ROCHESTER INSTITUTE OF TECHNOLOGY

A Thesis Submitted to the Faculty of
The College of imaging Art and Sciences
In Candidacy for the Degree of
MASTER OF FINE ARTS

ONLY IN THE EARTH
The Electronic Announcement

by
Miran Lee
August, 1996
Approvals

Adviser: Robert Keough  
Date: 8-8-96

Associate Adviser: James Ver Hague  
Date: 8-8-96

Associate Adviser: Patrick Byrnes  
Date: 8-8-96

Mary Ann Begland, Chair  
Graphic Design Department  
Date: 8-8-96

I ____________ prefer to be contacted each time a request for production is made. I can be reached at the following address:

Yea-jae 1 GA 761  
Jin-hae City  
Gyun-nam, South Korea.

Date: 8-8-1976
<table>
<thead>
<tr>
<th>Acknowledgement</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dedication</td>
<td>2</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Review of the related literature</td>
<td></td>
</tr>
<tr>
<td>- Drugs</td>
<td>4</td>
</tr>
<tr>
<td>- Crime</td>
<td>11</td>
</tr>
<tr>
<td>- War</td>
<td>17</td>
</tr>
<tr>
<td>- Starvation</td>
<td>20</td>
</tr>
<tr>
<td>- AIDS</td>
<td>22</td>
</tr>
<tr>
<td>- Racism</td>
<td>29</td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>- What is interactivity</td>
<td>34</td>
</tr>
<tr>
<td>- Information Design</td>
<td>35</td>
</tr>
<tr>
<td>- Assumptions</td>
<td>36</td>
</tr>
<tr>
<td>- Navigation</td>
<td>37</td>
</tr>
<tr>
<td>- 2-D Graphics</td>
<td>40</td>
</tr>
<tr>
<td>- 2-D Animation</td>
<td>49</td>
</tr>
<tr>
<td>- Video &amp; Audio</td>
<td>55</td>
</tr>
<tr>
<td>- Producing Multimedia</td>
<td>71</td>
</tr>
<tr>
<td>Layout</td>
<td>72</td>
</tr>
<tr>
<td>Scripting</td>
<td>133</td>
</tr>
<tr>
<td>Results</td>
<td>150</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>- Conclusions</td>
<td>151</td>
</tr>
<tr>
<td>- Recommendations</td>
<td>152</td>
</tr>
<tr>
<td>Bibliography</td>
<td>156</td>
</tr>
</tbody>
</table>
Thanks to RIT, to the Computer Graphics Design faculty and all others that gave of their time and advice to see me through this project.

Special gratitude goes to:

Chief Adviser: Robert Keough

Associate Advisers: James Ver Hague
                  Patrick Byrnes

Professor at RIT: David Dickinson
This project is dedicated to my parents for their tireless support, and people who have helped to make this thesis come to life; directly and indirectly.
In only a few short years, multimedia has become powerful and accepted enough to begin taking its rightful place in the changing the way we communicate. Communication in the ‘90s must accomplish two fundamental tasks: satiating the demanding aesthetic tastes and expectations of today’s sophisticated viewing audiences, and navigating the vast amount of knowledge, facts, and statistics that comprise the “Information Age.” Multimedia allows us to use the best combination of media to present compelling information suited to specific situations. It allows user-control over how and when that information is accessed.

“Only In The Earth” is the ultimate multimedia reference source for students, teachers, researchers, journalists... anyone who want instant information on recent social problems such as wars, drugs, crimes, AIDS, starvation, racism. I hope to show various images and information of contemporary society which comes alive in multimedia reference form available anywhere. My thesis is about harnessing the technology of the present and building toward the future. We now stand at an incredible time in the history of information and human communication.

This interactive product will be controlled by Macromedia Director. All video images will be converted into Adobe Premiere. Any retouching will be done in Adobe photoshop.
Drugs

UNDERSTANDING DRUGS

Understanding Drugs is an in-depth information book covering all aspects of drugs, their use and their abuse. This book gives clear information about particular drugs, what they are, where they come from, and their effects, on both mental and physical health.

The book seeks to inform and warn against the abuse of drugs, but in a straightforward and sympathetic manner. The book also examines the social effects of drug-taking and the drugs trade.

The dangers of drugs: solving nothing, simply adding problems.

In the 1960s and 1970s the drug cocaine became famous as the “plaything” of the rich and famous. Movie stars and musicians would “tell all” to the newspapers in sensational stories about their wild parties and their cocaine addiction. Somehow the drug became linked with a glamorous and successful lifestyle. What didn’t come through in the newspaper stories were the terrible effects the drug could have on people’s lives.

At that time, cocaine was so expensive that it was out of reach of most people. However the last few years have seen a flood of cheap cocaine into North America and Europe. It is now a problem right across all levels of society, from top actors and sports stars down to the ordinary people in the street.

The cost to the victims of cocaine is not only in money. Their health worsens. They may take to crime to pay for their drug habit. In the end, the ultimate payment can be death.

In the last few years, a new form of cocaine has begun to take hold. This is crack, which has been described as “the most
dangerous and the most addictive drug” ever more available to the public. Since it first appeared on the streets in 1984, crack has become widespread throughout the United States and has begun to appear in other countries.

One reason for the cocaine and crack explosion is the cost, which is now so low that almost anyone can afford to buy them. Also the myth is still around that cocaine is a harmless drug which can be controlled by the user, without leading to addiction. But graveyards, hospitals and drug treatment centers are full of people who believed this to be true.

It may be tempting to try cocaine, or even crack, to see what all the fuss is about. This book tells you about some of the consequences of taking cocaine and crack. It tells you what can happen to your mind and body and how easily you can become addicted.

Cost and availability
Because cocaine and crack have become relatively cheap, there is plenty around. Cocaine is no longer a drug of the rich. Kids on the streets of every major city, and now in the small towns and country areas too, are being arrested for possessing drugs like cocaine and crack. So it's becoming more likely that you may be offered some.

There are many reasons why people agree to take drugs like cocaine, aside from pressure from their friends or elders. There’s the excitement of doing something that's illegal and a protest against authority. There’s also the excuse that drug-taking is fashionable, it’s “the thing to do.” All the cool people do it. Of course, in real life this isn’t true. Very few truly successful and
stylish people take drugs, and usually we get to hear about them because of the way cocaine or crack messes them up.

Another excuse is that “everything is so boring.” Life seems dull and tedious, full of hassles. Drugs offer excitement. In the end, though, drugs like cocaine and crack don’t solve anything. They simply make things worse.

Why should some people turn to cocaine and crack in particular, and not to other drugs? They have probably heard about the feelings they give, of the pleasure and energy and exhilaration.

**What does cocaine do?**

Cocaine is usually taken by “snorting” (sniffing it up the nose). It passes through the thin lining inside the nose into the blood beneath and is then carried to the brain. The feelings it causes are due to its effects on the brain.

When someone takes cocaine, they feel a short period of exhilaration, often called a buzz, a high, a rush or trip. This starts after about three minutes and fades over the next hour. The user has a sense of physical and mental power, of feeling extra-alert and extremely happy (euphoria). They forgets about hunger, and any tiredness seems to be replaced by a new-found energy.

The “energy” effect is why many users take cocaine, to try and get them through their work when they need plenty of stamina, concentration and imagination.
What does crack do?
Crack is usually heated in some way, and the vapors it gives off are inhaled into the lungs, like cigarette smoke. Its effects are similar to cocaine, except that the feelings come on much faster, often within seconds. This is because the lining of the lungs is very thin and has a great surface area. So the drug is absorbed very quickly into the blood and travels to the brain in one powerful punch, whereas snorting cocaine has a more drawn-out effect.

The initial high of crack is like the high of cocaine, but stronger, more powerful and intense. It lasts only around five minutes, and the effects wear off after about 15 to 20 minutes.

Unfortunately there is a price to pay for these moments of “pleasure.” For these aren’t the only effects of cocaine and crack. There are plenty of problems, too.

The problems
One problem with any street drug is that users never really know how safe it is. Sometimes pure drugs are mixed with other substances. This can easily lead to high doses being snorted. The results may be very unpleasant, such as being confused and suspicious about everyone and everything (paranoia). High doses may also make the skin extremely sensitive, giving the feeling of bugs crawling all over the body. The pupils get bigger and the heartbeat speeds up.
Cocaine has many negative effects on the body.

- worry and anxiety
- hallucinations
- widened (dilated) pupils of the eyes
- increased heartrate
- damaged heart muscle
- inability to sleep
- weight loss
- confusion and suspicion (paranoia)

The higher and longer the cocaine “trip” lasts, the bumpier the landing is on coming down “the crash.” Repeated use can lead to weight loss, worry and anxiety, and an inability to sleep (insomnia). The person may experience frightening hallucinations of seeing or hearing terrible things, and this could lead to violent behavior.

**Damage from regular use**

There are many damaging effects to health from regular cocaine use. Frequent snorting can cause nosebleeds and painful, sore ulcers on the nasal septum, the soft flap inside the nose that separates the two nostrils.

More seriously, the heartbeat and breathing lose their steady rhythm. The user pants quickly and then suddenly takes large gulps of air. The end result may be a heart attack and possibly death.

There is also evidence that cocaine damages the muscle of the heart, which may explain why otherwise healthy people
suddenly die of an overdose. Like lung cancer and smoking cigarettes, this type of danger from cocaine is long-term. Taking cocaine now may make a heart attack more likely in the future. There is also recent evidence that cocaine use may upset the delicate chemical balance of the brain and possibly speed up the ageing process.\textsuperscript{1}

**Heavy use and injecting**

Some people prefer to inject their drugs and will try most things, including cocaine. For these people the bulking substances can be highly dangerous and even fatal.

There are also many serious risks from injecting, especially when needles or syringes are shared. These risks include hepatitis (a serious liver disease), blood poisoning (which can kill), and the deadly, AIDS.\textsuperscript{2}

**The risks of crack**

Crack has many unpleasant side-effects. In a survey of people who had been taking crack, two users out of three said they had chest and breathing problems. Two out of five had a continually bad cough. Almost nine out of ten were suffering from bad depression. Two out of five said their memory was worse and they forgot things.

One in three crack users behaved violently. And over half became paranoid, suspicious of everyone around them.


Perhaps the most frightening result of the survey was that about one crack user in five had attempted suicide. This was partly as a result of all the other effects of the drug, such as depression and paranoia, ganging up together. In the end, killing yourself seemed the only escape (though of course this is not true).

Paranoia was a special problem. Some crack users believed that everyone, even those who were trying to help, were really out to trick them. They thought that people were talking behind their backs and laughing at them. This made admitting the problem, and seeking help, even more difficult.3

Every year approximately one million teenagers and adults use cocaine for the first time. As many as six million Americans regularly use crack, heroin, or other illegal drugs, and as many as one million are addicted. Crack-related murders, violence, crime, and auto-vehicle fatalities continue to plague life in every major city in America. The economic cost of drug abuse on health care, crime, forfeited education, and property destruction will be many billions of dollars this year. Drugs are taking a devastating toll on our families, on our friends, and on our medical, legal, and social systems.

