The Process of Redesigning an Existing Structure Within an Environment

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The Minnesota renaissance festival is an annual event where people gather to have a fun, renaissance themed experience. Everything within the festival grounds has a certain image and fits within the festival's central theme. As new features and attractions come in, they are either built within existing structures, or have their structure built in a style that is unique to their attraction but still fits with the theme of the festival overall. The booth that hosts the juggling school is in need of a redesign. It is in need of a redesign of the interior to make it more convenient to use for the people that work there, and the outside would also have to be redesigned to fit within the festival's theme, while still being unique to the juggling school.

The process of creating a design has many steps that need to be considered. The very first step in creating a new design, or even revising an old one, is to gather information. Finding out what the client wants and needs should be the first step of any design process. Elements to be taken into consideration are factors such as: size constraints, functionability, existing structures to work around, stylistic preferences, budgetary concerns, and any other information that could be useful. Any information that can be gathered can be helpful later on in the process, even if it may not seem relevant at first. After finding out as much information as possible, the designer can then move on to the sketching process. Sketching is helpful for the designer to get a multitude of ideas down quickly. It's a way to sketch rough ideas and basically draw everything you can think of. It's a brainstorming process that can help a designer narrow down to their best idea for a particular project. Maybe a designer has some very creative ideas in mind that are not as practical, sketching those ideas along with any practical or even "boring" ideas may help the designer to find a way to combine the ideas together.

The sketching process can be done in an extremely rough manner, touching up and cleaning up ideas is the next step in the design process.

The elements and principles of design need to be addressed when beginning to sketch ideas for a design. The elements and principles of design are rules and guidelines that help to make a pleasing design. These are things that apply to all types of design, whether it is two dimensional, three dimensional, or classical art forms. The best way to describe the relationship between the elements and principles of design is that the elements are used to create the principles. The elements of design are: line, shape, texture, color, space, value, and form. The principles of design are: unity, emphasis, balance, scale, rhythm, contrast, pattern, variety, movement, and harmony. (Lauer, 1974). A designer wants to take the elements into consideration to create the principles. For example a series of lines may be drawn across a page with one of the lines being red and the others being blue. This use of line and color creates a sense of rhythm and balance. Also with making one of the lines red, emphasis is given to that line. When the elements and principles are used properly, a pleasing, successful design is created. The elements and principles come into play in architecture and structures just as much as in two-dimensional design. Beams and supports create line, different building materials create texture, and color can be applied to surfaces as well. A designer takes all of these elements and principles into consideration when creating sketches.

Once a designer has visually brainstormed all of the sketches and rough ideas that he can come up with, the next step would be to select a design to refine. The design that is selected would be drawn larger and cleaner. Notes would be made on how things would work within the design. The details would be worked out for all aspects of the

design. This stage can be done on paper or even in a rough form in design software on the computer. Refining sketches helps a designer to see what a design will begin to look like when things are drawn up to scale and in color. After the sketches are refined, blueprints can be made. Blueprints are made so that everything is consistent and that the design can be communicated to almost anyone. Blueprints give the designer the exact space that is needed, the exact measurements, and the materials that will be needed to implement the actual design. From the blueprints, a rendering can be created. The rendering is an artistic representation of what the design will look like when it is completed. Renderings used to be done by hand with colored pencils, markers, or paints. Now the most common way to create a rendering is to take the blueprints that were created in a computer program such as a CAD system and take them into a rendering program such as 3D Studio Max or Form Z. These software tools help to create a much more realistic representation of three-dimensional structures and lifelike materials. After creating a rendered version of the design in the program, images can be printed out, or an animated "fly-through" can be created which simulates going through the actual structure and gives a very well rounded view of the entire design.

To go through the design process with the juggling school for the Minnesota renaissance festival, some of the people that work in the juggling school needed to have their concerns addressed. Some of the things that were requested for a new booth were:

- Storage space inside the booth
- Lockable storage for personal belongings
- Shady areas
- A way to organize the juggling equipment

- Areas for coolers or packed food to be kept out of sight.

