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Beyond Pad THAI

by

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Computer Graphics Design
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To my homeland Thailand

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PREFACE

As a Thai citizen, I am proud to be part of the nation and I owe a debt of gratitude to Thailand who granted me a plentiful appreciation of precious art and culture. To commemorate Thai legacy, I would like to share my heritage with the world. By taking advantages of today's technologies, a multimedia CD-ROM became a dominant choice for the medium.

With the extraordinary taste for Thai food, Pad Thai, a Thai fried noodle, is one of popular Thai cuisine, each ingredient factors the flavor like this interactive multimedia program provides various media to reflect concise Thai images.

INTRODUCTION

The Kingdom of Thailand, located in Southeast Asia on the Gulf of Thailand and the Andaman Sea, shares boundaries with Myanmar (Burma) on the west and northwest, Laos on the east and northeast, Cambodia (Kampuchea) on the southeast, and Malaysia on the south. Thailand, is rich not only in natural resources but also in artistic and cultural legacy, although it was never colonized by Europeans. Thailand has existed as a unified monarchy since 1350.

This thesis provides general information to advertise a travel industry in Thailand. Animation, graphics, images, sound and video clips need advanced computer skills to create this interactive project. The final work is in the form of a CD-ROM. The target users will be anyone above the age of 18 to 35.

RESEARCH AND ANALYSIS DATA

I started to research by surfing web pages on the internet and I found many sites which provide information about where to go, when to visit, what to do and how to visit Thailand. Also, some web pages introduced briefly features in art, culture, politic, monarchy, religions, sports and entertainment. From Wallace library, I continued my study in published media in which I noticed some books about Thailand were not up-to-date. Consequently, I started to search for alternate sources which would be full of information in different media. It could not be anywhere else, but Thailand. With my sister, brothers and friends assistance, I finally received materials in form of videos, CDs, cassettes, tourist brochures and documentaries.

The Kingdom of Thailand, formerly known as Siam, covers an area of 514,000 square kilometers in the Indochinese Peninsula. The topography is divided into four distinct areas: the mountain North, the fertile Central Plains, the semi-arid plateau of the Northeast, and the peninsula South marked by its many beautiful tropical beaches and offshore islands.

In the mid 13th century, Sukhothai was the first glorious metropolis. It flourished for over 100 years during which time the distinctive forms of Thai art, architecture and culture were firmly implanted; for example, King Ram Khamheng created the invention of Thai writing in 1283. The Sukhothai period had the most intellectual impact on all consequent Thai political, religious and artistic life.

In the mid-14th century a new and more powerful dynasty arose at Ayutthaya, an island city in the Chao Phraya Valley. Rapidly gaining in wealth, military potential and prestige, Ayutthaya absorbed the former kingdom of Sukhothai and remained Thailand's capital for 417 years. Led by King Tabinshwehti, the Burmese invasion was the first of many attempts to overthrow the Kingdom of Ayutthaya. After Thai King Naresuan restored the independence from Berma, Ayutthaya prospered steadily, reaching the acme of its power in the 17th century when diplomatic relations with the West were established and trade agreements were made with the leading European powers of the day.

Weakened by internal conflicts, Ayutthaya fell to the Burmese in 1767. The city was utterly and completely in ruins; reconstruction would require an impossible task to undertake with enormous manpower. Eventually succeeding in expelling the Burmese from Thai domain,

King Taksin moved south and founded Thonburi, a new capital on the west bank of the Chao Phraya River.

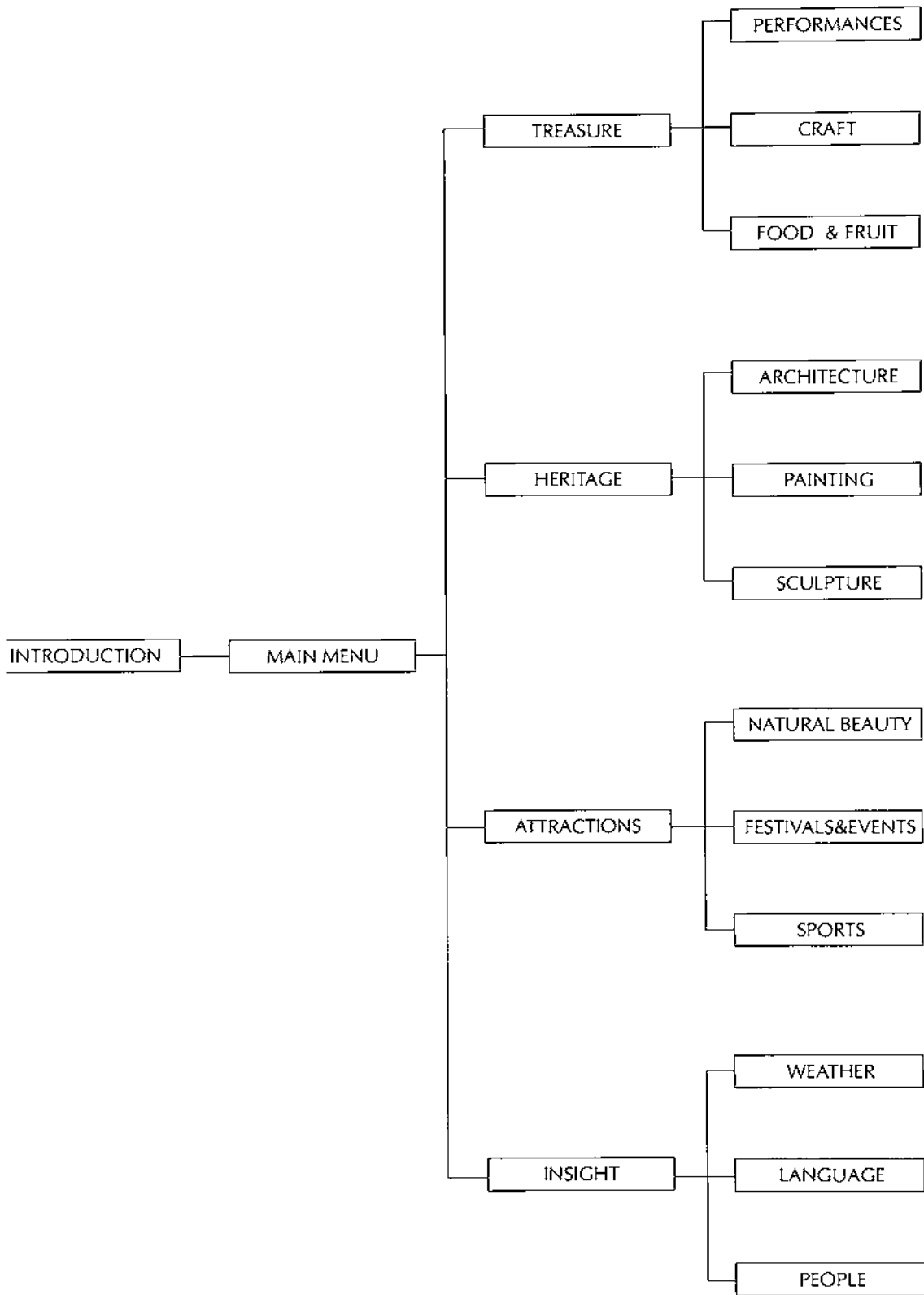
On the death of Taksin in 1782, Chao Phraya Chakri was proclaimed King and, as Rama I, was the founder of the present Chakri dynasty. For strategic purposes he moved his capital across the Chao Phraya River to Bangkok and aspired to make Bangkok as much like Ayutthaya as possible. Under the Chakri Dynasty, each King tried to maintain the country's independence, avoid the colonial fate of all Thailand's neighbors and bring about many social and political reforms that firmly guided Thailand into the 20th century.

