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Rochester Institute of Technology
Department of Computer Graphics
Master of Fine Arts
Graduate Thesis Project

50 Years To Justice

“The Trial of Paul Touvier”

Kimberly Slack
Spring 1995 - Spring 1996

Thesis Committee

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A. Introduction

1. Decision to create an animated Interactive CD

I chose an article that appeared in the May 22, 1994 edition of the New York Times Sunday Magazine. The author, Ted Morgan reported on the events that took place during the trial of Paul Touvier in Lyon, France that same year.

Touvier was convicted of a crime against humanity for his part in the executions of seven men during the final year of World War II. The writer reported that evidence from several survivors and relatives of the victims proved Touvier condemned the men to death for their religion and not as he stated, for their participation in the French resistance.

1995 was the anniversary of the end of World War II. I had the idea to create a multimedia project based on a little known incident that took place during the war. The story had all the elements I liked. I would be able to incorporate history, animation and hopefully a little dramatic storytelling in the process.

Paul Touvier was a railroad clerk who was elevated to the position of Chief of Police for the Vichy district. The police he controlled were the Milice, a group of Nazi controlled thugs who took their orders directly from their German occupiers.

In June of 1944, the assassination of a well known propagandist working for Vichy had resulted in a round-up of anyone suspected of involvement with the French resistance. In an era of anti-semitism, Jews became easy targets for the Milice.

The part of the story that interested me most was the testimony given by the Catholic survivor who witnessed the crime Touvier was accused of. The survivor

was imprisoned in a closet at the police headquarters with the seven Jews that were rounded up by the Milice after the assassination.

The prisoners were marched out to be executed the next morning (June 22, 1944) but at the last moment, Touvier had Goudard, the Catholic, pulled from the condemned lineup and sent back to the closet.

Touvier's defense was that he saved many more Jews by having the seven executed to appease the Germans. Goudard and several others testified that the anti-semitic Touvier had the seven men executed merely because of their heritage. Thus the reason for separating Goudard.

After reading the story several times I initially thought it would be interesting to animate the first part of the article as a traditional animation. Most of the animation students at RIT use linear storytelling and convert the digitized images frame by frame to video.

I had about 10 years experience with computers and none at all in video or film. I decided interactive story-telling would be an appropriate thesis project and keep me safely away from a dubbing rack.

History has always intrigued me far more than fiction or fantasy. I read the story over and thought it had elements that Rod Serling would have liked. Here was a man who had been on the run all his life. He was pursued relentlessly by ghosts resulting from his order to carry out their executions. After a lifetime of hiding behind the Catholic church, he now stood on trial for his actions carried out 50 years ago. That order condemned him to a life of flight, condemnation and eventual conviction by the French government.

After talking with several school advisors, I decided to create an interactive animation where several cartooned characters would have their own story-lines, each with his own point-of-view on what occurred the morning of June 22, 1944.

The story would be a narrative by each character divided into chunks. The chunks of Quicktime movies would be played when the user pressed a button within a set of buttons for each character.

There would be no final judgement of the characters. The focus of my work was to tell several point-of-view stories based on one incident.

2. 50 Years to Justice, The Storyline

Paul Touvier was chief of police in Macon, France. He was in charge of the Milice police and reported directly to the German occupation governor in Lyon.

Touvier's background was heavily influenced by his father, economic and social changes taking place in Southern France during the 20's and 30's. His father's anti-semitism would later influence his allegiance with the Germans and a life-long hatred of Jews.

Phillippe Henriot was a propaganda minister who was well known for his twice daily radio attacks against the Allied forces who were carrying out indiscriminate bombing raids. Emboldened by the invasion at Normandy Beach, the French resistance assassinated Henriot in his bedroom while he slept.

According to Touvier's testimony, the Germans were enraged over the assassination and ordered him to round up anybody that may have been involved with the murder and have them all shot. The only known sympathizers with the resistance were Jews and within an hour of his order, his police had seven men jailed.

The "Jail" was a broom closet and had been occupied for a week by a young communist named Goudard. The new prisoners were brought in with him but they hadn't been relieved of their possessions. Goudard stated that they were resigned to the fact that they would be killed soon.

The next morning, the prisoners were brought out and Touvier met them prior to being loaded onto a truck. He had Goudard returned to the cell. Goudard was a Catholic and this singling-out would later convict Touvier of his crime. .

Although there is much more to the story, I chose to focus on the events leading to the execution. I wanted to concentrate on character development for each of my actors. They were my own creation and I wanted to see how well I could bring them alive during the creation of the screenplay, storyboards and animation process.

3. Black & White

Early in the planning process, I decided to use only black and white or a 16-color grayscale palette. Grayscale was much easier to work with than the much wider spectrum of colors allowable in the standard 256 palette range. By sticking with grayscale, I thought the look lent itself well to the rough, unfinished look of cartooned figures fresh from the peg-board. My thesis centered around the ability to create human like movement using the computer. I didn't want to get bogged down in the issue of color registration and inking in all my characters. As far as I was concerned, they didn't have to be finished and polished looking....just believable.

Grayscale was also used because I thought the black and white imagery lent itself to the period. There is little color footage of World War II and the era is characterized by the film noir movies that were popular between the 40's and 50's.

I wanted the characters to be more pencil sketched than traditional cartoon characters.

3.a. Pencil Sketches

The cartooned figure is outlined in black and filled with a registered set of colors. I'd read that Disney animators had developed a method of first pencil testing their animated scenes to see how they looked prior to inking the acetate cells.

The toughest work was key framing and setting up the scenes. Once the scene was smoothed by editing the pencil tests, the process of laying a sheet of acetate over the paper sketches was more rudimentary. The pencil sketches were cleaned, traced on the acetate sheets and the sheets inked.

I came to the decision that the pencil sketches would be sufficient to tell the story. After a time, I came to like the sketched character of the cartoons more than the Disney style of animating a cartoon character.

I liked Egon Schiele's work and used his drawings as models for my own characters. His drawings had a fluidity about



Self Portrait by Egon Schiele

them that seemed to invite animation. I thought the look would go well with the dark, somber subject of the story.

There were several books on Schiele in the library. I checked one out and kept renewing it the entire time I worked on the thesis.¹ I copied some of his drawings I found on the World Wide Web and hung them around my desk at home. When I was drawing on the computer, sometimes my eyes would trail across the sad eyed figures on the wall for help in drawing fingers, noses and torsos. They were good reference points when I got stuck sometimes rather than flipping through the book.

I used Shiele's drawing style almost constantly for guidance in exaggerating fingers and mouths. I liked his style of elongating fingers, noses and eyes. Shiele wasn't shy about exaggerating the figure to express emotion. The artist used exaggeration in his drawings to convey misery, loneliness, lust, and horror by the use of long sinewy fingers, hollow, fine-lined eyes against darkened faces and mouths contorted into screams. The hands and legs were often wrapped around the body or widespread in melodramatic gestures of anguish, sexual desire or anger. Shiele's ability to express emotions through his almost caricature-like artwork was a great help for me in overcoming my own inhibitions in modeling the human form.

3.a.1. Experiments in Computer Cartooning

Before I got started animating, I experimented with techniques before I arrived at my own method of drawing my characters. Fractal Design Painter has a cartooning feature I tested during the Summer of 1995. The pen and ink brush is a fairly smooth, anti-aliased brush which can draw a clean black line. Once the outline of the character is completed, the controls window is opened and the paint

bucket tool activated. In the controls window, the threshold is set to somewhere around 75% which allows enough anti-aliasing without interfering with a smooth, color-fill. The lock-out feature is set to black which in effect creates a barrier out of the black outline. After this preparation, it is just a matter of dumping whatever color desired into the cartooned figure with each black outline defining a distinct color.

Painter even allows the user to set up his or her own paintbox of registered colors for the cartooning process. The character can even be defined by a gradient of colors which would give the appearance of shadows or a slight 3-D effect.

But the process was long and time-consuming and I wasn't sure I was happy with the end result. I liked the energy and overall look of Shiele's sketched figures much more. The resulting sketchiness seemed to imbue the characters with more life than the more traditional methods I could get from Painter's cartooning feature.

I decided to draw the individual key frames either using Poser to create the movement or use live models which I sketched on newsprint, drew out on a pegged light board and scanned into the computer. The drawings were opened in Painter and cloned. The cloned document was highlighted, deleted and the trace feature activated which created a ghosted image of the original drawing. I traced the figure using pencil brushes I'd defined by approximating the penciled drawings of Schiele. These drawings then replaced the originals.

I created a custom palette in Painter which would open automatically each time Painter was launched. The palette was grayscale consisting of 16 shades from white to black. Most of the characters were simply black pencil drawings on white paper.

I created a set of cartooned faces during the summer that consisted of various shades of gray. I later decided they were too complicated for the animations. I needed something simpler. I ended up by picking a face from the folders of different faces, open it in Painter and clone the drawing using a pre-defined pencil to create a new, simpler face. I was trying to create more expression in the faces and by using only a black pencil, I found the process easier. I could concentrate more on exaggerating the face rather than matching the shading I created last summer when my goal had been to create a more lifelike image.

Once the process was completed, the head of the figure was pasted onto the figure. The head changed slightly with each movement. This process became easier over time. I studied Disney's method of exaggeration to express emotion in the book "The Illusion of Life"² and tried some of the techniques.

The jailer was an almost ape-like character and he was one of the easiest to work with. I was able to enlarge his nose and eyes when he was angry and give him a stooped walk which helped to suggest his character in the story. But the trick wasn't that easy when I animated Goudard or one of the other prisoners. A good guy is harder to cartoon. I wanted them to look like good guys which required less exaggeration of the face. But at times, I thought the character seemed to be devoid of life.