These were some of the main concerns that needed to be addressed with the redesign of the booth. (C. Johnson, personal communication, September 18, 2007). The current booth does not have areas for any of these items. It is a 10' x 10' wooden platform with a 4' square pillar in the center with a roof over it. There is no way to lock up anything or keep equipment organized or away from the elements. Since the current juggling school is in a fairly open area, it was determined that the size of the actual structure could be increased to a 20' x 20' area. Due to the availability of the larger area, there could now be interior space within the booth structure. The interior would then be used to address the concerns that the employees had and would be designed in a very utilitarian style conducive to organization and space saving. The exterior of the booth would be used to show the style and content of the juggling school and also to keep in harmony with the theme of the festival.

After originally contacting the Minnesota Renaissance festival, full freedom was given to continue with the design without further input from the festival. After the design was completed, the final product would then be sent to the festival for review. Since the information gathering process was complete, researching for ideas and inspiration for sketches was the next step.

Looking at juggling as an art, there are a great many types and styles of juggling. There is the traditional, or toss, juggling, which is done with a series of balls, clubs, knives, rings, or other objects. This type of juggling is done by alternately tossing the objects into the air and catching them so as to keep the objects in the air and in motion while still being under your control. There is also another type of juggling that is taught

at the juggling school, and this is juggling done with a diabolo, also known as Chinese juggling. In this type of juggling a wooden or plastic top is balanced, spun, tossed, and flipped with a string held between two sticks.

Toss juggling has been depicted throughout history. Many people know of it having some history in the vaudeville era, but do not have much knowledge of it before that time. The earliest known depiction of toss juggling is from an Egyptian tomb dating back to 1994-1781 B.C. More common references to juggling occur in the years from 1200 A.D. Juggling was also depicted in the Aztec culture around 1500 A.D. The most references to toss juggling occur during the medieval and renaissance periods. This is when juggling was becoming popular for traveling performers and court jesters began to adopt the skill as well. (Lewbel, 2002).

The history of diabolo style juggling can be traced back to China, approximately four thousand years ago. The original diabolo tops were made from bamboo and were flat on each side, resembling a sewing bobbin. Missionaries who traveled to China from France and England brought Diabolos back to Europe. The diabolo became wildly popular in France in the early 1800's and stayed popular through the early 1900's. Without having bamboo readily available to construct them from, a new method of constructing these fascinating toys was needed. Gustave Pillapart invented a new design in 1906, which gives the diabolo its modern shape of two connected cups. (Classic Encyclopedia, 2003).

To reflect the origins of the two main types of juggling featured at the juggling school, it will be designed in a Chinese style. It will also have renaissance elements as

part of the design to both tie it in with the festival and to give toss juggling a setting that reflects the height of its popularity.

Chinese architecture is characterized throughout history by the pagoda style tiered rooftops. This was used as the main focus of the new building for the juggling school. The pagoda style roofs are a very recognizable way to get the message and feeling of the Chinese history of the juggling tools across to the general public. Smaller details were designed in the historically Chinese style as well. The structure would be constructed out of wood, which is how classical Chinese architecture was constructed. Historically wood is used in Chinese architecture both for its convenience and ease to work with, but also because it is warm to the eye and the touch, which makes it much more comfortable and inviting to the occupants. (Liu, 1989). Using a system of beams and columns to support the structure is also a very prevalent style in Chinese architecture. That was taken into consideration and applied to the roofing. The enclosed area of the structure was too small to accommodate a look that would include columns, so they were added as a decorative feature on the exterior of the structure. The roof is one of the most impressive facets of Chinese architecture. It is designed to be decorative as well as functional. The large overhangs and eaves that are typical of Chinese roofs are built to protect the interior from rain and the elements, but also to allow sunshine to enter the building from lower angles. Traditionally the roofs are tiled with a series of alternating rows of concave and convex ceramic tiles. The juggling booth employs a system of wooden tiles. This gives the feel of the ceramic tiles and holds to a similar style, but saves cost on materials. Wooden tiles are also much easier to work with and they help to fit in with the other buildings in the area.