The absolute monarchy continued through the reign of Rama VII (1925-1934). But in 1932 a coup d'etat succeeded in bringing about a change to a constitutional monarchy. Rama VII accepted the situation but chose to abdicate two year after the coup. The present monarch is King Bhumipol (Rama IX).

Retrospectively, Thailand had seen the combination and extinction of a number of wide art styles and developed from a blending of several expressions, foreign and native, to create one that became a phenomenal masterpiece. However, Sukhothai period, Ayutthaya period or other periods invented characteristic art in architecture, paintings, sculpture or craft. For years, monarchy and Buddhism were mainly potent forces ingrained into the bedrock of Thai art and culture. Not only King provided patrons to artists but also 90% of Thai people professed Theravada Buddhism as their religion from time to time.

After reviewing all the information, I tried to arrange data into groupings which I first considered befitting to my thesis. From the title, Beyond Pad THAI, I had deconstructed the word "THAI" into Treasure, Heritage, Attractions, and Insight which represented to each primary ingredient for making this project.

Although this program had been defined into four parts, confining each part was quite complicated. Not only was I concerned about how to arrange the action of each item for the right portion, but I also considered about how to assemble them together. I came up the scope of containing data for each portion (see flow chart 1).



Flow chart 1

Rather than depicting a valuable material such as jewels, the TREASURE section celebrates other subjects that are precious for one's spirit by amusing performances, enchanting craft, relishable food and fruit. The next division, HERITAGE commemorates expressions in Thai architecture, painting and sculpture which still remain from antecedent generations. Illustrating a selection of natural beauty images, the ATTRACTIONS sector informs about events and festivals all year round and displays particular sports. The last part, INSIGHT explains the general information about the weather, topography, and people.

Besides gathering the Thai content, I also needed to consider how to input the subjects, the proper computer platform and software to fulfill this work and how to output the final product, the effective medium to catch user's eyes.

The Macintosh was the most potential computer for my work. Not only were they able to support and play basic sound or video without extra equipment, but also they supported all necessary software for creating any multimedia work.

For the selection of substantial applications, I needed tools for building this project. The basic gears applied for different functions. I used the following applications; FreeHand 5.0, Adobe Illustrator 6.0, and Adobe PhotoShop 4.0 for editing text, graphic, or images. I picked Strata StudioPro 1.75, After Effects 3.0, and Director 5.01 to produce 3D and 2D animation. Also, I edited all sound effects and background music with SoundEdit 16 1.0, for capturing video clips with Adobe Premiere 4.2. Finally, authoring devices provided the abilities to organize and edit all the elements for the multimedia piece. I used Director 5.0.1 for designing interactivity and the user interface, and for assembling a variety of media into a single, compact piece.

The majority of multimedia products sold into markets are issued on CD-ROM (compact disc, read-only). The CD-ROM is reasonably priced and therefore was a reason why my final product become accessible on a CD-ROM disk.

DESIGN SYSTEMS OF SCREEN LAYOUT

This multimedia project provides ways in which a user can access, learn, and interact with information about Thailand. Not only did I need to arrange text, graphic, sound, and video objects but I had to consider how to compose these elements and make it unique, shaped by the project's goal and the subject it contained.

I divided the content into four main topics which become the main options of this program. It was important to give users the sense that they were always free to jump to various menus, help, or quit function. Therefore, I designed the bottom area to occupy of each screen for a linear navigation (Figure 1).

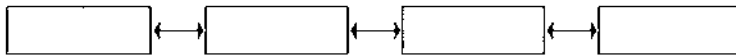


Figure 1

In next level, each subject provided choices formed by the content. Users may enter freely but were occasionally constrained to linear presentations of subjects or to the branches of a tree structure (Figure 2). Also, I made a back link on the upper left corner of the screen if users wanted to return to the previous stage. The rest of screen area displayed the content.

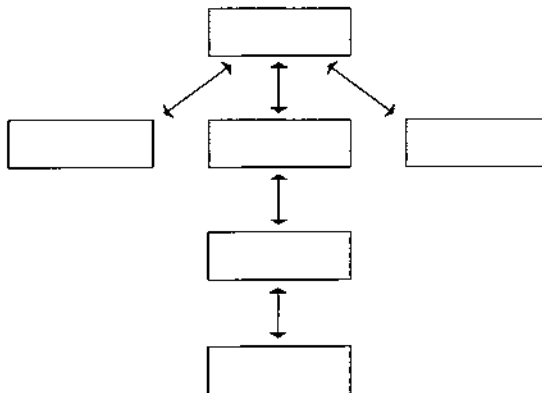


Figure 2

The method I used for navigating from one place to another in this project played a role in the user interface design. The UID is a blend of graphic elements and the navigation system. Although I considered giving users options to shift around within the content, many open choices might make the users confused or get lost. I set a highlighting mark for the user's location and created an icon to represent the current position. In conclusion, I decided to create icons as the entrances to each section. When I reached that conclusion, I proceeded with designing main icons:

Hunting for treasure, a scroll (Figure 3) was the key at the beginning of the journey. It leads the user to three sources of enjoyment: relaxed with enchanted music, compatible movements and luring attire from either folk or classical performance (Figure 4). Next relish with a memorable blend of hot, sour, and sweet flavors and great decorations from Thai cuisine (Figure 5); and then, handmade products display in a craft cabinet (Figure 6).