After the entire set of documents were completed, I set up a batch process in Debabelizer which converted the entire folder to another folder of indexed pics which could be imported into Director. Director became the animation and choreographing tool I used for the project.

I could do preliminary tests by bringing the backgrounds into Poser when I was initially creating the character movements or later in Photoshop or Painter and match them by floating the character above the background.

By using the sketched figures rather than the cartoon characters, I ran into several problems in Director. The figures would often bleed into the background because there was no black outlined "fence" to outline the figure's appearance. I would then have to go into Director's paint program and use the pencil tool to quickly resketch the lines and create a barrier.

I also had to use the eraser or pencil tool with white ink to clean up the anti-aliased clouds which tended to form around the figure while creating the body movements in Photoshop and Painter.

The resulting animated scenes were sketchy and somewhat similar to the contorted, heavy handed drawings that Egon Schiele had created during his lifetime.

3.b Film Noir meets Computer Animation

I wanted the overall feel of the story to be similar to the old film noir movies of the 40's. I had taken a Humanities class titled "American Film Criticism" which surveyed American cinema from the time it became a reflection of mainstream lifestyles during the early 1930's through the 1970's. I wanted to try out some of the techniques used by the vintage films for my project.

This was perhaps the most interesting part of the thesis. I wanted to try and create a scene using my computer which could capture some of the moods the movies were able to achieve. Film noir movies were not heavily budgeted movies

and their greatness was often defined by the director's ability to utilize the camera, film quality and lighting to set a mood. They were the B-movies of the period and were churned out by the dozen during the late forties and early fifties in an attempt to keep America inside the moviehouses. Film noir movies were filmed mostly on sets characterized by dark backgrounds punctuated with oblique lighting. The characters were often filmed in closeups with the light full on their face to capture the emotion the actor was trying to convey. The techniques of noir were simple but effective in capturing a feeling of tension, and fear without going to excessive backgrounds or over-acting to create a desired effect. I thought it would be interesting to try some of the techniques I had learned during the class on the Macintosh.

I rented the movie "Casablanca", probably the best known of all noir movies. Casablanca was created during World War II as one of many low-budget films produced in 1942. The movie later became perhaps the most successful and remembered film of that period. I studied the acting of Bogart, Bergman, Raines and especially the actor who played the Nazi villain. I also stopped the video and studied the background sets and was surprised at how simple they were.

The bar area in Rick's cafe was the only well lighted place in the movie. All the other interior shots were dark and suffused by heavy shadows. The cinematography in Casablanca is predominately dark, tense and slightly out-of-focus in an attempt to capture the tension of the refugees waiting for their exit visas and eventual freedom.

I tried in my backgrounds to model the scenes with the same gray, misty feeling of Casablanca. The darkened interior of the closet, the sparseness of

Touvier's office, the medieval look of the courtyard were all intended to create a feeling of pathos.

I used lighting similar to some of the scenes I studied in the movie. When Bergman looked up at Bogart, a light or spotlight was placed at an angle above Bergman's face so that it caught her face at an angle sharply defining one side of it and letting the rest of the face graduate into darkness. The tear rolling down her cheek against the darkness made the scene that much more effective.

I tried this technique with the prison scenes. The light from the transom above the door became the spotlight and captured each prisoner's face. To get the feeling similar to the scene in Casablanca, I used Photoshop's airbrush. I set the ink to white with the opacity set low (8% or so) and with a very large, soft brushstroke, airbrushed the light streaming into the cell. The indexed effect actually looked very good...better I think than if it had been left in thousands of colors.

Another technique I used was to scan in old rocks, fungus, bark and barn board into files which I used to texture map onto background scenes. I created stuccoed buildings from the tree fungus and rocks. Doors and window sashes, desks, and furniture were painted by the scanned images of wood and bark. The look gave a slight 3-D effect without going to the trouble of modeling the articles in a 3-D program.

I used Strata Studio Pro to model the courtyard scenes. These scenes were probably the most important part of the story and would reappear throughout each storyline. I created a model which I could change camera angles if I had to and get a fairly stable image of the area. If I had drawn the images in Painter, the courtyard scenes may not have been consistent. The Strata document kept the different

cuts within the courtyard scenes in focus just as the camera at Rick's bar would keep different cuts consistent enough so the viewer would know exactly where the scene was in relation to the story.

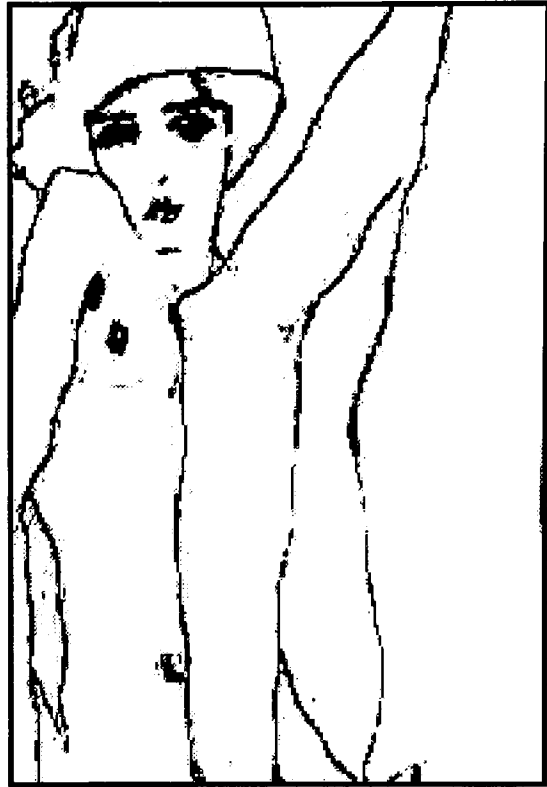
One of the nice things about the paint programs I used was that I could continue to clone a previously painted area throughout several backgrounds. If I got a brushstroke and paper effect that I liked, I could call it up later in another drawing and paint that same effect elsewhere. Stone walls were a prevalent background in many of the scenes and I was able to clone the images over and over again. With each change, I smudged, skewed, backlit, sharpened or blurred the image to create a slightly altered effect.

One of the most enjoyable parts of the project was studying the scenes in Casablanca to come up with ideas for backgrounds and lighting in my scenes.

B. Artists used as Sources:

1. Egon Shiele

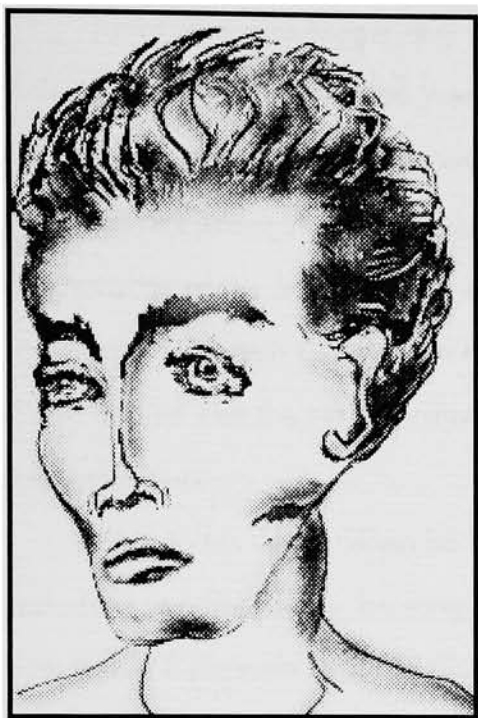
One of the artists I used as inspiration for character development was the Austrian painter, Egon Shiele. He began his career around 1910 and died young in 1918 as a result of the Spanish Influenza. I studied his work and was attracted to the self portraits he drew using an immense mirror in his studio. Much of his subject material was women. His self potraits and drawings of other men were what interested me.



Model at Mirror - Egon Shiele

What attracted me to the artist was the angular, harsh method he used to draw his portraits. The nudes were often thin, almost emaciated with sunken cheeks and pronounced eyes peering from darkened sockets. The limbs were exaggerated and skeletal. The overall look of his portraits were grotesque caricatures.

In one document I read on the World Wide Web, the writer suggested that the haunted look in his work brought Shiele to prominence. His paintings universalized youth sexual anxiety and uncertainty. His drawings have been easily identifiable to generations of troubled youth.



One of the condemned prisoners
in the closet

Unlike all the unhappy teens since 1918 who have viewed his work and felt a connection, I more easily identify with the inner fears evident in the drawings. There was a great deal of humanity in the large, liquid eyes of the many women, men and children that Shiele drew from. Whatever Shiele was trying to say in his drawings was lost to me but the haunting portraits attracted me to the artist's style.

I sketched directly from the books I borrowed from the library. To relate to the drawings, it was easier to draw directly on paper rather than use the stylus with the computer screen. I filled several newsprint pads with sketches of hands, faces and bodies in the style of Egon Shiele.

My idea was to associate the artist's method into my own stylized technique of cartooning.

Shiele painted himself repeatedly in his studio using the full-length mirror. He had a boyish face with thick hair that stood out raggedly from his forehead like the early Bob Dylan. He was thin with dark eyes and thin lips. I drew him often and accentuated the already exaggerated features he himself loved to draw.

I drew the eyes bigger and the mouth slightly fuller. I studied the hair styles of the students on campus and tried to work the more contemporary hair style in with the characters I was developing.

All this preliminary drawing evolved the character of the Jew without a name who had spoken with Goudard in the closet cell. To me he was the most sensitive of the doomed group.

