Green Neighbor Project

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Document Objectives

The purpose of this document is to provide detailed documentation about the Green Neighbor Project's web app. It should include such details as:

1. All features described, how the app works.
2. Technology stack used (Frameworks, Libraries), including any 3rd party APIs/web services.
3. Milestones and rough schedule.
4. Assumptions made during the scoping process.

   Purple will indicate stretch goals.
   Red will indicate items that need correction or updates.
   Cyan will indicate user facing pages
   Gold will indicate admin facing pages

Application Overview

The Green Neighbor Project web application aims to seamlessly connect residents with existing green energy programs that may be available to them through an established energy provider. Users will be able to input their zip code and select their energy company, before being presented with various information about programs which are available to them, as well as links to the relevant sign up or waitlist form.
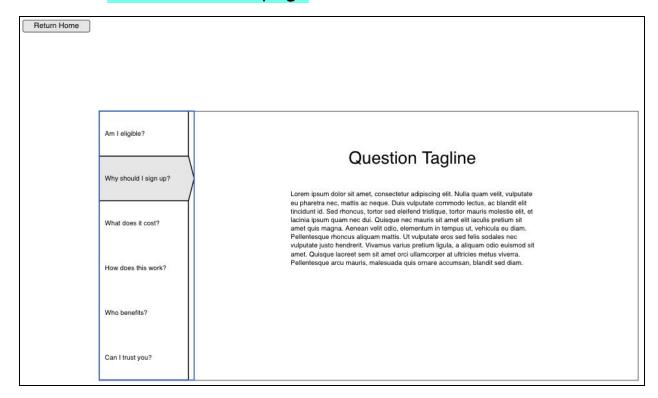
Application Features

1: Introduction Page

The primary use of the **Introduction Page** will be for users to plug in their zip code for the area of residence they would like to learn more about regarding green energy availability. The user will be prompted to enter their zip code. Submitting it will take the user to the **Utility / Program Page**. Below that are options to "learn more" which takes the user to the **About Us / FAQ**. Clicking "help us" takes the user to the **Contribute** page.

1.2: About Us / FAQ page

From the **About Us/FAQ** page, users will be presented with a box, containing a simple header (generally indicating the question being asked) and a text body (generally containing an answer to said header). To the left, a row of vertical tabs will indicate all the different questions which may be asked, which, when clicked, will bring up the appropriate question/answer in the main box. A back button in the upper left will bring users back to the **Intro** page.

2: Utility / Program Page

Return Home

Showing results for
Saint Paul, MN 55104
We found 2 companies and 3 energy programs

Help!
I don't see my utility company!
There are no programs!

Company 1

| Program Title | ✳ 80% ★ 20% | **Rating: Best** | Sign Up |

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla quam velit, vulputate eu pharetra nec, mattis ac neque. Duis vulputate commodo lectus, ac blandit elit tincidunt id. Sed rhoncus, tortor sed eleifend tristique, tortor mauris molestie elit, et lacinia ipsum quam nec dui. Quisque nec mauris sit amet elit iaculis pretium sit amet quis magna. Aenean velit odio, elementum in tempus ut, vehicula eu diam. Pellentesque rhoncus aliquam mattis. Ut vulputate eros sed felis sodales nec vulputate justo

More Details ▼

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Company 2

| Program Title | ✳ 80% ★ 20% | **Rating: Best** | Sign Up |

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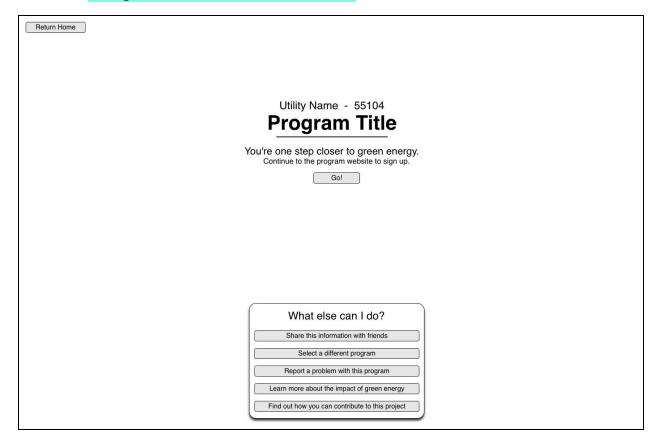
.