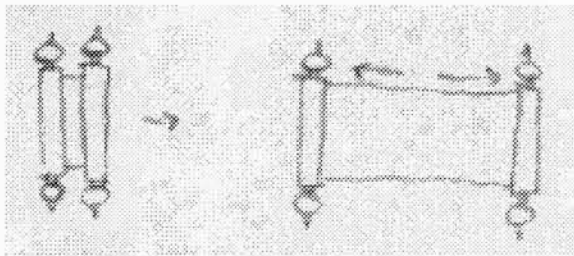


Figure 3

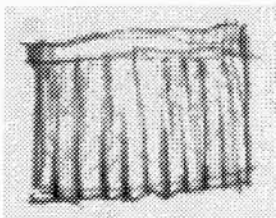


Figure 4



Figure 5

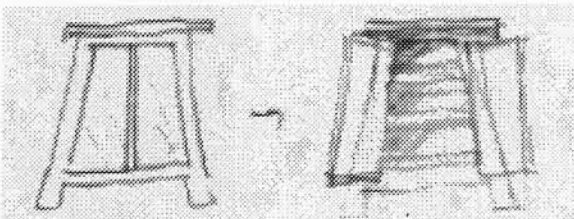


Figure 6

Remaining from the past generations, most heritage have always been held in the museum. That gave me the idea to use a door (Figure 7) to explore worthy experiences. My plan came up with three rooms (Figure 8) which were installed depicting architecture, painting, and sculpture. I set architecture into palace, temple, and house. I combined Thai buildings making a silhouette (Figure 9) as a menu. Though most old Thai paintings were murals, I used a frame (Figure 10) as a tool to show the pictures. Thai sculptors devoted their work to religion which were primarily images of Buddha. I placed the image of Buddha on a table set (Figure 11) which also imitates most Thai Buddhist houses which have a special room for worshipping the Buddha images as a symbol of The Buddha.

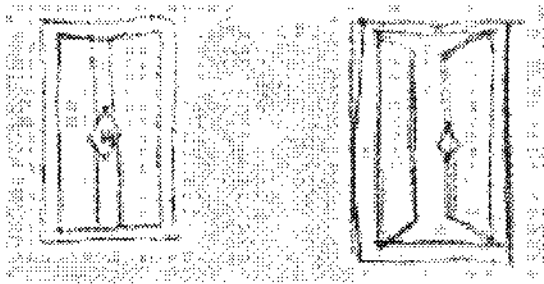


Figure 7

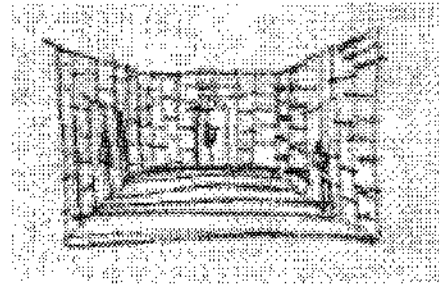


Figure 8



Figure 9

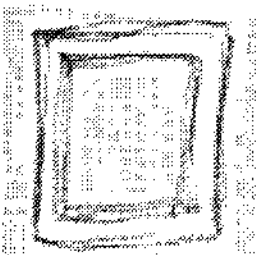


Figure 10

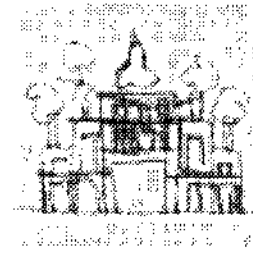


Figure 11

A compass is a significant tool for any traveler, following the direction needle to find something exciting. Then, I built the compass (Figure 12) to become the icon for the attraction section whenever users select a direction, each way brought many joy. First, I used the West (W) as the welcome part explaining what the user will enjoy in this topic. Then, I used leaf and flower (Figure 13) link to the natural beauty when the users choose the North (N). The East (E) connected to events or festivals held, many flags (Figure 14) hung above the place to get public's attention. I applied a flag clothesline as the icon. Finally, the South (S) stood for sports. I applied a boxing stage (Figure 15) to represent this section.

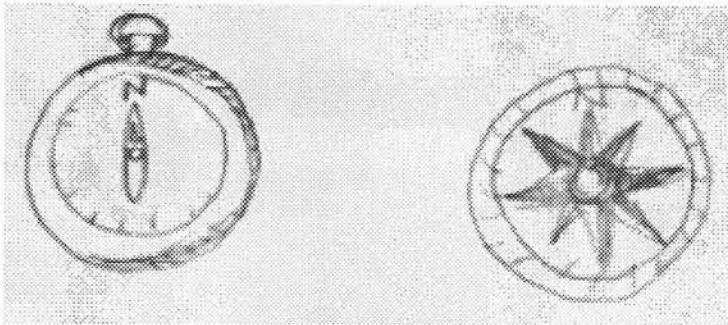


Figure 12

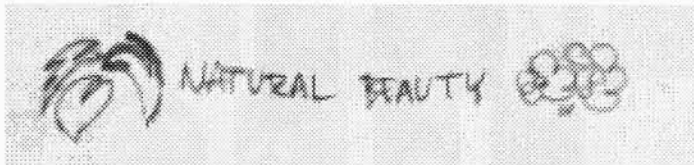


Figure 13



Figure 14

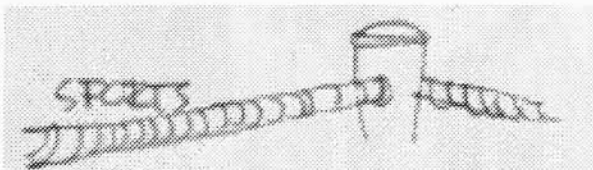


Figure 15

Since Thailand is not big or well known, I created a spinning globe (Figure 16) as the insight icon to introduce the country's location. When the user located the whereabouts, the globe changes to an Asia map (Figure 17) and zooms in to Thailand. I designed a weathervane (Figure 18) linking to the annual climate, a stone inscription (Figure 19) teaching Thai language, and a smiling face or people (Figure 20) representing Thai people who always welcome everyone with warmest smile and kind hospitality, known as the "Siamese Smile."

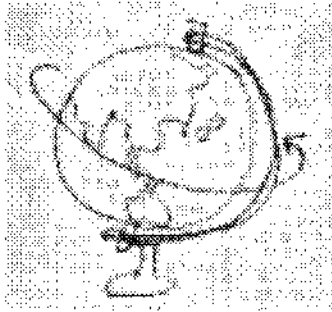


Figure 16



Figure 17

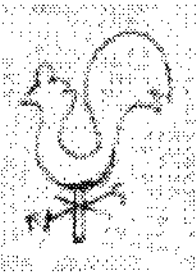


Figure 18

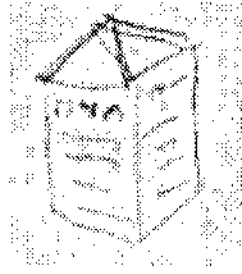


Figure 19



Figure 20

Once I approached the idea about the main icons, I started to think about what the introduction looked like. While I was sketching elements, Thai motifs appeared around my head. Though there were many patterns, I picked "Lai Pra Jum Yarm" (Figure 21) with always joined with other motif designs to begin the introduction. I designed to make spinning letters falling down to spell the section as all ingredients put into a pan. When it turned to the main menu, I edited patterns (Figure 22) to make a connection from the introduction part to the main menu section.

