"Night & Day"

ComEd WEB DASHBOARD and

MOBILE APPLICATION Proposal

Website Prototype Screenshot

[dashboard_mockup.png]

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INTRODUCTION:

As a computer scientist, I admire solar energy for its technological elegance: a sleek, photovoltaic panel funneling daylight into electrical power, no messy intermediaries or bulky moving parts required. The sun does all the heavy lifting out in space, smashing helium atoms together and launching photons through the cold, dark expanses of our Solar System. As a designer, it was clear to me that this big, warm star should be the centerpiece of ComEd's solar energy dashboard.

ABSTRACT:

"Night & Day" creates a visually-inviting, spacious platform for ComEd's solar customers to monitor and interact with their solar energy systems. The prototype's code (which can be found in the "htdocs" folder of this submission) is dynamic and flexible, utilizing the latest features of HTML5, CSS, and jQuery, with plenty of room for server-side MySQL/PHP development.

Aesthetically, the sun remains the project's central element. Three interactive objects (a *house*, *tree*, and *power-plant*) make-up the primary UI, and when one of the objects is selected, relevant text-based content is displayed in the middle-aligned content box. A subtle toggle switch sits atop the content box, allowing users to switch between the "night" and "day" interfaces.
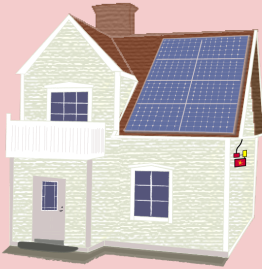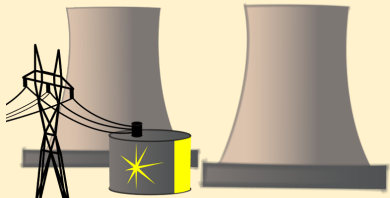
Each of the three interactive objects produces distinct content when clicked, depending on the selected interface. For example, clicking the house object while "day" is selected would display daylight energy-generating statistics from the user's solar panel system, while switching to the "night" interface would change the display to typical energy-consuming statistics of the user's home after the sun has set.

Every visual element—from the background, to the interactive objects, to the toggle switch—was designed from scratch using Adobe Illustrator/Photoshop. Images and Adobe files can be found under the "mockups" folder. So far, only the day interface has been designed, and only the desktop dashboard has been prototyped. A mobile mockup has also been included, but its prototype will require more time to complete.

INTERACTIVE OBJECTS:

To facilitate a more intuitive user experience, three clickable objects organize all of the dashboard's content. The *White Oak Tree* object represents the environmental benefits of using solar power. It also happens to be the state tree of Illinois. The *House* object represents the user's solar panel system. It's default design is a rooftop panel, but this could be made customizable. Finally, the *ComEd Power-Plant* object represents the traditional power grid, as well as the user's relationship to his/her power provider, ComEd.

When the user hovers over an object, the object is outlined with a yellow highlight. To select an object, the user must click. Depending on which object is selected, the content box displays the relevant data, statistics, preferences, etc. in a scrollable format. Some of the content would be user-generated (e.g. information about the user's house), while other content would be calculated and/or measured by ComEd.

Selecting the *House* object...	Selecting the *Tree* object...	Selecting the *Power-Plant* object...
[house.png]	[oak.png]	[comEd.png]
Would display the following content...	Would display the following content...	Would display the following content...
(day)	(day)	(day)
1. Current Power Generation/Consumption	1. Carbon Footprint Reduction	1. Power Exported to Grid
2. Average Power Generation (e.g. daily, weekly, monthly, etc.)	2. Power-Producing Goals	2. Credits Earned
3. Solar Panel Info (e.g.	(night)	3. Dollar Amount Saved (e.g. daily, weekly, monthly, etc.)

size, capabilities, technical specifications, etc.)	1. Carbon Footprint	(night)
4. Daytime Efficiency Recommendations	2. Power-Saving Goals	1. Power Consumed from Grid
(night)		2. Credits Spent
1. Current Power Consumption		3. System Upgrades
2. Average Power Consumption		
3. House Info (e.g. square footage, geographic location, appliances, etc.)		
4. Nighttime Efficiency Recommendations		

POTENTIAL FOR ANIMATION:

Since all the visual elements are vector-based Illustrator graphics, they are infinitely resizeable and easily animatable. jQuery has a wide array of animation capabilities. Here are just a few potential applications:

- Animate sun/moon/sky during transitions between night and day
- Animate tree growth when certain goals are met
- Animate objects when they are selected

USER PROFILES:

When a user first accesses the dashboard, a semi-transparent window pops up asking for their login credentials. User profiles/information are stored in SQL databases, and then accessed via PHP queries.

Website visitors have the option to bypass the login screen, thus interacting with the dashboard without a profile. A visitor can use the dashboard like any standard solar

panel calculator, but is only able to save their work and view live statistics after creating a profile.

MOBILE:

      A separate mobile application is not necessary, as jQuery listeners convert the dashboard to a mobile-friendly interface if a smartphone viewport is detected. The background image changes and the objects are repositioned. Instead of one wide interface, the user swipes between three interfaces, one for each of the three objects. Each of the three selected interfaces has a content box that has been repositioned at the bottom of the screen. As content is added to these boxes, the user could scroll through the box until all the content has been exhausted. The mockups below are still rough, but they demonstrate a couple of the notable changes.

Mobile Mockups

[mobile_mockup.png]

Thank you for your consideration. Should my proposal be accepted, I look forward to developing this project further.

Sincerely,
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