On the **Utility/Programs** page, users will be presented a column of utility companies ordered by number of customers that are in our database along with green energy programs they offer. Programs will indicate their name, energy source composition, and quality rank. By clicking on the caret marked "more details", a tab with more information will slide out from below to display cost information, credit options, REC/REC status, termination fees, % energy transition options, etc (full details will be included on the **Program Details/Instructions** page).

When a company has multiple programs, those programs will be stacked within that utility company's section below each other ordered by rating. (Best rating at top, worst at bottom.) Cards displaying programs will be stacked underneath the company name.

On the right of the header, there will be buttons which allow users to flag that they do not see their utility or a program which they know exists in their area. This will take the users to the matching **Report Errors** page. Finally, a home button in the upper left will take users back to the **Intro** screen.
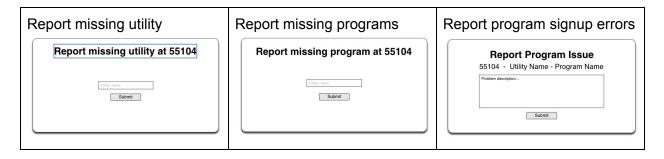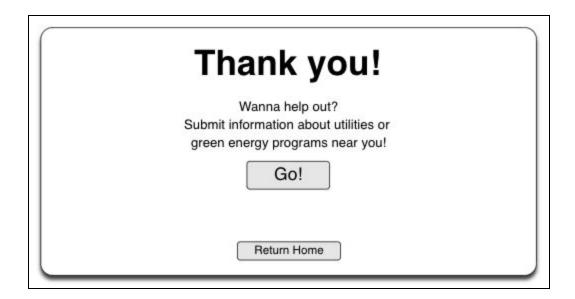
3: Program Details/Instructions

Return Home

Utility Name - 55104
Program Title

You're one step closer to green energy.
Continue to the program website to sign up.

Go!

What else can I do?

Share this information with friends

Select a different program

Report a problem with this program

Learn more about the impact of green energy

Find out how you can contribute to this project

From the **Program Details/Instructions** page, users will be presented with the basic information about the program and a "Go" button that takes the user to the website of that program to sign up for it. Below that will be a list of other options users can take:

- **Share information** - A pop-up that gives links to share the project on facebook and twitter
- **Select different program** - Returns to the **Utility / Program Page**
- **Report a Problem** - Takes the user to **Report Errors** to report a signup error
- **Learn More** - Takes the user to the **FAQ Page**
- **Contribute** - Takes the user to the **Contribute Page**

4: Report Errors

Report missing utility	Report missing programs	Report program signup errors
Report missing utility at 55104 [Utility name] [Submit]	**Report missing program at 55104** [Utility name] [Submit]	**Report Program Issue** 55104 - Utility Name - Program Name [Problem description...] [Submit]

From the **Report Errors** pages, the user will be able to input missing information about a particular service in their Zip Code. The three possible services to flag for errors are for utilities, programs, and program sign up details. Submissions from these forms will be sent to the admin to resolve.

Thank you!

Wanna help out?
Submit information about utilities or
green energy programs near you!

[Go!]

[Return Home]

Upon submission, the user will be presented with a thank you page that gives them an option to return to the **Introduction Page** or to "Go!" to the **Contribute Information** page.

5: <mark>Contribute Information</mark>

What can you help out with?