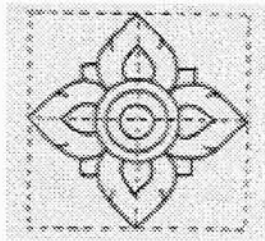


Figure 21

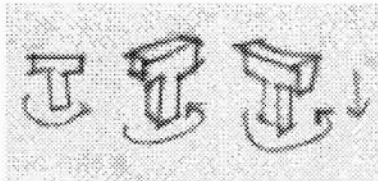


Figure 22

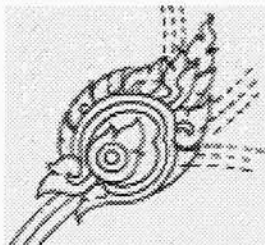


Figure 23

Besides the main options, a help function explained what to do and an exit button gave the user a chance to quit the program anytime. By using the motifs, I decided to put these utilities into the main menu for efficient navigation.

PROCESS

The production of this project began with creating all structural elements, integrating the pieces, and testing the output.

I started building elements for the introduction part. Using FreeHand 5.0, I drew the first motif, *lai pra jum yarm*, and exported into Illustrator 3.0 file. Importing to Strata StudioPro 1.75, I extruded the outline, assigned a gold surface then spun to create the three dimension animation (Figure 24). Rendering into a pics format then importing in Director 5.0. All spinning types (Figure 25) used the same method above.

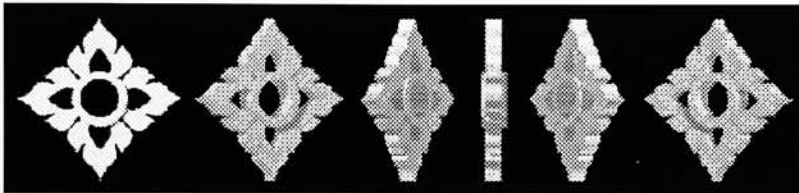


Figure 24.

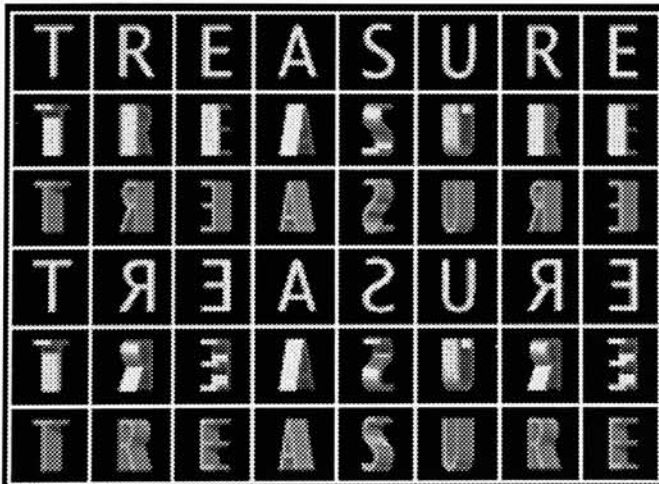


Figure 25. an example of falling letters

For the main menu, I applied Adobe AfterEffects 3.0 to create the opening of the element (Figure 26). Also, this icon worked as an exit button at the lower right corner of the screen while the other sides show the reduced size of the *lai pra jum yarm* icon acting as a host of this program introducing and helping the audience (Figure 27). I attached this part to every screen for letting users access anytime.



Figure 26.

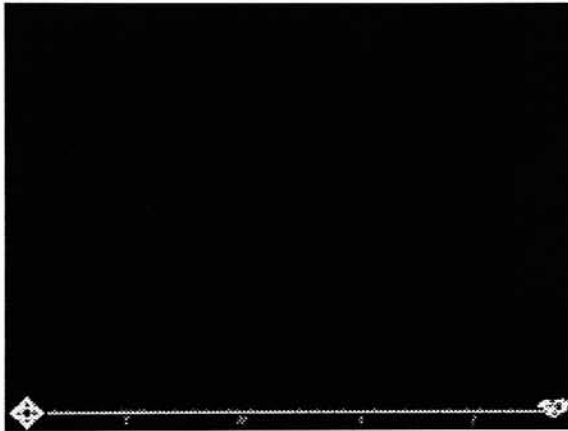


Figure 27

After the exit icon appeared, it projected a yellow line which ran to the left side. The small *lai pra jum yarm* icon faded in and spun until four letters, "T", "H", "A", and "I", shown below the line. Each letter represented a main option to enter the desired section. When users moved the cursor over any clickable spot, the arrow cursor changed to the hand one and the initial spelled out the whole word.

For the TREASURES section, I wanted to narrow my subject about ancient treasures and decided to create a scroll to represent the topic. I used Strata StudioPro to build a scroll series to show the movements of closing to opening (Figure 28) in three dimensions and modified with Adobe PhotoShop 4.0. I designed the cabinet (Figure 29) for the craft part and mapped texture from a traditional cabinet photograph. The cabinet was designed for keeping religious manuscripts, decorated with gold and black lacquer designs. Combining Thai cloth images and Thai motif and adding gradient shades created the stage elements (Figure 30) in the performance's part.. I tried to manipulate the stage to looked like the stage in the National theater. When the outer curtain opened, the inner curtain shown *Lai Thep Panom* at the center, grouped into two types of performances. With Thai cuisine, a large bowl of rice became the centerpiece of most Thai meals, and this was eaten with one or two curries, some fish, a soup, and a salad (yum), all eaten in whatever order the diner preferred with a fork and large spoon. I chose to use Thai utensils to be the icon of the food and fruit section. A clay pot (Figure 31) served Thai people for cooking a long time. Though it was breakable and replaced by the modern utensil, the clay pot was still used for providing enchanting scent. I drew a section contour of the pot and lathed it using Strata StudioPro 1.75.

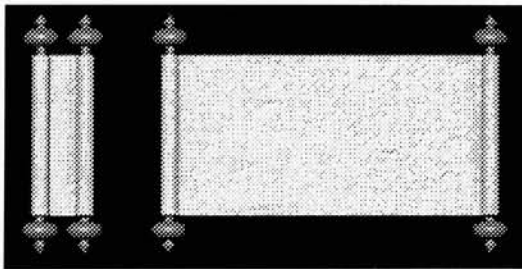


Figure 28

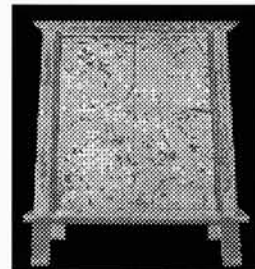


Figure 29

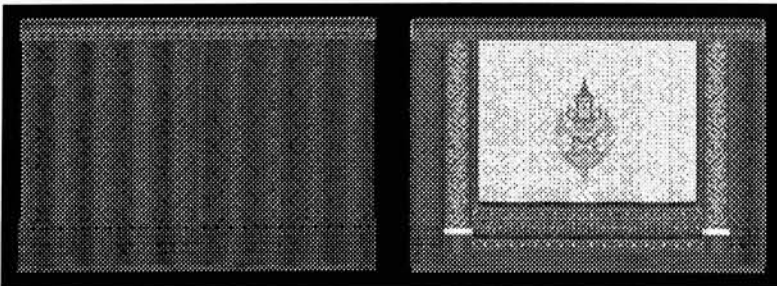


Figure 30

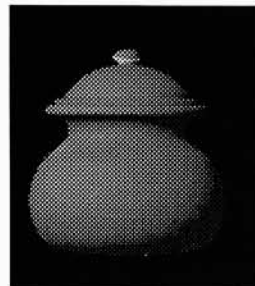


Figure 31

Some museums in Thailand occupied traditional Thai houses. Therefore I designed a door as an entrance to the HERITAGE section. Using Strata StudioPro, an opening door sequence was constructed and then imported into PhotoShop 4.0 where color and texture were edited. I tried to make all doors (Figure 32) and walls (Figure 33) similar to the traditional Thai house. When users selected any room (Figure 34), I simulated a field trip for the user to survey from one virtual location to another.