We accept our powerlessness over drugs.
We can’t handle drugs. they handle us.

Crime

During the past 25 years urban neighborhoods have become increasingly plagued by crime and the fear that it provokes. In most urban communities, crime is a major worry of residents, a constant concern which undermines feelings of personal security and strains the social fabric of the neighborhood.

Crime Down Overall in 1994

Serious crimes reported to law enforcement agencies in the U.S. decreased 3% in 1994 compared with 1993, according to preliminary Uniform Crime Reports figures released by the Federal Bureau of Investigation. The decrease continued the trend from 1993, when overall crime was down 2% from the previous year.¹

Characteristics of Hate Crimes in 1993

Bias-motivated crime is a phenomenon that touches all segments of society. It exacts an immeasurable toll on its victims who are targeted solely because of hatred toward their race, religion, ethnicity, or sexual orientation.

During 1993, a total of 7,587 bias-motivated criminal incidents were reported to the FBI by almost 7,000 law enforcement agencies in 46 states and the District of Columbia. Sixty-two percent of the incidents were motivated by racial bias; 17% by religious bias; 11% by sexual-orientation bias; and the remainder by ethnicity/national origin bias.

¹ The World Almanac and Book of Facts 1996, Funk & Wagnalls Corporation
Source: FBI, Uniform Crime Reports, 1994 Preliminary Annual Release
The 7,587 incidents involved 8,987 separate offenses, 9,372 victims, and 8,610 known offenders. Most of the incidents (84%) involved only one victim and a single offense type (98%).

Seven of every ten incidents involved crimes against persons; of these, eight of every ten were directed at individuals. Of the total incidents directed at individuals, 20% involved crimes against property, e.g., vandalism of an individual’s car or home.

**Offenses**

Crimes against persons composed 70% of the 8,987 offenses reported. Intimidation was the single most frequently reported hate crime among all offenses measured, accounting for 34% of the total. Following were damage/destruction/vandalism of property, 26%; simple assault, 20%; and aggravated assault, 16 percent.

Sixteen persons were murdered in hate-motivated incidents. Racial bias motivated the highest number of murders in 1993: nine. Anti-white offenses alone accounted for six of the nine homicides in this category. Of the remaining murders, six were motivated by sexual orientation, and one was motivated by bias against the victim’s ethnic origin.

**Victims**

Eighty-five percent of the 9,372 reported hate crime victims were individuals, while the remaining 15% were businesses, religious organizations, or varied other targets. Of these victims, 67% were targets of crimes against persons. Six of every ten victims were attacked because of their race, with bias against blacks accounting for 38% of the total. Only crimes motivated by religious bias
showed a higher percentage of crimes against property rather than persons. Sixty seven percent of incidents involving victims targeted because of their religion were crimes against property.

**Offenders**

Law enforcement agencies reported 8,610 known offenders to be associated with the 7,587 incidents recorded in 1993. Fifty-one percent of the known offenders were white, and 34% were black. Characteristics of offenders for the remaining 39% of the incidents were unknown.

Considering the types of racial bias involved, nine of every ten white offenders were identified in connection with anti-black offenses. Similarly, nine out of every ten black offenders were associated with anti-white offenses.

**Locations**

Twenty-seven percent of hate crime incidents in 1993 occurred in residences. Following closely were highways, roads, alleys, or streets accounting for 23 percent. the remaining incidents were widely distributed among other locations.²


Source: U.S. Department of Justice, Uniform Crime Reports, latest data.
Firearms, Crime, and Criminals

Guns and crime are irrevocably linked. Guns are often used to commit robbery and murder in which human life is either threatened or taken. The misuse of guns places most of us at some risk.

Guns, Youth and Children

Twenty-five or thirty years ago, when teenage boys got into a fight, or starting feuding, it usually meant a fist fight. In more and more neighborhoods throughout the country, it now means a shoot-out. A growing number of young people are being reared in environments with a level of violence equal to that of a warring nation or a combat zone. The Centers for Disease Control reports that since 1988, American teenage boys have been more likely to die from gunshot wounds than from the combination of all natural diseases. In 1989, more than 6,000 young people between the ages of 15 and 24 were homicide victims. Since 1984, the firearm death rate among teens ages 15 to 19 has increased 43 percent, rising to 17.7 per 100,000 in 1988. The most recent increases were primarily among black males.³

³ Carol D. Foster, Mark A. Siegel, and Nancy R. Jacobs, Gun Control, Wylie, Information Plus, 1993, 83.
Murder Victims by Weapons Used

<table>
<thead>
<tr>
<th>Year</th>
<th>Guns Total</th>
<th>Percent</th>
<th>Cutting or Stabbing</th>
<th>Blunt Object</th>
<th>Strangulation, hands fists,feet or pushing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>12,847</td>
<td>64.1</td>
<td>3,503</td>
<td>1,075</td>
<td>1,424</td>
</tr>
<tr>
<td>1991</td>
<td>14,265</td>
<td>66.3</td>
<td>3,405</td>
<td>1,082</td>
<td>1,519</td>
</tr>
<tr>
<td>1992</td>
<td>15,377</td>
<td>68.2</td>
<td>3,265</td>
<td>1,029</td>
<td>1,434</td>
</tr>
<tr>
<td>1993</td>
<td>16,187</td>
<td>69.6</td>
<td>2,957</td>
<td>1,024</td>
<td>1,493</td>
</tr>
</tbody>
</table>


Gun control opponents like to say that "guns don't kill people, people kill people" But people with guns kill people much more often and efficiently than people without guns. Guns may not cause violence, but they make violence more severe, more likely to lead to death instead of injury. And it's not limited to the inner city. --"Gun-Associated Violence Increasingly Viewed as Public Health Challenge," Journal of the American Medical Association, March 4, 1992.

State and Federal Prison Population; Death Penalty
The number of prisoners under the jurisdiction of federal or state correctional authorities at year-end 1994 reached a record high of 1,053,738. The states and the District of Columbia added 78,847 prisoners in 1994; the federal system, 5,447. Although the 1994 growth rate of 8.6% nearly equaled the average annual percent increase since 1980, the total increase (83,294) was the 2nd
largest yearly increase on record. The 1994 growth rate was greater than the percentage increase recorded during 1993 (7.4%), and translated into a nationwide need to confine an additional 1,602 inmates per week compared with 1,254 per week in 1993. Prisoners serving a drug-related sentence increased from 8% of the state and federal prison population in 1980 to 26% in 1993. During the same period, the percentage of prisoners serving for a violent offense fell from 57% to 45% and those serving for a property offense fell from 30% to 22%. Prisoners with a sentence of more than 1 year accounted for 96% of the total prison population at the end of 1994.4

**Worst cities for murder in the US**

<table>
<thead>
<tr>
<th>City</th>
<th>Murders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 New York</td>
<td>1,946</td>
</tr>
<tr>
<td>2 Los Angeles</td>
<td>1,076</td>
</tr>
<tr>
<td>3 Chicago</td>
<td>845</td>
</tr>
<tr>
<td>4 Detroit</td>
<td>579</td>
</tr>
<tr>
<td>5 Washington, D. C.</td>
<td>454</td>
</tr>
<tr>
<td>6 Houston</td>
<td>446</td>
</tr>
<tr>
<td>7 Philadelphia</td>
<td>439</td>
</tr>
<tr>
<td>8 New Orleans</td>
<td>395</td>
</tr>
<tr>
<td>9 Seattle</td>
<td>356</td>
</tr>
<tr>
<td>10 Baltimore</td>
<td>353</td>
</tr>
</tbody>
</table>

The identity of America's 10 murder capitals remains fairly consistent from year to year, although in 1993 Seattle ousted Dallas, which had 317 murders. In that year, the Top 10 accounted for 6,889, or 30 percent of the total 23,271 murders in the US.

---

4 The World Almanac and Book of Facts 1996, Funk & Wagnalls Corporation

Wars

What lessons can we learn from World War I?

First and most important, we learn that wars do not solve problems. In fact they often create new problems. No one knows whether World War I could have been prevented. The world of 1914 was full of hope and promise. Then, suddenly, it was caught up in the most horrible bloodbath in history. Whole nations entered into this grim test of power, not just governments and armies. Factory, shop, and farm became as important as battlefields; civilians, as well as soldiers, did their part.

This was total war and every country that took part in it wanted total victory. Instead, after four years and three months, most of prewar Europe lay in ruins. Nations lost the flower of their youth and wasted their national resources.

This was supposed to be "the war to end all wars." Sad to say, it was not. After the war, President Woodrow Wilson told the American people that they should join the League of Nations, a new kind of parliament or congress of the whole world. "If we do not join the League," said Wilson, "I can predict with absolute certainty that there will be another world war." The United States did not join the League, and President Wilson was proved right. Instead of making the world safe for democracy, World War I gave rise to many harsh dictatorships and, finally, led to the tragedy of World War II.

World War I holds another important lesson: nationalism can lead to war. People of all countries must learn to understand one another’s problems and work together for strong international
laws and organizations that will help solve these problems. Only in that way can we hope to see a future without war.

World History  World War I

German forces were stopped in France in one month. The rival armies dug trench networks. Artillery and improved machine guns prevented either side from any lasting advance despite repeated assaults (600,000 dead at Verdun, Feb.-July 1916). Poison gas, used by Germany in 1915, proved ineffective. More than 1 million U.S. troops tipped the balance after mid-1917, forcing Germany to sue for peace the next year. The formal armistice was signed at 5 AM, Nov. 11, 1918.¹

Casualties in Principal Wars of the U.S.