Color is another important aspect of Chinese architecture. Palaces had their own color schemes, as did temples and houses. The columns of palaces and temples were painted red, while the columns of houses were painted an earthier, chestnut color. The walls of houses were generally painted either black or white, but in temples the walls were yellow, and in palaces, red was the main color for the walls. This technique was applied to the juggling school design as well. To signify the juggling school as a place of learning, and not a palace or a home, the color palette of the temple was used, red for the columns and yellow for the walls. (Liu, 1989).

Looking to the other theme of the juggling booth's design gives a different architectural style to consider. In the renaissance period, two of the most important aspects of architecture were proportion, and looking "Latin." Renaissance architects valued the look of the classical roman and Latin architecture, and this style was adopted in new buildings constructed during the renaissance period. One of the easiest forms of classical architecture to distinguish is the column. (Allsopp, 1959). Four columns adorn the corners of the juggling booth. They are not the ornate, heavy structures that signify classical architecture, but are more simplistic to fit with the weight of the structure. The other aspect that was very prominent in renaissance architecture is proportion. Most structures were very symmetrical and had a wonderful sense of balance. This is reflected in the juggling booth by the overall symmetry of the building, it is symmetrical from every side. The tiered roofs proportionately balance the booth; they progress from smaller to larger and create a flow from the top to the bottom.

To tie the juggling school's design into the festival as a whole, some alterations to the traditional Chinese design must be made. One of the first things will be giving the paint applied to the exterior an antiqued look. None of the buildings or structures at the renaissance festival are new, and they all have started to weather. To keep this new booth from standing out and looking out of place, the wood would be treated with a process to give the paint a weathered, or antiqued, look. Also the bare wood that would be used for the platform would not be stained or treated. It would be allowed to weather and gray naturally. The roof would be made of wooden shingles; this helps to keep with the theme of the festival, since all other roofs in the festival are constructed of wood. The use of wooden shingles helps to give the structure a look that is similar to ceramic tiles. It gives the same feeling overall as the tiles would have without giving the disconnected feeling that having the actual ceramic tiles would have.

Looking at the interior of the booth, many different functions need to be available within a very small space. The design of the interior will be very clean and simple to facilitate the functionality of the area. The right wall will have a series of shelves tilted at angles with a small lip on the edge. These shelves are designed for storing juggling clubs or balls. They are tilted to keep the equipment at the front of the shelf, but have a lip on the edge to keep things from rolling off onto the floor. Underneath the shelves are cupboards that can be used for storing equipment, personal items, and anything else that needs storage. The cupboards run along both sides of the booth and there is also one along the back wall of the booth as well. These can be locked to secure personal items. The left side of the booth will have flat shelves above the cupboards for storing things that do not roll. Diabolos store well on their sides on shelves like these. Also coolers or lunch boxes may be stored along the flat shelves. The back wall will be made of a pegboard that has movable pegs for storing items that need to hang. Juggling rings, poi,

and juggling scarves are a few of these types of things. This area may also be used for hanging jackets or rain gear. The outer door of the structure will also be able to be locked to secure equipment overnight and while the festival is closed.