Prior to his death, when he had suspected his pending death, he sang the aria from Tosca, E Lucevan Le Stella. The aria is one of the most popular of all male opera arias and tells of a prisoner's love of life on the eve of his death.

His singing of the aria had made him the most personable of the captives. I imagined him as perhaps an aspiring actor or popular singer and like Schiele who had died very young, had never had a chance to show the world his talent. With these ideas in mind, the singer became Schiele.

Touvier's character originated from the pages of Schiele's illustrations. I found several drawings of friends and associates he had drawn. In some, the heads were distorted in a way that made the face seem like it had been stretched similar to a child pulling on "Silly-Putty". The face resembled the putty after it had been pressed into a comic strip and then pulled to make the face seem contorted.



Paul Touvier

There were several photos of Touvier in the New York Times article but the cover portrait had been taken when he was a young man.(I used the cover picture as the model for the scene in which he is having his picture taken after moving to Macon.) He had short and tightly curled blond hair and his impassive eyes appeared to define a young man totally wrapped up in his own self-importance.

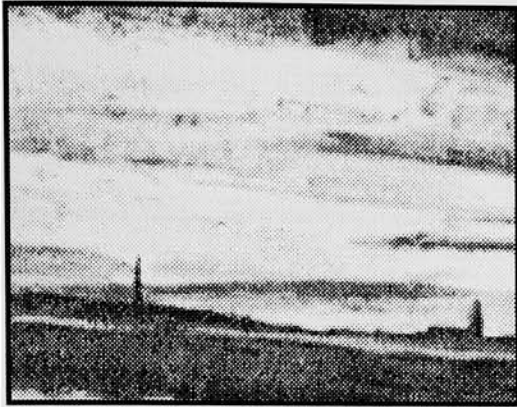
I tried to get an idea of his personality as I drew preliminary sketches on newsprint pads. Again, referring to Shiele's portraits I tried to come up with my own portrait of Touvier and imagine how Shiele might have painted or drawn him.

The character that finally evolved from the newsprint and into the computer was a long-faced, sleepy eyed, blond with a perpetual bored expression. He smoked constantly and appeared to me to be consumed with his position as chief-of-police.

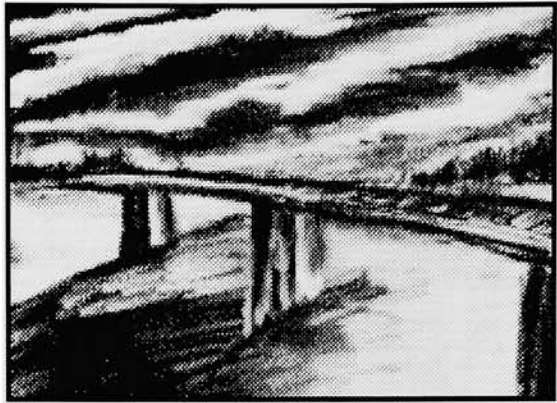
I used other sources for inspiration. I found photos from the 30's and 40's and sometimes would pick out a face in a crowd of people and work with it. But I kept Shiele's work in the back of my mind as I drew. Each character was inspired from the many drawings I had done from Shiele's own portraits.

2. Vincent Van Gogh

I began my character development in the Spring of 1995. At that point I had no idea where or how to start my character development. I had taken a class in cartooning at RIT during my first year of classes and hadn't done very well. I was too much a realist and had very little enthusiasm for creating cliché'd cartoon characters.



Skyline - Vincent Van Gogh



Background in Goudard Storyline

The instructor often had students model or had us all team up and pose for each other. My drawings always were far too studied. I lacked the ability to lighten up on my artwork and abstract the face to its most important features and then exaggerate those features.

The best way I knew to develop my own style was to begin drawing from others. I thought it would be best to start with an artist I had always liked.

Van Gogh has always been popular in my family and I began with him. I found books on his artwork at the library and began drawing from the early sketches he had made of Dutch peasants. He used charcoal, pencil and conte crayon in his studies of peasants and the countryside and he drew them while they worked. He captured on paper women spinning, men weaving and carving, peasants bent over scythes and shovels in fields and walking on roadsides. He studied hands at different tasks and covered pages with sketches of hands in fists, pointing, outstretched and gripping handles.

He sketched a model's face in various poses. Van Gogh wanted to capture the earthiness of the Dutch Peasants without resorting to the defined styles of his time.

I continued to use Van Gogh's drawings as exercises throughout the summer and fall. If I was away from the computer, I brought home a book of his drawings and began to sketch in his style using my newsprint pads.

The scene at the beginning of the Goudard storyline of the railroad against the sky was taken from sketches done by Van Gogh and the courtyard scene was taken from studies he had done of a similar courtyard.

Van Gogh's style was my staging ground. I began to use Egon Schiele for character development, Eugene Atget for my background style and referred often to Bill Mauldin while working on the pencil test animations. Combined with these artists, I included Van Gogh's drawings to learn how he captured simple movements like sweeping, harvesting, raking and other menial chores.



Peasant tilling soil - Vincent Van Gogh



The Jailer
sweeping

I identified closely with Van Gogh because he cared little for traditional styles and methods popular in his day and created his own unique style that is easily recognizable today.

I saw in much of the student artwork at RIT, attempts to copy styles that were almost based on formula. Overmuscled and leggy superheros and Japanese anime characters with their large doll-like eyes and tiny mouths were everywhere in the drawing classes, and I saw the style copied much too often. I wanted to develop my own unique style even if it wasn't trendy.

3. Bill Mauldin



"Ya wouldn't get so tired if ya didn't carry extra stuff. Throw th' joker outta yer decka cards."

One of the more important influences to my artwork was the cartoonist, Bill Mauldin. He created the loveable dogfaces "Willie and Joe" who appeared in the army newspaper, STARS & STRIPES during the Second World War. The two foot soldiers slogged weekly through the muddy European front's foxholes, bombed out villages and smashed roadways.

Mauldin's two characters exemplified the humanity of men at war.

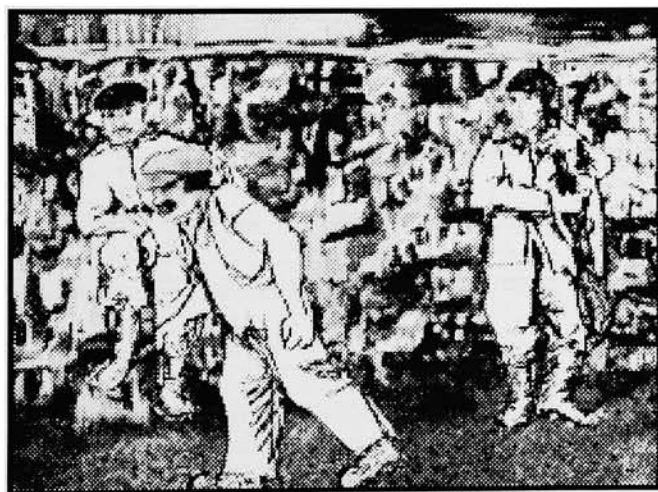
He often portrayed the two dogfaces meeting up with bewildered French peasants who were horrified by the Americans' haggard, unshaven appearance. Very often

Mauldin contrasted the difference between the more down-to-earth enlisted man and the arrogant officers who drove past the enlisted men showering them in a spray of mud.

Mauldin's cartoons had always fascinated me because they showed the soul and humanity of anyone caught up in an ugly and uncontrollable war governed by forces far beyond their control. Both Willie and Joe exemplified the good that we hope resides in us all when we encounter a situation out-of-control. They were what we wanted to believe Americans embodied in times of crisis. Willie and Joe drank stolen wine, smoked



"Let B Comp'ny go in. They ain't been kissed yet."



The Jailer walks back to the prisoners

roll-your-owns, gunned down a farmer's cow for food and neither soldier had seen a shower in weeks.

But they were gentlemen and treated the French girls and frightened orphans with respect and a bar of chocolate.

They wouldn't dream of vent-

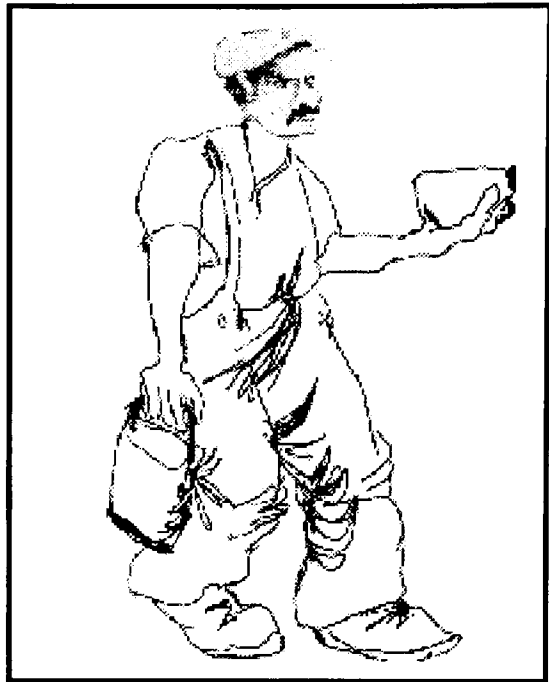
ing their war scarred anger on innocent civilians as Sgt. Calley was to do 30 years later in Vietnam.

I had the cartoons in front of me while I drew the different cels for many of the animated scenes. Although my characters have nothing to do with the American GI's, I wanted to capture some of the human character that Mauldin was able to capture so well in his drawings.

