Prototype Proposals: *southwood nature preserve*

University of Minnesota
DES 3131: User Experience in Design
December 16th, 2013

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This project was supported by the Resilient Communities Project (RCP), a program at the University of Minnesota that convenes the wide-ranging expertise of U of M faculty and students to address strategic local projects that advance community resilience and sustainability. RCP is a program of the Center for Urban and Regional Affairs (CURA) and the Institute on the Environment.

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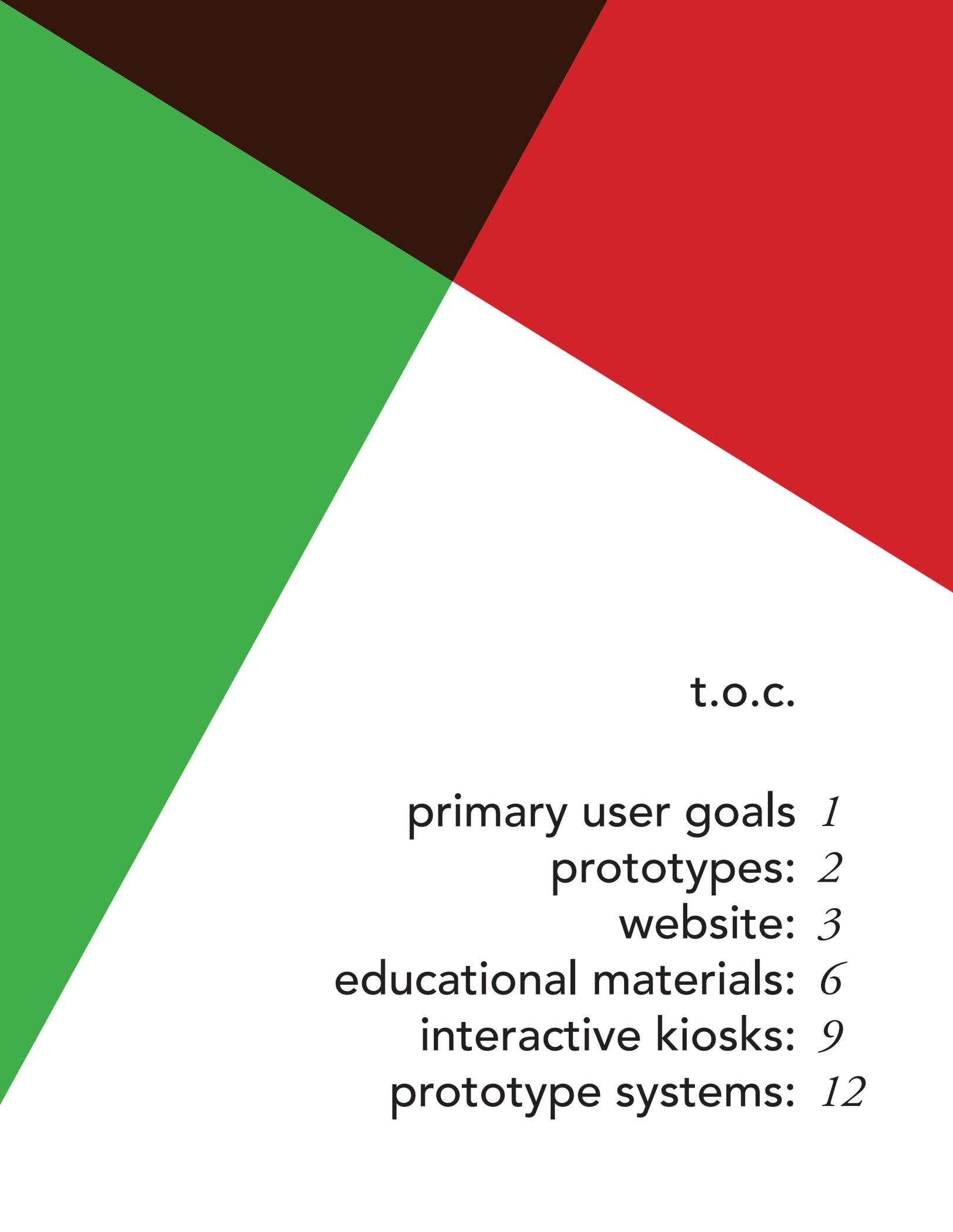
Primary User Goals:

- To get children involved in educational activities both in and out of school
- To encourage kids to learn about the conservation of the environment at a young age
- To create a communal space that reflects positively on the city of North St. Paul's community ideals

Prototypes

Prototype: *website*

A dedicated website for Southwood Nature Preserve that provides visitors with information on the history, biology, and location of the preserve.