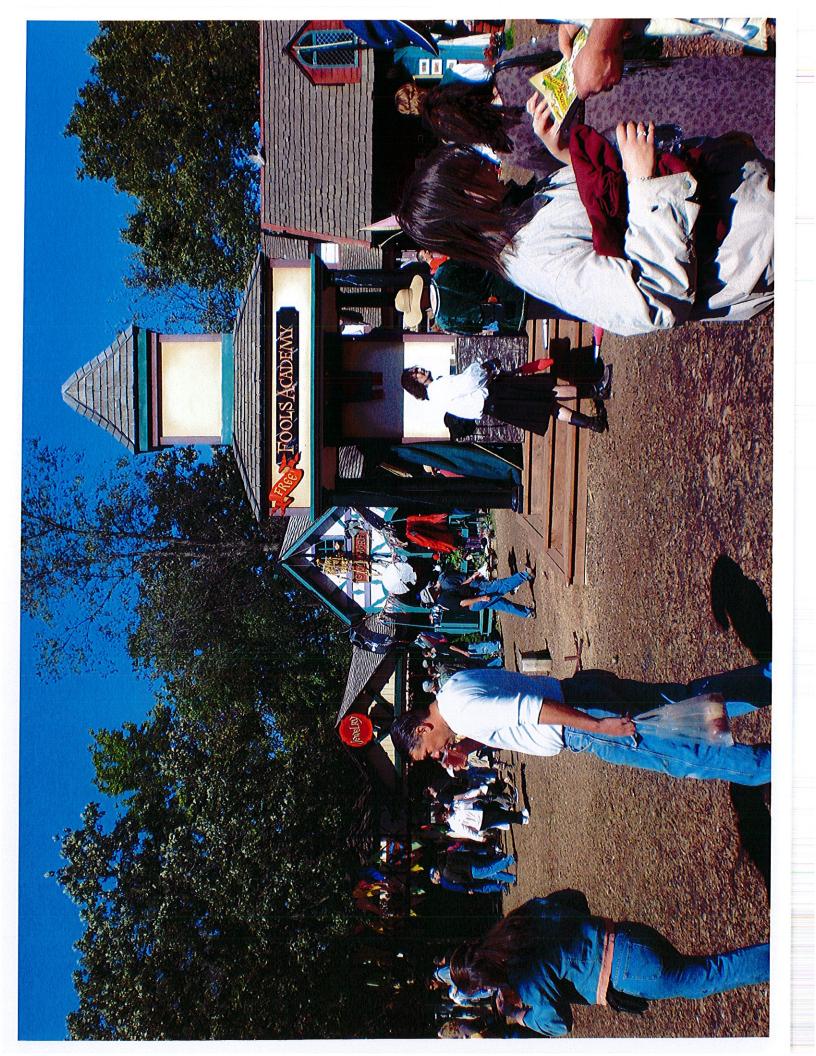
To make sure that customers and passerby see the juggling booth and know what is happening in the area, signage must be created. Two sets of signs have been applied to the booth. On the front and back of the booth a sign has been applied that says simply "juggling school." This gives the area its title and lets people know the function of the building. The sign is placed high enough to let people see it from a distance. Along both sides of the booth, signs are hung from the lowest roof. These are easier to see and read from up close. They give more specific details about the booth and inform people about the free lessons that are offered. The colors on both of the signs are muted to keep with the "older" theme of the booth. Since the colors are muted and less able to attract attention based on the color alone, they were paired with contrasting colors to make them stand out more while still looking right with the theme.