Source: U.S. Dept. of Defense

Data prior to World War I are based on incomplete records in many cases. Casualty data are confined to dead and wounded personnel and therefore exclude personnel captured or missing in action who were subsequently returned to military control. Dash (--) indicates information is not available.²

<table>
<thead>
<tr>
<th>War</th>
<th>Branch of service</th>
<th>Number serving</th>
<th>Battle deaths</th>
<th>Other deaths</th>
<th>Wounds not mortal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revolutionary War</td>
<td>Total</td>
<td></td>
<td>4,435</td>
<td>--</td>
<td>6,188</td>
<td>--</td>
</tr>
<tr>
<td>1775-83</td>
<td>Army</td>
<td>184,000</td>
<td>4,044</td>
<td>--</td>
<td>6,004</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>--</td>
<td>342</td>
<td>--</td>
<td>114</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>250,000</td>
<td>49</td>
<td>--</td>
<td>70</td>
<td>--</td>
</tr>
<tr>
<td>War of 1812</td>
<td>Total</td>
<td>286,730</td>
<td>2,260</td>
<td>--</td>
<td>4,505</td>
<td>6,765</td>
</tr>
<tr>
<td>1812-15</td>
<td>Army</td>
<td>--</td>
<td>1,950</td>
<td>--</td>
<td>4,000</td>
<td>5,950</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>--</td>
<td>265</td>
<td>--</td>
<td>439</td>
<td>704</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>--</td>
<td>45</td>
<td>--</td>
<td>66</td>
<td>111</td>
</tr>
<tr>
<td>Mexican War</td>
<td>Total</td>
<td>78,718</td>
<td>1,733</td>
<td>11,550</td>
<td>4,152</td>
<td>17,435</td>
</tr>
<tr>
<td>1846-48</td>
<td>Army</td>
<td>--</td>
<td>1,721</td>
<td>11,550</td>
<td>4,102</td>
<td>17,373</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>--</td>
<td>11</td>
<td>--</td>
<td>47</td>
<td>58</td>
</tr>
<tr>
<td>Civil War</td>
<td>Total</td>
<td>2,213,363</td>
<td>140,414</td>
<td>224,097</td>
<td>281,881</td>
<td>646,392</td>
</tr>
<tr>
<td>Union forces</td>
<td>Army</td>
<td>2,128,948</td>
<td>138,154</td>
<td>221,374</td>
<td>280,040</td>
<td>639,568</td>
</tr>
<tr>
<td>1861-65</td>
<td>Navy</td>
<td>--</td>
<td>2,112</td>
<td>2,411</td>
<td>1,710</td>
<td>6,233</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>84,415</td>
<td>148</td>
<td>312</td>
<td>131</td>
<td>591</td>
</tr>
<tr>
<td>Confederate forces (estimate)</td>
<td>Total</td>
<td>--</td>
<td>74,524</td>
<td>59,297</td>
<td>--</td>
<td>133,821</td>
</tr>
<tr>
<td>1863-66</td>
<td>Army</td>
<td>600,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>1,500,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Spanish-American War</td>
<td>Total</td>
<td>306,760</td>
<td>385</td>
<td>2,061</td>
<td>1,662</td>
<td>4,108</td>
</tr>
<tr>
<td>1898</td>
<td>Army</td>
<td>280,564</td>
<td>369</td>
<td>2,061</td>
<td>1,594</td>
<td>4,024</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>22,875</td>
<td>10</td>
<td>0</td>
<td>47</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>3,321</td>
<td>6</td>
<td>0</td>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>World War I</td>
<td>Total</td>
<td>4,743,826</td>
<td>53,513</td>
<td>63,195</td>
<td>204,002</td>
<td>320,710</td>
</tr>
<tr>
<td>April 6, 1917-Nov. 11, 1918</td>
<td>Army</td>
<td>4,057,101</td>
<td>50,510</td>
<td>55,868</td>
<td>193,663</td>
<td>300,041</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>599,051</td>
<td>431</td>
<td>6,856</td>
<td>819</td>
<td>8,106</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>78,839</td>
<td>2,461</td>
<td>390</td>
<td>9,520</td>
<td>12,371</td>
</tr>
<tr>
<td></td>
<td>Coast Guard</td>
<td>8,335</td>
<td>111</td>
<td>81</td>
<td>--</td>
<td>192</td>
</tr>
<tr>
<td>World War II</td>
<td>Total</td>
<td>16,353,659</td>
<td>292,131</td>
<td>115,185</td>
<td>670,846</td>
<td>1,078,162</td>
</tr>
<tr>
<td>Dec. 7, 1941-Dec. 31, 1946</td>
<td>Army</td>
<td>11,260,000</td>
<td>234,874</td>
<td>83,400</td>
<td>565,861</td>
<td>884,135</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>4,183,466</td>
<td>36,950</td>
<td>25,664</td>
<td>37,778</td>
<td>100,392</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>669,100</td>
<td>19,733</td>
<td>4,778</td>
<td>67,207</td>
<td>91,718</td>
</tr>
<tr>
<td></td>
<td>Coast Guard</td>
<td>241,093</td>
<td>574</td>
<td>1,343</td>
<td>--</td>
<td>1,917</td>
</tr>
<tr>
<td>Korean War</td>
<td>Total</td>
<td>5,764,143</td>
<td>33,651</td>
<td>--</td>
<td>103,284</td>
<td>--</td>
</tr>
<tr>
<td>June 25, 1950-July 27, 1953</td>
<td>Army</td>
<td>2,834,000</td>
<td>27,709</td>
<td>--</td>
<td>77,596</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>1,177,000</td>
<td>474</td>
<td>176</td>
<td>1,576</td>
<td>2,226</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>424,000</td>
<td>4,270</td>
<td>339</td>
<td>23,744</td>
<td>28,353</td>
</tr>
<tr>
<td></td>
<td>Air Force</td>
<td>1,285,000</td>
<td>1,198</td>
<td>298</td>
<td>368</td>
<td>1,864</td>
</tr>
<tr>
<td></td>
<td>Coast Guard</td>
<td>44,143</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Vietnam War</td>
<td>Total</td>
<td>8,744,000</td>
<td>47,369</td>
<td>10,799</td>
<td>153,303</td>
<td>211,471</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>1,842,000</td>
<td>1,631</td>
<td>927</td>
<td>4,178</td>
<td>6,736</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>794,000</td>
<td>13,083</td>
<td>1,754</td>
<td>51,392</td>
<td>66,229</td>
</tr>
<tr>
<td></td>
<td>Air Force</td>
<td>1,740,000</td>
<td>1,739</td>
<td>842</td>
<td>931</td>
<td>3,512</td>
</tr>
<tr>
<td></td>
<td>Coast Guard</td>
<td>--</td>
<td>5</td>
<td>2</td>
<td>--</td>
<td>7</td>
</tr>
<tr>
<td>Persian Gulf War</td>
<td>Total</td>
<td>467,539</td>
<td>148</td>
<td>145</td>
<td>467</td>
<td>760</td>
</tr>
<tr>
<td>1991</td>
<td>Army</td>
<td>246,682</td>
<td>98</td>
<td>105</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Navy</td>
<td>98,852</td>
<td>6</td>
<td>8</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Marines</td>
<td>71,254</td>
<td>24</td>
<td>26</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Air Force</td>
<td>50,751</td>
<td>20</td>
<td>6</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
Starvation

World Hunger. The words may conjure up various pictures in your mind: small children with distended stomachs, homeless multitudes in teeming refugee camps, aged persons with spindly bodies, emaciated corpses stacked in funeral pyres. Whatever the image may be, it cannot be a pleasant sight.

The tragedy of world hunger is people who are starving, not a cosmic piece of dust called the earth. World hunger is not a picture of a globe anxious to be fed but rather a picture of people who urgently need the necessity of life-food.

World hunger is nomads in Chad forced to eat leaves and bark to stay alive. It is two-year-old babies dying in Mauretania never weighing more than sixteen pounds. World hunger is fourteen thousand people crowded together in a refugee camp in Kebri Dehar with only two nurses. World hunger in Ethiopia is feeding the seeds saved for next year’s crop to the children when they cry from hunger.1

It's been called the invisible killer, the silent emergency. It is not famine and it does not make the headlines. It is the grinding poverty which, day in day out, denies millions of people across the globe of the essentials of a decent life. In particular, they are deprived of an adequate diet. This 'normal' hunger will kill their

children in their first year, destroy their health in adulthood, and take them to an early grave. More than one thousand million people are chronically hungry. Every 24 hours, 35 thousand of them die as a result.

They, like us, live in a world of plenty, where more food is produced than is consumed. As Europe destroys its food mountains and America stores unsaleable grain, Brazil, Sudan, even Bangladesh either have surpluses of their own, or are capable of producing them. People are dying, not because there is not enough food, but because they are too poor to buy it and have no land where they could grow their own.

What can we do? Perhaps the most immediate achievable change is in our own attitudes to hunger. Once it is recognized that the cause of hunger is not scarcity of food and not scarcity of land, one conclusion is that it is a scarcity of democracy: the kind of democracy which says that each person has the right to enough food.

In the end it comes down to politics. Only deep, structural changes can shift the balance in favour of the poor majority.

When famine strikes and quick action is needed, we can be good at responding, by sending the emergency aid vital in saving threatened lives.
AIDS

At this point, in our society, almost everyone has lost someone to AIDS. We grieve the loss and we wonder at the senselessness of it all. We often want to take action and fight back, yet too often we stop because we simply don’t know where to begin. The disease is bigger than us all and we feel helpless in its shadow.

My message to you is simply this: we can illuminate that darkness, one step at a time. One day at a time. One neighborhood at a time. One community at a time.

What is AIDS? AIDS stands for acquired immunodeficiency syndrome—a fatal disorder of the immune system. A person with AIDS gradually loses the ability to fight off infections and cancers that would ordinarily be stopped by the immune system. Conditions that are not serious for normally healthy people, such as the common cold or flu, can be very severe for people with AIDS and can lead to the further weakening of their immune systems. People living with AIDS also become especially vulnerable to specific diseases, called opportunistic infections, which range from moderately dangerous to deadly. These infections, not AIDS itself, ultimately cause death. The initial cause of immune system breakdown is infection with HIV.1

---

What causes AIDS  AIDS is caused by a virus named the human immune-deficiency virus (HIV). When someone is infected with HIV, the virus invades cells, called T-cells or helper cells, which are important components of the immune system. T-cells help orchestrate the immune system's response to conditions that threaten the body.

HIV multiplies inside T-cells, eventually killing them entirely. As more and more cells die, the immune system is less able to do its job. Infected people have a more difficult time fighting off germs and are highly susceptible to common colds or flus. Gradually, as their systems are weakened by constant battle with germs we normally would repel every day, they develop rare and unusually severe infections; these infections usually lead to the diagnosis of full-blown AIDS. The infections may attack in many way, sometimes targeting the respiratory and sensory systems and, in some cases, even brain function, eventually shutting these organs and systems down.

HIV does not immediately weaken a person's immune system. It can take as many as ten years or more or as little as a few months after infection for HIV to seriously damage the immune system. The length of time between initial infection and full-blown AIDS depends on many factors, such as a person's lifestyle, attitude, and body chemistry.\(^2\)

---

Where did AIDS come from? No one knows for sure where in the world, or exactly when, the HIV virus began to infect people, or when AIDS itself began. It may have been in more than one place at the same time. It is possible we shall never know.

Scientists have studied viruses similar to HIV that are found in monkeys and apes. It is a possibility that one of these changed and came to infect humans, although again how this could have happened is unclear.

Some Scientists have suggested that AIDS began in Africa. It may have then spread to Haiti and the Caribbean, and then on to the United States and so to Europe. "Gay jetsetters" may have been one link. Another could be the colonial links between some African and European countries. However the pattern of the world spread of AIDS has not been studied in enough detail as yet.

The story may go back further than 1981, when AIDS was first recognized in the United States. Blood stored in Zaire in 1959 has been examined, and contains HIV. So possibly the virus has been around for many years, at least in Africa. In 1988 it was discovered that a 16-year-old boy, who died in the United States in 1969, probably had AIDS. After his death, doctors saved frozen samples of his blood and tissues, since they did not recognize his unusual illness. Recent tests show he had HIV. There may be similar isolated cases. However, for some reason, AIDS only began to take hold and show itself in the 1980s. It may be that the generally good level of "background" health in the United States allowed the virus to be recognized.1

AIDS in the United States The Center for Disease Control in Atlanta estimates that there are
probably 1.5 million people in the United States who are infected with the AIDS virus now. They also figure that approximately 180,000 of these will die of AIDS by 1991. Drug injectors are the fastest-growing group.