My jailer had rumpled and dirty clothes and as I drew them, I often noted Mauldin's heavy inking of the jackets and baggy trousers worn by the GI's. Goudard's heavy beard, Touvier's arrogant debonair, the jailer's rumpled appearance and the Milice guards were all inspired by Mauldin's various characters in many of his cartoons.

I practiced using both pencil and pen & ink brushes in Painter and created customized brushes which I thought came close to capturing some of Mauldin's inking style. The paper texture I used was a rough, grainy paper with a hard surface method.

Painter was invaluable in allowing the range of styles I was drawing from but was especially helpful in coming close to Mauldin's own method. After some



Fayolle bringing food to prisoner

experimenting, the cartooning became much easier and I soon developed my own style which was heavily influenced by Mauldin and Schiele.

The faces were usually drawn from a library of faces I had stored for Touvier, the singer, Goudard, the guard, and the jailer. The bodies were created in Painter using the customized brushes I named Mauldin-lite, Mauldin-medium, Mauldin-heavy, Shiele-hard, and Shiele-lite.

I felt very often like a professional cook picking apart a well-known recipe in an attempt to come up with a unique entree.

4. Eugene Atget

In my decision to use grayscale only for my scenes, one of the sources I used for my artwork were photos from the early 20th century on up to the 40's.

One of the main inspirations for my backgrounds were the photos of Eugene Atget who had worked from the late 1800's until the mid 20's. He



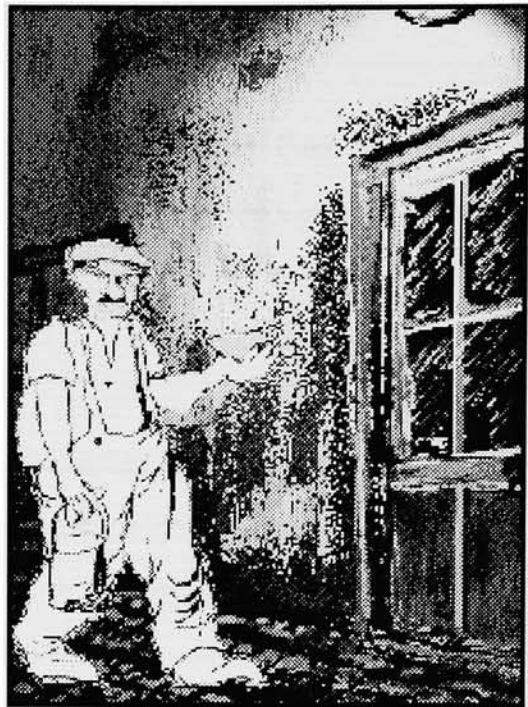
Detail from Paris Street,
Eugene Atget



Outside the police headquarters



Detail from a Photo by Eugene Atget



The jailer bringing food to prisoners

photographed Paris and the surrounding countryside with the eye of an artist prior to photography's acceptance as an established art form. He documented the France that existed from the time of Hugo, through Van Gogh's stay in Arles on up to the roaring twenties when Hemingway and the lost generation wrote about Paris night life.

Atget photographed stocky peasants in front of their ancient homes and the same gnarled cypruses that Van Gogh had painted and later made famous. He photographed the open sewers and back alleys of Paris where small children

peered out at the photographer vaguely reminiscent of a scene from *Les Misérables*.

I flipped through books on Atget's photography and used them as inspirations for many of my backgrounds. Church doors, hallways, alters and spires, stone walls, country roads, city streets and stairways were all derived from Atget's methodically photographed portraits.

5. BRASSAI

For the faces in my cast of characters, I sometimes hunted through photographs of Paris nightlife made by Brassai during the 1920's. He photographed night scenes of the city suffused with lights from street lamps and lit windows.

I attempted to apply some of the lighting effects he created on camera by using Photoshop and Painter. Most of my scenes take place in darkened rooms and I tried to create some of the atmosphere Brassai created when he photographed lovers on the streets in the evening or prostitutes waiting for tricks.



Detail from Goudard's Storyline



Detail from "Lovers" by
Brassai

His portraits set a mood and seemed to capture the spirit of the moment and I used some of his portraits as inspirations for the backgrounds and scene setting in my animations.

6. THE MAGNUM AGENCY



Photo - Robert Capa



Detail from Touvier's Storyline

Another source were the founders of the post-war "Magnum Agency" one of the premiere groups to popularize the use of photojournalism as a necessary element to print media. The French cooperative was made famous by the works of Robert Capa, David Seymour and Henri Cartier-Bresson. They had documented much of the pre-war labor movements in France and I used these as sources for developing the characters of my guards, prisoners and the old men that recounted the story at the beginning of each storyline.



Detail from Photo by
Robert Capa



Composited drawing from
Touvier Storyline

Capa and Seymour captured fiery images of political figures like Aldous Huxley, Alexis Tolstoi and the American Communist leader, Michael Gold. Many of these same faces were worked into the



Detail of Poster by
David Seymour

faces of the doomed group of Jews in the closet.

I used other figures found at communist rallies, labor

parades and streets scenes where workers raised their fists

in a solidarity salute. Many of the still scenes I created

were made from composited drawings of different faces in the crowds. For one figure in one of my drawings, I'd use a sweater or dress from one woman, a face from another and the lips and hair-line of another woman.

I found that I could get expression and feeling from the photographs. Once I had the figure on

paper, I could work out the body movements using POSER. Then I would simplify the face to its most important elements.

The RIT Library came in useful with its rows of books on photography and photographers. I brought home dozens of books and drew from them, filling up several newsprint notebooks during the Spring and Summer of 1995.

What I tried to capture from the photos was the essence of the scene. The range consisted of Atget's portraits of the romantic period in French history and the later photos that caught the turbulent era of the 30's and 40's.

7. Internet usage

The Internet became a useful tool during the project's development, especially during the early stages. The library was a great source for books and printed media but the Internet was invaluable for its quick response to questions I had.

I pulled books on Egon Sheile, Eugene Atget and other artists from the library and kept these out for most of the time I worked on the project. But the Internet became almost a daily routine of searching for ideas and tips.

I used the internet for:

- researching historical aspects of the story
- ideas for backgrounds
- advice on software
- Quicktime and animation problems
- sound bytes
- pictures of pistols and guns
- pictures by various artists I was using
- tips on different software techniques

In many ways, the Internet became my first reference. The beauty of the Internet is the wealth of information you can get in a very short time from all over the world.

As an example, I subscribed to a listserv for Director users called Direct-L which came directly to my mail address. I had to keep cleaning out the address area because of the volume of mail I got, but it was worth the trouble. I wrote a few messages requesting information on both Director or Authorware as a presentation platform for my project. I asked about lip-syncing, questions on cartooning with Painter and asked why my copy of Poser kept crashing after a few renders. I would always get something back from somewhere. Oftentimes I had responses from users in France, Germany, Switzerland and Australia in a matter of a few hours.

A Director user in Melbourne, Australia advised me to get Debabalizer to batch process some of the tasks I had to do in Photoshop. I heard about Poser in MacWorld and asked users in Comp.Mac.Sys.Graphics, on of the Internet news groups how they liked it and received several responses on its advantages and disadvantages. I used alt.culture.france to request information on Milice uniforms because the library had only a few pictures of them.

I used the World Wide Web to find graphics on handguns, rifles, period cars and steam engines. I found pictures by Egon Schiele which I printed out and pasted to my wall to use as references while drawing my models.

I had a scene where an assassin shoots a radio personality who works for the Vichy government. I had no idea what a gun looked like. I did an Internet search on firearms and found several pictures of pistols used during the 30's and

40's. I downloaded the pictures and used them as models for my assassin's weapon. Rifles used by the guards and vintage automobiles and trucks were also found on the Web.

The Web also provided ideas that I just happened to stumble on while surfing. I found the now famous scanned cadaver, "Fred" on the Web. The head had been filmed revolving in one complete revolution. I often found profile shots difficult and used the movie of Fred sometimes during my drawing for referencing the correct location of ears to eyes and mouth.

I found several soundbytes I could use in editing the Quicktime movies and I downloaded a shareware product called "SoundEffects" which helped me almost as much as SoundEdit 16 in creating soundbytes of my own.

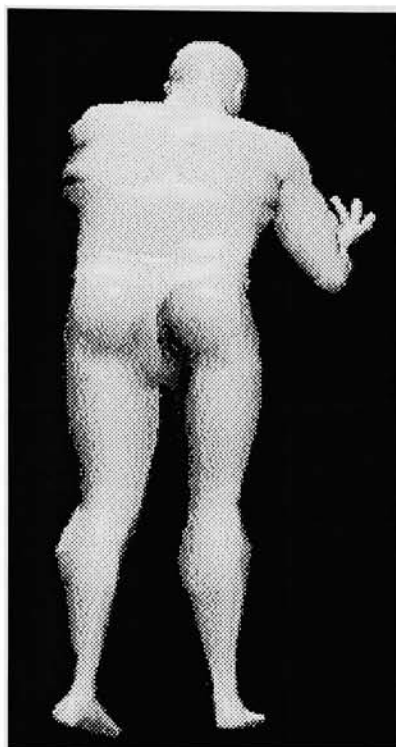
I'm not advocating the Internet as the only reference for thesis research. Probably the most important pieces of the work were attributed to conversations with Professors and teachers here at Rochester Institute of Technology, the wealth of photography books at the RIT library, feedback from friends and family and going through my own library at home. But I don't think the project would have been as rich without the Internet.

I found the resources available to me on the net a great service and people are always willing to help through e-mail.

My hope is the Internet will continue as an uncensored forum of people throughout the world. As much as the net can sometimes seem like a study in chaos, stream-of-consciousness thought processes and absolute baloney, it is still probably the last place where people can openly share information and topics without restriction.