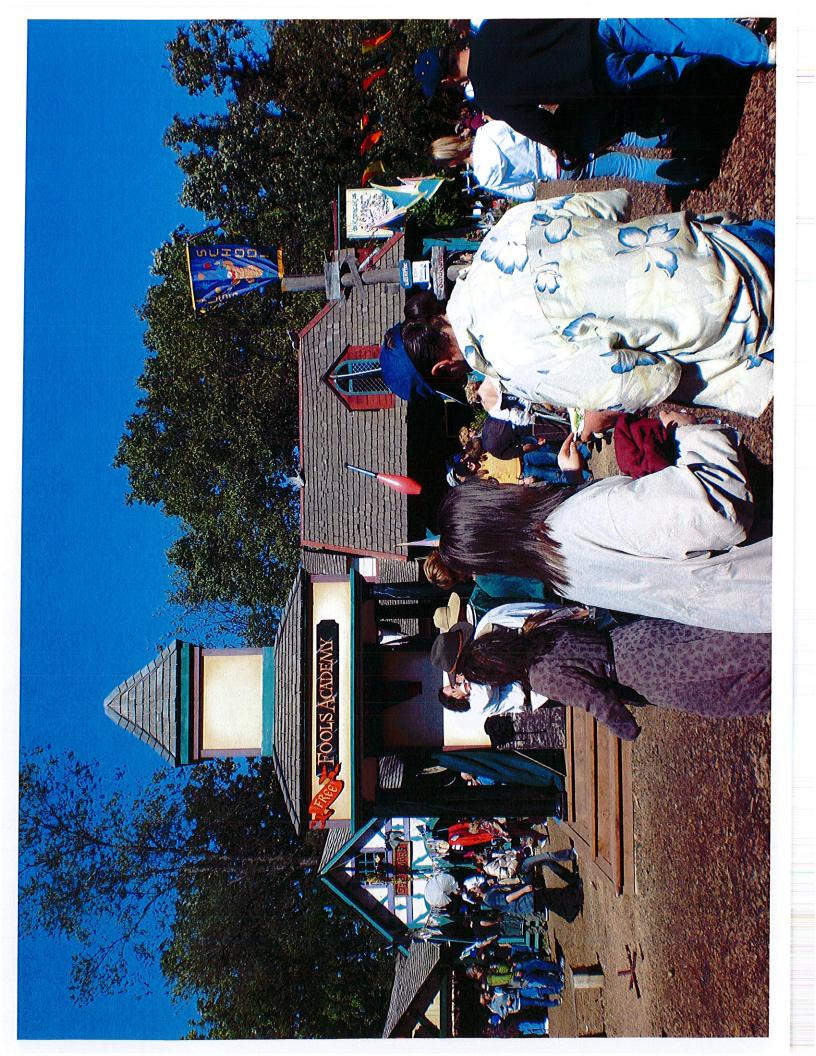
By taking into account the elements and principles of design, a successful and visually pleasing design is created. By considering both aesthetic as well as functional values, an effective design can be created. Aesthetically the new juggling booth fits within the design style of the Minnesota Renaissance Festival by having an antiqued look and through the use of columns and proportion. The new booth also helps to portray the history of the craft taught there by having a design that has Chinese influences. The Chinese architecture is shown through the use of color, materials, and the tiered and tiled roofs. This blending of architectural styles creates a harmony that shows multiple views of what is exhibited within the booth. This helps passerby to know what is going on in

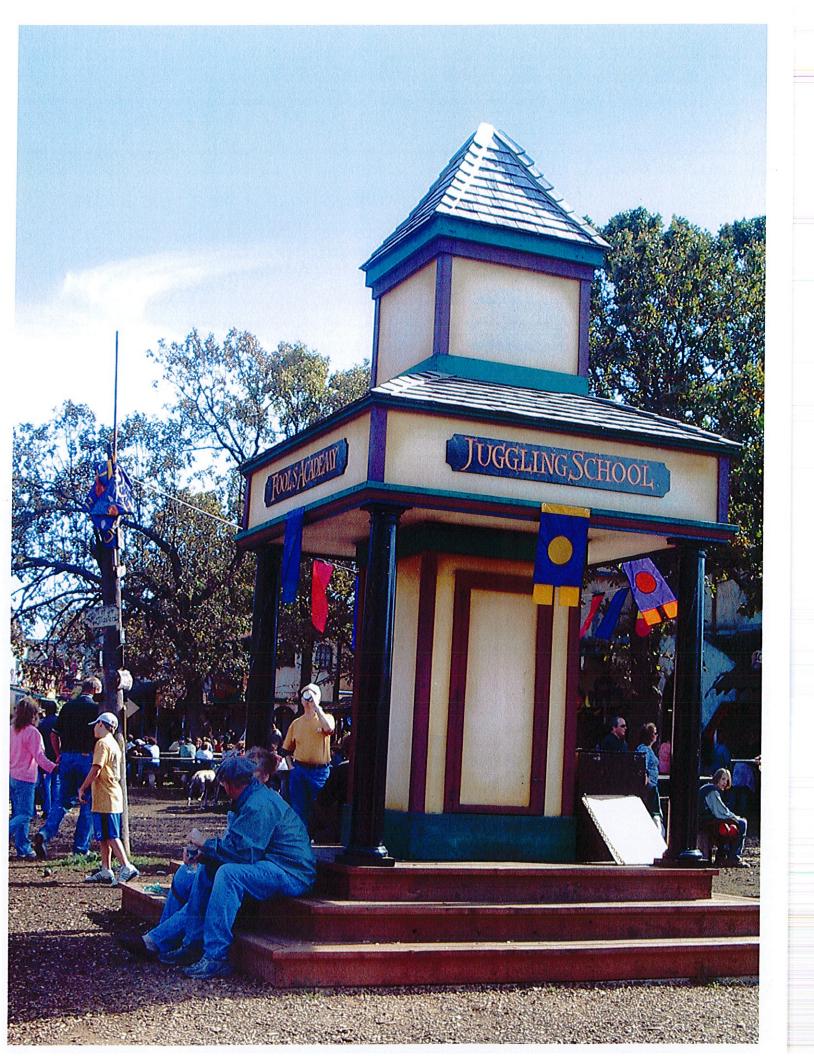
and around the area and gives it a context. To make things easier and more effective for the employees of the juggling school, a functional design was created for the interior of the booth, which included more storage and lockable storage. This design is effective on all fronts, it is relevant to its contents and surroundings, is visually appealing, and is convenient and functional.

