The GigaPan Hallway Project

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ABSTRACT

GigaPan images were made into large vinyl banners and mounted in the hallway, elevator lobby, classroom, and offices. These photos were chosen to illustrate the research and instruction being done in nearby offices, laboratories and classrooms. The primary objective of this preliminary project was to test whether these images are a cost-effective, positive contribution to the academic environment.

Keywords

Gigapan, vinyl prints, academic building, botany, Hawaii.

INTRODUCTION

The Botany Department of the University of Hawai`i at Manoa occupies most of three floors of a large building. This department is research-oriented and the hallways are covered with a wide variety of announcements, advertisements and large posters. The posters are generally recycled from their use at scientific meetings. These posters provide information about the research which has been done in the labs behind the walls. However, much of this hallway décor is out of date and faded. Put simply: most of our hallway walls have become ugly, information graveyards.

The objective of the GigaPan Hallway Project is to create a vibrant hallway atmosphere that conveys a sense of the research and educational programs of the department. The experiment consisted of making large prints of GigaPan images on vinyl and mounting these on the hallway walls. Selection criteria were developed so that the theme of each image would match the general activities taking place in the nearby offices, classrooms and research laboratories.

There is considerable literature on the importance of the physical setting on learning. Numerous studies on environmental or ecological psychology relative to the classroom have focused primarily on the K-12 environment. Our situation involves students who range from college freshmen through graduate students in doctoral programs.

METHODOLOGY

The project was divided into two phases. The first phase was an exploration of the feasibility of making a large print, mounting this print in the hallway and determining its acceptability to the hallway occupants and visitors.

The basis of this project is the availability of reasonably-priced, large-format vinyl banners. These banners have become available as a result of their widespread use in outdoor advertising. These prints are colorful and relatively long lasting [citation]. The printing is done by a local sign-making company using a large-format inkjet printer. The printer we have used suggested an image resolution of 150 DPI.

A GigaPan image was selected for a trial print. The resulting banner was approximately [size of the botany office banner]. The GigaPan photo was taken along a trail in the mountains of Kaua`i. It is a forest scene that consists primarily of native

vegetation. The banner was mounted in the hallway outside the classroom where students learn about Hawaii's native plants and nearby the department's herbarium where specimens of these plants are maintained.

The acceptability of the banner was determined by talking to people who stopped to look at it in the hallway and by discussing it with the faculty who occupy the nearby offices and laboratories.

The second phase was the proliferation of the GigaPan prints to additional hallway areas. The criteria for the selection of the GigaPan images included the following:

- The subject is representative of the activities in the nearby offices, classrooms and research areas.
- The image is high-quality.
- There are elements in the image that provoke interest.
- The image brings diversity either in subject matter, geographic region or scale.
- The size of the banner will be compelling and it will fit in the available space.

The preliminary nature of this study did not include formal interviews or analyses. At this point, the analysis consisted of informal interviews with students, faculty and visitors (often faculty from other departments or institutions).

RESULTS

The image chosen for the first phase shows the forest along the Pihea Trail. This forest is composed primarily of native plant species and it represents an all-too-rare view of a Hawaiian native forest. The GigaPan image that was used is found at http://www.gigapan.org/gigapans/12948/.

The print was enthusiastically accepted by everyone. This launched the second phase of the project where additional panoramic prints were installed as they became available (Figure 1).

Figure 1. An example of a panoramic image printed on vinyl and mounted in the hallway. The width of this print is approximate 12 feet.

The elevator foyer and approximately one-half of one hallway are sites with GigaPan banners. In addition, individual banners were placed in the following locations:

- Department Office
- Department Classroom
- Additional hallway locations (2 places)
- Faculty Office

The overall acceptance of these banners has been positive. Faculty from locations in the building which don't have these hallway banners have provided suggestions for themes that they would like used in their areas.

The department faculty voted unanimously to continue this project and made comments about its positive contribution to the environment.

Faculty members who do research and teach in disciplines similar to the themes of the hallway banners have requested copies of some of the banners. There are now five other institutions that display one or more copies of these banners.

Informal discussions with students have been similarly positive. Several students have become very interested in the technology used for both taking the photos (the GigaPan robot) and printing. As a result, they have learned the technology and their panoramic images are now included in the hallway.

Students who have a class in an adjacent laboratory have been observed to discuss overlapping elements, such as noting the physical habitat of species in a panorama of a forest trail after they have been viewing the floral morphology or anatomy of the species in the laboratory.

DISCUSSION

The Hallway Project has been a preliminary exploration which has used two new technologies: mega-pixel digital images and large-scale vinyl printing.

The sections of the hallways with the panoramic images stand in stark distinction from those areas with traditional wall coverings (typically conference posters, job advertisements, seminar notices, cartoons, and product advertisements). As such, they present a clear location awareness; you know where you are. This has some value in what are otherwise relatively undifferentiated spaces.

