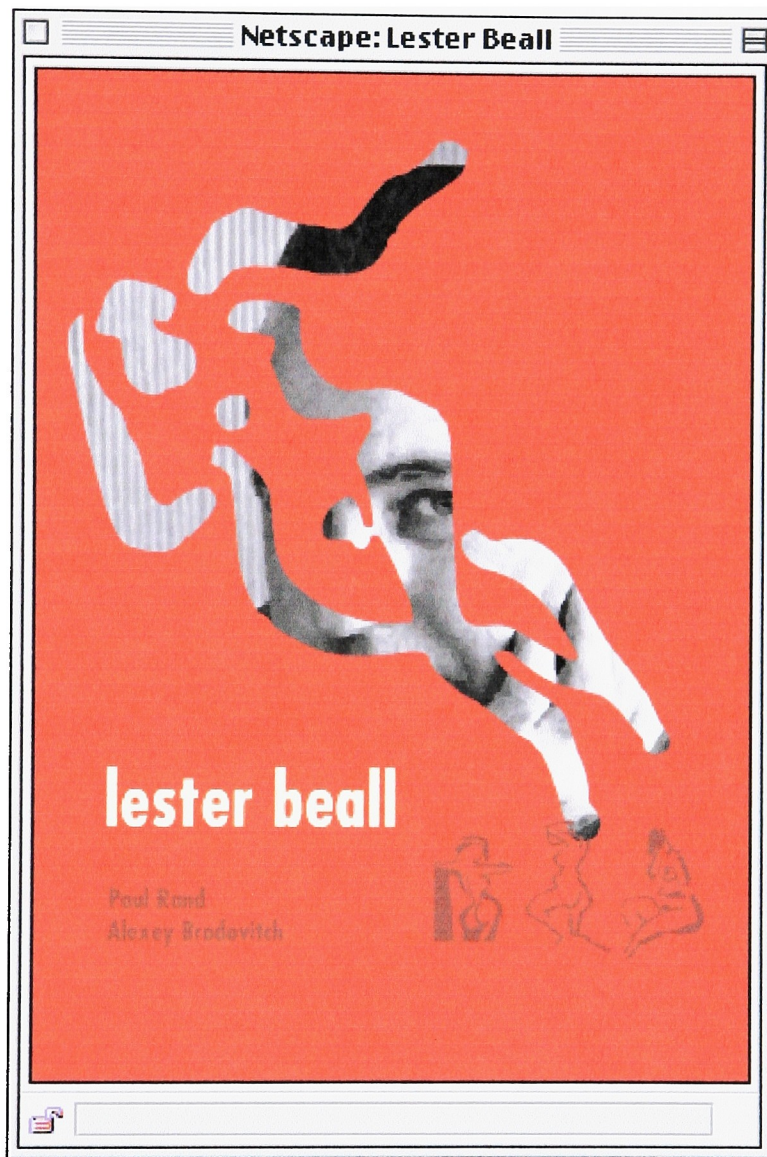


Figure 4-1

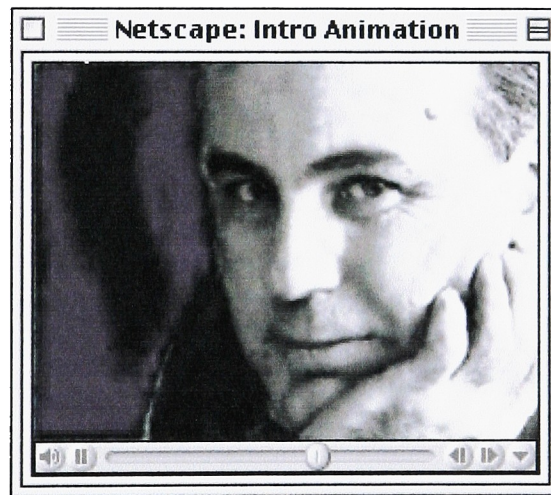
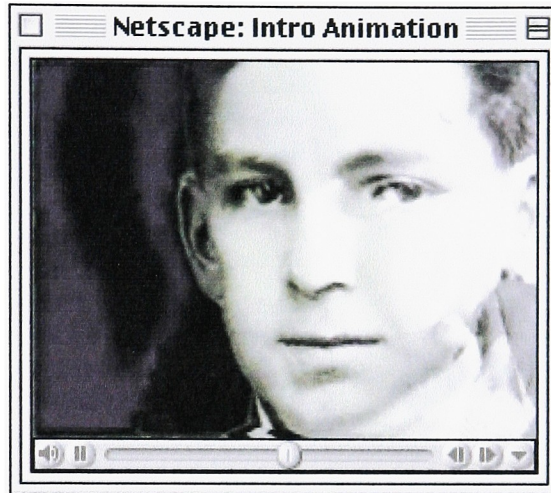