C. Software and Techniques

1. Poser 1.0



Rendered image from Poser



Detail from Jailer's storyline

I heard about Poser during the beginning of the summer 1995. I was browsing through a copy of MacUser magazine and came upon a review of Poser which had just debuted. The price was under \$100 and the review suggested that despite a few limitations, it would be a great help for computer animation.

At that point I had it in mind that I was going to have models pose for me and tween the animations using a lightboard and pegged paper. I had already begun the process and I wanted to stay more with traditional 2-D animation since

what I'd seen of computer animation had been disappointing. After my upbringing which included Chuck Jones, Tex Avery and Walt Disney, the computer animation I saw created in the student labs at RIT seemed lifeless and devoid of energy.

Poser intrigued me and I saw possibilities in learning how to use it. I decided to give it a try. When I received the software, I spent a few hours of the next two or three days working with it. Poser is very easy to use and requires almost no start-up time in learning how to maneuver the mannequins into a pose and then render the image. The process just took a little time in becoming comfortable in tweaking the mannequin into a desired pose.

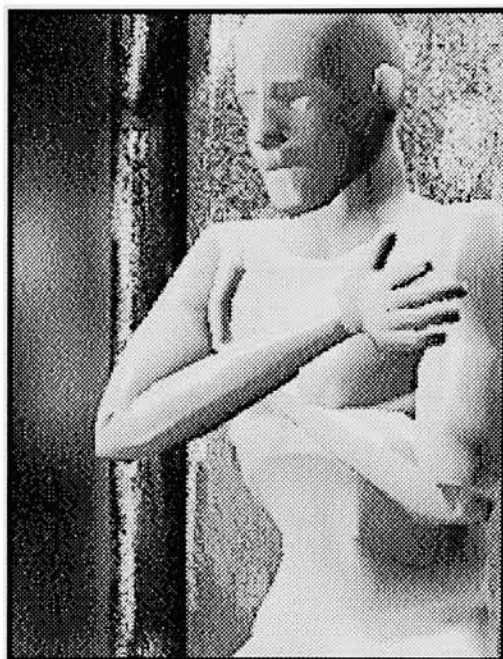
I continued to use friends and relatives as models and discontinued using Poser. The little mannequin seemed so stiff and unnatural compared to a live model. A live model acting out the series of movements I wanted seemed far superior to Poser's clumsy little mannequins.

But there were times when I had no models. I worked at home and there was no one around. That meant taking time to find people willing to pose for me and then finding the time to draw the movements on a lightboard and then finally reserve an hour of time to scan in the twenty or thirty drawn figures needed for each scene. The process required a rigid outline and I didn't have the time to set one up. Everybody in the summer is busy and it was increasingly hard to get people to stop whatever they were doing and go through the 30 to 40 minutes needed to plan and pose a scene.

I began tentatively to use Poser to do some simple scenes. My first was the jailer scene where the character is seen sweeping a darkened hallway. The sweeping action was taken from a front view. I moved the arms around following some

sketches I had made of my mother sweeping. The scene came out fairly well and from there I began to use Poser more often.

As I became more at ease with the software, I made the mistake of trying to make Poser carry through on the entire scene. The idea was to let the mannequin pose all the body movements. But the results were too staccato. The scene where the jailer is seen carrying food and a slop bucket to the closet cell door to feed Goudard was the result of using Poser for the entire movement cycle. The process had to be changed more in line with the Disney method of in-betweening from key frames.



Still shot using background from Painter

My method now is to do three to six key frames...depending on the length and complexity of the scene. The key frames are opened in Painter and using the "clone", "select all", "delete" and trace method, I was able to in effect, place a sheet of onion-skin over the Poser document and begin sketching my character's features on top of it. I would save the cloned document with the same name as the Poser document to replace the 3-D model with the pencil sketch I had created in Painter.

The key frames would be tweened in Photoshop until I had a fairly smooth body movement. The smoothness was probably less accurate and less graceful than

one I could have achieved using a human model, but the savings in time and hassle was worth the effort to get comfortable with Poser.

When I began using stills as a method to speed up the story-telling, I would begin with a sketched scene and then import it into Poser and arrange the mannequin in the picture. Several of the shots of Touvier's father and the priest shaking hands and Touvier himself shaking hands with the Nazi were done with Poser.

Poser has some weaknesses in the area of perspective. In order to get a shot where the camera is up close to the character, sometimes the figure seemed out of proportion. The limbs and hands sometimes appeared too big. I often had to shrink body parts to adjust for perspective inconsistencies.

Another problem that often occurred was overuse of the model over a period of several poses. The figure would begin to clip and tear after frequent bends and twists. There was a scene where the jailer first faces the camera and then turns and begins to walk away from the camera towards the stairs. I had to adjust the mannequin several times to clear up the tearing that was occurring throughout the trunk of the body.

But despite some problems, Poser more than made up for them by saving me time. The software was one of the more inexpensive and most helpful products used for this thesis.

2. Painter 3.0.1

I used Painter because of its vast array of brushes that can be developed to simulate almost any effect. The paintbox contains a monster variety of paint effects to choose from and these too can be modified almost endlessly and saved as a brush type. PhotoShop has several brushes which can be customized but Painter contains an extensive, nearly inexhaustible supply of brush methods which can be varied by depth, opacity, size, spread and paper texture. The saved brushes can be managed in separate libraries that can be called up when needed. I can also register my paint colors when necessary and Painter saves selections as floaters and can be used repeatedly when needed.

Painter also offers the ability to clone one document, delete it and then turn on an onion skin layer which allows the user to trace over the document. I used this facility almost each time I was working with Painter.

I would open my Poser documents in Painter, clone them, select them, delete the document and then turn on "Trace" which would bring in a ghosted view of the original document. I would trace over these documents using several customized pencil brushes which approximated the Mauldin's or Shiele's style. Because the brushes were customized, my characters maintained some similarity among all the in-betweening and key framing I had to do.

I would create all the bodies using Painter to establish the key frames and then open them in Photoshop to create the in-betweens. These tweened documents were again opened in Painter and were cloned, selected and deleted. Then I would again quickly trace over them using the customized brushes so that the effects would match the original key-frames I had created in Poser.

After the bodies had been assembled, I would begin working on the face by establishing one or several views.

In traditional cel animation, the faces could be easily in-betweened, but in choosing to bypass the drawing and scanning process, I selected a face and simply morphed the face through a series of 10 to twenty shots. I used the distort, rotate, select and move, and scale to allow the face to change through a series of cels. I would use the brushes to subtly change the eyes, nose and mouth as well as hair-line, and ears while the face changed position.

In some cases, I experimented with using different brushes such as the more complex oil brushes to create a more abstracted changes like the Jewish fellow sitting on a roadside bench. I had the man drop his newspaper and stand up and raise his hands. I used an oil brush for all the movements. He wore a dark overcoat and he had a full beard so he was relatively easy to morph from a sitting position to having him stand with arms raised.

But for characters like Touvier, Paul Goudard and the jailer, I had to achieve a similarity in character and attitude. For this purpose, I stayed with the pencil sketches and tried to keep their basic forms and faces simple.

I used Painter's lighting effects and some of its paper textures and built-in filters to create moody backgrounds. I sometimes resorted to stock photos on several CD's I received from Kai's Power Tools, Painter and Poser to work into my backgrounds. This included grass, rocks, wood textures and stucco. These could be opened in Painter and then Posterized and abstracted by using some of Painter's effects. The pictures were re-worked into my backgrounds using the cloning brushes to eliminate the time consuming task of sketching rocks and wood.

I liked using Painter for its close similarity to natural medias like oil paints, pastel chalk and watercolor. Why bother with traditional cel animation when Painter can create such a vast array of stylized drawings. With Painter, animation can be brought into a whole new dimension beyond cel inking.

PhotoShop 3.0.5

Photoshop 3.0.5 was invaluable for its layers feature. I used Photoshop for basic prep work on my pics prior to importing them into Director where they were set up for animation. The preparation usually included converting RGB values that Painter utilizes to Indexed colors which Director seems to favor over other file types. Resizing pics was another adjustment I had to make using Photoshop. I used the software for filtering some of the backgrounds and occasionally adjusting the darkness level using the "image", "adjust" feature which brightened or darkened an image.

With layers, I would composite some of the more abstracted animations and then send the indexed pics to Director where I would set up the scenes.

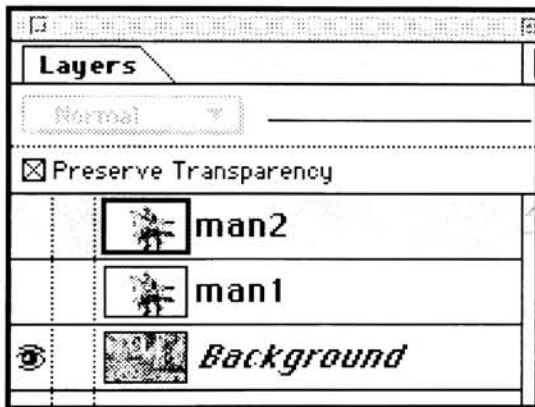
In the Touvier story-line I have an old Jewish man arrested during a street round-up. The action was all derived from using Painter's oil brushes.