The World Health Organization says that more than 50,000 people have full-blown AIDS. These are certain cases, from countries that test for AIDS. There are thousands of people from poor countries who have AIDS. But their doctors and hospitals do not have the resources even to test for the virus, let alone care for the victims. They are struggling against many other diseases, like malaria and typhoid.

Over the next 20 years, AIDS will kill millions of people around the world. In parts of Central Africa, its effects may be greater than anywhere else. Here, it is common among the general population in urban areas.2

**AIDS in the UK** In Britain at the end of July 1987, there were 906 reported AIDS cases and 529 deaths. It is thought that by 1990 there will be 10,000 people with AIDS, and 100,000 positive for HIV. If the British pattern follows the American one, drug injectors will be the fastest-growing group.3

---

1, 2, 3 Nicholas Bevan, *Understanding Drugs, AIDS And Drugs*, New York, Aladdin Books Ltd, 1988, 28-29.
How the virus spread... HIV is quite fragile, for a virus. Away from the human body, it becomes ineffective. It cannot spread in many of the ways we usually imagine we “catch” an illness, such as shaking hands or drinking from the same cup.

However, HIV thrives in blood and certain body fluids. It is the mixing of a body fluid from a person infected with HIV, with that from someone who is not infected, which creates the risk of HIV being transferred from the former to the latter person.

Mixing of blood or body fluids from two people (one with HIV) can therefore transmit AIDS. Body fluids mix during sex, and blood mixes if drug injectors share needles or syringes.4

...Through pregnancy The child of a mother with HIV is at risk of catching the virus. During pregnancy, the blood supplies of the baby and mother are closely linked, and HIV may pass across. And at birth, the blood of mother and baby may mix.

There have been several hundred babies born with AIDS in the United States. Only a few cases have been reported in Britain. But in Africa the problem is gigantic. In Zambia, doctors fear that almost, 6,000 babies with HIV were born in 1987. Most infected children die before the age of five years.5

... By blood transfusions and blood products Hemophiliacs suffer from an inherited disease in which blood does not clot to seal a cut or wound. They need regular transfusions of a special blood preparation, or they may bleed to death. The blood is donated by other people.

In the past, some people with HIV have given blood. This contaminated blood (or part of it) has been passed on to hemophil-
iacs, who in turn became infected with HIV. This is now impossible in the United States, since all donated blood is tested for antibodies to HIV. Also, people wishing to donate blood are asked not to do so if they are in one of the high-risk AIDS groups. In most Western countries there is a similar system.6

How AIDS is not spread

These are ways you cannot catch AIDS:
• by shaking or holding hands
• from door handles or toilet seats
• by everyday close contact such as holding, cuddling, stroking and caressing
• by sharing cups or cutlery
• from insect bites
• from clothes
• from bathroom items
• from ordinary kissing

---

4, 5, 6 Nicholas Bevan, Understanding Drugs, AIDS And Drugs, New York, Aladdin Books Ltd, 1988, 30-32.
How to avoid AIDS  A basic way to avoid catching HIV is to be aware that some lifestyles make HIV infection more likely. Remember that after someone becomes infected, it often takes many years (up to eight or more) before signs of full-blown AIDS appear.

The spread of the virus can be contained or controlled by avoiding certain types of known high-risk behavior. Of course, they cannot take into account each person’s situation. You may abuse drugs and share a dwelling with people you don’t know very well, in which case you should be taking even greater care. Or you may live at home and feel that few of the guidelines apply to you. If in doubt, get advice from a doctor or other qualified person.

- Avoid any contact with blood containing HIV and prevent this blood from entering the bloodstream. This means never sharing needles, syringes and other equipment used for drug abuse.
- Never handle a blood-contaminated hypodermic needle or other sharp object which has punctured the skin.
- Never have sexual intercourse with anyone known to have HIV.
- Discuss the possibility of AIDS with your sexual partner, and follow the “safe sex” guidelines. Use a condom during intercourse.
- HIV has been detected in saliva, so deep kissing should be avoided. However, doctors have yet to report a case of the virus being passed on in this way.
- Don’t become “blood brothers/sisters” by cutting the skin and mixing blood with your friends.
- Avoid tattooing.
- Only use an acupuncturist recommended by your doctor and who can satisfy you that all equipment is sterilized.
• Ear piercing - again, consider only the best clinics, and take advice from your doctor.
• Don’t share razors. Skin may have been cut, leaving traces of blood on the blade or holder.
• Don’t share a toothbrush. Mouth ulcers may provide a way for HIV to cross to another person. Similarly, blood from bleeding gums may also contain the virus.

Follow these safeguards, and others in this book, and those publicized on television, in papers and on posters. Then you will greatly reduce your chance of becoming infected by HIV. Try to make your friends aware, too, of the risks of passing on HIV.7

7 Nicholas Bevan, Understanding Drugs, AIDS And Drugs, New York, Aladdin Books Ltd, 1988, 48-49.
Racism

There is a new racism in America

In some way, the dream of brotherhood seems even more distant now than when Martin Luther King, Jr., spoke from the steps of the Lincoln Memorial in 1963.

“\text{I have a dream,}” King said in one of the best-remembered American speeches of our time, “\text{I have a dream that one day, on the red hills of Georgia, the sons of former slaves and the sons of former slave owners will be able to sit together at the table of brotherhood.}”

It seems so very long ago, because in the 1990s, white Americans hold blacks, and blacks alone, to blame for their current position in American society. “\text{We tried to help,}” whites say over and over, “\text{but blacks wouldn’t help themselves.}” This is the basis for what we’ve called the new racism. Everything flows from it. It is a change from the hardcore racism that existed in our country’s earlier years. It is also a dramatic contrast to the attitudes of the 1960s, when many whites, from the President on down, publicly stated that black people were owed compensation for centuries of oppression.
1990s STEREOTYPES:

WHITES ON BLACKS vs. BLACKS ON WHITES

ATTRIBUTES WHITES ASSOCIATE WITH BLACKS:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Percentage Who Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic</td>
<td>61%</td>
</tr>
<tr>
<td>Criminal</td>
<td>33%</td>
</tr>
<tr>
<td>Poor</td>
<td>32%</td>
</tr>
<tr>
<td>Violent</td>
<td>31%</td>
</tr>
<tr>
<td>Dangerous</td>
<td>30%</td>
</tr>
<tr>
<td>Lazy</td>
<td>29%</td>
</tr>
<tr>
<td>Vulgar</td>
<td>22%</td>
</tr>
<tr>
<td>Dirty</td>
<td>14%</td>
</tr>
</tbody>
</table>

ATTRIBUTES BLACKS ASSOCIATE WITH WHITES:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Percentage Who Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racist</td>
<td>49%</td>
</tr>
<tr>
<td>Wealthy</td>
<td>29%</td>
</tr>
<tr>
<td>Greedy</td>
<td>21%</td>
</tr>
<tr>
<td>Intelligent</td>
<td>14%</td>
</tr>
<tr>
<td>Dangerous</td>
<td>14%</td>
</tr>
</tbody>
</table>

In the interviews, a majority of whites told what they really think: that white America has taken enough blame for the low economic status of blacks and that from now on, it's up to the blacks...

---

themselves to improve their lot.

Two-thirds of us now believe that a black person has the same chance of success as a white. "If blacks are poor, it's because they haven't taken advantage of the opportunities America offers them." Most whites believe the issue to be that black-and-white.

To three-fourths of white people, the recent success of Asian-Americans absolutely confirms their low opinion of blacks.

"If blacks would only work as hard as Asians, they would succeed": that's the lesson that most whites draw from the Asian experience.

For most Americans, racial brotherhood is not a dream, it's a nightmare. From the stereotypes that blacks and whites see when they look at each other, it's not surprising that whites and blacks don't want to be "brothers."

Most whites (54 percent) privately admit that they hold one or more of these racist opinions:

- Blacks are more violent than white (44 percent).
- Whites are clearly more intelligent than blacks (22 percent).
- The Ku Klux Klan has legitimate grievances (20 percent).
- Whites have a right to keep blacks out of their neighborhoods entirely (15 percent).
- Whites would refuse a blood transfusion from black (19 percent).
- Whites would demand a white doctor if a hospital assigned a black to them (13 percent).

Most whites move in racist circles. More than half openly admit that they have racist friends. They also say that their
neighbors would be extremely upset if they sold their home to black family.

White reluctance to associate with blacks rises dramatically when sex is involved:

- Whites could never get romantically involved with a black person (77 percent).
- Whites would object if their son or daughter brought home a black date (50 percent).
- Whites become angry when they see a black man walking hand-in-hand with a white woman (41 percent).

Racist attitudes among whites still vary tremendously around the country. You’re more than fifteen times as likely to find a hardcore racist, someone with strongly antiblack attitudes, among residents of Old Dixie as on the Pac Rim. With the exception of New England, white people are much more racist east of the Mississippi than they are west of it. But the good news is that there are fewer hardcore racists than ever before.

How It Is for Us

---Jennifer Tseng, age four---

see your Black daddy
see my Chinese daddy
see our white
mamas
so mixed-up
our stirred up
sister
we feelin stirred up too
cuz look out there
at our people:
Black, Chinese, White.
my people own the grocery store
your people buy the milk
my people think you stealin
your people give me looks.

how do we ever understand
that our people
my mama's people
our people
your mama's people
our people
white people
don't trust
either of us?

---

What is interactivity

The things people do on computers have always been interactive. Computers and software are tools, and their purpose is to help people interact with words, numbers, and pictures. What's different today is that computers are being used for activities that never used to be considered interactive—such as reading, watching, or simply being entertained. And this means that the audience, not the designer, now controls the sequence, the pace, and most importantly, what to look at and what to ignore. Therefore, the process of interactivity has to be made by well considered design.

Looking at interactive design as a process accomplishes two things:

- It gives a framework for visualizing how all the ideas, pictures, and other raw materials I am starting out with can be brought together into a usable interface.

- It breaks down complex interactive projects into a set of tangible tasks and issues. This makes it possible to plan, design and manage all the pieces of the puzzle.

Unlike a product that merely has to communicate, an interactive product also has to deliver functionality and usability. An interface has to provide the information access and clear guidance the users needs. And it should be visually inviting as well.
Information Design

Information design is the beginning of my interactive work: The first question is the process of definition. It precedes any thoughts about what the screen will look like. Information design is the process of clarifying my communication goals and arranging the content into a design that serves those goals.