Why?

- For the public to have easy access to information on Southwood Nature Preserve
- The Internet, based on feedback, is the most common way to find community information in North St. Paul
- The preserve is lacking readily available information

Details

The Southwood website would be found easily in a Google search, and you can also be redirected to the site if you look up Southwood on the city's website. The content of the website would include visitor information about:

- Southwood's address, a phone number, and an email contact for inquiries/comments
- The history of the preserve
- An outline of the preserve's intent, with a focus on education
- Information about rules, guidelines, and hours of the preserve
- Amenities and accessibility information
- A summary of Southwood's features, including the native plants, animals, and invasive species
- A map of the preserve, with exits and entry points clearly labeled for the user to understand
- Community events, clubs, and other group programs held at the preserve, also additional activities to do in North St. Paul (for out of town visitors)
- Information for those interested in volunteering at the preserve
- News and a blog about the native and invasive species of Southwood (maintained by master naturalists)

Some of the "clickable" features of the website would include:

- A navigational Google map tool, so that users can find out the directions to Southwood from their house, school, or work
- A share button, where users can click to share Southwood events on their Facebook timelines
- An add to calendar button, where users can add events to their calendar application on their computer
- A "Join our mailing list" feature for those interested in additional Southwood updates and materials
- Buttons to find and "like" Southwood on social media, such as Facebook

The highlight of the website would be education. Users can have access to:

- Downloadable materials for parents and teachers, such as a Southwood scavenger hunt, a brochure about the preserve, and a monthly calendar of events
- Posters/handouts about the plants and wildlife found in Southwood and Minnesota

This website can be maintained by a collaboration of Parks and Recreations or community planning members to update the calendar, Master Naturalists, to refresh the information on the native species, as well as the physical features of the Preserve, teachers, who can update the educational materials, and other volunteers.

An example of an exisiting nature preserve website.
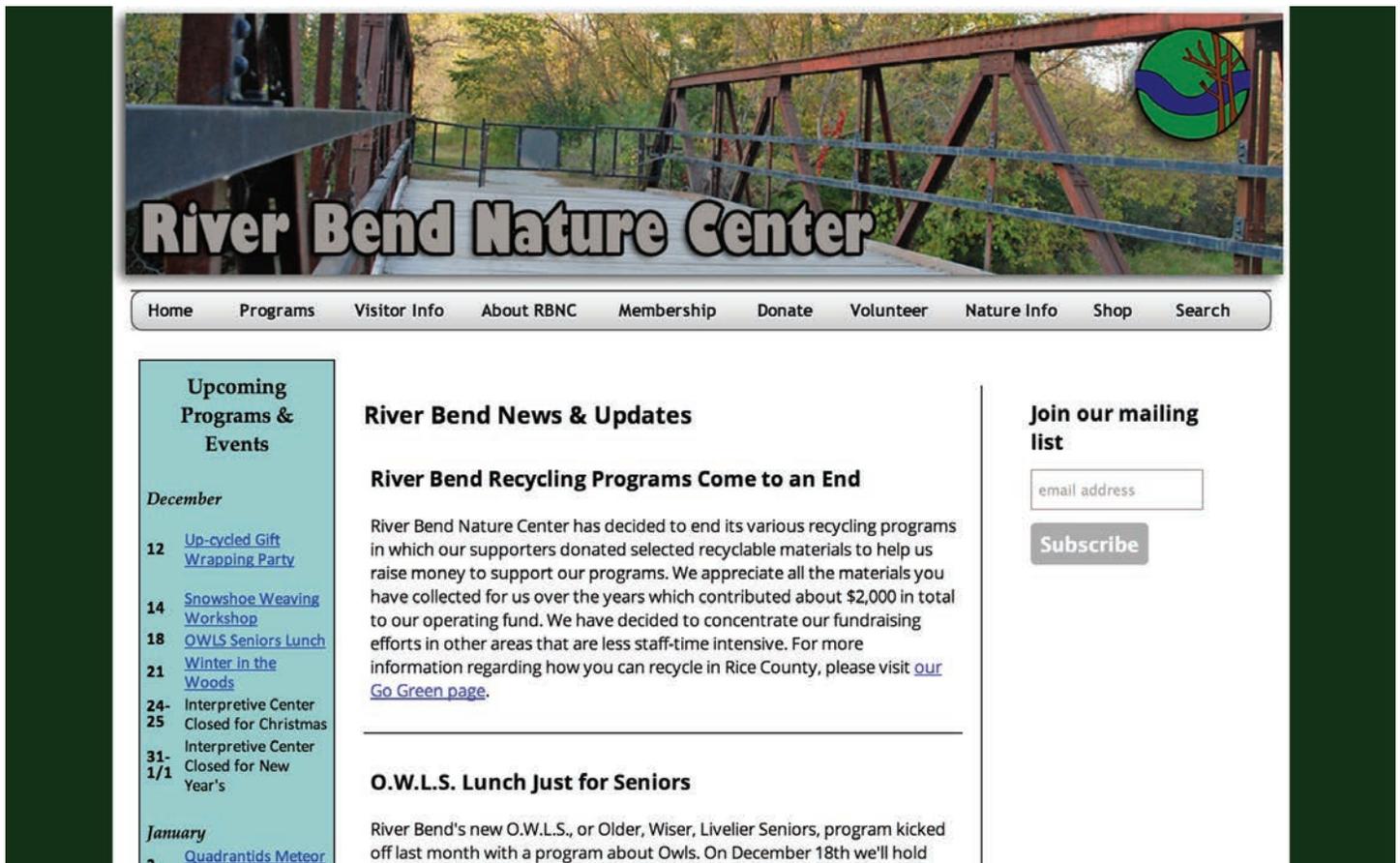
Prototype: *educational materials*