Submit missing utility	Submit missing green energy program

The landing of the **Contribute Information** section gives the user the option to choose between contributing information about missing utility companies or a missing energy program. Doing so will navigate the user to the **Contribution Submission Form** for the option they selected.
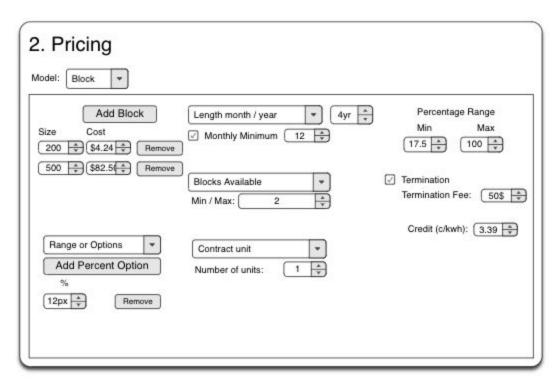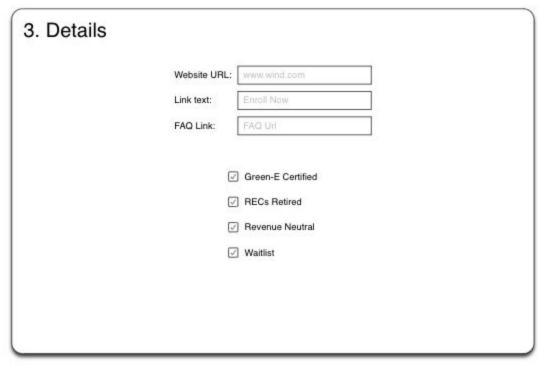
5.1: <mark>Contribution Submission Form</mark>

The **Contribution Submission Form** uses a stepper to walk the user through the process of submitting utility companies or programs in those companies. At the top of the page is a visualizer that displays where in the process the user is. Below that is a header that says what action is being taken and what type of item is being worked on.

Below the form is a button that takes them to the next step. On the final step the "next" button will become a "submit" button that will send the information to the admin for review.

On the first page, users can submit the energy sources for a program by adding new sources and entering the percentage of that source. The structure of the energy source will be visualized by a colored bar.

2. Pricing

Model: Block ▾

Add Block

| Size | Cost | | Length month / year ▾ | 4yr | Percentage Range |
| | | | | | Min   Max |

200 ⇕ $4.24 ⇕ Remove

500 ⇕ $82.5(⇕ Remove

☑ Monthly Minimum 12 ⇕

Percentage Range
Min   Max
17.5 ⇕   100 ⇕

Blocks Available ▾

Min / Max: 2 ⇕

☑ Termination

Termination Fee: 50$ ⇕

Credit (c/kwh): 3.39 ⇕

Range or Options ▾

Add Percent Option

%

12px ⇕   Remove

Contract unit ▾

Number of units: 1 ⇕

On the second page, users can submit the costs associated with the program. This includes being able to select whether it is a block or per kwh model and then entering information about sizes, costs, fees, and contract terms.

3. Details

Website URL: www.wind.com

Link text: Enroll Now

FAQ Link: FAQ Url

☑ Green-E Certified

☑ RECs Retired
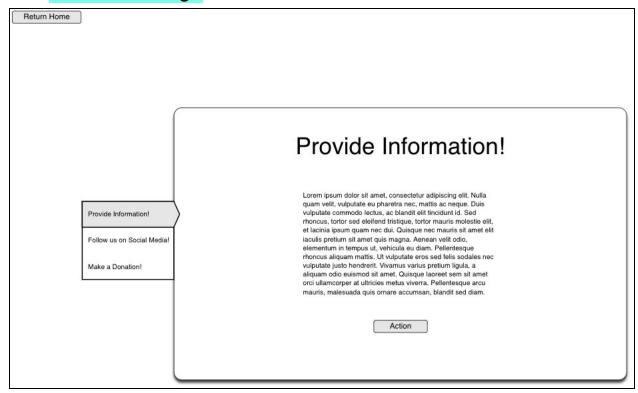
☑ Revenue Neutral

☑ Waitlist

On the third page, users can fill in the final details about a program, including a link to their website, and the text used to navigate to that link. It will also include a text field to enter the url to that program's FAQ page. There will be a list of checkboxes that allows the user to flag