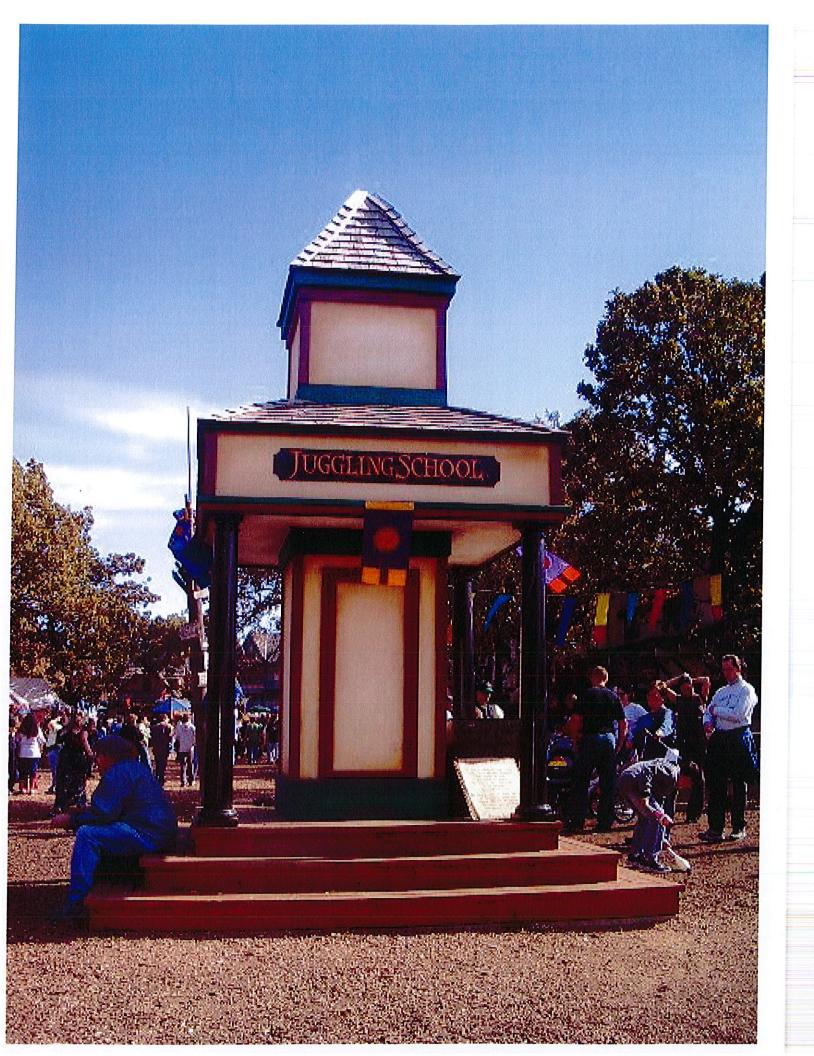
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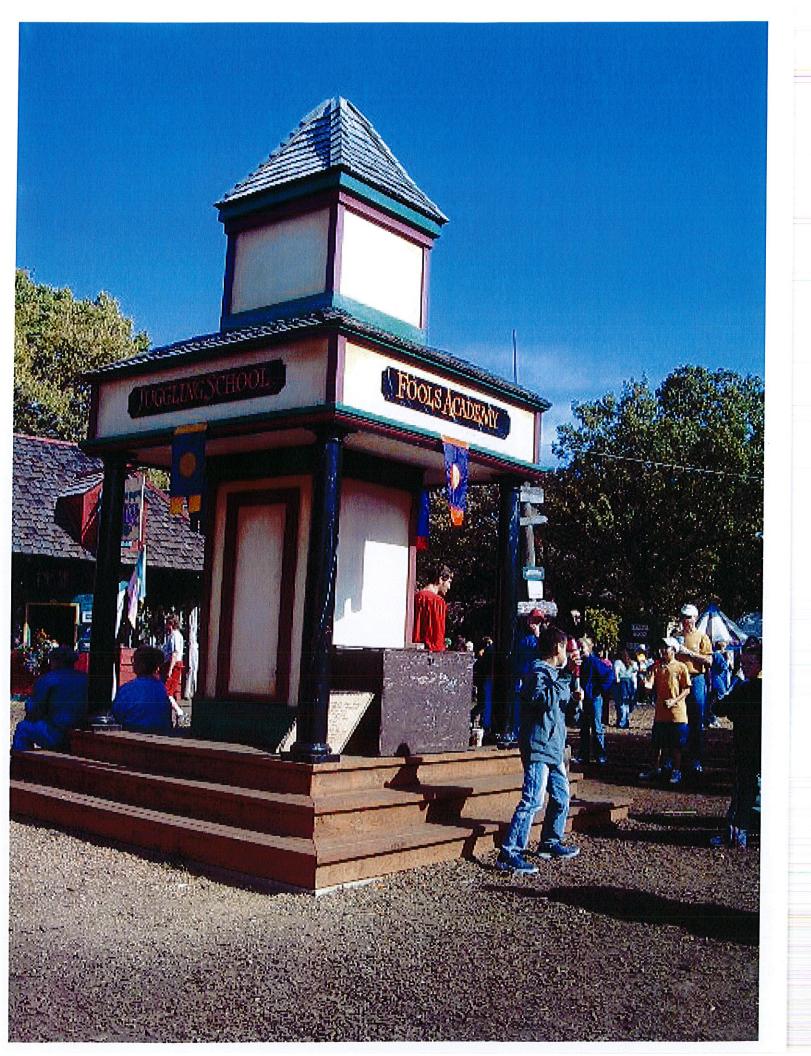