Figure 4-2

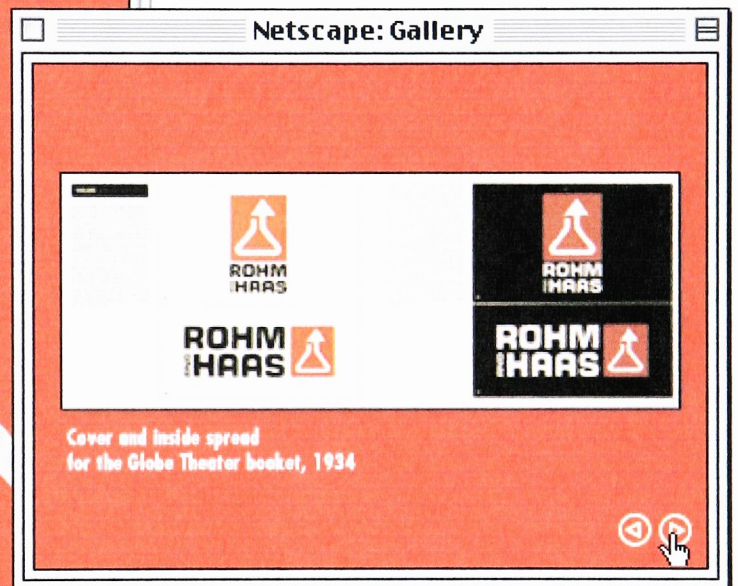


Figure 4-3

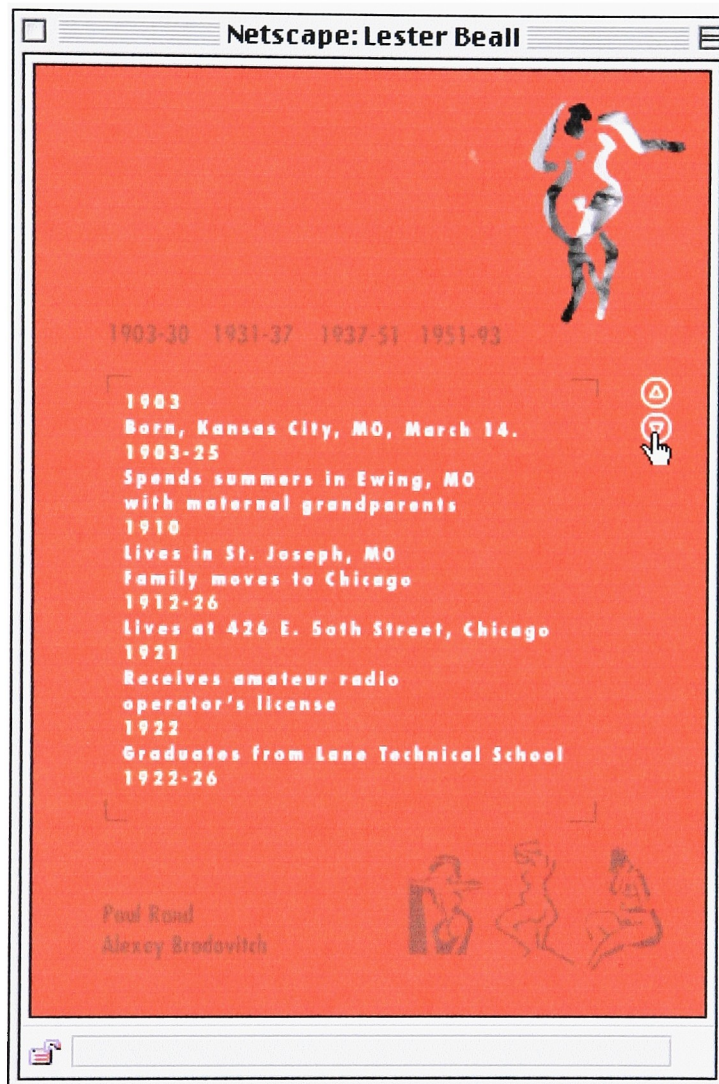


Figure 4-4

Appendix B.

Lingo for Director Slide Controller

```
on startMovie
  --set up slider control
  --sprite 3 is the controller knob
  --sprite 4 is the rectangle that guides the knob
  set the moveableSprite of sprite 3 to true
  set the constraint of sprite 3 to 4
end

on art position
  set cast to 4 + controller/5
  --the length of constraint = 38, the number of sprite = 7
  if cast > 11 then set cast = 11
  set the member of sprite 5 to cast
end

on exitFrame
  --compute the position of the ball
  set pos =( the locv of sprite 3 - the top of sprite 4 )/2
  set position = the locv of sprite 3 - the top of sprite 4
  art(position)
  go the frame
end
```