The flowchart

An information flowchart is simply an outline presented as a box diagram, with lines that show the access routes among its parts. It gives shape and structure to the content so people can get a sense of how the real product might work.
### Assumptions

<table>
<thead>
<tr>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>start with existing documents and videos</td>
</tr>
<tr>
<td>need clarity, simplicity, directness, and repetition</td>
</tr>
<tr>
<td>need conceptual explanation, graphs, charts, and simulations</td>
</tr>
<tr>
<td>need high level of user control of actions and events: realistic sight and sound</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>anyone who wants instant information on recent social problems</td>
</tr>
<tr>
<td>wants specific information</td>
</tr>
<tr>
<td>wants it easy, fast, and useful</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Goals...</th>
</tr>
</thead>
<tbody>
<tr>
<td>to create comprehensive information data base</td>
</tr>
<tr>
<td>to be easy to use without training or instructions</td>
</tr>
<tr>
<td>to be portable so people can use it at home</td>
</tr>
<tr>
<td>to be promotional</td>
</tr>
</tbody>
</table>

### The medium of delivery

I chose the private medium because a product on a CD-ROM or hard disk can be designed to produce a tightly integrated experience in which words, pictures, sounds, and video are combined in a particular arrangement and sequence. Interactive controls on the screen can be designed to have whatever look and perform whatever function I specify, within the capabilities of the authoring tool.
The right tool for the work

Multimedia authoring tool  Macromedia Director

Description  Tool for integrating text, images, sounds, and video, and sequencing these into an interactive presentation or program.

Intended for creating feature-rich and media-rich interactive products.

Typical features  Usually include a high-level scripting language used to produce custom interactivity features, and to control images, sounds, video, animation, and synchronization.

Most tools include a wide variety of canned visual effects and transitions.

Navigation

In many interactive products, the user's primary form of interaction is navigating through the content. It follows that much of interaction design is really navigation design: creating interfaces that help people understand where they are, where they can go, and how to get there.
Every screen needs controls that take users forward to the places they can go, and back to the places they came from. From this main screen, users need access only downward to topics.

The topic screen provides access in two directions: down to individual subtopics, and back up to the main screen.
Subtopic

The next level of access is sideways-between items and the same subtopic. Access back to the main screen is still available.
Computer graphics Tools  2-D Graphics

Digitizing real-world Images
Although the electronic tools for creating images are extremely powerful, artistic images can still demand talent and/or hand-to-eye coordination not possessed by everyone needing to make presentations. To express the modern reality of social problems, I used a flatbed scanner. The scanner provided a way that any existing printed image could be digitized into the computer. My work usually demands color scanning. The scanner provides 8-bit values for each of the RGB components to yield a 24-bit image.

Flatbed Scanners
Flatbed scanners are the most popular scanners in use on the desktop today. They resemble small photocopy machines: The image to be scanned is placed face-down on a clear glass surface and scanned from underneath. A moving head containing a light source and mirror is moved along a track beneath the image. The light illuminates each line of the scanned image and the mirror reflects the image through a lens into a CCD array like those found in camcorders. The CCD converts the incoming light into voltages whose amplitude corresponds to the intensity of the light. Analog-to-digital converters transform these voltages into digital information. This process is repeated line-for-line until a complete digital representation of the image is available for storage and manipulation as standard bitmap file.
2-D Graphics Image processing software (Adobe Photoshop)

- Image processors are increasingly important tools in the creation of effective electronic images.
- The diverse capabilities of the image processor can be distilled to two basic functions for multimedia purposes-optimization of scanned images and special effects.

Basic controls

Basic controls affect common attributes of an image or selected area that result from poor photographs or poor scans. Brightness controls the overall luminance of all pixels. Contrast affects the balance between dark and light portions of the image. Equalize distributes the brightness values of pixels evenly across the brightness range, usually enhancing the contrast. Gamma affects the mid-range values, like details in shadows, without altering the extreme light and dark sections. These basic controls are often easier to use in conjunction with a histogram—a plot of how many pixels in an image or channel occur at various intensities.
Adjusting tonal range

I can adjust the brightness and contrast of an image using the Auto Levels, Brightness/Contrast, and Levels commands. These commands modify the distribution of pixel values in an image and allow me to adjust tonal range with increasing degrees of precision.

Using the Brightness/Contrast command

Using the Brightness/Contrast command is the easiest way to make generalized adjustments to the tonal range of the image.
Using the Levels Sliders
The Levels sliders enable me to make gradual adjustments to the brightness, contrast, and gamma in an image. Gamma measures the contrast that affects the mid level grays (midtones) of an image. Adjusting the gamma lets me change the brightness values of the middle range of gray tones without dramatically altering the shadows and highlights.

Adjusting the brightness and contrast automatically
The Auto Levels command and Auto buttons in the Levels dialog box define the lightest and darkest pixels in each channel as white and black and then redistribute the intermediate pixel values proportionately.
In general, the Auto levels command and the Auto buttons give results when a simple contrast adjustment is needed to an image with an average distribution of pixel values throughout the grayscale. Automatic tonal correction redistributes pixel values according to white and black points only and does not provide the more precise control that can be achieved using Level.

Adjusting color balance
I can modify the color balance in an image by using the Color Balance command or by applying Levels to the individual channels of a color image. The Hue/Saturation command offers additional control over specific color components and attributes.

Using the color balance command
The Color Balance command enables me to change the mixture of colors in a color image. Like the Brightness/Contrast command, this tool is intended to provide generalized color correction.
Using the Hue/Saturation command

The Hue/Saturation command lets me adjust the hue, saturation, and lightness of individual color components in an image.
Filters
The filters that are built into Adobe Photoshop let me apply special effects to the images. The Filters can be applied to selected areas or the entire images to subtly enhance the image or radically alter it. Blur filters soften the image by reducing the contrast between adjacent pixels. Sharpen filters increase the contrast between adjacent pixels to create a focusing effect. Despeckle filters can be used to remove the dot patterns that result from scanning an image that was originally created with the color printing process. A wide variety of special effects include distorting the image via digital noise, waves, twirls, pinches, and altering the entire plane of the image via spherizing or polar coordinates. Emboss creates the effect of stamping or raising an imprint of the image in a surface. Using the filters that come with Adobe Photoshop, I can produce many other interesting visu-
Gallery Effects 2
Along with painterly filters, Gallery Effects Classic Art 2 includes three - Rough Pastels, Texturizer, and Underpainting - that simulate textured surfaces. The filters are found in their own submenu of the Photoshop Filter menu.
2D Animation

In one sense 2-D animation has the additional dimension of time. One of the main distinctions between 2-D animation programs is the method in which images move through time and space. These include page flipping, cel animation, and object animation.

Since animation is a series of rapidly-projected frames, the simplest form of computer animation is page flipping. This term is derived from flip books that you bend and release to make the gradually changing images on successive pages seem to move.

Characters like Mickey Mouse, and Bugs Bunny are created in a process called cel animation. This term gets its name from the technique of layering multiple pieces of clear celluloid, or cels, that contain various elements of each frame.

Object animation loosely refers to moving unchanging objects over a series of frames. In my thesis, I usually used the object animation to visualize the modern reality.

Object animation
Most animation programs of this type provide for automation of object motion. I typically specified the number of frames, the start or end frame, the start or end object position, the distance the object is to be moved along each axis, and the amount of rotation around each axis. This combination provides for slides, scrolls, zooms, and flips in various combinations.
Object animation can be used to automate the movement of various elements along their own paths and axes.
Object animation 2
My object movements were automated forward or backward. The start position and frame were defined, and the specified moves were rendered over subsequent frames; if an end position and frame were defined, the specified moves were rendered up to that frame. Several different automated moves could be rendered to successive sets of frames in order for an object to change direction and/or rotation. Autodesk Animation allowed me to draw a free-hand path that the object followed over a series of frames.

Type as art  Main titles require more than just choosing and placing fonts. Our daily visual experience includes so much type that some artistic flair makes the message stand out. Moreover, proper graphic treatment can simultaneously communicate the essence of the message.

The simplest effect is to alter the angle of the type. I made rotating type in the war section. Rotating type can break the monotony of horizontal element.
PROCEDURE

2-D Animation

Object animation 3
Another powerful animation effect is to have an image, assemble itself for the viewer. The first step was isolating the individual elements that make up the final image. Animate the movement of each element by stamping it down in position on the final frame and having the animation path lead up to that frame and position. I worked from background to foreground to add each object and path, and saved after each added element was animated.
Video & Audio

Video  Video has an astonishing power to bring life to the computer screen. Video production is a highly evolved art and technology. It's a world of sophisticated equipment, professional skills that are quite different from other aspects of creating interactive products.

There are many types of editing procedures and equipment. The most common for desktop video involving VCRs are cuts-only edits using a single source deck. I used A/B editing using two source decks. The concepts of A/B roll apply to computer-based digital video technologies such as QuickTime: the digital images from two or more virtual video clips can edited video within the computer.

Adobe Premiere  For my thesis, Adobe Premiere software was utilized. Adobe Premiere is powerful video and audio-editing software designed to be a useful tool for the professional and novice alike. Adobe Premiere provides a comfortable and familiar working environment for those with both film and video experience. Video and multimedia professionals will find Adobe Premiere a valuable tool for tasks such as video editing or cresting QuickTime™ movies for presentations and CD-ROMs.
Setting up a project  First of all, to start my project, I selected a preset. Presets specify the project time base, movie frame rate, compression scheme, preview option, and output options for the project.

Editing  Until recent years, video editing was strictly linear; the entire program of video, audio, and special effects segments had to be identified and sequenced together in exact order before the final videotape was made. The editing process in Adobe Premiere is nonlinear; I could insert, copy, replace, transform, and delete clips at any time. I could experiment with various sequences and effects, previewing the changes before compiling my final movie for outputting to CD ROM.

While most low-budget editing procedures employ a single source deck and a master record deck, there are many variations on a theme and equipment. The basic steps in my project follows:

- I selected the type of insert edit I wished to make-in this case both video and audio.
- I entered the edit-in point for the source deck—the first frame of
the desired scene. This could be accomplished by locating the approximate position and using the jog controls to locate the exact frame. Then I used the appropriate button on the edit controller to set or mark the edit-in point for the source deck.

- I used the same process to enter the edit-out point for the source deck—the last frame of the desired scene.
- I entered the edit-in point for the record deck. When simply cutting segments together, this was the same as the edit-out point for the previously recorded segment.
- I selected preview on the edit controller. The edit performed a test edit allowing me to preview the edit before committing to it.
- I used the editor’s trim controls to adjust any of the edit point, then previewed the edit again. I repeated this step as necessary until the edit looked the way I wanted.

**Trimming clips**

Trimming refers to the adding or subtracting of frames to change a clip’s duration. The position of a clip’s starting frame is called the in point (sometimes referred to as head), and the position of the ending frame is called the out point (sometimes referred to as the tail). Clips can be trimmed in the Clip window, the Construction window, or the Trimming window. Of these three, the Trimming window gave me the most precise control and instant feedback.
Trimming clips in the clip window

A clip opens in the Clip window at the frame corresponding to the current in point. The duration counter shows the duration of the clip from the current in point to the current out point.

For movie clips, the in point indicator appears in the upper left corner of the Clip window. For audio clip, the in point indicator appears at the corresponding point along the waveform.

