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Problem, Mission, and Solution Statements

Our mission is to increase recycling by having people repurpose materials that would otherwise be thrown away.

In the status quo, we as a global community produce 1.3 billion tons of waste every year. This waste is sent to landfills and incinerated, polluting both land and sky. Each U.S. citizen contributes 1,600 pounds of waste - nearly a ton - annually. In addition, materials in the US are only recycled at 60-70% efficiency, and this number is lower in other countries. In order to create a truly sustainable world, both these problems must be solved.

In order to solve this problem, we aim to increase recycling by creating an online, social platform where people can:

- 1) showcase groundbreaking projects made from recycled materials
- 2) help others create projects by contributing things you no longer need
- 3) learn how to transform your own stuff into cooler and/or more useful stuff

By recycling objects in this manner, we create near-100% efficient recycling, or delay the recycle or throwaway date of those materials until a time when they can be safely disposed of. In addition, waste which would otherwise be thrown away or incinerated can be recycled.

Tasks

This section discusses three representative tasks we intend to accommodate and design for within both our medium-fidelity prototype and for our final design. The tasks are discussed through stories of potential users.

Task: Submission

Wei Zhang is an artist in Tianjin, who is 24 years old. He has been out of university for 1 year now and is a full-time artist. Unfortunately, he is not very successful. He makes weekend trips to Beijing to sell his art, but he does not have very many sales. It is very hard for him to showcase his shadow sculptures. He has even set up his own website to generate followers, but he only has a handful. Wei Zhang needs a better way to find his market. He makes his shadow sculptures out of recycled materials, which he has no problem finding. His real troubles are with his market - he desires an international market to expand his following.

Task: Donation

Aidan Wise is the owner of a local grocery store in San Francisco. He receives both weekly shipments of food to restock his store with. The food all comes in various cardboard packaging, and though it is used efficiently, there is still a lot of it. All the cardboard from the shipped produce is flattened and taken away by the recycling trucks. However, Aidan does not like not knowing where this cardboard is helping. For all he knows, it could be taken away under the guise of recycling and burnt up. He wants to find a more direct way to recycle all this cardboard.

Task: Learning

Tanya Clark has always been a crafter. Since early on she has loved to make things from any material. Now that she's in college, she's joined several clubs relating to hands-on creation, and is loving it. Last week, she was hit by a car, and she finds herself in the hospital with a in-patient estimate of two months. Between college and her hospital bills, cash is tight, but she still has the urge to create things. She can't just sit idle. The hospital is willing to provide her with recycled materials, but she doesn't know what to make from them, since she has never worked with them before.

Revised Interface Design

In the past week, we have made quite large alterations to our interface design both based off of the feedback we received from study subjects and the mentors/professors. In this next section, we discuss the changes we've made and the rationale behind each change. In addition, we detail the scenarios and storyboards relevant to our project.

One sweeping change we made to the interface was in the theme. The old interface was a design based off of what users were previously comfortable with, and was not unique to any specific website. We wanted to maintain the intuitiveness while making our website more unique. Though we came up with the metaphors of dandelions or atoms, to represent the connection between idea and contributors, we have not found the 'perfect metaphor' yet - both dandelions and atoms have drawbacks. Dandelions have negative connotations in the west, being weeds, and atoms would not be completely accurately portrayed in our design. However, we chose to stick with a circular design for the medium fidelity prototype, and left out the contributors, at least for the time being.

During the study, we observed that users had confusion over the edit buttons when viewing an idea they had submitted. In this prototype, we attempted to make it more intuitive, reducing the edit buttons to just one overarching edit button. Another confusing part of the UI to users was the submission page, which we reworked. Users wanted to see additional details, and also were confused by having three different ways to submit media. We reduced the methods to one submission box which would accept all types of media.

Users also expressed disapproval with some of our design choices. One user who used to work with a newspaper company remarked that the ad at the top of the page was a bad use of space, while another remarked on working the ads in later. For those reasons, we have excluded ads for the time being until we can reach a stable UI without them. We noted a some redundancies in our design. On the idea page, the number of any given material needed appeared twice, which was unnecessary. We also noted that the save (collect) and share buttons were rather obtrusive, for functions which were infrequently used, and scaled them down accordingly.

