

GEOG. 360:Environmental Geography
Project Proposal
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A.R.T. ARTISTIC RECYCLING TODAY



MEAN GREEN FIGHTING MACHINE

Description & overview of project:

Our campus offers many opportunities for the students to travel across the globe to see all the wonders of the world. Although there is much work done to preserve nature across the globe, there is little done on campus that promotes recycling or energy conservation. Our project focuses on promoting recycling with a twist. Using unique designs to draw attention to the recycle bins, we will increase the probability of recycling. This will encourage students and faculty to recycle. The current bins on campus are unattractive, poorly labeled, and positioned awkwardly. Most recycle bins are short, square, and blue. The result of the current recycle bins is the misplacement of recycled materials in the wrong bin and the misuse of recycle bins as trash! Also since the current recycle bins are short they fill up quickly and are hard to see since they are so low to the ground. This results in people tripping over them or missing them completely when looking to recycle something. We are proposing to use replace the current recycle bins with a more attractive and practical design. Using a previous student's proposal we decided to use recycled materials to produce new eye catching bins for recycling. Using a technique similar to paper mache, we came up with a design to construct a model to test the recycle bin's durability and feasibility to create the bins.



UGLY – Right?



Much prettier

Methods and Results

- **Safety, House Keeping, and Sean Kinghorn**
 - We spoke with the Delaware Fire Department to ensure that using recycled material for recycle bins would not be a safety hazard.
 - We discussed with house keeping the advantages of having more recycle bins that are larger. This is a plus all around because many professors would like to have recycle bins in their office and by having more recycle bins that is a possibility. Also increasing the volume of recycling able to go into the bins, since the bins will be larger is helpful for the house keepers because they will not need to be emptied as often. Also there will be plastic bags in the bins to help out the house keepers when emptying the bins.
 - When discussing this with Sean Kinghorn he was very excited and enthusiastic about having more recycle bins on campus. He seemed very willing to offer funds if necessary for creating the bins. – He would be the person to report back to about how much the new recycle bins are being used. It would also be good to expand the project into the community through his office as a way to give back.
 - ○ Dr. James Krehbiel – do not ask him about this project. He will tell you it is too costly and there is no feasible way to do a project like this. Then he will explain all of the reasons why the project is not feasible.
 - ○ Step two – move on, Kristina Bogdanov was very cooperative and helpful with figuring out how to do this project. We worked with her to design the model for the bin and all the steps it would take to be able to make a model.
 - ○ The material discussed to make the recycle bins will be similar to paper mache. It will only consist of water and pieces of paper blended to shreds. This concoction will be placed on a plaster mold for drying in the desired shape. A thick plaster mold is used because it will suck the water out of the paper and as the paper dries it will fuse together.
 - ○ In order to make the mold you need to cut wood into the shape for one side and the top and bottom of the bin. This wood will be the template for pouring the plaster mold. The plaster will need to be indented to create the shape for the concoction described above. Once molds are made for each side of the recycle bins, they can be reused to create additional recycle bins.
- **Materials (model measurements):**
- **Mold/frame for model:**
 - you need 2 sheets of plywood size 4ft X 8ft, 3/4 thick, grade can be the lowest, cheapest. This you need for making a template for box sides, bottom and top. One sheet would go on using it for templates and the other for using it to make frames for pouring plaster moldboards.
 - You need large scale plaster mold boards, the plaster comes in 50lbs bags, my estimate that you would need 5 plaster boards (so as you can efficiently press 3 sides and two for the bottom and top) so I would say you can calculate the volume by measuring the exact size of the needed plaster board.

- The paper size is $\frac{1}{2}$ size of the current, original bin, add 4" around that size and you have the length and width of the plaster mold board. The depth is $\frac{3}{4} \times 4 = 3$ " but for the consistency, I would say that the depth is also 4". Then you can calculate precisely what is the volume of the board and how much plaster you need from 50lbs bag if you convert lbs into gallons or liters.
 - The price of the plaster is on Columbus Clay Company website and I would buy the cheapest plaster. I think you would probably need 4 - 5 bags.
 - The price of plywood is on HomeDepo or Lowes website and you need to attain at least 3 regular blenders, I think their price runs around \$12 in Walmart.
- **Design**
 - Using form a tall, attractive container to be used for recycling. The other difference that our recycling bins will have is better labeling for what belongs in the recycle bin. We will use visual orientation; this means instead of having to stop and read what recycling goes where you can just see what recycling goes where based on the cut out on the bins. The bins will have cut outs on the lids indicating the recycling. There will be a cut out shape of a plastic bottle to indicate plastics/glass recycle bin and a long rectangle to indicate paper. This will make it easier for people to figure out what belongs in which recycling since the visual of the recycled material will be the shape of the hole to put it in the box. The shape of the new bins will be a triangle but when placed together the paper and plastic separate containers will combine to make a square. They will also be taller, the size of a typical trashcan to prevent tripping and make for easier access when recycling. The convenient square shape will compliment any corner or wall. This makes the recycling bins visually more appealing as well, so more people are likely to want them around, thus increasing the number of people who use them.
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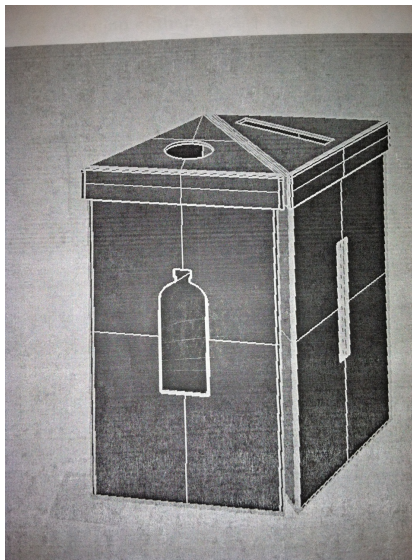
- **Future Recommendations**

- Contact Kristina early on in the semester because she will be very helpful.