For movie clips, Adobe Premiere places the out point indicator in the upper right corner of the window. For audio clips, the out point indicator is placed at the corresponding point along the waveform. The duration counter at bottom of the window shows the new duration of the clip.
Trimming clips in the Construction window

Adobe Premiere provides a number of ways to trim clips in Construction window. I could use the in and out point tools or the ripple edit and rolling edit tools, or I could simply drag the edges of the clip. For better trimming precision, I chose a low time unit in the Construction window.

To trim a clip using the in point and out point tools

To trim a clip by dragging

To trim a clip using the ripple edit tool
PROCEDURE

Trimming Clips in the Trimming window

When I wanted to be as precise as possible when trimming clips, I used the Trimming window. The Trimming window lets me add or subtract frames from clips at edit points along the timeline. While making adjustments, I can see the exact frame that appears on each side of the edit point.
Transitions  In Adobe Premiere, each transition is unique and has a variety of options for controlling the way the image is transformed. The most common transition between clips is a cut—an instantaneous switch from one clip to another. The term is borrowed from film editing, where a cut is achieved by splicing two shots together. To cut between clips in Adobe Premiere, I simply arrange the clips, head to tail, on the same track in the Construction window.

Adding transitions  When I created a transition between clips, I had to place one clip on video track A in the Construction window and the other on video track B. The transition went on the T track, which was located between video track A and B. The clips on tracks A and B should overlap in time so that the transition can be placed in the overlapping area.

I had to control the direction of the transition—from track A to track B, or from track B to track A—by the position of the clips on the tracks. If two clips start at the same time, the default setting has the transition move from track A to track B; otherwise, the transition starts with the clip that plays first (the clip that is furthest left on the timeline). I overrode the default direction by clicking the transition's track selector.
Changing Transition Settings  

Transitions have a variety of settings. All of settings for a transition can be adjusted using the Transition Settings dialog box.

To change the starting and ending points of the transition, I used the Start and End sliders. I used this option to start or end the transition in the middle of the effect.

To adjust the width of the optional border on the transition, I dragged the Border slider.
Changing Transition Settings

To change the starting position of the Iris Cross, Iris Square, and Zoom transitions, I positioned the pointer on the small, white, repositioning box in the Start window of the Transition Settings dialog box, and dragged to reposition the starting point.

To change the orientation of the transition, click an Edge selector on the transition’s thumbnail. The Edge selectors are small triangles bordering the transition icon.
PROCEDURE

Transitions

Center Split

Page Turn
PROCEDURE

Transitions

Pinwheel

Fold Up
Filters

When I applied a filter to a clip, the filter changed the appearance of the entire clip. Adobe Premiere has over 50 movie and still-image filters that affect the visual appearance of the images or clips to which they are applied.

The Brightness & Contrast filter adjusts the brightness and contrast of the image. As I dragged the slides in the filter's dialog box, the preview of the image changed to reflect my adjustments.

The Tint filter applies a tint to an image. To select the tint color, I clicked the color swatch in the Tint Settings dialog box to display the color picker. I could set the level of the tint from 1 to 100 percent in the filter's dialog box.

The Twirl filter rotates an image around its center. In the filter's dialog box, I could enter the twirl angle, ranging from -999 to +999.
**PROCEDURE**

The Ripple filter produces an undulating pattern on an image, like ripples on the surface of a pond.

The Wave filter distorts an image to make it wave-shaped.

The Zig Zag filter distorts an image radially. The Amount field represents the magnitude of distortion. I could enter a value from 0 to 999.
PROCEDURE

Video & Audio

Twirl

[Image of a twirling pattern]

[Image of a group of people looking at a screen]

[Image of a person using a device]

[Image of a person using a device]

[Image of a person using a device]
PROCEDURE

Ripple

Video & Audio
Audio  
I can have up to 99 audio tracks playing simultaneously in an Adobe Premiere movie. Layering the audio clips on these tracks is similar to sound mixing in audio and television production. The thumbnails for audio clips show images of audio waveforms. Each audio track has an Audio Fade control that lets me adjust the volume, or levels, of the clip. I added sound to the movie by dragging audio clips from the Project window onto the audio tracks in the Construction window.

Successfully integrating sound into an interface required special attention to mixing and timing. The volume levels of music, narration, and sound effects were balanced at every moment to produce the correct emphasis and mood. Sound is the ultimate editorial tool. It can have a tremendous influence on users' perceptions of the content. In my thesis, the sounds provide more effective communication.
Media Integration Tool -- Macromedia Director

Integration means bringing all the interface elements together, using the authoring tool, to create a functional framework or shell for the product. The tools presented so far throughout this thesis play a role in creating various pieces of the multimedia puzzle. Macromedia Director is the specialized tool that pulls those pieces of the puzzle together. This software include everything from animation routines to interactive scripting. Director is the ideal tool for my interactive multimedia product.
THE DANGERS OF DRUGS: SOLVING NOTHING, SIMPLY ADDING PROBLEMS.
We accept our powerlessness over drugs.
We can't handle drugs. They handle us.
Cocaine has many and widespread bad effects on the body.

- worry and anxiety
- hallucinations
- widened pupils of the eyes
- increased heartbeat rate
- damaged heart muscle
- inability to sleep
- weight loss
- confusion and suspicion (paranoia)

Cocaine has many and widespread bad effects on the body.
There are many serious risks from injecting, especially when needles or syringes are shared. These risks include hepatitis (a serious liver disease), blood poisoning (which can kill), and the deadly disease, AIDS.
State and Federal Prison Population: Death Penalty

The number of prisoners under the jurisdiction of federal or state correctional authorities at year-end 1994 reached a record high of 1,053,726. The states and the District of Columbia added 70,047 prisoners in 1994, the federal system, 5,847. Although the 1994 growth rate of 9.6% nearly equaled the average annual percent increase since 1980, the total increase (63,994) was the second largest yearly increase on record. The 1994 growth rate was greater than the percentage increase recorded during 1993 (7.4%) and translated into a nationwide need to confine an additional 1,602 inmates per week compared with 1,294 per week in 1993.
Guns and crime are irrevocably linked. Guns are often used to commit robbery and murder in which human life is either threatened or taken. The misuse of guns places most of us at some risk.
### Murder Victims by Weapons Used

#### Weapons Used or Cause of Death

<table>
<thead>
<tr>
<th>Year</th>
<th>Murder Victims, total</th>
<th>Gun</th>
<th>Percentage</th>
<th>Cutting or Blunt</th>
<th>Stabbing object</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>8,773</td>
<td>5,015</td>
<td>67.2%</td>
<td>1,020</td>
<td>565</td>
</tr>
<tr>
<td>1990</td>
<td>20,045</td>
<td>12,941</td>
<td>64.6%</td>
<td>3,503</td>
<td>1,075</td>
</tr>
<tr>
<td>1991</td>
<td>21,505</td>
<td>14,262</td>
<td>66.2%</td>
<td>3,405</td>
<td>1,082</td>
</tr>
<tr>
<td>1992</td>
<td>22,540</td>
<td>15,377</td>
<td>68.4%</td>
<td>3,265</td>
<td>1,029</td>
</tr>
<tr>
<td>1993</td>
<td>23,271</td>
<td>16,199</td>
<td>69.4%</td>
<td>2,957</td>
<td>1,024</td>
</tr>
</tbody>
</table>

Worst cities for murder in the US

<table>
<thead>
<tr>
<th>City</th>
<th>Murders</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>1,046</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>1,076</td>
</tr>
<tr>
<td>Chicago</td>
<td>845</td>
</tr>
<tr>
<td>Detroit</td>
<td>570</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>473</td>
</tr>
<tr>
<td>Houston</td>
<td>446</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>439</td>
</tr>
<tr>
<td>New Orleans</td>
<td>406</td>
</tr>
<tr>
<td>Seattle</td>
<td>385</td>
</tr>
<tr>
<td>Baltimore</td>
<td>353</td>
</tr>
</tbody>
</table>

The identity of America's top murder capitol remains nearly constant from year to year, although in 1992 Seattle made a little noise, which had 311 murders in that year. The top 10 accounted for 8,005, or 50 percent of the total 16,171 murders in the US.
Victims

Eighty-five percent of the 3,972 reported hate crime victims were individuals, while the remaining 15% were businesses, religious organizations, or varied other targets. Of these victims, 61% were targets of crimes against persons. Six of every ten victims were attacked because of their race, with bias against blacks accounting for 49% of the total. Only crimes motivated by religious bias showed a higher percentage of crimes against property rather than persons. Eighty-seven percent of incidents involving victims targeted because of their religion were crimes against property.
Long walk to freedom. There...
The tragedy of world hunger is people who are starving, not a cosmic piece of dust called the earth. World hunger is not a picture of a globe anxious to be fed but rather a picture of people who urgently need the necessity of life-food.
World Hunger. The words may conjure up various pictures in your mind: small children with distended stomachs, homeless multitudes in teeming refugee camps, aged persons with spindly bodies, emaciated corpses stacked in funeral pyres. Whatever the image may be, it cannot be pleasant sight.
It's been called the invisible killer, the silent emergency. It is not famine and it does not make the headlines. It is the grinding poverty which, day in day out, deprives millions of people across the globe of the essentials of a decent life.

In particular, they are deprived of an adequate diet. This 'normal' hunger will kill their children in their first year, destroy their health in adulthood, and take them to an early grave. More than one thousand million people are chronically hungry. Every 24 hours, 35 thousand of them die as result.
What can we do? Perhaps the most immediate achievable change is in our own attitudes to hunger. Once it is recognized that the cause of hunger is not scarcity of food and not scarcity of land, one conclusion is that it is a scarcity of democracy: the kind of democracy which says that each person has the right to enough food.
AIDS stands for acquired immunodeficiency syndrome, a fatal disorder of the immune system. A person with AIDS gradually loses the ability to fight off infections and cancers that would ordinarily be stopped by the immune system. Conditions that are not serious for normally healthy people, such as the common cold or flu, can be very severe for people with AIDS and can lead to the further weakening of their immune system. People living with AIDS also become especially vulnerable to specific infections, called opportunistic infections, which range from moderately dangerous to deadly. These infections, not AIDS itself, ultimately cause death. The initial cause of immune system breakdown is infection with HIV. Click anywhere to continue.
AIDS stands for acquired immunodeficiency syndrome—a fatal disorder of the immune system. A person with AIDS gradually loses the ability to fight off infections and cancers that would ordinarily be stopped by the immune system. Conditions that are not serious for normally healthy people, such as the common cold or flu, can be very severe for people with AIDS and can lead to the further weakening of their immune systems.

People living with AIDS also become especially vulnerable to specific diseases called opportunistic infections, which range from moderately dangerous to deadly. These infections, not AIDS itself, ultimately cause death. The initial cause of immune system breakdown is infection with HIV.
How AIDS is not spread

- from door handles or toilet seats
- by shaking or holding hands
- by everyday close contact such as holding, cuddling, stroking and caring
- by sharing cups or cutlery
- from insect bites
- from clothing items
- from ordinary kissing
- from bathroom items

Click anywhere to continue
How AIDS is not spread

Click anywhere to continue.
Avoid any contact with blood containing HIV and prevent the blood from entering the bloodstream. This means never sharing needles, syringes, and other equipment used for drug abuse. Discuss the possibility of AIDS with your partner, and follow the "safe sex" guidelines. Use a condom during intercourse. If HIV has been detected in saliva, deep kissing should be avoided.