Task Scenarios

Task: Submission

Wei Zhang is browsing the web one day before heading off to Beijing for the weekend, looking at the art of other artists and trying to find new sites to host his art upon. He finds Arete after a

few searches, and browses the website, scrolling through the top ideas. He really likes the design of the site, and it becomes clear that his work would be very welcome here. Wei makes a submission showcasing some of his art and then heads to Beijing. On Sunday evening, before he heads back to Tianjin, a man approaches him asking to buy his the work he submitted to Arete. Wei doesn't make the connection immediately, but finds his work had exploded over the weekend, and finds his submission on the front page, with global attention.

Task: Donate

Aidan finds out about our website when he sees a sculpture of a huge stereo system, constructed fully of electronic parts and asks about it. Aidan found that it was a municipal effort to promote recycling through the website Arete. He goes to the website by downloading the mobile app while on the walk home. He is promptly notified that there is an artist trying to create a kinetic sculpture out of only cardboard and string. The artist says she needs several hundred sheets of cardboard for the structure. He clicks on the notification to find her address and proceeds to create an account. On the idea's page, he clicks the donate button, and finds that he has enough cardboard to fulfill the artist's needs. He meets with the artist the next day, and she goes with him to his grocery store where she graciously accepts his cardboard.

Task: Learn

Tanya Clark found herself with a mental block. Though she had tons of materials around her, she couldn't think of anything fun or exciting to make. She had been messing around on her phone all day when she found the mobile app for Arete. After downloading it, she intended to browse some large projects, but a few notifications popped up, informing her of things she could make with the objects around her. She picked the first one which looked interesting - a small toy motorcycle - opened the how to, and got to work.

Prototype Overview

Before getting into the overview of the interface, we will hold a discussion about the tools we for the prototype. We used Adobe Photoshop to design user interfaces of the website, Adobe Illustrator to design icons and the logo, and Justinmind Prototyper to create the prototype. Photoshop was very good for putting the website design together. However, it was also complex, and required a large time investiture. In addition, the crop tool did not produce truly curved corners, but rather ragged curves. Illustrator was a very good tool, especially for the vector drawings for logos, making it a good fit for our needs. Justinmind had all the basic tools and functionality we needed in order to create the site in a very simple and intuitive manner, but also wasn't sophisticated enough to add complex functionality. That was fine though since we didn't plan on adding those more admittedly aesthetic portions until later, as well as the small details which Justinmind also didn't allow us to add easily.

The portions of the website included in the prototype reflect this. The website design also reflects the combination of art and recycling in a lightweight, intuitive, yet unique design. We designed ten pages to cover these three tasks. These pages span the main page, idea pages, and personal pages, each of which is described below.

The main page (figure 1) shows several bubbles floating across the screen. The bubbles are stretched out in a timeline, indicating when the projects those bubbles contain need to be completed. Bubbles which are related to each other by location, material, or idea, are connected by lines. The top-right corner holds several buttons for search (magnifying glass), idea submission (plus), private messaging (envelope), and a link to one's profile (picture), or a button to register/log-in if no user has logged in yet. These buttons are present on every page. Each idea can be clicked on, and hosts its own page. (figure 3) The idea page hosts the media used to showcase the idea in the center, and shows an array of contributors encircling it. Other information contained on this page are text descriptions, donations required, project deadlines, and comments. Users can browse other ideas by returning to the main page or by scrolling left or right, and can donate to ideas from this page.

Should a user decide to donate, a window pops up on the screen (figure 4). Users fill out a form asking what sort of materials they would like to donate, and in what quantities, before being returned to the idea screen (figure 5). They will be added to the contributors list at the top, and be given relevant information such as shipping addresses.

Users have their own personal pages (figure 8) which classify their activities, and show them in a timeline in similar fashion to the landing page. Bubbles are colored based on whether they are ideas the user has submitted, donated to, or simply voted on. Users can also send messages to other users on their personal page (figure 7). The search page (figure 6) also follows the same timeline design as the main page.