A science curriculum implemented in the school system of North St. Paul that incorporates Southwood.

Why?

- To get children out of the classroom to learn about the local eco-system in that system itself, creating a more engaging, rewarding learning experience
- Southwood provides the city of North St. Paul with a preserved natural space that actively encourages such education, thus it should be used to its full potential

Details

Incorporating the natural local environment into the school curriculum has the potential to be very beneficial for the children, the city, and the school itself. Southwood provides North St. Paul with a natural oasis within the greater Twin Cities, allowing those in the area to catch a glimpse of what the land was like before urbanization. This could be a powerful tool to teach children about the local environment and promote sustainable practices.

There are two possible options to generate the educational materials that would allow this to happen:

Option 1: Teachers in the surrounding communities can gather together once a year to brainstorm and collaborate on different subjects within science to create lesson plans. These lesson plans can be tailored to fit different age groups within middle and elementary school, and are about the Southwood Nature Preserve. These lesson plan conferences can generate kits that will be sent out to teachers, so that they can teach the topics laid out in the lesson plans. These topics relate directly to Southwood, and would strongly encourage the teachers to visit the preserve to engage the children and to apply what they have learned to a physical space.

Option 2: Go through one of the many services or websites that create lesson plans for free use, and with the help of educators, make it applicable to Minnesota and Southwood. Once those lesson plans are edited according to the location of Southwood, they can be sent out to the local teachers in the lesson plan kit.

An example of an existing nature-based worksheet.

From Just One Tree...

Draw some of the food chains supported by this tree by following these steps:
1) Draw a line from one kind of food on the tree to one animal in the first row that eats it.
2) Find an animal in the second row that might eat the animal you chose from the first row. Then draw an arrow from the animal in the first row to the one you chose in the second row.
3) Now draw a line from from the animal in the second row to one in the third row who eats it, if there is one.
4) Repeat these steps, until you have drawn a food chain from all six types of food on the tree. Use a different color for each food chain. One food chain has been done for you.