certain qualities of a program. This will include Green-e certification, RECs retired, whether the program is revenue neutral, and whether there is a waitlist for the program or not.
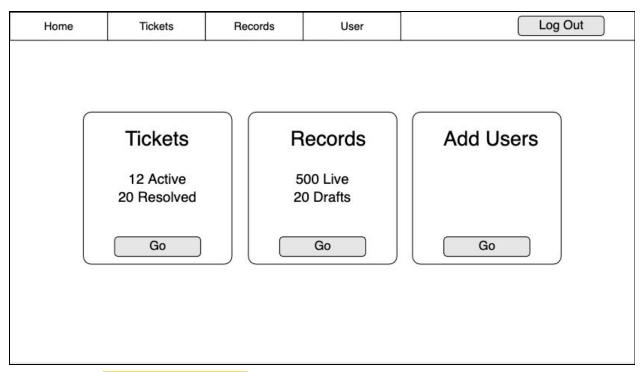
Note: If the user attempts to navigate away from this page with the nav bar, they will be presented with an alert to confirm that they do not want to keep the changes made to the form.

5.2: Contribute Page

   The Contribute page lists out ways the user can help out on the left in a menu. Clicking any menu option will render that option in the center, giving a brief description and presenting an action button that takes the user to a page that lets them complete that action. (Example: on in Provide Information, the action button will take the user to the **Contribute Information** page.)

7.1: <mark>Admin Access: Landing</mark>

| Home | Tickets | Records | User | | Log Out |

Tickets

12 Active
20 Resolved

Go

Records

500 Live
20 Drafts

Go

Add Users

Go

On the **Admin Landing page**, the admin will be presented with three cards of the different admin pages. Each of the cards will display the name of the page and stats about each page.The first card, on the left, will link to the **Ticketing page.** Under the card title the current number of Active and Resolved tickets will be displayed. The middle card will link to the **Records Management page.** Under the card title for Records, the current number of Live and Drafted records will be displayed. The third card, on the right, will link to the **User Management page.** Each card will have a **GO** button to take the admin to the corresponding page. At the top of the page there will be a navigation bar which will move the admin to their desired page.

7.2: Admin Access: Tickets

Home	Tickets	Records	User		Log Out

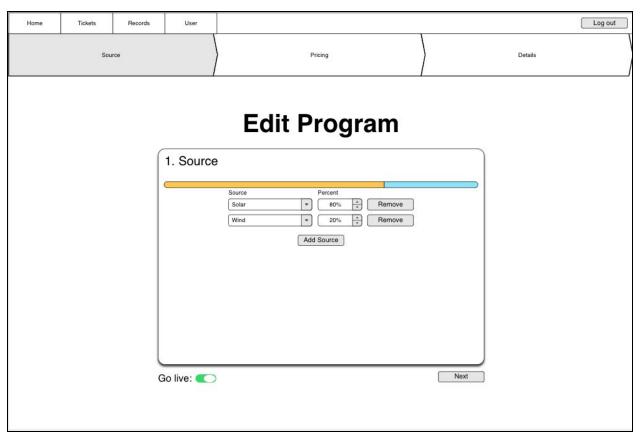|		☑ Zip	☑ Utility	☑ Program	☑ Show Resolved	
Q Zip Code	[yellow]	Zip	Utility	Program	☑ Resolved	Comment
Q Utility	[green]	Zip	Utility	Program	☑ Resolved	Comment
Q Program	[blue]	Zip	Utility	Program	☑ Resolved	Comment
Search	[yellow]	Zip	Utility	Program	☑ Resolved	Comment
	[blue]	Zip	Utility	Program	☑ Resolved	Comment
	[green]	Zip	Utility	Program	☑ Resolved	Comment
	[green]	Zip	Utility	Program	☑ Resolved	Comment
	☐ From Zip	☐ From Utility	☐ From Program			