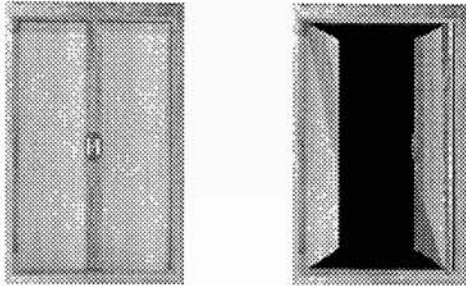


Figure 32

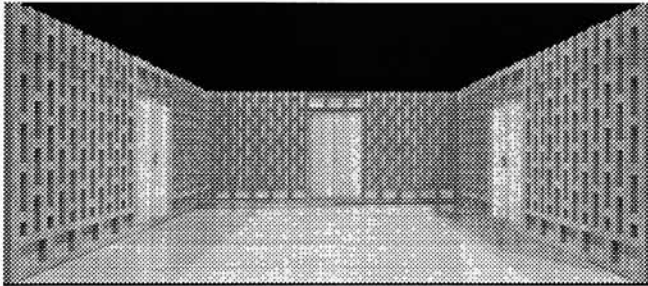


Figure 33

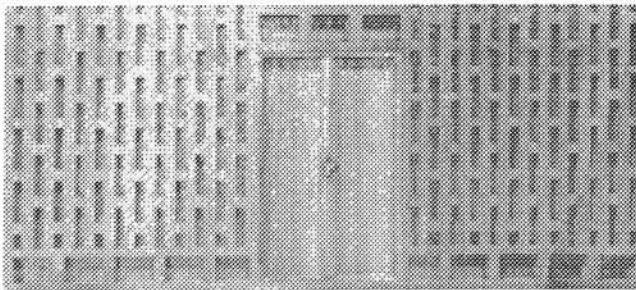


Figure 34

As with other branches of Thai art, Thailand's architecture is a mixture of ideas borrowed from other sources, notably Indian, Sri Lankan and Kampuchean, but blended in the system of Thai architects' genius to evolve an architectural aesthetic and the method to express it. Over the wall, You will discover the elegant palace, the Buddhist temple complex and the traditional house which represent the Thai style.

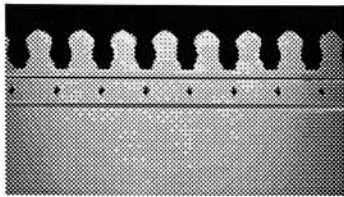


Figure 35

A replication from the Grand Palace wall block (Figure 35) represents the entrance to the architecture room. For the choices in this part, I selected pictures from three major kinds of Thai architecture:



Figure 36

The royal building has elaborate work with dazzling structures of the Grand Palace (Figure 36). The religious complex was defined as a *Wat*. It can be used to mean a temple or a monastery. It denoted a single entity comprising several buildings for instance the main building, *Bot*, held a Buddha image and served as an ordination hall for monks only. A *Vihan* held the principal Buddha image and served as the general sermon hall for monks and worshippers, and some tall buildings, called stupas, chedis or prangs, contained ashes or relics. These buildings lay within a single compound where was a social center. For example, Wat Phra Si Sanphet (Figure 37) was typical of major temple complexes during the Ayutthaya period. A traditional house (Figure 38) was raised on sturdy pillars and its walls slanted slightly inward, steep tiled or hatched roofs with broad over-hangs.



Figure 37



Figure 38

I imported each image into Adobe PhotoShop 4.0 and created a silhouette image with a glowing edge (figure 39). When users move the cursor over each kind of building, its glowing edge highlighted with gold color and shown the option's title.

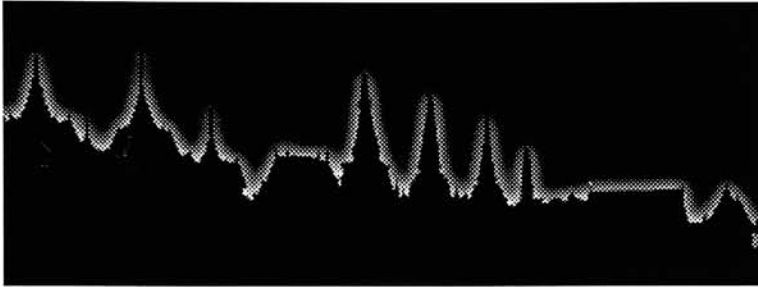


Figure 39

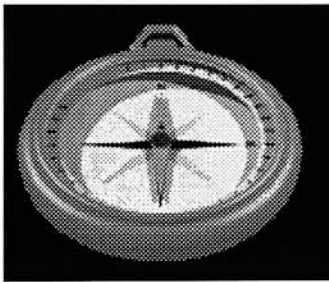


Figure 40

As a compass was part most adventurers tools, I came up with using the compass to lead to the ATTRACTION section. The initial design, I imported a section outline of the compass and lathed in Strata StudioPro 1.75. Designing the compass face with Adobe Illustrator 6.0 mapped the interior of the compass (figure 40). The option icons were drawn in Adobe

Illustrator and modified using Adobe PhotoShop 4.0; the natural beauty (Figure 41) used different



Figure 41

The events and festivals (Figure 42) scheduled what festivals are held in each month of 1997 by selecting 1 to 12 on a flag clothesline. Due to the Thai calendar based on a lunar calendar, all the dates given, particularly of local festivals and religion ceremonies, were subjected to change. Most events were related to religion.



Figure 42

Thai sports had been a part of Thai life since the earliest days of the kingdom providing exciting and relaxed time. Though many modern sports became much more popular, Thai traditional sports had not been forgotten. Thai boxing, for example, originated in Ayutthaya five centuries ago, yet still draws large crowds nationwide. Enhanced by the traditional music played throughout, each opponents applied any and all parts of the body to be weapons. I designed a corner of a boxing ring to be the icon (Figure 43).



Figure 43

In the ATTRACTION part, I only continued working in the events and festivals section. Through a calendar employed as a metaphor for this portion, I designed to show the selected particular days which held the events in each month. Besides preparing some example movies of the events, I modified the event images in the same manner as before but also used Adobe PhotoShop 4.0 and changed the image with a bas-relief filter.