Finally, for users submitting new ideas, a submission page will appear when the submit button is clicked. The form (figure 9) will contain various information needed to submit the idea or project, and will bring the user to their idea page once the form is complete (figure 10). Once on the page, users can edit their ideas to add or remove content, adjust descriptions and material amounts, or post updates.

We left a few functions and pages out of our design due to the priorities we made in our work. We left out the login and registration page popups since they are both relatively easy to create and not a significant part unto themselves. We have also left out various animations and aesthetic/thematic elements because the cost was not worth the benefit, especially since it could push our design to the over-polished or over-complete side.

One significant function we left out was search, due to having actual content or database to query for said content. This technique will need Wizard of Oz techniques applied in order to function, so someone will have to be on hand to provide the correct search page. One other way we could have applied this would have been to make a default search landing page with static content.

We avoided hand-coding any features for this prototype as the main features which we would

want to handcode are either fairly complex, very aesthetic, or both. We stuck with the basic functionality needed to support our chosen tasks. The content was all static due to not having a database.

Prototype images



Figure 1 Main Page



Figure 2 Main Page - Searching

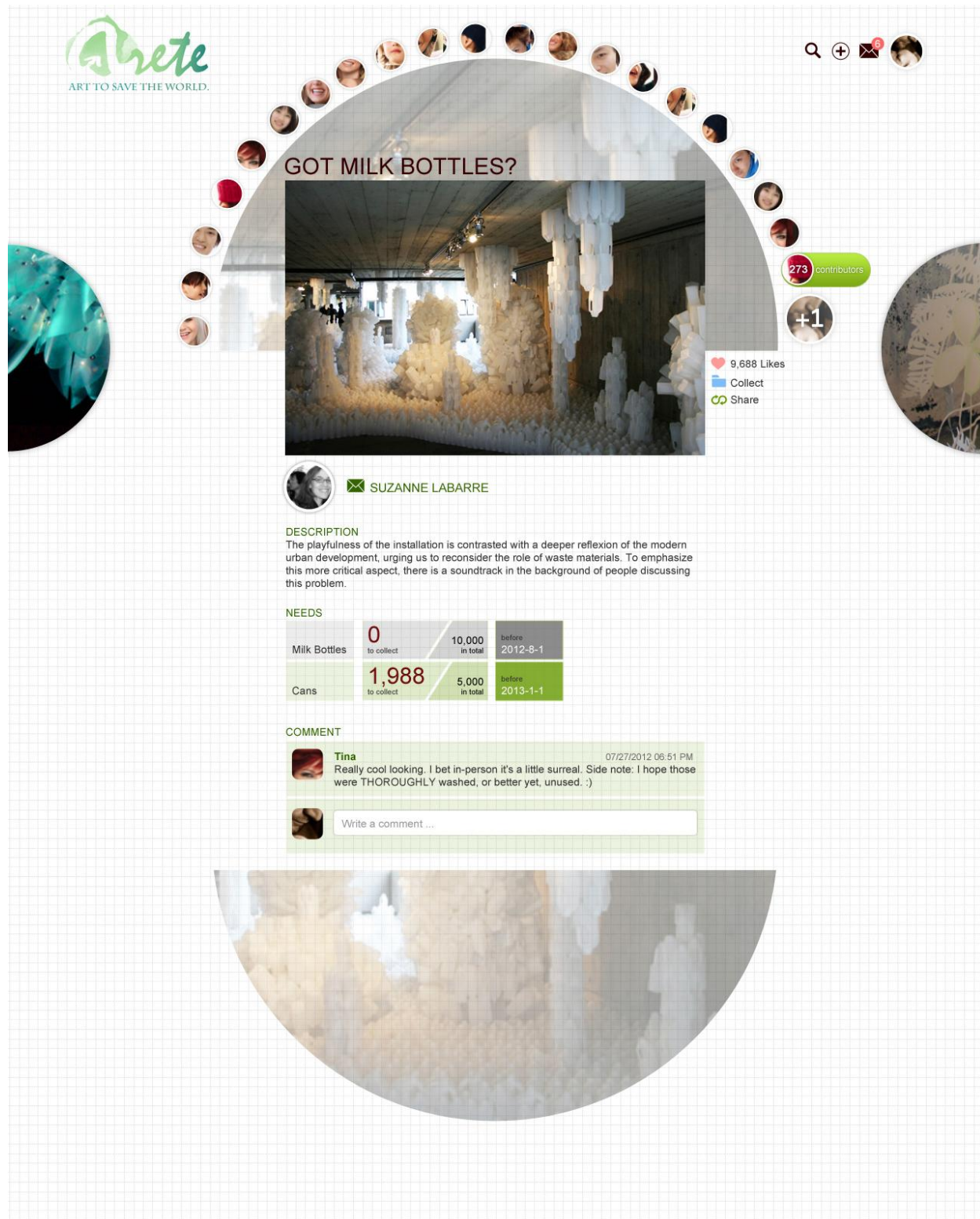


Figure 3 Idea Page

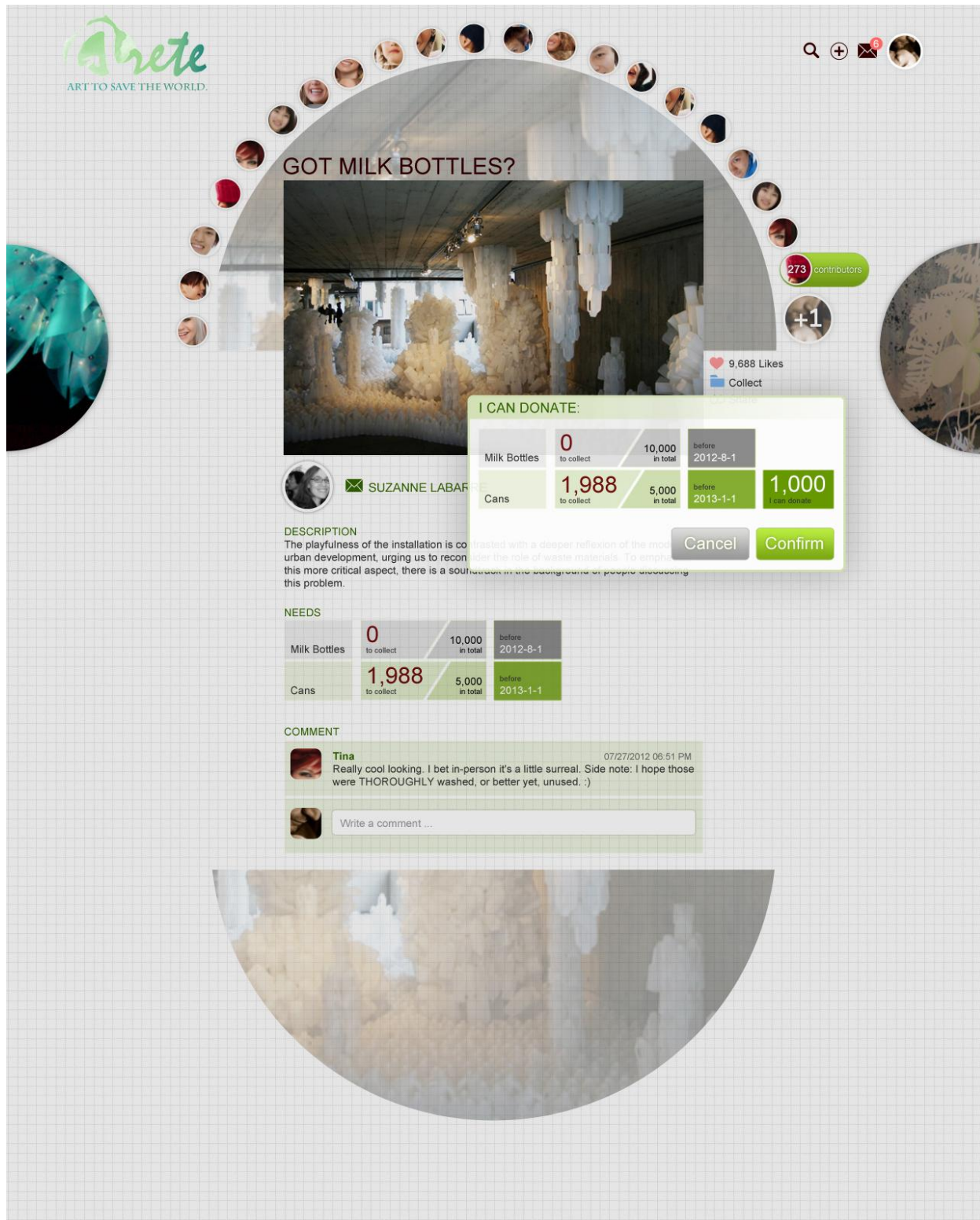