On the **Tickets page**, a logged in admin is able to view a list of all open tickets that were flagged by users during the user facing process of searching for information regarding available Utilities, Companies, and any relevant Sign-Up information pertaining to the previous two steps. On the side of the list* there will be filter options to organize the list. *Example: An admin may sort open tickets based on their assigned Utility, Company, zip-code, etc.* The tickets will be color-coded by **where in the process** the ticket was initially submitted. Utility step, Program step, Sign-Up step. Each flagged ticket will have a section regarding: Color code, zip code, utility, program, a conditional comment pop-up for additional info if provided by the user. *(This pop up will appear and will have a close pop-up button.)* The ticket will finally have a switch/ toggle button to set it to 'resolved', followed by a confirmation pop-up as well. This will remove the ticket from the 'Active tab' and move it to the 'Resolved' tab. A navigation bar at the top will move an admin to their desired page, will include at least a logout button and a home button.

7.3: <mark>Admin Access: Records Management</mark>

Home	Tickets	Records	User		Log Out

☑ Show Drafts ☑ Show Active   [Add New]

Q Zip Code

Q Utility

Q Program

[Search]

Name	Zip	State	# Programs		
Lorem	555	MN	3	View	Edit
Lorem	555	MN	3	View	Edit
Lorem	555	MN	3	View	Edit
Lorem	555	MN	3	View	Edit
Lorem	555	MN	3	View	Edit
Lorem	555	MN	3	View	Edit

The **<mark>Records Management</mark>** page allows the admin to view, sort, and navigate to forms for creating and updating records for both utility companies and programs those companies offer. The top of the page includes a button for creating new utilities that will take you to the **<mark>Submission Form</mark>** page. Below that is a form that filters and searches for specific utility companies. Upon search submission, the space below it will be populated with cards that provide the name, zip, and state of a company along with the number of programs they offer. Clicking 'edit' on the company will take you to the **<mark>Submission Form</mark>** for editing. Clicking 'view programs' will display a list of programs offered by that company with options to add, edit, or remove companies. Selecting 'add or edit' will navigate you to the **<mark>Submission Form</mark>** to perform that action.
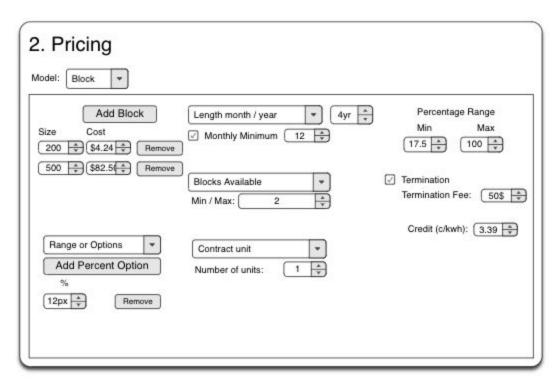
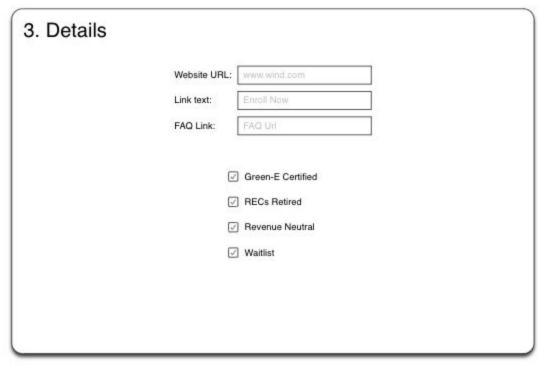## 7.4: <mark>Admin Access: Submission Form</mark>

The **Submission Form** uses a stepper to walk the admin through the process of creating or updating utility companies or programs in those companies. At the top of the page is a visualizer that displays where in the process the admin is. Below that is a header that says what action is being taken and what type of item is being worked on.