The topics in the panoramic images were chosen to provoke discussions that are relevant to the educational and research mission of the adjacent offices, laboratories and classrooms. As a result, we have not chosen images simply for their visual appeal, although a beautiful image is certainly one consideration in the choice of panoramic photos. Figure 1 shows an often photographed scene on Kaua`i, taken from the overlook above Hanalei. We use this scene to tell many different stories, such as the following:

- Physical Environment: Mt Waialeale is covered with clouds n the background – it is one of the wettest spots on the planet.
- Culture: The taro farming shows the Chinese influence (in contrast to another banner which shows traditional Hawaiian-style cultivation).
- Conservation: This area is a US Fish and Wildlife Service preserve for the endangered Hawaiian Stilt.

The panoramic photos which were taken along the trail are useful in showing students what they will be seeing on a future field trip. After the students return from the field trip, the same photo can be used to review what was seen. This is particularly useful as an educational tool as the field trip locations require a long hike, often through mud and while it is raining. Students don't have time (or inclination) to spend a lot of time analyzing one of these field sites under these difficult environmental conditions. The details in the panoramic photo provide a useful supplement to the field experience.

The hallway photos have provoked many students to go on-line and view the images at the gigapan.org site. Without the hallway photos, many of these students would not have been aware of the availability of this alternative resources.

A primary limitation in the use of hallway images has been the limited availability of panoramic photos which meet the relevance, size and quality standards. Mounting the large banners has also been problematic. Some walls are solid concrete and the mounting system which has been used does not work on this kind of surface. The cost of the images has not been a major concern.

The actual production of the large panoramic prints has involved some experimentation with the local printer (Copy Express). They have tried several combinations of inks and vinyl. While all the combinations have been successful, there is some variability in characteristics such as surface shine and texture. There are other materials which show promise, such as "sticky backed vinyl." These re-locatable materials would simplify the mounting process and allow mounting on solid concrete walls. However, this material has not been available at our local printer and we have not done an evaluation of this alternative.

The vinyl banners have been printed at 150 dpi. This has been adequate, even though people are often very close to the surface of the print. Images are prepared for printing that generally have about 18,000 pixels on the longest side. This will print 10 ft wide. A normal height for this width is 3 ft. The cost of such a print is approximately $150. The print is not expected to fade over five years, even if located in sunlight.

The vinyl prints are mounted by pounding a u-shaped staple into the wall adjacent to each grommet and securing the banner with heavy-test fishing line and lead-clamps. This allows the banner to be pulled taut.

There are a number of considerations regarding these banners that we anticipate.

- How long should a particular banner be left in place? Will the value of the subject matter loose interest over time? Will the quality degrade?

- Should there be a set of specifications, such as the overall banner size and the placement of attachment grommets? If so, this could make the periodic swapping of banners a simple process.
- How should the banners be annotated? Should each banner be accompanied by an informative sign?

The banners that are currently on display consist entirely of panoramic photos. The observation that advertising banners generally have text as wells as graphical images prompted us to try printing a poster for a scientific meeting using the same vinyl-based technology. We discovered that the quality was equivalent to printing on paper. However, the cost of printing was much less for the vinyl, it was easier to transport, it is more durable and it will last longer when it is displayed. As a result, we have switched to printing our conference posters on vinyl and encourage other people to try this alternative.

CONCLUSIONS

The Hallways Project has been a learning experience. It was not formally organized and did not include any provision for obtaining evaluation metrics. None the less, the informal responses have been very positive. We have learned some lessons about what works in our academic setting and established that this is a cost-effective way to enhance the environment. Many practical questions remain, particularly involving the mounting of the vinyl prints.

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APPENDIX 1.

Gigapan images used in the Hallway Project in the St John Plant Sciences Building, University of Hawai`i at Manoa.

4th Floor Hallway & Elevator Lobby:

Hanalei Taro (Kaua'i)

Hawai`i Volcanoes National Park forest (Big Island)

Mauna Kea as viewed from Mauna Kea (Big Island: Ayres Christ)

Adz Quarry (Kahoolawe: Katie Kamelamela)

Liverworts, et al. (O'ahu: Richard Palmer) http://www.gigapan.org/gigapans/5088/

Uncle Nana's Taro Patch (O`ahu) http://www.gigapan.org/gigapans/6921/

Pihea Trail (Kaua`i) http://www.gigapan.org/gigapans/7225/

5th Floor Hallway

Pihea Bog (Kaua`i)

Department Office

Pihea Trail (Kaua`i) http://www.gigapan.org/gigapans/12948/

Faculty Office

Waimea Canyon as the rain moves in (Kaua'i) http://www.gigapan.org/gigapans/12860/

Classroom

O`hia on the Saddle Road (Big Island, Ayres Christ)