Although it's easier to use the old cel animation techniques to achieve a fluid movement, I cut time by simply painting the first pict in Painter and then bringing it into Photoshop and setting it against a pre-painted background. The old man was copied in as a layer and set against the background. Next, I duplicated the original layer I had imported from Painter and very slightly changed the position of the



Background to arrest scene from Touvier's Storyline

figure by selecting the character and slightly altering its movements by use of the rotate, distort, skew and scale tools. I could play the scene back and forth by switching the layers on and off to get a rough idea of how



Detail of layering process for the scene above. Only the background is visible.

the animation would play back.

After I had "tweaked" the figure using the altering tools in the effects toolbox, I used the cloner tool to "mend" the breaks in the scene by "scrubbing" over the breaks with the cloning tool with painted pieces of clothing, skin and background. After several tries, this technique became easy. The dark clothes helped to hide a

large amount of irregularities. If the figure was viewed from a long-range camera shot, I learned that I had an endless degree of "fudge factoring" at my disposal by using the cloner and the effects tools to simulate the movement of the old man read-

ing his paper, looking up, dropping the newspaper, getting up and raising his hands over his head.

This technique was used more often once I had the technique down. The sign

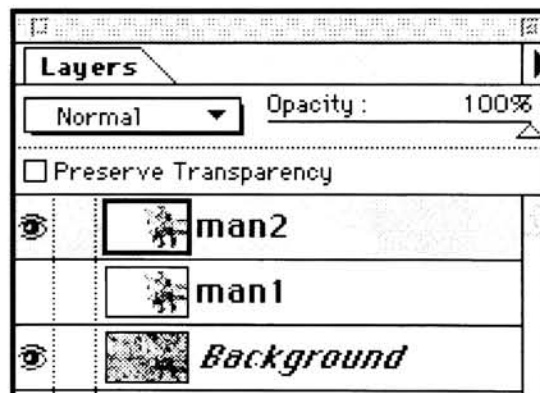
blowing over the hand was another exercise in creating a character in Painter and later compositing the character into the background using Photoshop's layers.

The sign has to blow over the forearm of the victim and then float beneath the opened hand. All I had to do was draw the original sign using the clone pict, select all, delete and 'set trace' feature available in Painter to choreograph the movement of the torn sign drifting over the body. Each clone became a different movement as it travelled across the hand.

Once that was accomplished I simply opened the pict of the arm as the background in Photoshop and then began layering the numbered sign picts over the arm.



Same scene as above with two layers visible



Layers for same scene with two layers visible

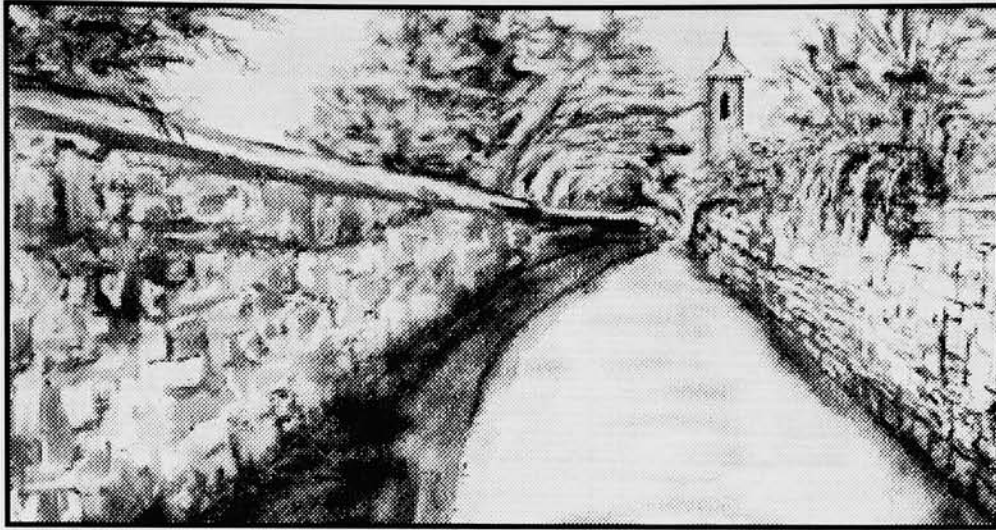
When the sign drifted beneath the hand, I simply selected out the hand from the original background hand and created a separate layer and copied the hand into the new layer. I next dragged the new layer to the top of the layer stack so the new hand layer sat in front of the sign layers.

I favored Photoshop's lighting filter over Painter's. The effects were a little more dramatic than Painter.

Photoshop also offered a perspective feature in its effects toolbox which allowed me to animate doors opening and closing as was the case with the Jailer storyline. There were several scenes with the Jailer at the closet door with Goudard. These scenes needed the door to open and close from different points. I would use the perspective feature with the layers to copy different perspective shots of the door as it closed. These shots were copied as separate pics and imported into Director as cast members. The cast members created a fairly accurate door slam.

On a smaller scale I used Photoshop to help convert the pics that I created in Painter which only uses thousands of colors to indexed colors. Director works best with 256 colors above all other modes and I had to convert 30 to 50 pics at a time. I later used Debabelizer's ability to batch process the folders of pics for each scene to indexed folders. In some cases, Debabelizer's indexed interpretations seemed superior to Photoshop's indexed pics.

Another feature that helped me was the cropping tool. In the dialogue box for the cropping tool, I could change the cropping algorithm to crop at a fixed size. Often this helped when I wanted to get a detail of a background. When the executioner is ordering his men to fire on the prisoners, the background is a detail from



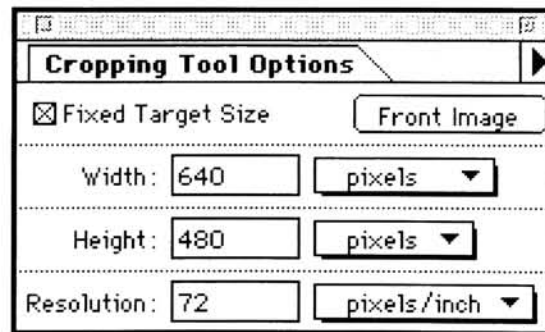
Original background

the background used in the previous scene where the prisoners I lined up in front of the stone wall and about the be shot.

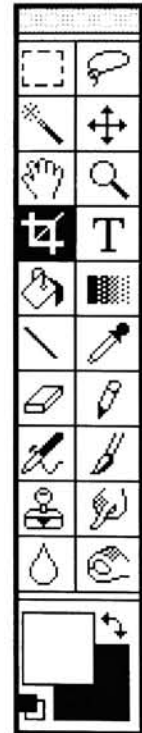
I cropped a section of the stone wall and hanging vegetation from the original picture. The cropping tool was set to 640 x 480 which gave me a detail of the

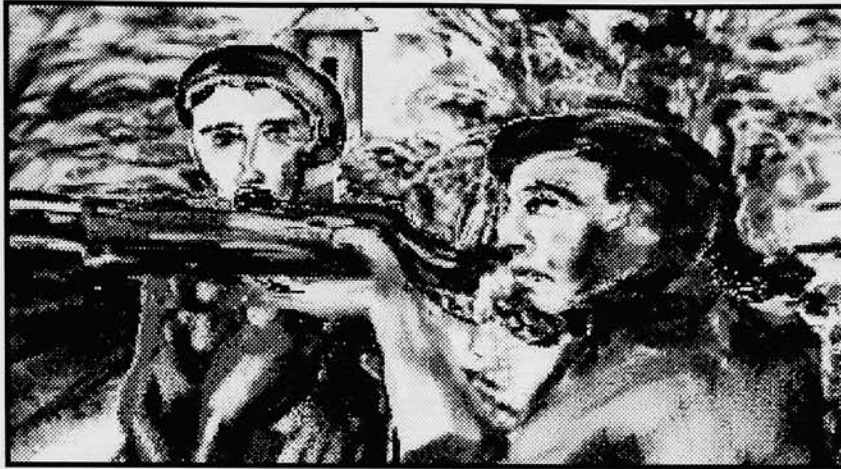
original picture. I sharpened the background using the unsharp mask and the KPT 2.1 Sharpen filters to darken the softened image of the stone wall and trees.

I used the airbrush set to an opacity of about 12% to soften the hue some-



Cropping tool with fixed target specifications





The same background cropped using a fixed target size resulting in an exploded detail of the original stone wall.

what and then indexed the picture and used it as the background for the execution scene.

Photoshop is one of the easiest, and probably the most

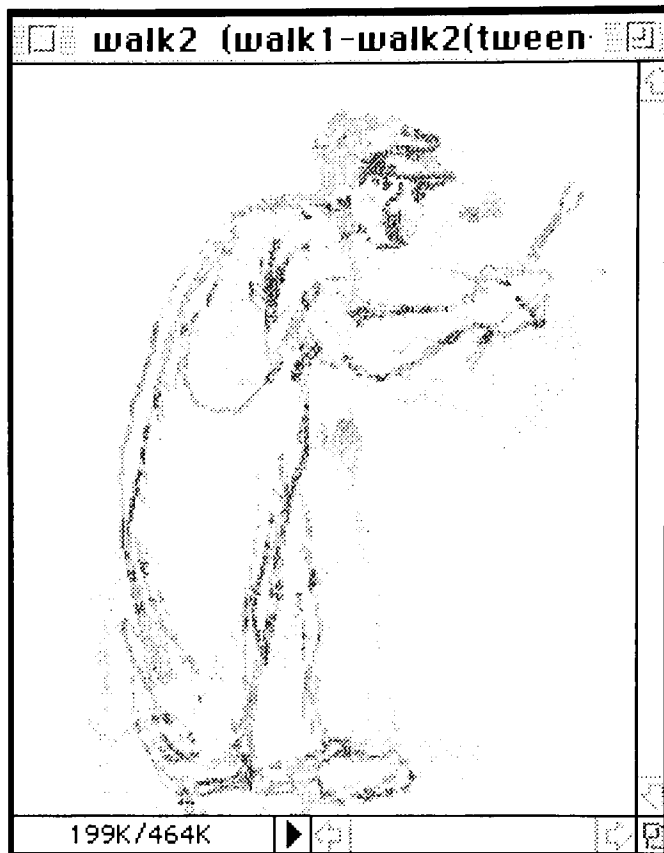
useful tools that I used for this project. If there was one piece of software that helped me the most, it was Photoshop. With its layering capability, it helped me to eliminate the drudgery of scanning in pages of penciled sketches and then having to align them once they were digitized.