Preventing AIDS

- Avoid any contact with blood containing HIV and prevent the blood from entering the bloodstream. This means never sharing needles, syringes, and other equipment used for drug abuse.
- Discuss the possibility of AIDS with your partner, and follow the "safe sex" guidelines.
- Use a condom during intercourse. If HIV has been detected in saliva, deep kissing should be avoided.

Avoid tattooing.

- Ear piercing again, consider only the best clinics, and take advice from your doctor.
- Don't share razors.
AIDS is caused by a virus named the human immuno-deficiency virus (HIV). When someone is infected with HIV, the virus invades cells, called T-cells or helper cells, which are important components of the immune system. T-cells help orchestrate the immune system's response to conditions that threaten the body. HIV multiplies inside T-cells, eventually killing them entirely. As more and more cells die, the immune system is less able to do its job. Infected people have a more difficult time fighting off germs. Gradually, as their systems are weakened by constant battle with germs we normally would repel every day, they develop rare and unusually severe infections; these infections usually lead to the diagnosis of full-blown AIDS.

Bob Sappenefield, January 1988
AIDS is caused by a virus named the human immunodeficiency virus (HIV). When someone is infected with HIV, the virus invades T-cells, called T-cells or helper cells, which are important components of the immune system. T-cells help orchestrate the immune system’s response to conditions that threaten the body. HIV multiplies inside T-cells, eventually killing them entirely. As more and more cells die, the immune system is less able to do its job. Infected people have a more difficult time fighting off germs. Gradually, as their systems are weakened by constant battle with germs we normally would repel every day, they develop rare and unusually severe infections; these infections usually lead to the diagnosis of full-blown AIDS.

Bob seppenfield September 1988

Bob seppenfield October 1988
racism
difference?

white
How It Is for Us

See your Black daddy
see my Chinese daddy
see our White
mamas
so mixed up
our stirred up
sister
we feelin' stirred up too
cuz look out there
at our people:
Black, Chinese, White
my people own the grocery store
your people buy the milk
my people think you stealin'
your people give me looks.

how do we ever understand
that our people
my mama's people
Racism is too often fueled and perpetuated by a lack of communication and unwillingness to listen to others.
We're part of a larger fellowship

Of a larger fellowship called "the hu."
The "only in the earth" is a mirror of our times. This work serves to remind us of many things that we might want to forget, some that we must not allow to be forgotten and others that we will want to remember. I have done my work as well as I can: now the ultimate responsibility is with the viewer to understand what was seen. I hope that my work will educate you and promote dialogue. It will be a first step toward affecting change of our world.

Software
MACROMEDIA DIRECTOR 4.0
ADOBEPREMIERE 4.0.1
ADOBEPHOTOSHOP 3.0.4
ADOBEELLUSTRATOR 5.5
STRATA STUDIO PRO
SOUNDEDIT 16
FINDER HIDER

Music by
ART OF NOISE
AIR LIQUIDE "RED"
TANGERINE DREAM
PINK FLOYD
SOLAR QUEST
KRAFTWERK
JEAN-MICHEL JARRE
VANGELIS DIRECT

Sources by
WORLD PRESS PHOTO 1991
WORLD PRESS PHOTO 1993
WORLD PRESS PHOTO 1994
WORLD PRESS PHOTO 1995
FIGHT AIDS- ANNE GARWOOD
BEN MELNICK
AIDS AND DRUGS- NICHOLAS BEVAN
COCAINE AND CRACK- JULIAN CHOMET
COCOAINE TRUE, COCAINE BLUE
- EUGENE RICHARDS
HUNGER MACHINE- JON BENNETT
ENDANGERED SPECIES - JAMES M. DUNN
- BEN E. LORING, JR.
- PHIL D. STRICKLAND
SKIN DEEP - ELENA FEATHERSTON
THE DAY AMERICA TOLD THE TRUTH
- JAMES PATTERSON
- PETER KIM
THE RACIST READER- GARY E. MCCUEN
1996 INFORMATION PLEASE ALMANAC
1996 THE WORLD ALMANAC AND
BOOK OF FACTS
1996 THE TOP 10 OF EVERYTHING
- RUSSELL ASH
REQUIEM FOR THE HEARTLAND
- DAVID COHEN
STREETWISE - JOHN IRVING
PEOPLE WITH AIDS - DAVID R. GODINE
EVERY 17 SECONDS - SIMON WATNEY
LIFE AT WAR- TIME LIFE BOOKS
WORLD WAR II, VICTIMS

RICHARD AVEDON EVIDENCE
DEITER APPELT - WIELAND SCHMIED
IN OUR TIME
GREAT PHOTOGRAPHERS OF
WORLD WAR II
TIME 1994

Special thanks to
ROBERT KEOUGH: THESIS ADVISOR
JAMES VER HAGUE: THESIS ADVISOR
PATRICK BYRNES: THESIS ADVISOR
DAVID DICKINSON: PROFESSOR AT R.I.T.
MY FAMILY
PEOPLE (WHO GAVE ME
VERY USEFUL COMMENTS).

Designed by MIRAN LEE
THIS PROJECT WAS CREATED ENTIRELY
ON AN APPLE POWER MACINTOSH
8500/120AV WITH 48MB OF RAM.
THANK YOU FOR YOUR PARTICIPATION!
Scripting

**Script for Contents**

Score Script 91

```javascript
on enterFrame
    if rollover(4) then
        set the castnum of sprite 4 to 49
        set the castnum of sprite 10 to 84
        set the locV of sprite 11 to the MouseV
        set the locH of sprite 11 to the MouseH
        cursor 200
        updatestage

    else if rollover(5) then
        set the castnum of sprite 5 to 46
        set the castnum of sprite 10 to 83
        set the locV of sprite 11 to the MouseV
        set the locH of sprite 11 to the MouseH
        cursor 200
        updatestage

    else if rollover(6) then
        set the castnum of sprite 6 to 61
        set the castnum of sprite 10 to 87
        set the locV of sprite 11 to the MouseV
        set the locH of sprite 11 to the MouseH
        cursor 200
        updatestage

    else if rollover(7) then
        set the castnum of sprite 7 to 53
        set the castnum of sprite 10 to 85
        set the locV of sprite 11 to the MouseV
        set the locH of sprite 11 to the MouseH
        cursor 200
        updatestage

    else if rollover(8) then
        set the castnum of sprite 8 to 39
        set the castnum of sprite 10 to 88
```
set the locV of sprite 11 to the MouseV
set the locH of sprite 11 to the MouseH
cursor 200
updatestage

else if rollover(9) then
set the castnum of sprite 9 to 56
set the castnum of sprite 10 to 86
set the locV of sprite 11 to the MouseV
set the locH of sprite 11 to the MouseH
cursor 200
updatestage

else if rollover(13) then
set the castnum of sprite 13 to 158
set the castnum of sprite 15 to 155
updatestage

else if rollover(14) then
set the castnum of sprite 14 to 161
set the castnum of sprite 16 to 165
updatestage

else
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  puppetsprite 16, false
  cursor -1
end if
end
Score Script 92

on enterFrame
  If rollover(4) then
    set the castnum of sprite 4 to 49
    set the castnum of sprite 10 to 84
    set the locV of sprite 11 to the MouseV
    set the locH of sprite 11 to the MouseH
cursor 200
  updatestage

else if rollover(5) then
  set the castnum of sprite 5 to 46
  set the castnum of sprite 10 to 83
  set the locV of sprite 11 to the MouseV
  set the locH of sprite 11 to the MouseH
cursor 200
  updatestage

else if rollover(6) then
  set the castnum of sprite 6 to 61
  set the castnum of sprite 10 to 87
  set the locV of sprite 11 to the MouseV
  set the locH of sprite 11 to the MouseH
cursor 200
  updatestage

else if rollover(7) then
  set the castnum of sprite 7 to 53
  set the castnum of sprite 10 to 85
  set the locV of sprite 11 to the MouseV
  set the locH of sprite 11 to the MouseH
cursor 200
  updatestage

else if rollover(8) then
  set the castnum of sprite 8 to 39
  set the castnum of sprite 10 to 88
  set the locV of sprite 11 to the MouseV
  set the locH of sprite 11 to the MouseH
cursor 200
updatestage

else if rollover(9) then
    set the castnum of sprite 9 to 56
    set the castnum of sprite 10 to 86
    set the locV of sprite 11 to the MouseV
    set the locH of sprite 11 to the MouseH
    cursor 200
    updatestage

else if rollover(13) then
    set the castnum of sprite 13 to 158
    set the castnum of sprite 15 to 155
    updatestage

else if rollover(14) then
    set the castnum of sprite 14 to 161
    set the castnum of sprite 16 to 165
    updatestage

else
    puppetsprite 4, false
    puppetsprite 5, false
    puppetsprite 6, false
    puppetsprite 7, false
    puppetsprite 8, false
    puppetsprite 9, false
    puppetsprite 10, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
    puppetsprite 16, false
    cursor -1

end if
on exitFrame
    go loop
end
Score Script 137

puppetsprite 9, true
puppetsprite 10, true
puppetsprite 13, true
puppetsprite 14, true
puppetsprite 15, true
puppetsprite 16, true
end

Score Script 141

on mouseDown
  puppetsound "b20"
  repeat while the stilldown
    set the castNum of sprite 4 to 50
    updatestage
  end repeat
  set the castNum of sprite 4 to 51
  updatestage
end

on mouseUp
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  puppetsprite 16, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "z" of movie "Drug"
end
on mouseDown
  puppetsound "b20"
  repeat while the stilldown
    set the castNum of sprite 5 to 47
    updatestage
  end repeat
  set the castNum of sprite 5 to 48
  updatestage
end

on mouseUp
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  puppetsprite 16, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "z" of movie "Crime"
end
end

on mouseUp
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  puppetsprite 16, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "z" of movie "War"

end

Score Script 144

on mouseDown
  puppetsound "b20"
  repeat while the stilldown
    set the castNum of sprite 7 to 54
    updateStage
  end repeat
  set the castNum of sprite 7 to 55
  updateStage
end

on mouseUp
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
puppetsprite 14, false
puppetsprite 15, false
puppetsprite 16, false
cursor -1
sound fadeOut 2, 60
go to frame "z" of movie "Hunger"
end