Figure 4 Idea Page - Donation

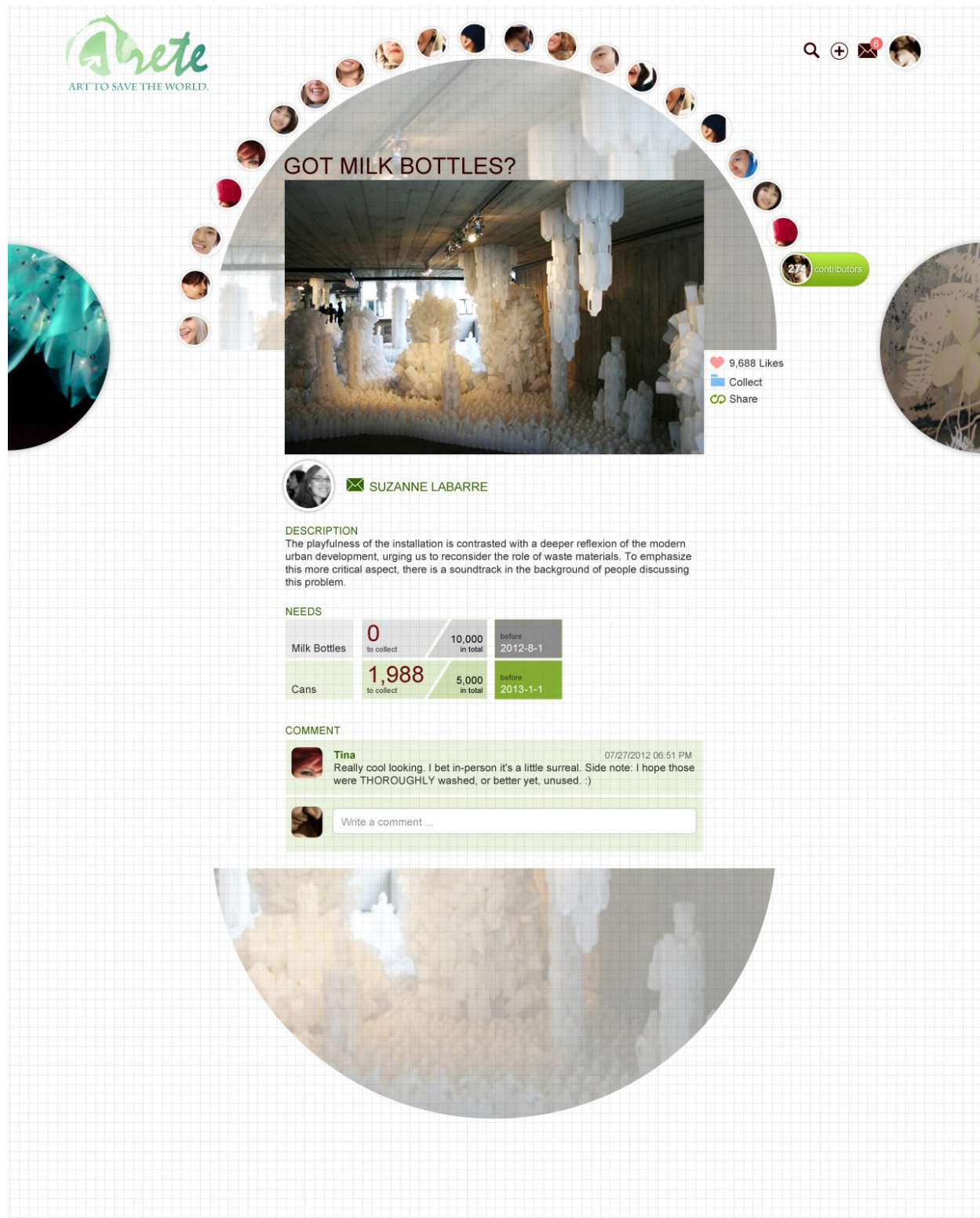


Figure 5 Idea Page - Donation Finished



Figure 6. Search result



Figure 7. Personal Message

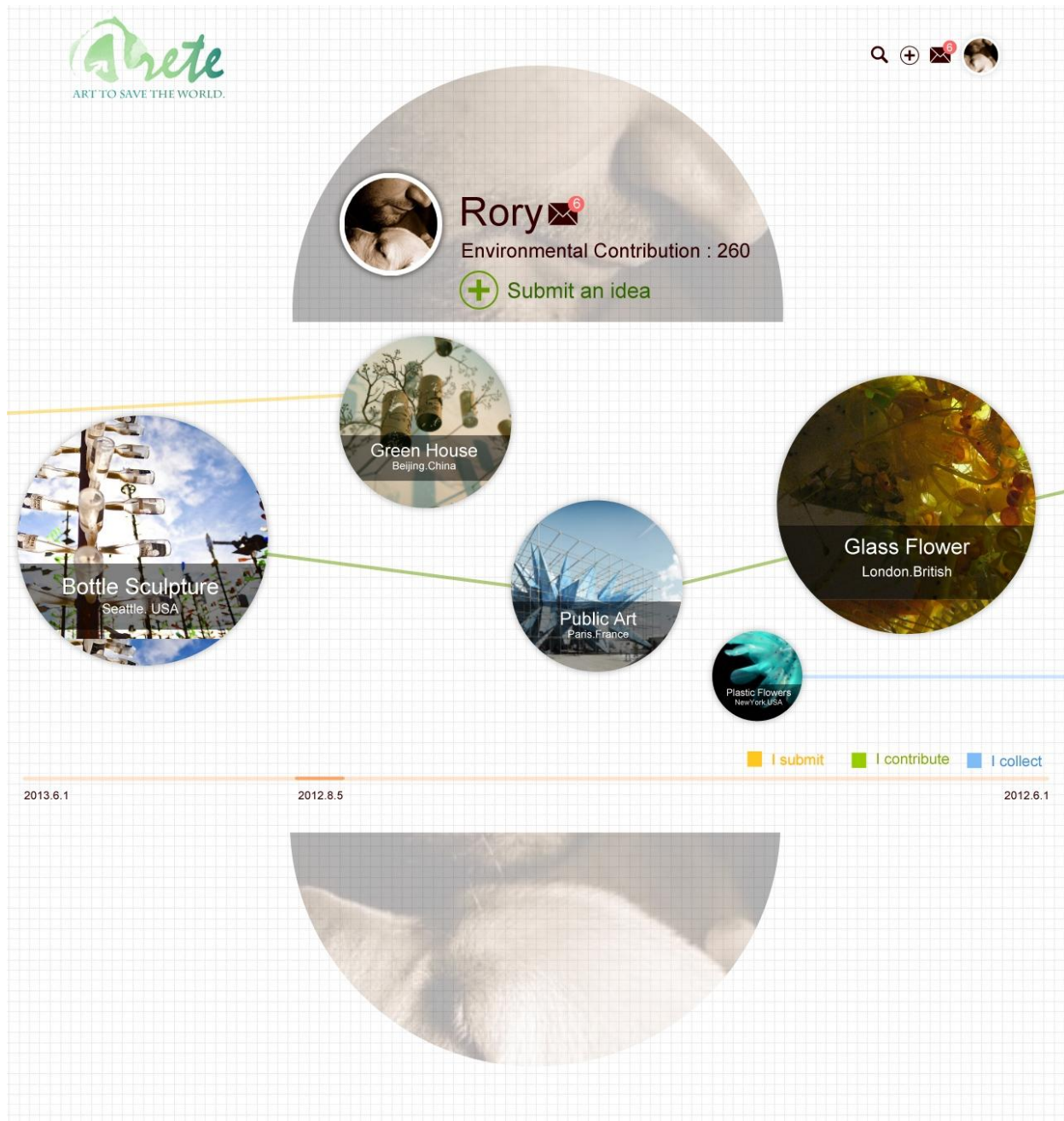


Figure 8. Personal Page





TITLE

DESCRIPTION

+ Picture / Video / Audio
drag files in it

LOCATION

& &

NEEDS

Confirm

Figure 9. Submit an Idea

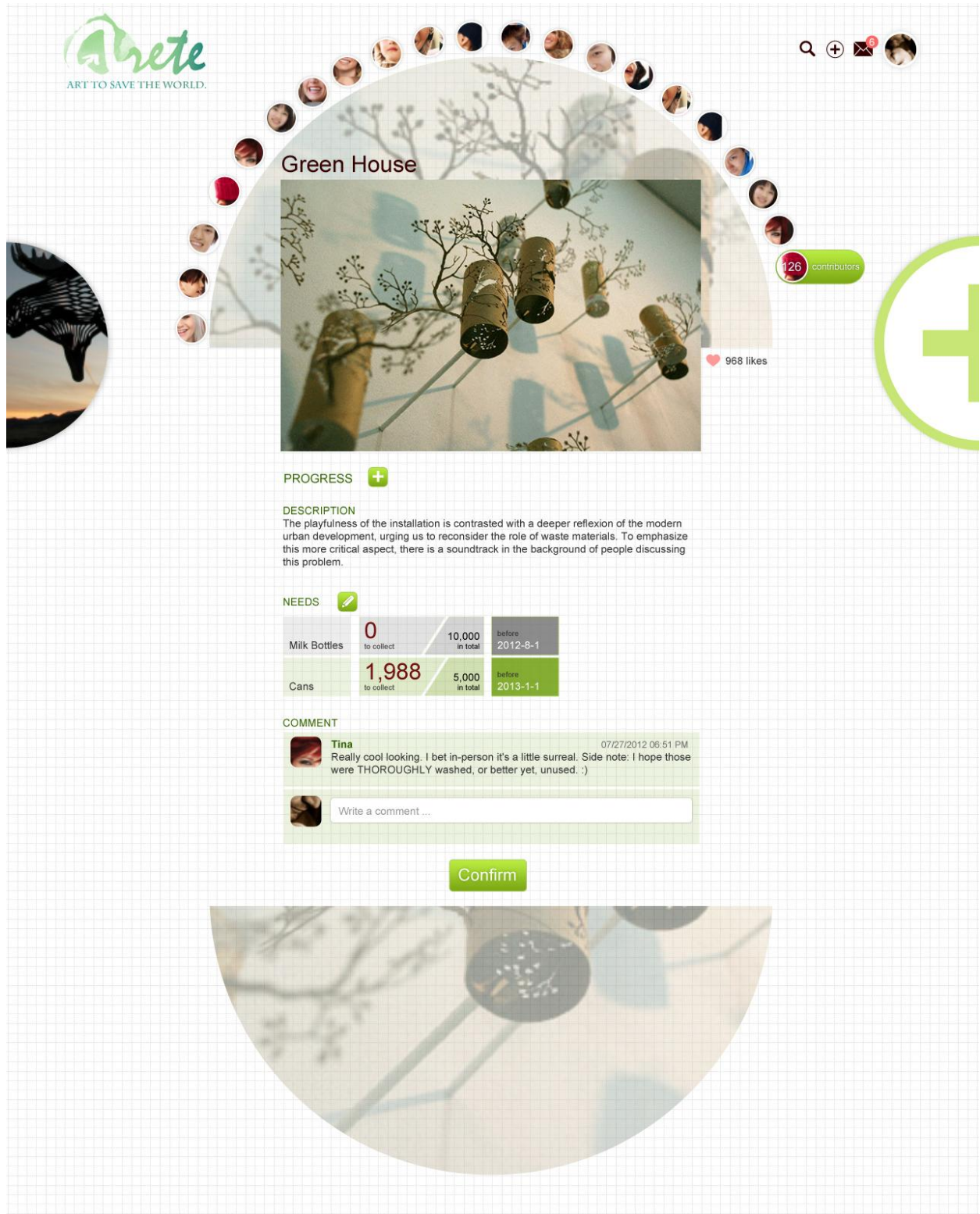


Figure 10. Editing Ideas