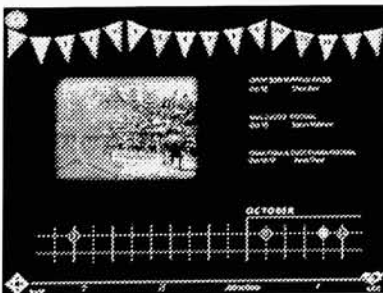


Figure 44

For the INSIGHT section, users required some knowledge to move on into the next step by selecting where Thailand is located from a spinning globe. I used Strata StudioPro 1.75 to animate a rotating globe (figure 45). Then I added Adobe AfterEffects 3.0 to include an earth map (figure 46 -49) and a Thai map (Figure 50). Making a transition from the globe to the earth map and finally to the Thai map.



Figure 45



Figure 46

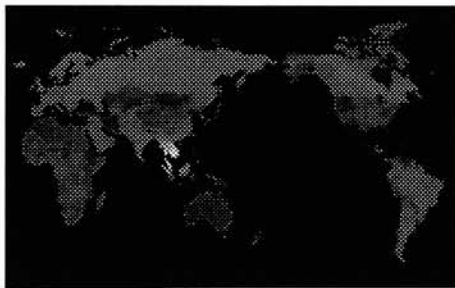


Figure 47

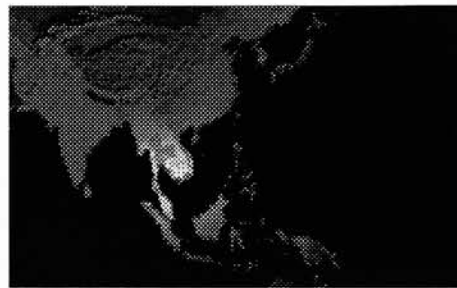


Figure 48



Figure 49



Figure 50

After the users pointed at any image shown in Asia on the globe, they allowed to enter the INSIGHT menu screen. I organized the content into three topics; the weather, the language, and people.



Figure 51

A tropical weather provided long hours of sunshine and high humidity in Thailand. Though a weathervane is barely used in Thailand, I made it (Figure 51) to communicate about the climate in general. Using Adobe Illustrator 6.0, I drew a cross and applied a filter to make the two-dimension cross to a three-dimension cross.

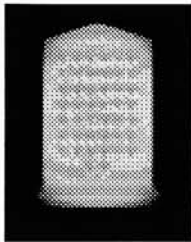


Figure 52

Thai language is a tonal language. The same word could be said in five different ways; normal or middle tone, low, high, rising and falling. The written Thai language, read horizontally from left to right, as in English, consists of 44 consonants and 32 vowels that combine to formulate syllabic sounds. The original Thai characters narrated the historical stories on four sides of inscripted stones. I imitated the inscripted stone (Figure 52) for the icon. I used Strata StudioPro 1.75 to imitated the stone then imported a set of letters. Each side was mapped different font texture; the original letters, the present consonants, vowels and number. The essence of Thai citizens, simply explained, are fun lovers. Smiles became a trademark of Thai people.

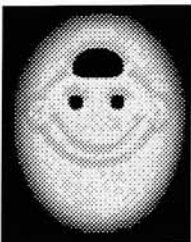


Figure 53

For the people part, I designed a smile face (Figure 53) to be the icon. Using Adobe Illustrator 6.0, I drew the face and imported into Adobe PhotoShop to modify the icon.

For the performance part and the events and festivals part. I added video media to enhance the visual interactivity. I captured video clips and edited to QuickTime movie format with Adobe Premiere 4.2. These movies used a cinepak compression (Figure 54). Not only did this method reduce the file size but also it made the movies playback smoother from a CD-ROM. However, the side effect of this compression damaged the movie quality. Also, I used SoundEdit 16 to record music from CDs and tape cassettes.

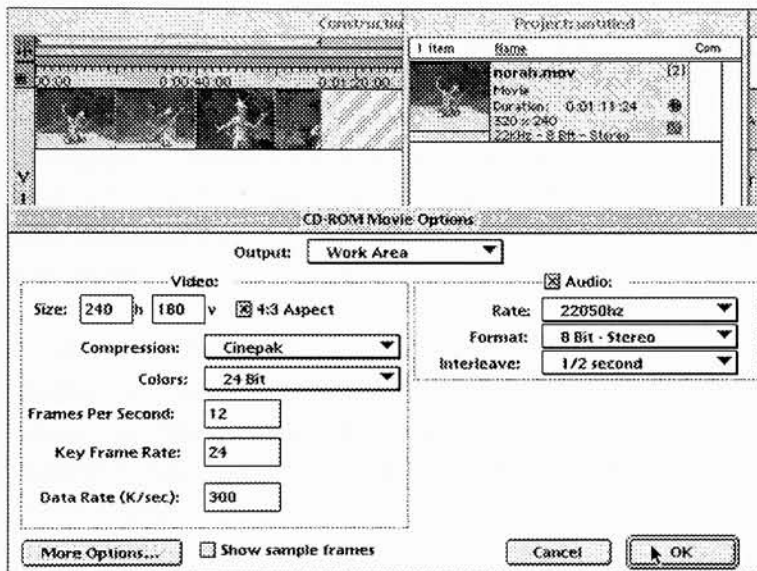


Figure 54

Besides colorful pictures, motion clips and exciting sound, text still played a role in the multimedia program. Delivered information with potent meaning, the ability to read became the first thing of concern. I created text with Adobe PhotoShop 4.0 because it provided a anti-aliased text which dithered the edges of the letters making a smooth look. Also, I typed the text with a bright color such as white or yellow on black background to make it stand out and be more legible.

When I prepared all elements, it was a time to put them together. Each file contained a different subject in order to easily to make any updates.

TECHNICAL NOTES

I used the Power Macintosh 7200/90 with 72 MB for creating or editing elements. During the production, I found some problems when I was using Strata StudioPro 1.75 to build models. The main factor was a lighting which affected the detail of images. I needed to adjust the light to get the proper images.

At the beginning of the production, I used FreeHand 5.0 to create text and many graphic elements. Though the application was convenient for me to adjust shapes without changing to any tool, I noticed that it did not work well when I exported the FreeHand file to Adobe Photoshop 4.0. Therefore, I formed the rest of the elements using Adobe Illustrator 6.0. Not only did it transfer well to Adobe PhotoShop 4.0, but it also provided new features such as one filter that transform two dimensional graphics into three dimensional elements.

Particularly, Director 5.0 became the heart of this project because its abilities provided many functions to empower this multimedia program. Once I decided to put each subject into separate files. I wrote a set of custom lingo handlers for doing routine work which I applied to other files without coding the new specific scripts.