The next step is to pull the model together with the instructions and resources listed above. Once the model is made and it has been determined that the material can feasibly be used, it is time to make the recycle bins full scale. This will initially be costly because the molds must be about 3 times as large as the initial ones and creating all the molds will be time consuming. When the full-scale molds are all created the next step is finding a large area to construct the bins and store the molds. Funding will be necessary for the materials to make the full-scale molds and bins. However, once the molds are made, they can be used repeatedly to make more bins.

- The project will most like go through a few more students or independent study seams most likely for a student to be able to have time to make the full scale ones. The project needs a few more steps or project stages of getting through the details before it will reach completion.
- Once that is all in place the making and painting of the bins is the last step before incorporating them to our campus. Once in place on campus it would be good to give back to the community and potentially make recycle bins for the local public schools.

Project design



- **People to collaborate with**
 - Sean Kinghorn- sustainability coordinator
 - Housekeeping in Science Center- to see where we are able to place them
 - Dr. Quick – art department
 - Dr. James Krehbiel – art department chair – Work with him to collaborate to get the large mixer and find funds to buy the mixer. – **not helpful**
 - Work with Kristina Bogdanov to figure out how to make the bins – **very helpful**
 - Art students- who could help with the design and making of the new recycle bins

Appendix – Outline

- **Problem**
 - Recycle bins availability
 - Recycle bin design
 - Recycle bin use
- **Solution**
 - New attractive design
 - New placement
 - Improved labels
- **Material**
 - Paper mache
 - Recycled material
- **Design**
 - Taller, eye-catching, two boxes used as “one”
 - Colors/shape cut outs designate the type of recycling
- **Methods**
 - Mix paper mache
 - Make molds for bin pieces
 - Mold paper mache
 - Glue pieces together
 - Cut out shapes and paint/design
 - Place in plastic bags
- **Evaluation**
 - Check current recycle bin location, use, and public opinion
 - After new bins are integrated, follow up on use and public opinion
 - Use includes using the correct bin for the correct recycling as well as lack of actual trash in the bins
 - Analyze public opinion surveys and compare bin observation before and after
- **Result**
 - See info on model addressed above

This would be a good image to include with the recycle bins as it helps other people to know what they can and cannot put into each of the bins

<h2><u>All Paper</u></h2> <p>Magazines & Catalogs</p>  <p>All paper & Envelopes</p>  <p>Paper bags & Paperboard boxes</p>		
<h2><u>Bottles & Cans</u></h2> <p>Soda cans & Aluminum products</p>  <p>Plastic bottles & Plastic Jugs</p>  <p>Glass bottles</p>		
<h2><u>Trash</u></h2> <p>Styrofoam cups, used paper cups, lids & caps</p>  <p>Take-out food containers, plastic utensils, yogurt containers, & all other non-paper waste</p>  <p>Paper towels, napkins, plastic wrap & bags</p>		

Annotated bibliography

1. Sean Kinghorn - We discussed the expansion of recycle bins with Sean and will continue to collaborate once bins are created for feedback. Also, we will collaborate with Sean to find funding for the bins.
2. Dr. Krehbiel/ Dr. Quick - Collaborate with the art department to buy a huge mixer for the paper mache the recycle bins will be made from. Also, have art department help with funds for mixer since they will inherit the mixer after the bins are made.
3. Kristina Bogdanov – collaborate to make setting for recycle bins and to combine the proper material to make the strongest recycle bins.
4. Art students - Students who are interested in helping with the project and making our campus a better place to live. It could potentially be volunteer/community service hours.
5. Previous Project –New Paper Mache Recycle Bins for OWU by Anh Hoang Vu.
6. Public opinion surveys - Campus surveys that are sent out before and after the project to see what people think.
7. Materials website-http://www.recyclingbin.com/new_product.aspx - Shows different recycle bins made of recycled materials that we could use for ideas.
8. Recycling facts -<http://recyclingfacts.org/> - Fast facts for the campus that we can put up when we put out the bins.
9. Recycling benefits – <http://www.environment-green.com/> - Fast facts for the campus that we can put up when we put out the bins.
10. Campus recycling –http://www.grrn.org/campus/campus_recycling.html - Fast facts for the campus that we can put up when we put out the bins.
11. Paper mache how to - <http://familycrafts.about.com/cs/papermache/ht/PaperMache.htm> - Useful information to compare with the original recipe for us and the art department when making the bins
12. Design ideas – <http://www.recyclingbin.com/Products.aspx?grp=3> - Design ideas for the recycling bins that we are making out of recycled materials.