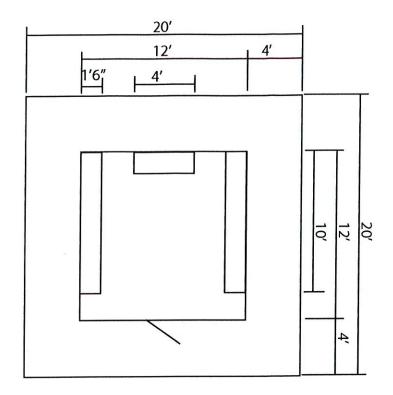


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shade/rain
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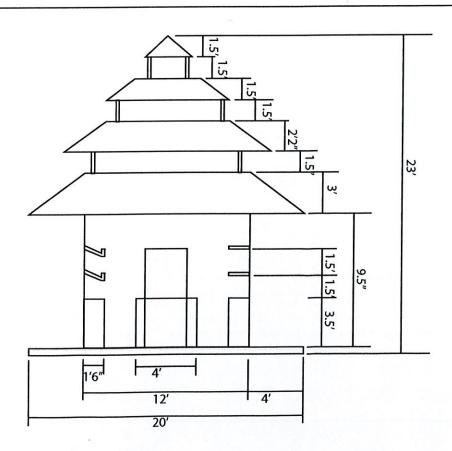
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-pegboard 1.5' 12×12 4

The following pages are renderings of the new booth design.

Floor-plan, elevationp	age 1
Front viewp	age 2
Back/side viewpa	age 3
Front door detailp	age 4
View in front doorp	age 5
Right sidep	age 6
Left sidep	age 7
Graphic sign detail 1pa	age 8
Graphic sign detail 2pa	age 9
Roof detail viewpa	age 10



Floor Plan



Front View Elevation