The following Lingo scripts were custom handles for any routine job in my program.

```
-- set puppetsprite, true more than 1 channel
on turnOnSprites first, last
  repeat with counter = first to last
    puppetsprite counter, true
  end repeat
end
```

```
-- set puppetsprite, false more than 1 channel
on turnOffSprites first, last
  repeat with counter = first to last
    puppetsprite counter, false
  end repeat
end
```

```
--set delay
on wait n
  startTimer
  repeat while the timer < n
    nothing
  end repeat
end
```

```
--set the castmember fade in
on dim2Light target, speed
  repeat with counter = 1 to 5
    set the blend of sprite target = 20 * counter
    updatestage
    wait speed
  end repeat
end
```

```
--set the castmember fade out
on dim2Dark target, speed
  repeat with counter = 1 to 5
    set the blend of sprite target = 100 - 20 * counter
    updatestage
    wait speed
  end repeat
end
```

```
--change an arrow cursor to the hand (custom) cursor
more than 1 channel
on pointCursors first, last
  repeat with counter = first to last
    set the cursor of sprite counter to [33,34]
  end repeat
end
```

```
--change an arrow cursor to the hand (custom) cursor
on pointCursor target
  set the cursor of sprite target to [33,34]
end
```

```
--set the animation by cycling cast members
on animateCast target, start, end, speed
  turnOnsprite target
  set aNum = the castnum of sprite target
  set aNum = aNum+1
  if aNum > end then set aNum = start
  set the castnum of sprite target to aNum
  wait speed
end
```

Normally, for any sprite in a Director program the blend was set to 100 which was visible on stage. For some reasons, whenever I applied "Dim2light" handle to any castmember, that I expected to gradually see the sprite or castmember appear on stage, I noticed the sprite appeared lighten before it normally displayed.

When any of QuickTime movies were playing within the Director file, other rollover functions did not show as usual. However all buttons or linkable spots still worked. Finally, the last problem was a quit function I designed. Whenever the user wants to quit from this program, he or she will exit after finishing the credit part. It was a big surprise for me when it kept running back to the first frame of the file before the quit file. I solved this problem by making two other empty files.

CONCLUSION

I tried to make the project as complete as possible. Due to the limited data, there were some parts still under construction.

In the TREASURE section, I merely accessed the performance part which displayed movie samples of Thai traditional dances. Both the food and fruit part and the craft part show only the primary icons; the clay pot and the cabinet with gold and black lacquer decoration.

In the HERITAGE section, I completed all three topics in each room; a manual slide show in the architecture field, a seek hidden images in the painting subject, and a candle slider displaying the image of Buddha related to the day of birth in the sculpture area.

In the ATTRACTIONS section, neither the natural beauty part nor the sports part were available to users. However I solely constructed the events and festivals part into a calendar that displayed marked days whenever the events were held and provided samples of relevant movies.

Besides three icons in the INSIGHT section, I created a spinning inscript stone on which each face shows different information about Thai language. First side was mapped with the original Thai writing. All present characters; consonants, vowels, number were printed on the next side. I intended to introduce the basics of Thai language; how to pronounce and write with using a magnify glass looking for the detail on the stone. However, I needed to find a better solution including the proper Lingo script to accomplish my design. Though I made a circular thermometer slider to check the weather in each month, it still needed some improvements to get it working better for the weather part. Also, I planned to present the people part with making two music videos; a city life and a village life.

According to the time for demonstrating thesis, I did not have time to survey all the audiences about how much they learned. My original objectives for this project were generally met. Though some aspects I was not able to accomplish. However, I provided pamphlets to give the overall idea about this project for visitors to this interactive tour.

I asked viewers for feedback after they finished my program. Some liked the icons represented for each section. Some shared their ideas and comments. For all feedback, I am deeply appreciative.

Furthermore, it was a worthy opportunity to research, design, manage, edit, and create the whole project possible. During the production, all unexpected problems taught me unforgettable experiences. I am delighted with the consequence and hope to develop and complete it with more comprehensive data and progressive tools in the future. I will create a cross platform version to cover pc users and publish it on the internet as well.

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APPENDIX

Pad Thai's recipe (Makes 2 servings)

	Ingredients
3 oz.	prawns, shelled and deveined
1/2 tbl.	pickled Chinese radish
3 tpls.	sugar
2 tbl.	fish sauce (I use shrimp base)
4 tbl.	vinegar
1/2 tbl.	paprika
2 tbl.	chopped roasted peanuts
6 oz.	bean sprouts
1/3 cup	chopped chives, cut into 1" lengths
1/4 tsp.	ground chilli
1	fresh lime, sliced
7 oz.	narrow rice noodles, soaked and drained
3 tbl.	cooking oil
1 tbl.	chopped garlic
2	egg
4 tbl.	diced firm yellow bean curd

Technique

Pre-soak the noodles for at least 30 minutes in room temperature water. They should be soft yet firm.

In a large frying pan, heat oil over medium high heat, sauté the garlic and pickled radish for 1 minute; then, add the egg and keep stirring. Add the prawns, beancurd, and the noodles; then, season with sugar, fish sauce, vinegar, paprika, and 1 tbl. peanuts. Toss and cook for 10 minutes, until noodles turn soft. Then, add the chives, ground chilli, and half of sprouts, and remove from heat. Garnish with 1 tpls. peanuts, remaining sprouts, and lime.

Place on Serving plate and garnish with more Bean Sprouts and a Lemon wedge.

edited from "The Elegant Taste of Thailand"
by S. Kongpan and P. Srisawat

THAI HISTORY

The Thai people originated in southeastern China where, in 650 AD, they founded the independent kingdom of Nanchao which thrived for 600 years. However, invasions and an unwillingness to be incorporated into mainstream Chinese society led to waves of migrations southward into what is now Thailand. Eventually several groups of Thai migrants united and established Sukhothai as their capital in the mid 13th century.

Although other civilizations had existed on Thai soil much earlier, Sukhothai was the first sovereign kingdom of Thailand. It flourished for over 100 years during which time the distinctive forms of Thai art, architecture and culture were firmly implanted.

At approximately the same time, King Mengrai, an ally of Sukhothai, was establishing the northern Lannathai kingdom, centered in Chiang Mai which was founded in 1296.

In the mid-14th century a new and more powerful dynasty arose at Ayutthaya, an island city in the Chao Praya River 85 kilometres north of present day Bangkok. Quickly gaining in wealth, military might and prestige, Ayutthaya absorbed the former kingdom of Sukhothai and remained Thailand's capital for 417 years, holding sway over most of the country except the North.

Ayutthaya prospered steadily reaching the height of its power in the 17th century when diplomatic relations with the West were established and trade agreements were made with the leading European powers of the day. Weakened by internal conflicts, Ayutthaya fell to the Burmese in 1767.

After fleeing south, the survivors of Ayutthaya were rallied under King Taksin who founded a new capital at Thonburi and eventually succeeded in expelling the Burmese from Thai soil.

On the death of Taksin in 1782, Chao Phraya Chakri was proclaimed King and, as Rama I, was the founder of the present Chakri dynasty. For strategic purposes he moved his capital across the Chao Phraya River to Bangkok.