seeds

tender buds

leaves

flower nectar

bark

roots

caterpillar

cardinal

spider

white-tail deer

wood-boring beetle

butterfly

beetle grub

ROW 1

lizard

snake

hawk

mole

woodpecker

Florida panther

ROW 2

ROW 3

gray fox
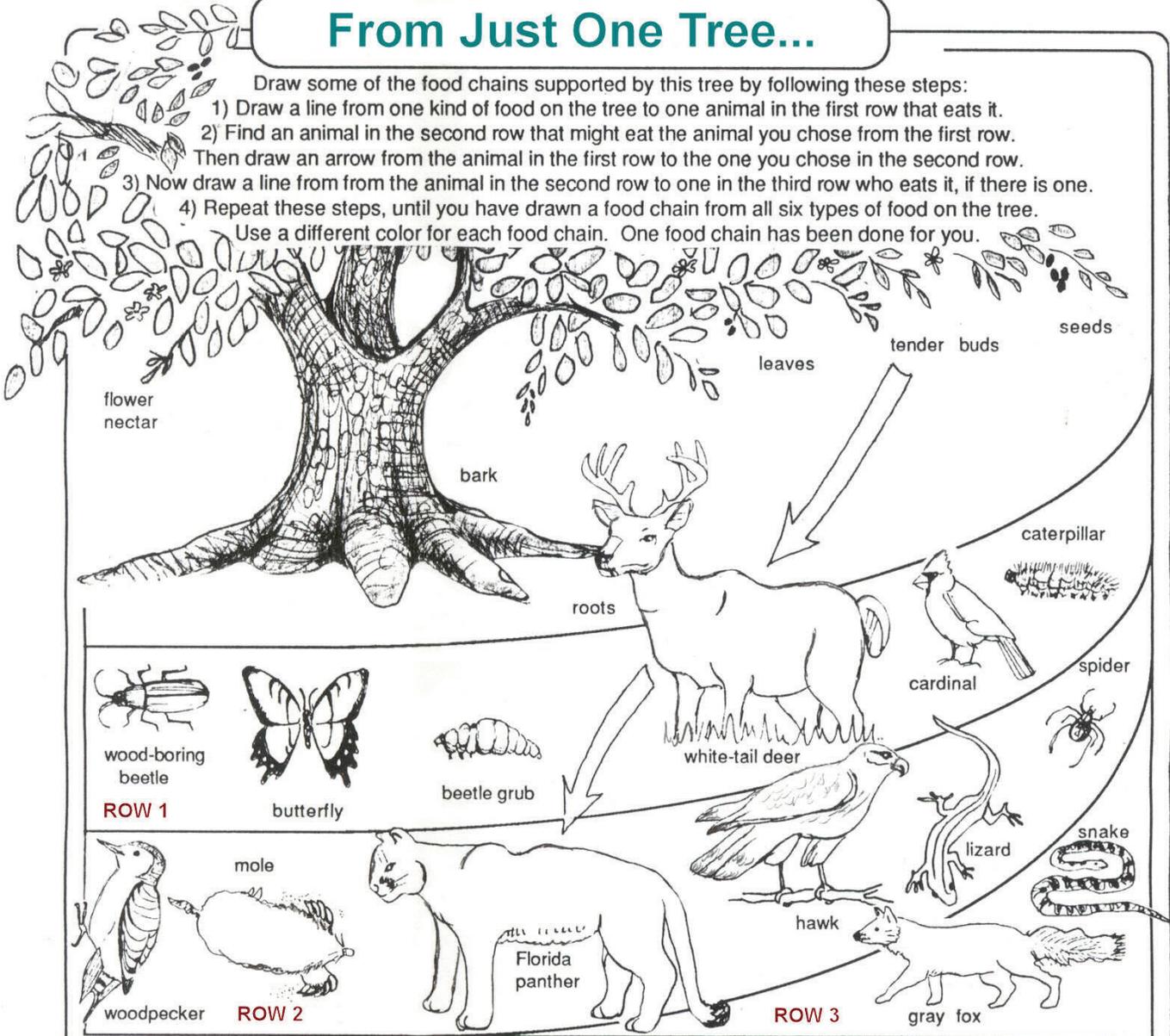
Now write out your food chains here:

Write the names of the animals in your food chains in the blanks below,
starting with the animal you chose from the first row, then the one from the second row,
and finally the one from the third row (leave it blank if you didn't use one.)

Sun --> tree (leaf buds) --> deer --> Florida panther
Sun --> tree (flowers) --> _____ --> _____ --> _____
Sun --> tree (bark) --> _____ --> _____ --> _____
Sun --> tree (leaves) --> _____ --> _____ --> _____
Sun --> tree (roots) --> _____ --> _____ --> _____
Sun --> tree (seeds) --> _____ --> _____ --> _____

Did you notice that you must always start with the sun, and next comes a producer?

Prototype: *interactive kiosks*

Interactive kiosks placed throughout Southwood to better engage the children and promote education in a fun way.

Why?

- To present educational materials in a fun, engaging way
- People are more inclined to remember information if it is presented to them in an untraditional manner
- Add another appealing element to Southwood with minimal effort, space, and cost

Details

Interactive kiosks are a fun, unique way to present educational information about the environment they are located in. Having kiosks like these at Southwood would allow children to better engage with the material that is being presented to them, because they are experiencing it in an untraditional manner, which results in a better memory of such information.