Below the form is a button that takes them to the next step and a toggle that sets the item to be "live" or not. *(Live in this context means that it is available for users to view.)* On the final step the "next" button will become a "submit" button that will submit the changes made to existing utilities or will post new utilities.

On the first page, users can submit the energy sources for a program by adding new sources and entering the percentage of that source. The structure of the energy source will be visualized by a colored bar.

2. Pricing

Model: Block [▾]

Add Block

Size	Cost	
200 [↕]	$4.24 [↕]	Remove
500 [↕]	$82.5 [↕]	Remove

Length month / year [▾] 4yr [↕]

☑ Monthly Minimum 12 [↕]

Blocks Available [▾]

Min / Max: 2 [↕]

Range or Options [▾]

Add Percent Option

%

12px [↕] Remove

Contract unit [▾]

Number of units: 1 [↕]

Percentage Range

Min   Max

17.5 [↕]   100 [↕]

☑ Termination

Termination Fee: 50$ [↕]

Credit (c/kwh): 3.39 [↕]

On the second page, users can submit the costs associated with the program. This includes being able to select whether it is a block or per kwh model and then entering information about sizes, costs, fees, and contract terms.

3. Details

Website URL: www.wind.com

Link text: Enroll Now

FAQ Link: FAQ Url

☑ Green-E Certified

☑ RECs Retired

☑ Revenue Neutral

☑ Waitlist

On the third page, users can fill in the final details about a program, including a link to their website, and the text used to navigate to that link. It will also include a text field to enter the url to that program's FAQ page. There will be a list of checkboxes that allows the user to flag

certain qualities of a program. This will include Green-e certification, RECs retired, whether the program is revenue neutral, and whether there is a waitlist for the program or not.

Note: If the user attempts to navigate away from this page with the nav bar, they will be presented with an alert to confirm that they do not want to keep the changes made to the form.

7.5: <mark>Admin Access: User Management</mark>

Home	Tickets	Records	User		Log Out

Add New Admin

Username : `Username`

Password : `Password`

Confirm : `Confirm Password`

[Register]

Current Admins:

Username	Actions
abutts	[Update User Info]
lipsum	[Remove]
lipsum	[Remove]

The **User Management** page allows any admin to create new admin accounts. There will be a form that lets them pick a username, a password, and a space to retype their password to compare it to the first one they typed. Upon submission, if the passwords match, the new user will be added to the database.