3.a Tweening with Photoshop 3.0.5

I used Director primarily for its animation capabilities because Director was the most affordable animation program available. I came up with a pretty good method of tweening on the computer rather than resorting to lightboards, stacks of pegged paper and hours of endless scanning.

I used Painter and Photoshop although I could just as easily have used Photoshop on its own if I'd preferred. I loved Painter's variety of brushes and paper textures which afforded richer images. I created key frames for the move-

ments I wanted using a paint program.(I used Fractal's Poser to get the correct movements and then drew the cartoon character over the Poser models by using Painter's clone, select-all, delete and trace capability. I could also have created a new layer over the model in Photoshop and outlined the cartoon character there. This is a real basic pencil test and I worked in grayscale during the entire process.



Two layers visible for in-betweening

Once I had all my key-frames completed I used Photoshop to in-between the key frames. I opened the first two key-frames. I first "selected all" on the first and copied it to the clipboard and then paste-layered it into the second frame or layer. I then turned the visibility off on the second layer so that the background layer is the only layer visible.

With the magic wand, I selected the darkest area of the cartoon and then selected that section, chose 'similar' from the selection pull-down menu. This would pick up the entire grayscale image. I changed the foreground color to bright red and filled the cartoon with that color and finally deselected it.

4. Debabelizer v.1.6

I ordered Debabelizer during the summer of 1995 and for about two months, I had no idea how to use it. The manual is simply a reference guide to each of the choices on the many pull-down menus and the interface itself is canine. After calling technical support several times, I finally learned how to set up a batch job which would re-size my pics, filter and index them. I usually set up a new folder for the Debabelized pics and once they had been imported satisfactorily into Director, I would trash the originals. I used the software for simple tasks but Debabelizer has dozens of applications which can help with cross platform applications, storyboarding, morphing and setting up a custom palette. Whoever that programmer was in Australia who e-mailed me the suggestion to buy the software, I am most grateful to him. Debabelizer was a great time saver.

5. Director 4.0.4

Director 4.0.4 was used as an animation tool. The finished pics were imported into Director.

The pics consisted of a background and a set of 15 to 30 different movements for one scene. At the beginning I used registration marks to help place each cast member into the staging area. By using the registration tool in Director's paint-box, I was able to align the cast members with each other.

But as I started to use the computer more and the scanned images less, registration became less important. Photoshop was accurate enough when I created

the drawings using its layering capability and it was no longer necessary to register each movement. I simply moved each sprite onto the stage and then moved the next one over it with the ink set to transparent. I could place the ghosted cast member over the original and easily see the variation between each cast member.

After I had done this, I moved the ghosted cast member to the next frame and set the ink mode to matte. With the player mode visible, I moved back and forth between the original cast member's frame and the next cast member's frame to check the accuracy of the movement. I could correct the placement of the cast member by moving it a pixel at a time with the arrow keys. By clicking on the player tool between each frame and then clicking the arrow keys on the cast member I was correcting, I could smooth the movement to my satisfaction.

Once the animated movements were corrected, I set the frame rate for each sequence of movement. I would try and adjust various frame rates for walk cycles, slow downs, ease in and ease outs and zoom-ins on faces.

Often, the animation previews were slow because the castmembers were all 640 x 480. This happened often when I used closeups with backgrounds. Large cast members cause a considerable slowdown in performance. When this happened, I usually created a Quicktime movie based on the frame rate and then previewed the movie's overall look in Premiere.

Oftentimes I used the same Director movie for a series of different scenes. When I did this, I usually set up scripted loops to force Director to keep looping within the part of the animation I was currently working on.

I created patches for the animations in Director. Touvier was often seen from a window view. To create an illusion of the cast member moving behind a static

background, I would cut out a piece of the windowsill from the original background and paste this in as a new cast member. This new cast member was placed in the stage as a patch over the base of Touvier's cast member. This would project the illusion of Touvier's character being seen from behind a window.

Director may not have many of the high end capabilities of other computer animation packages, but it is flexible enough to do satisfactory animations as I did. Although the animations are not Disney smooth in movement, it still creates an acceptable illusion of life in simple desktop animation.

6. Sound: Sound Effects 2.0 and Macromedia SoundEdit 16 1.0.1

Sound editing was not a task that came easily for me. I wasn't sure from the beginning how to apply the background voice-overs and sounds into the presentation. A digital audio recorder would have come in handy but the cheapest model was by SONY and weighed in at \$600.

The first task of recording the voice-overs was accomplished by using my father and a friend who worked for a radio station. I had the screenplays for each character typed up into numbered sections. The readers recorded onto a cassette recorder in a recording studio in an effort to obtain the best quality of sound possible.

The overall look of the presentation was similar to an old movie with their characteristic old and grainy appearance. Because of the noir like settings, the sound quality did not have to be premium. The detectable hissing and muddy quality seemed to blend satisfactorily with the overall look of the animations.

The readers recorded the monologues with pauses in between each numbered section. These pauses were later recorded into the computer and divided into manageable chunks. Each chunk fit with one of the scenes from the storyboards.

I ran into a problem with the cassette's line-level input incompatibility with the Macintosh's stereo mini device which has a low quality input capability. I ended up recording the sound chunks directly from the stereo system into the computer using a microphone. I used SoundEffects for the recording because it seemed to record at a higher level than SoundEdit 16. SoundEdit's recording seemed to record at a slightly lower and muddier level.

In SoundEffects, I would record either the entire monologue or divide it into chunks of three. Next I tried to set the volume on the stereo to the same level and then I taped the microphone to a chair near the speaker.

Once the sound chunks were all divided and labeled to match the dialogues I had in the storyboards, I brought the sound clips into SoundEdit 16. In SoundEdit, I usually altered the pitch of the original voice, smoothed it after each alteration and amplified or de-amplified the sound.

I found that just like computer graphics, the more I edited the sound clip, the muddier, less audible it became. There is a level to which I could manipulate the sound but after numerous filtering, the sound began to steadily decay.

I scrubbed the sound clips to the animated clips in Premiere. This often meant returning back to Director to alter the animations slightly or to SoundEdit to either accelerate, decelerate the sound or fix a sound that was garbled. Often the

speaker would lower his voice at the end of a sentence, so I had to return to SoundEdit and amplify the sound and try to reduce the background hiss as much as possible because I was in effect, editing the sound beyond its limit.

If the speaker muddled the word "Vichy", I would look elsewhere on the sound clips for the same word, copy it into the clip and try to match the sound level with the waveforms nearest the copied soundbyte.

I used canned sounds from CD's I found in the Computer Graphics labs, the Film and Video library and I made them sometimes with a recorder or by crushing paper, slamming doors or slapping my hands against an object to create sounds directly from the microphone into the computer.

I always wished I had better access to sound devices such as the DAT technology but what I got was satisfactory for the project.

7. Premiere 4.2.1

I used Premiere for editing my Quicktime movies which were created in Director. The Quicktime movies were imported in along with the voice over sound tracks and any other background noises.

I had never used Premiere prior to the project and thought I could sync the soundtracks with the animations within Director. However, Director has limitations once the Quicktime movie has been created and there is little the artist can do with the encapsulated movie once the process is completed. I learned to time the animations according to the number of frames I was using although this often varied

with the size of the castmembers. Director becomes sluggish and hard to predict when using large castmembers or quite a few of them together on one stage.

Premiere is a user-friendly product and start up time in learning its possibilities and limitations is minimal. Premiere Quicktime movies are often grainy and the quality disappointing when compared with today's video and film capabilities. But Premiere works very well with animation due to the lower frame rate required by animation.

Real-time video requires as many as 30 frames a second and animation is achieved with satisfactory results anywhere from eight to 12 frames a second. Because the presentation was comprised of animations and drawn stills all consisting of 256 colors, my PowerPC had little trouble playing back the animations. There was some frame dropping (frames lost due to the computer's inability to keep up with the frame rate required to display the movie), but the overall quality in the animations was still clear and fluid.

I went through several of the exercises in Adobe's "Classroom in a book" series on Premiere and after several exercises, had a good grasp of the software.

I found it best sometimes to create the Quicktime movie, import it into Premiere and preview it there either speeding it up or dividing up the clips and varying the duration on each clip. Most often, if the animation looked wrong, it was best to go back to Director and correct the animation there and then remake the Quicktime movie.

I animated each scene and saved it as a movie using the animation compression utility and compressed them using Premiere 4.2's "Make CD Movie" utility. When the entire scene or sequence was finished, I constructed a project by import-

ing all the finished movies for that sequence. I arranged all the movie clips according to the storyboard and when I was satisfied with the results, I made a final movie using a cinepak compression which helped to lower the size of the completed movie. The cinepaked movies were the final movies which I imported into Authorware 3.1.