These kiosks would be similar to interactive exhibits that are located at the Science Museum or the Minnesota Zoo. The basic premise is that the user has to perform some type of physical action to receive information. This includes but is not limited to:

- Pulling levers
- Twisting dials
- Sliding doors
- Pushing buttons
- Matching up pieces

The information would be alterable, meaning that the master-naturalists could put in material that is relevant to the current season. This is also something that the local boy-scouts may be able to construct, lowering costs and furthering community involvement and awareness at Southwood.

An example of an existing interactive kiosk.

Prototype Systems

System: *website, educational materials, interactive kiosks*

Interactive Kiosks

Lesson Plan

Website
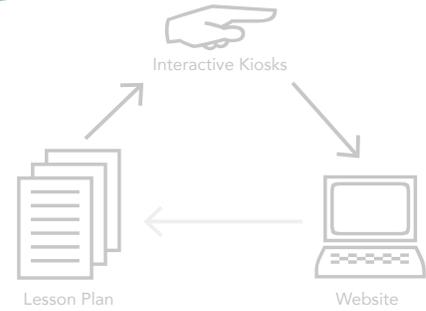
Before

The 4th grade students in North St. Paul begin their new science unit on Trees in Minnesota. Their teacher introduced this new unit based on the educational materials she received in a packet a few weeks ago, when all the grade school teachers in the district received a lesson kit in the mail for ecology, biology, and sustainability. The lesson kit incorporates Southwood Nature Preserve into an information-rich lesson plan. The teachers can use this kit to supplement their teachings, and it has a guide of info about Southwood for hands on learning. The teacher engages the class in a lesson about trees based on the educational materials, and prepares her students for a field trip to the Southwood Nature Preserve.

During

When the students arrive at the Nature Preserve, they are eager to learn in an environment outside of their classroom. As their teacher goes through the paths, the students come across interactive kiosks on the trails. These kiosks feature different physical functions, like pulling a level or cranking a wheel, and reveal educational information about the Preserve when this function is performed. The interactive kiosks found in the preserve will additionally link the educational material about native species, nature, and sustainability. The children are much more engaged because of the interactive kiosks presenting the information in an fun way.

After

After the children go home, they tell their parents about their trip to Southwood. Their parents are interested in the Nature Preserve because their child had such a great time at the Preserve, and the parent does a quick Google search. The Southwood Nature Preserve Website comes up on the first page, and the parent is intrigued by the information. The parent notices that a whole section is dedicated to education, and sees the downloadable worksheets and scavenger hunts that can be done for different ages of children. With Southwood's focus on educating the youth of North St. Paul and the surrounding communities, an entire page on the Southwood Website will be dedicated to educational materials. These materials will flow into the science education curriculum that will be implemented in the North St. Paul school district based on the educational materials the teachers received. The parent then prints out a worksheet for their younger child, and then easily finds the directions to Southwood on the Website so that they can go this weekend with their whole family.

System: *website, interactive kiosks*
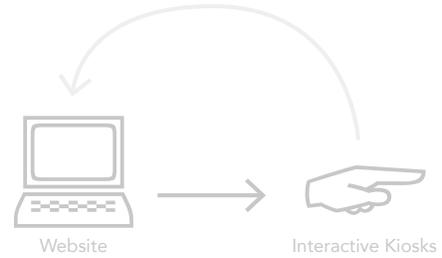
Before

A woman who has just moved to North St. Paul with her young family is looking for fun and educational things to do in her community on the weekends. She goes online and looks at the city of North St. Paul website. She sees that there is a section about the parks and preserves, so she looks to find that the Southwood Nature Preserve is in her neighborhood. She sees that there is also a link to another website on the page, and that takes her to the Southwood Nature Preserve Website. She looks around the website and finds helpful information like the hours, guidelines, and maps, and she decides that this would be a great place to take her children. She really appreciates that Southwood puts a large emphasis on education, which is valuable to her family and children.

During

As the family enters Southwood, the children immediately spot a bright colored and fun looking interactive kiosk. They play with the handles and sliding doors and the mother is surprised to see that these kiosks are educational. The children learn about the native plants and animals that live inside of Southwood, and are also introduced to concepts like sustainability and conservation. As the family goes further along the trail, they find another interactive kiosk that their children can play with. The children have a great time, and the parents leave happy knowing that their trip was fun and educational.

After

When the family comes home, the father visits the Southwood Website to see what else it has to offer. He finds a calendar of events and is intrigued by the different clubs and groups that meet in the Preserve. He signs up for a bird-watching group and then emails the link to the Southwood Website to his friend so he can sign up too. The parents make it a habit to check the Southwood Website to see if there are any new club meetings or educational materials posted each month.