Under the Chakri Kings the borders of Thailand were consolidated and other parts of the country were gradually brought under the full control of the central government. Rama IV (King Mongkut, 1851-1868), secured ties

with the West, especially with France and Britain, while at the same time, assuring his country's independence and avoiding the colonial fate of all Thailand's neighbors.

King Mongkut's successor, Rama V (King Chulalongkorn, 1868-1910), brought about many social and political reforms that firmly guided Thailand into the 20th century.

The absolute monarchy continued through the reign of Rama VI (1910-1925) and into that of Rama VII (1925-1934). But in 1932 a coup d'etat succeeded in bringing about a change to a constitutional monarchy. Rama VII accepted the situation but chose to abdicate two year after the coup.

The throne passed to the young King Ananda Mahidol (Rama VIII) who reigned until 1946, and was succeeded by his brother King Bhumipol (Rama IX), the present monarch.

THAI POLITICS

Thailand is a constitutional monarchy. Since 1932, Thai kings including the present monarch, H.M. King Bhumipol Adulyadaj, have exercised their legislative powers through a national assembly, their executive powers through a cabinet headed by a prime minister, and their judicial powers through the law courts.

THAI PEOPLE

Thailand has a population of about 53 million. Ethnic Thais form the majority, though the area has historically been a migratory crossroads, and thus strains of Mon, Khmer, Burmese, Lao, Malay, Indian and, most strongly, Chinese stock produce a degree of ethnic diversity. Integration is such, however, that culturally and socially there is enormous unity.

THAI RELIGION

The national religion is Theravada Buddhism, practiced by more than 90 percent of all Thais. The remainder of the population adheres to Muslim, Christian, Hindu and other faiths -- all of which are allowed full freedom of expression. Buddhism continues to cast strong influences on daily life.

form Tourism Authority of Thailand homepage

BANGKOK

Krung The has been the correct name for the capital of Thailand for more than 150 years, but foreigners persist in calling it Bangkok. The city has changed its name four times since its foundation in 1767, a few years after the destruction of Ayutthaya, the old capital of the Thai kingdom.

In 1782 King Rama I began building a new capital on the Chao Phraya River bank at Bangkok, then a small village. In 1787, two years after completion, the city was named Rattanakosin. Finally, during the reign of King Rama III (1824-1851), the name was altered to Krungthep Maha Nakorn Amorn Rattanakosindra Mahindr Ayudthaya Mahadilok Pohnoparatana Rajdhani Mahasatharn Amorn Piman Avatarn Satit Sakkatutiya Vishnukarn Prasit or Krung The for short. The full name translates as "the city of gods, the great city, the residence of the Emerald Buddha, the impregnable city (of Ayutthaya) of God Indra, the grand capital of the world endowed with nine precious gems, the happy city, abounding in an enormous Royal Palace that resembles the heavenly adobe where reigns the reincarnated god, a city given by Indra and built by Vishnukarn."

LINGO SCRIPTS

The following script used for finding images in the painting program.

```
on initShowPict
  global ramalist
  puppetsprite 4, true
  set ramaList=→
  ["rama1","rama2","rama3","rama4",→
  "rama5","rama6", "rama7","rama8"]
  set the ink of sprite 5 to 36
  set the constraint of sprite 21 to 19
end

on showPictR
  global ramaList
  if (sprite 5 within 6) then do getAt(ramaList,1)
  else if (sprite 5 within 7) then do getAt(ramaList,2)
  else if (sprite 5 within 8) then do getAt(ramaList,3)
  else if (sprite 5 within 9) then do getAt(ramaList,4)
  else if (sprite 5 within 10) then do getAt(ramaList,5)
  else if (sprite 5 within 11) then do getAt(ramaList,6)
  else if (sprite 5 within 12) then do getAt(ramaList,7)
  else if (sprite 5 within 13) then do getAt(ramaList,8)
  else normalset
  updatestage
end

on normalSet
  set the membernum of sprite 21 to cast "frameS1"
  set the castnum of sprite 4 to cast "cover"
end

on rama1
  set the membernum of sprite 4 to cast"ra1"
  set the membernum of sprite 21 to cast"frame-L"
end

on rama2
  set the membernum of sprite 4 to cast"ra2"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama3
  set the membernum of sprite 4 to cast"ra3"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama4
  set the membernum of sprite 4 to cast"ra4"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama5
  set the membernum of sprite 4 to cast"ra5"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama6
  set the membernum of sprite 4 to cast"ra6"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama7
  set the membernum of sprite 4 to cast"ra7"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on rama8
  set the membernum of sprite 4 to cast"ra8"
  set the membernum of sprite 21 to cast"frame-L"
end
```

```
on moveFrame
  repeat while the stillDown
    puppetsprite 5, true
    puppetsprite 21, true
    set the cursor of sprite 21 to [60,61]
    set the castnum of sprite 21 to cast "frameS1"
    set the constraint of sprite 5 to 20
    set the locH of sprite 21 to the mouseH
    set the locV of sprite 21 to the mouseV
  updatestage
```

```

if (sprite 21 within 20) then
  set the ink of sprite 5 to 4
  set the loch of sprite 5 to the loch of sprite 21  30
  set the locv of sprite 5 to the locv of sprite 21  20
  lightFrame
else
  set the ink of sprite 5 to 0
  updatestage
end if
updatestage
end repeat
end

```

```

on lightFrame
  if the loch of sprite 21 < 80 and ((sprite 5 within 6) or (sprite 5 within 7)
or (sprite 5 within 8) or→
(sprite 5 within 9) or (sprite 5 within 10) or→
(sprite 5 within 11) or (sprite 5 within 12) or→
(sprite 5 within 13)) then
    set the membernum of sprite 21 to cast"frame-L"
    set the ink of sprite 21 to 36
    updatestage
  else
    set the membernum of sprite 21 to cast"frameS1"
    set the membernum of sprite 4 to cast"cover"
    updatestage
  end if
end

```

```

on checkFrame
  if the left of sprite 21 < 80 then
    set the locV of sprite 21 to 100
    set the loch of sprite 21 = 105
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
  else if the left of sprite 21 < 150 then
    set the loch of sprite 21 = 175
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
  else if the left of sprite 21 < 220 then
    set the loch of sprite 21 = 250

```



```

    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
else if the left of sprite 21 < 290 then
    set the loch of sprite 21 = 320
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
else if the left of sprite 21 < 360 then
    set the loch of sprite 21 = 390
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
else if the left of sprite 21 < 430 then
    set the loch of sprite 21 = 460
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
else if the left of sprite 21 < 500 then
    set the loch of sprite 21 = 530
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
else if the left of sprite 21 < 540 then
    set the locV of sprite 21 to 100
    set the loch of sprite 21 = 600
    set the loch of sprite 5 to the loch of sprite 21  30
    updatestage
end if
    if the top of sprite 21 <= 56 or the top of sprite 21 >= 54 then
        set the locV of sprite 21 to 100
        updatestage
    end if
end

```