Project Milestones and Schedule

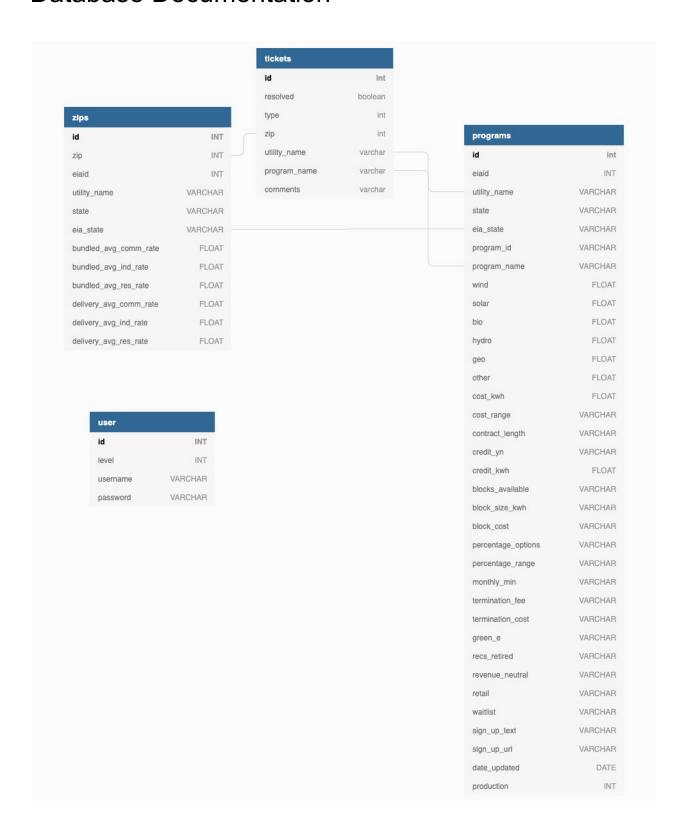| Milestone (Should match a Feature from Above)	Hours Est.	Due Date	Base or Stretch
Wireframe Front End	3	1/29/2020	Base
Layout Database in DB moqs	3	1/29/2020	Base
Transfer Excel sheet data to Postgres	1	1/30/2020	Base
Global element class + global CSS vars	**.5**	**1/30/2020**	**Base**
Button classes			
Container classes			
Global color vars			
Global font vars			
Create Intro page	**2**	**1/31/2020**	**Base**
HTML + CSS layout	.5		
Link to other pages w/ buttons	.5		
Send Zip code to server for query on submit	1		
Create About / FAQ page	**2.5**	**1/31/2020**	**Base**
HTML + CSS layout	1		
Selecting topic populates main section content	1.5		
Create Utility / Program Page	**10.5**	**2/5/2020**	**Base**
HTML + CSS layout	1		
GET utility companies for Zip code	2		
GET programs for utility by EIAID	2		
Display utility companies	1		
Create program card + render to program list	2		
Create Help box + link to help submission	.5		

Set selected program on clicking Sign Up, GET information on program, and navigate to Sign Up page	2		
Create Program Details / Instructions page	**6.5**	**2/6/2020**	**Base**
HTML + CSS layout	1		
Display details about program at top of card	1		
Render custom per-program instructions	2		

Link buttons:
   ● Share
   ● Select different program
   ● Report problem
   ● Learn more
   ● Contribute
	1		

Create complete button pop-up
   ● Share using FB API
   ● Share using Twitter API
   ● Continue navigate back to home
	1.5		

Create Error Reports page	**3.5**	**2/7/2020**	**Base**
Create general layout for all reports (HTML+CSS)	.5		

GET potential information about the error
   ● Zip
   ● Utility Name
   ● Program name
	1		

Render input fields per report type
   ● Missing utility (text)
   ● Missing program (text)
   ● Program issue (text field)
	.5		

On submit, POST report to database	1.5		
Create Thank You page	**1**	**2/7/2020**	**Base**
HTML + CSS layout	.5		
Link to Intro page and Contribute page	.5		
Create Contribute page	**1**	**2/7/2020**	**Base**

HTML + CSS layout	.5		
Clicking on buttons links to matching submission form (utility or energy program)	.5		
Admin - Basic tools	**3**	**2/8/2020**	**Base**
Create login page	1		
Set up authentication	1.5		
Create header / navbar ● HTML + CSS layout ● Link to various routes ● Logout button	.5		
Admin - Landing	**2**	**2/8/2020**	**Base**
GET basic ticket and record data	.5		
Create card layout	.5		
Populate cards with record data + link to pages	1		
Admin - Tickets	**8**	**2/10/2020**	**Base**
GET tickets information into page	.5		
HTML + CSS layout with rendered ticket list	2		
Add filter UI + filters affect displayed tickets	4		
Visualize ticket comments in pop-up	1		
Add ability to mark tickets as resolved	.5		
Admin - Record management	**7**	**2/12/2020**	**Base**
HTML + CSS layout	1.5		
GET all utility programs + program count	.5		
Reuse filter UI from Admin - Tickets	2		
Add filter by drafts / active	.5		
"Add New" takes user to Submission Form for utility companies	.5		
"Edit" takes user to Submission Form for editing	1		