Score Script 145

on mouseDown
  puppetsound "b20"
  repeat while the stilldown
    set the castNum of sprite 8 to 40
    updatestage
  end repeat
  set the castNum of sprite 8 to 41
  updatestage
end

on mouseUp
  puppetsprite 4, false
  puppetsprite 5, false
  puppetsprite 6, false
  puppetsprite 7, false
  puppetsprite 8, false
  puppetsprite 9, false
  puppetsprite 10, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  puppetsprite 16, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "z" of movie "AIDS"
end
**Score Script 146**

on mouseDown
    puppetsound "b20"
    repeat while the stilldown
        set the castNum of sprite 9 to 57
        updatestage
        end repeat
    set the castNum of sprite 9 to 58
    updatestage
end

on mouseUp
    puppetsprite 4, false
    puppetsprite 5, false
    puppetsprite 6, false
    puppetsprite 7, false
    puppetsprite 8, false
    puppetsprite 9, false
    puppetsprite 10, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
    puppetsprite 16, false
    cursor -1
    sound fadeOut 2, 60
    go to frame "z" of movie "Racism"
end

**Script for AIDS**

Score Script 38

on enterFrame
    cursor 3
end if

on exitFrame
    go to "A"
end
Score Script 39

on enterFrame
   cursor 3
end if

on exitFrame
   go to "I"
end

Score Script 40

on enterFrame
   cursor 3
end if

on exitFrame
   go to "D"
end

Score Script 41

on enterFrame
   cursor 3
end if

on exitFrame
   go to "S"
end

Score Script 47

on mouseUp
   sound fadeOut 2, 60
   puppetsound "b4"
   puppetsprite 10, false
   puppetsprite 11, false
puppetsprite 12, false
puppetsprite 13, false
puppetsprite 14, false
puppetsprite 15, false
cursor -1
go to "1"
end

Score Script 48

on mouseUp
    sound fadeOut 2, 60
    puppetsound "b4"
    puppetsprite 10, false
    puppetsprite 11, false
    puppetsprite 12, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
cursor -1
go to "2"
end

Score Script 49

on mouseUp
    sound fadeOut 2, 60
    puppetsound "b4"
    puppetsprite 10, false
    puppetsprite 11, false
    puppetsprite 12, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
cursor -1
go to "3"
end
Score Script 50

on mouseUp
  sound fadeOut 2, 60
  puppetsound "b4"
    puppetsprite 10, false
    puppetsprite 11, false
    puppetsprite 12, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
  cursor -1
  go to "4"
end

Score Script 55

on enterFrame
  puppetsprite 10, true
  puppetsprite 11, true
  puppetsprite 12, true
  puppetsprite 13, true
  puppetsprite 14, true
  puppetsprite 15, true
  If rollover(5) then
    set the locV of sprite 9 to the MouseV
    set the locH of sprite 9 to the MouseH
  cursor 200
  updatestage
  else if rollover(6) then
    set the locV of sprite 9 to the MouseV
    set the locH of sprite 9 to the MouseH
  cursor 200
  updatestage
  else if rollover(7) then
    set the locV of sprite 9 to the MouseV
    set the locH of sprite 9 to the MouseH
cursor 200
updatestage

else if rollover(8) then
    set the locV of sprite 9 to the MouseV
    set the locH of sprite 9 to the MouseH
    cursor 200
    updatestage

else if rollover(10) then
    set the castnum of sprite 10 to 85
    set the castnum of sprite 14 to 108
    updatestage

else if rollover(11) then
    set the castnum of sprite 11 to 82
    set the castnum of sprite 13 to 107
    updatestage

else if rollover(12) then
    set the castnum of sprite 12 to 88
    set the castnum of sprite 15 to 109
    updatestage

else
    puppetsprite 10, false
    puppetsprite 11, false
    puppetsprite 12, false
    puppetsprite 13, false
    puppetsprite 14, false
    puppetsprite 15, false
    cursor -1
end if

on exitFrame
    go to "Main"
end
Score Script 56

on mouseUp
    go to "Main"
    puppetsound 0
end

Score Script 76

on exitFrame
    cursor 3
end

Score Script 78

on enterFrame
    puppetsprite 10, true
    puppetsprite 11, true
    puppetsprite 12, true
    puppetsprite 13, true
    puppetsprite 14, true
    puppetsprite 15, true

    If rollover(5) then
        set the locV of sprite 9 to the MouseV
        set the locH of sprite 9 to the MouseH
        cursor 200
        updateStage
    else if rollover(6) then
        set the locV of sprite 9 to the MouseV
        set the locH of sprite 9 to the MouseH
        cursor 200
        updateStage
    else if rollover(7) then
        set the locV of sprite 9 to the MouseV
        set the locH of sprite 9 to the MouseH
cursor 200
updatestage

else if rollover(8) then
set the locV of sprite 9 to the MouseV
set the locH of sprite 9 to the MouseH
cursor 200
updatestage

else if rollover(10) then
set the castnum of sprite 10 to 85
set the castnum of sprite 14 to 108
updatestage

else if rollover(11) then
set the castnum of sprite 11 to 82
set the castnum of sprite 13 to 107
updatestage

else if rollover(12) then
set the castnum of sprite 12 to 88
set the castnum of sprite 15 to 109
updatestage

else
puppetsprite 10, false
puppetsprite 11, false
puppetsprite 12, false
puppetsprite 13, false
puppetsprite 14, false
puppetsprite 15, false
cursor -1
end if
end

Score Script 90

on mouseDown
puppetsound "b2"
repeat while the stilldown
set the castnum of sprite 10 to 84
updatestage
end repeat
set the castnum of sprite 10 to 83
updatestage

on mouseUp
  puppetsprite 10, false
  puppetsprite 11, false
  puppetsprite 12, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "Main" of movie "Intro"
end

Score Script 91

on mouseDown
  puppetsound "b2"
  repeat while the stilldown
    set the castnum of sprite 12 to 87
    updatestage
  end repeat
  set the castnum of sprite 12 to 86
  updatestage

on mouseUp
  puppetsprite 10, false
  puppetsprite 11, false
  puppetsprite 12, false
  puppetsprite 13, false
  puppetsprite 14, false
  puppetsprite 15, false
  cursor -1
  sound fadeOut 2, 60
  go to frame "Quit" of movie "Start"
end
Score Script 95

on exitFrame
  Puppetsound "AIDS1"
  cursor 3
end

Score Script 96

on exitFrame
  puppetsound "AIDS2"
  cursor 3
end

Score Script 102

on exitFrame
  Puppetsound "AIDS3"
  cursor 3
end

Score Script 103

on exitFrame
  Puppetsound "AIDS4"
  cursor 3
end
Designing for the computer screen called for many kinds of images, sounds, and other media elements to help me tell my story. My thesis provided the images, music, sound effects, and video clips of the recent social problems such as wars, drugs, crimes, AIDS, starvation, and racism. I digitized all materials so they were ready to use on a computer. My thesis was presented on a CD-ROM filled with various social scenes. In every design decision about content organization, navigation, and interaction, choosing simplicity gave me ease of production, better performance, and ease of use.

On my thesis the amount of data, 279.2 MB, for 15 items, was processed and displayed for each frame of animation. This directly impacted on the speed with which a series of frames could be played. It also placed practical limitations on the file sizes required for animation of any significant length or content.

CD-ROM drives process data relatively slowly—in the range of 90K to 250K per second, depending on the speed of drive. This current data transfer rates for CD-ROM effectively limited my movie size to 320 pixels by 240 pixels, motion at 15 frame per second, and compressor at 256 colors. If my hardware allows, I could capture at larger sizes and resize the movie in Premiere, but improvements in final image quality may be imperceptible, and working with larger images substantially increases compiling time and the amount of disk space required to store the data.
Conclusion

Interactivity is people using new media to communicate ideas, knowledge, and art in much the same way that people have always communicated. The core of good interactive communication is still a strong message and a clear presentation. The design process of my thesis still called for research, creativity, and skillful execution. The one new variable in the equation was the element of audience choice. And choice could take users in unpredictable directions and combine elements of the design in unpredictable ways. That’s why my design process called for a greater commitment to planning, to usability, and to making the pieces work together.

My thesis was to explore the visual possibilities in interactive animation. I hoped to show various images of contemporary society which come alive in a multimedia reference form available anywhere.

"Only In The Earth" is a mirror of our times. This work serves to remind us of many things that we might want to forget, some that we must not allow to be forgotten and still others that we will want to remember. I have done my thesis as well as I can: now the ultimate responsibility is with the viewer to understand what was shown. I hope that my work will educate you and promote dialogue. It will be a first step toward affecting change of our world.
Missing Page
using a real font, do so. If the scanned text is part of a background, consider placing the fresh text on a plaque or similar device to replace the entire localized area.

Printed materials containing photographs or shading (halftones, screens, and the like) are actually a series of dots. Scans of printed images often emphasize those dot patterns. Many image processors offer a despeckle filter to remove individual dots: This type of filter can greatly improve the appearance of scans of printed materials. (Note, this does not usually apply to actual photographs, only printed reproductions.)

For the sake of detail and flexibility, scan at the optical resolution of the scanner if you have the means to store and later manipulate the data. It’s easier to throw detail away than to manufacture it! Memory requirements and processing time are formidable on large or high-resolution images, however. One approach is to make a low-res working copy of the images for use during a comping process, then apply the perfected techniques to the original hi-res files. Many image processors store nonimage information such as selections and masks in their native files. Perfected images will take less disk space when saved in standard display formats.

**Motion Compression**

Compression is a common solution to media storage and throughput problems. In the case of animation, motion compression stores the starting frame and then calculates and records only the differences between subsequent frames—a process called frame differencing. The resulting data stream is then typically compressed using run-length encoding (RLE). (This is a form of lossless compression.)
On playback, the processor only has to deal with computing and displaying those differences rather than handing the volume of data required for a sequence of full frames.

Motion compression is most effective when there are small changes between frames, such as one or more small objects moving across a static background. The more change there is, the more information about those changes that must be stored and processed. Animations that contain radical changes in background or overall composition are therefore least enhanced by motion compression.

While the calculations required for the compression process don’t usually happen in real time, software-only playback of those files is fast enough for some real-time animations. Due to throughput and storage limitations, motion compression is used in most animation programs. Several stand-alone packages are also available that will take a series of standard images or successive frames and apply motion compression. (Hardware compression is being developed that dramatically improves the performance of animations and video.)
In Adobe Premiere, for best results when making movies for playback on CD-ROM, use the following settings in the Compression Settings and Project Output options dialog boxes (These settings are used automatically if you have selected the project preset for CD-ROM mastering.)

- Output as: QuickTime Movie
- Size: 240 pixels by 180 pixels
- Rate: 15 frames per second
- Audio Rate: 11 kHz second rate
- Audio Blocks: 1/2 or 1 second
- Compressor: Apple Cinepak
- Key Frame option: selected
- Quality (Temporal) setting: Normal
- Data Rate: 90K/second for single-speed drives; 150K/second to 200K/second for double-speed drives.
Books


Carol D. Foster, Mark A. Siegel, and Nancy R. Jacobs, Gun Control, Wylie, Texas, Information Plus, 1993, 60 and 83.


Elena Featherston, Skin Deep, Freedom, Elena Featherston, 1994, 83.

Photographic Credits


Sylvia Wolf, Dieter Appelt, chicago, The Art Institute of Chicago, 1994, 12, 15, 31, 33, 37, 38, 126, and 127.