My hard drives began filling up with different Premiere projects, completed movies, sound clips, Quicktime movies and still pics. I had to continually back up the drives by burning CD's. My biggest problem during the entire project cycle was lack of disk space. I had a computer with a hard drive capacity of 250 MB and a portable hard drive which contained only 340 MB. (I later upgraded the hard drive to one gigabyte). With 24 MB of RAM, I had enough power to play the movies correctly, but storage space was always a headache.

I purchased a ZIP drive from IOMEGA during the summer and as I continued creating scenes, the ZIP floppies began filling up with endless files all needed when making movies from the Premiere projects.

Premiere, like most desktop packages is a program consisting mainly of pointers which points to other resources outside the program. This is fine for one project, but when there are ten or twenty of them per storyline, the task of keeping track of all the files for each project becomes almost impossible.

The inability to manage all the files was a clue that it was best to wrap-up the project with only three storylines instead of the five I had originally planned.

7.a. InVision: CyberSound 1.0

I had also bought a package of audio plug-ins from InVision software called "CyberSound" which helped helped with the soundtrack. They helped boost the soundtrack quality and helped vary the sounds somewhat for each scene. I could take one soundclip of wind blowing for instance, and vary it through the use of the filters to make each clip sound somewhat different and unique.

8. AuthorWare 3.1

I chose to use Authorware to present the story. At RIT, the curriculum included extensive use of Director which utilized a time line approach in multimedia authoring. I had originally decided that I would present the project using Director, but after some initial testing in September, 1995 I wasn't sure Director was fast enough to load the number of Quicktime movies which made up the majority of the presentation.

I created a small math quiz in which two animations would play depending on the user's response. Both animations were in two separate movies which were called by the host movie. Each choice caused the presentation to "clock" or go into a wait mode while loading up the animation movie and then purge the loaded movie from memory upon finishing the animation.

About August of 1995, the Educational Technology Center's Faculty and Staff Multimedia Lab purchased several versions of Authorware 3.1 for the MAC

and PC. An undergraduate friend had also purchased the software for a senior project.

I worked through the tutorial that came with the package. Authorware's iconic method of authoring was very different from both Hypercard and Director which uses a scripting language to control navigation and user interaction.

Authorware is comprised of a set of predefined icons which present the user with a dizzying choice of built-in capabilities such as navigation, jumping, button behavior, hotspotting and user feedback.

I tested Authorware's ability to load and reload Quicktime movies and with the help of my friend, prototyped a model which offered a choice of 10 Quicktime movies on one screen. The response in launching and purging the movies was much faster than Director. After testing the Quicktime response, I decided to go with Authorware.

In December I subscribed to Authorware's listserv on the Internet and began reading some of the questions and answers on Authorware's use of icons, variables and functions. Like Director, Authorware has its share of quirks and idiosyncracies which can frustrate any newcomer of the product.

I searched the net using WWW.MCLI.DIST.MARICOPA.EDU (a community college near Phoenix, Arizona) for information on Authorware and found several books on the subject but they all related to Authorware's previous version. I e-mailed the listserv and asked if anybody knew of any third party books on Authorware. I got a response back from professor Bill Elison of the University of North Texas. He had written a primer on Authorware 3.0 which introduced the user to each icon through the use of exercises which took anywhere from 15 to 30

minutes to complete each exercise. The book was a good "get started" manual for a beginner. Between the book, the manuals at ETC and some help from my friend who had learned Authorware at a summer job, I was able to begin my interface design.

When I got tired of drawing or in-betweening, I would try a few of the exercises in the manual. The use of the exercises made learning the software fun rather than jumping into a new software as I usually do with a minimum of skills.

I think the major drawback to anyone who has used a scripted or programmed language to design multimedia is Authorware's set of pre-programmed icons. For some reason I felt confined or claustrophobic in my design work because I had to understand the icons and how they behaved. There are times when I would have loved to simply write the code and instruct the program to do something. Authorware's steepest part of the learning curve is knowing precisely how to use the icons and how to use them for fudge factoring.

The interface is much easier to use for someone than Director's formidable array of castmembers and frame windows, its scripting language and a host of tools including palettes, inks, scripting boxes, sound channels, and button options. But Director is less confining than Authorware. The multimedia designer has somewhat more freedom with Director than Authorware and for a complex design, I would choose Director over Authorware.

Authorware muscles out Director in its ability to allow user interaction without the need to write code by the author. Much of the programming is built-in like button feedback, hot-spotting, hot-text and navigational controls which can save time for the user.

Authorware has a more straightforward approach and allows the designer a fast and relatively easy method of creating a multimedia package. Like Director, I could design my own buttons and interfaces and import them in.

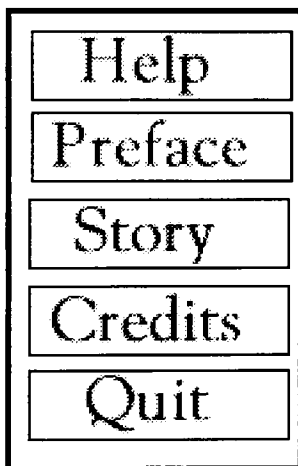
Authorware has the advantage of quick prototyping. A designer can very quickly put a multimedia prototype together to demo an idea or concept to a perspective client providing he or she has a sound knowledge of the icons. This came in handy when I was showing my presentation during the development process.

After learning Authorware, I found each had its advantages. The trick was to know which was best to use for a prospective application.

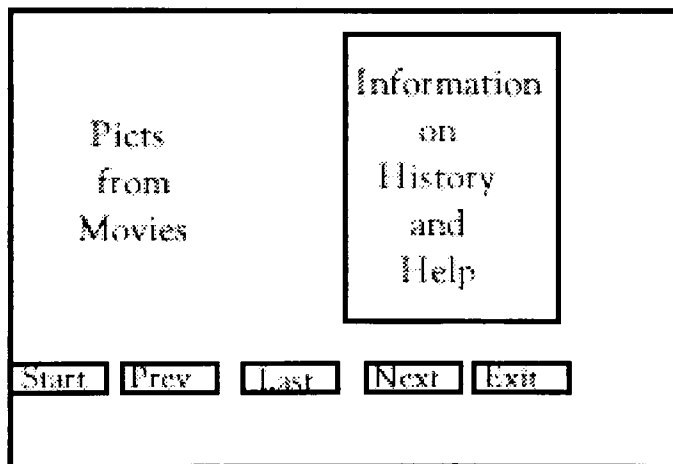
D. Interactive Module:

The interactivity was designed using a book metaphor. I set up a title window which when pressed by the viewer initiated a small one minute teaser movie. The purpose of the teaser was to grab the viewer's attention.

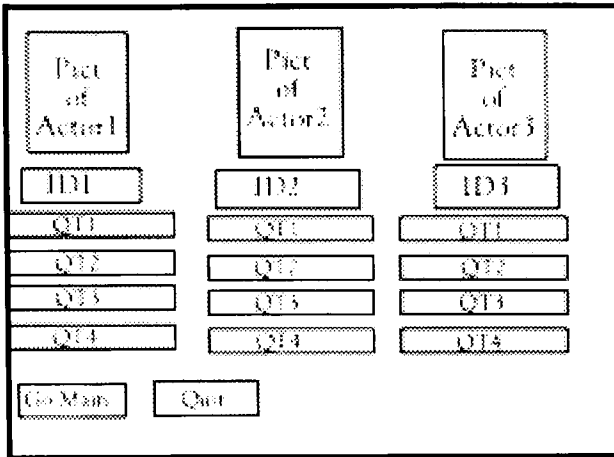
The viewer could click out of the teaser movie at any time. By pressing the button to stop the teaser movie, the viewer was brought to a main menu where they could choose between viewing a "help", "preface", "credits" or "View Story" area at any time. The "help", "preface" and "credits" areas were a group of picts that the viewer could read sequentially to either get an understanding of how to view the story, understand better the circumstances behind the story and read the credits.



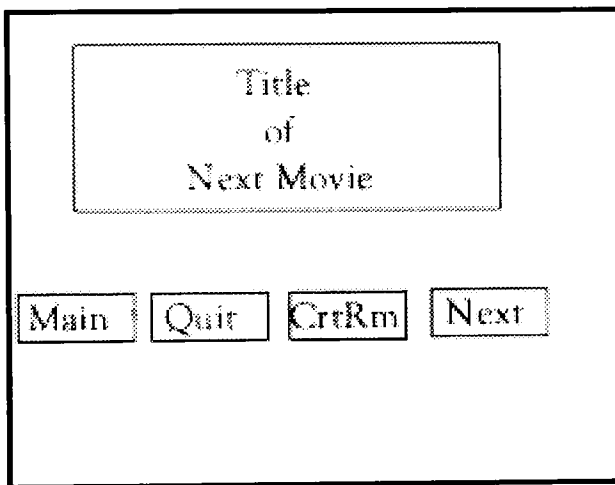
The Main Menu



One of the informational panels which the viewer could read through during the process of viewing the movies if they wished.



The courtroom panel consisted of a group of Quicktime movies for each actor which the viewer could watch by clicking the buttons beneath the actor's id.



After viewing each Quicktime movie, the viewer was brought to an intermediate panel which gave the viewer the option to either return to the courtroom or view the next movie sequentially.

E. Closing Statements:

The entire project "50 Years to Justice", took me about a year and four months to complete. I wanted to compose an entire animation project targeted for the desktop. I wanted to see how far I could take the process using a relatively inexpensive Macintosh computer and some common desktop multimedia packages.

The project was never completed as much as I would have liked but it was a worthy experiment in interactive storytelling and simple computer animation. The process of creating the screen play, coming up with a solution for animating my characters and picking an easy authoring tool to present the story gave me fundamental understanding and experience in animation and multimedia production.

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