a company			
"View" displays the programs (pop-up) ● List of all programs ● New Program - takes to Submission Form for energy programs ● Delete Program ● Edit Program	1		
Admin - Submission Form	**20**	**2/14/2020**	**Base**
HTML + CSS layout	.5		
Create stepper ● Visualize stepper ● Render different divs depending on step	1.5		
Add "next" button + clicking on stepper to move through the process	.5		
Document what inputs are required and how they will be grouped	1.5		
Create input layout on stepper pages	3		
Connect inputs to state	1		
On submit, bundle inputs in state and POST / PUT to database	2		
(will require versions for both utility companies and programs for all of the highlighted sections)			
Add "go live" toggle	.5		*(only for admin version of form)*
Add user-friendly text about submission for contribution submission	.5		*(only for contribution version of form)*
Hide details submission information until basic information has been submitted	1.5		*(only for contribution version of form)*
Admin - User Management	**2.5**	**2/15/2020**	**Base**
HTML + CSS layout	.5		
Create inputs + connect to state	.5		

GET all admin accounts	.5		
List admin accounts below with option to remove admins	.5		
On submit, POST new user to database	.5		

Database Documentation

tickets

id	int
resolved	boolean
type	int
zip	int
utility_name	varchar
program_name	varchar
comments	varchar

zips

id	INT
zip	INT
eiaid	INT
utility_name	VARCHAR
state	VARCHAR
eia_state	VARCHAR
bundled_avg_comm_rate	FLOAT
bundled_avg_ind_rate	FLOAT
bundled_avg_res_rate	FLOAT
delivery_avg_comm_rate	FLOAT
delivery_avg_ind_rate	FLOAT
delivery_avg_res_rate	FLOAT

programs

id	int
eiaid	INT
utility_name	VARCHAR
state	VARCHAR
eia_state	VARCHAR
program_id	VARCHAR
program_name	VARCHAR
wind	FLOAT
solar	FLOAT
bio	FLOAT
hydro	FLOAT
geo	FLOAT
other	FLOAT
cost_kwh	FLOAT
cost_range	VARCHAR
contract_length	VARCHAR
credit_yn	VARCHAR
credit_kwh	FLOAT
blocks_available	VARCHAR
block_size_kwh	VARCHAR
block_cost	VARCHAR
percentage_options	VARCHAR
percentage_range	VARCHAR
monthly_min	VARCHAR
termination_fee	VARCHAR
termination_cost	VARCHAR
green_e	VARCHAR
recs_retired	VARCHAR
revenue_neutral	VARCHAR
retail	VARCHAR
waitlist	VARCHAR
sign_up_text	VARCHAR
sign_up_url	VARCHAR
date_updated	DATE
production	INT

user

id	INT
level	INT
username	VARCHAR
password	VARCHAR

Browsers

Application will fully support browsers listed below. All browsers or versions not listed below are considered out of scope.

Browser Name	Mobile or Desktop?	Version
Chrome	Desktop	79
FireFox	Desktop	69
Safari	Desktop	13
Edge	Desktop	79

Assumptions

Andy:
- We assume Andy understands that he is in charge of providing a domain name and provide funding to host this website.
- We assume Andy is aware that data analytics include but are not limited to user/ info usage information will be provided by outside services and is usually related to SEO (Search Engine Optimization) and a tool to do so would be Google Analytics.
- We assume Andy will provide, and continue to provide, up to date CSV/ Excel sheets including the data we need to properly present this data to users.

Stretch Goals

- Password and Username recovery for Admins
- 2-Factor Authentication
- Editable hasthags on social-media shares from the admin page

Technologies

- Node

- Express
- React
- Postgresql
- Heroku
- CSS
- HTML5
- Redux
- Sagas
- Reducers
- styled-components
- Material-UI
- Database System*
- Amazon Redshift - Stretch