**“Online Energy Audit and eCommerce Store”**

**Home Energy Checkup Audit & Ecommerce Store Web Application**

**Functional Specifications**

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**5.2 - FINAL**

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| --- | --- |
| Date | Revision History |
| 4/25 | **Spec Revision – additional details from design survey and XLS spreadsheet with questions and report details** |
| 5/10 | **Spec Revision – more details for functionality and design of audit & audit manager along with shopping cart functionality.** |
| 5/5 | **Dale made revisions** |
| 5/17 | **Dale/Andy final inputs** |
| 5/27 | **Spec revised to remove reviews and inventory manager and add capability for unlimited edited questions.** |
| 6/8 | **Climate zone modification 2.4.2** |
|  |  |

**Point of Contact:**

Dale Dennis

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# Overview

This scope document is to define the customer’s needs in a storyboard manner detailing all the fields and data that are to be captured along the way. This document is the foundation that the project management team, designers and developers will use while building out the project. **It’s important that you review this document in its entirety to ensure that it’s written in a way clearly defining what your site will do from start to finish as you navigate through it.**

**PROJECT DESCRIPTION**

**Onlineenergyaudit.com is an online energy audit and store that selects products that maximize utility bill savings via a custom audit based on the customer’s lifestyle and home features/configuration. The audit will help the custom pick bundled packages or they can shop for exactly what they’re looking for via the store.**

**HISTORY**

**Dale and Buffie (wife) built their dream home in 2004. They thought they did everything they could do to make it comfortable and efficient, boy were they wrong. It was uncomfortable and had high bills. No one could afford help so they started this company.**

**General Specifications**

**Main Features**

* **Online Energy Audit**
* **E-commerce store**
* **User account console**
* **Administrator Console**

# Target Audience

**Primary Audience** – People looking to save money and become greener by improving their homes energy efficiency.

**Type**: Public

**Age Group**: 18+

**Goals for this audience:**

* **Find out most useful Home Energy products for users home (via audit process)**
* **Sell Home Energy Products**
* **Educate public on how to make their home more energy efficient.**

# Technical Considerations

This application is a web based ecommerce application that will handle product, tax, shipping, and user information.

# Design Specifications

Site is to be very graphic intensive to “wow” the user. Attention to detail is KEY!

**Inspirational Sites**

* <http://www.apple.com/>
* www.Logogarden.com (like the interface)
* <http://www.hrblock.com/taxes/> (Good interface, simple to understand, keeps track of what is owed at top right corner with graph (we could make this how much they will save), Has tips/guide to right of questions)
* <http://www.energysavvy.com/> - also competitor
* <http://www.amconservationgroup.com/> - also competitor
* http://www.simpleshoes.com/
* <http://www.niagaraconservation.com/> - also competitor
* http://www.kleankanteen.com/
* <http://www.energycircle.com/> - - also competitor

**Website Importance Factors**

* Educate on why this is important…i.e. not just trying to sell…real savings/value….the 1st fruit in energy efficiency. WE SIMPLY MUST EXPLAIN WHY THIS IS SO IMPORTANT
* Fast Loading
* Security

**General Site**

* Efficient, simple, passionate, real yet professional lay out.
* Branded logo
* Social Media – Twitter / Facebook
* Unintimidating
* **CENTER** ALGINMENT
* Cater to people wanting to save real money on bills and environmentalist.
* YouTube Embedding

**Company Branding**

* **Person –** Genie
* **Object –** Wand
* **Animal -** Dog

**Audit**

* Graphical answers where possible.
* Tips - Explanation for each question-for questions we specify
* Animated Graphics - i.e., Temperature sliders-NO, Energy Gauges with moving needles, etc,

**Store**

* Enlarged images in light boxes

**Report**

* An HTML Graphical Report Emailed to Users with score and link back to the site with their saved cart.

**Unique Selling Properties of Website**

1. Custom Energy Saving Kit designed specifically for you and your home
2. Audit must be simple and unintimidating…as simple as possible for customer. Use pictures, minimal clicks, drop downs, short clear text, quick…5 min or less. custom audit broken into 6 sections with next buttons.
3. Savings Guarantee-Highest return/best energy investment for your home
4. All items on website do at least one of the following:
5. Payback in 1 year or less and or
6. Provide a 10X payback over their expected life
7. Provide a 30% efficiency improvement over code/government standards.
8. Convenience-You get lost in Home Depot trying to buy this stuff and some of it they simply do not carry. Here you get convenience and the Home Depot price or better.
9. High Quality Tested name brand products with installation video for each product
10. We are technical experts…i.e. about us…1000s of homes retrofitted, etc.

**User Interface / Process Flow**

USER –

A. The user will be able to go to the website, fill out the audit. The audit will then tell the user what products will benefit them the most. The user can select / deselect products that they wish to buy, and then precede to check out to purchase.

B. Users can also browse the product categories and find products they wish to purchase without taking the audit.

ADMIN -

The admin side will allow an administrator to create new categories, new products, manage users and manage inventory. User will also be able to export customers and sales transaction into a downloadable CSV file that can be imported into QuickBooks.

Competition

[www.energysavvy.com](http://www.energysavvy.com)

[www.ntsupply.com](http://www.ntsupply.com)

[www.niagaraconservation.com](http://www.niagaraconservation.com)

[www.myenergysolution.com/energy-audit/step1](http://www.myenergysolution.com/energy-audit/step1)

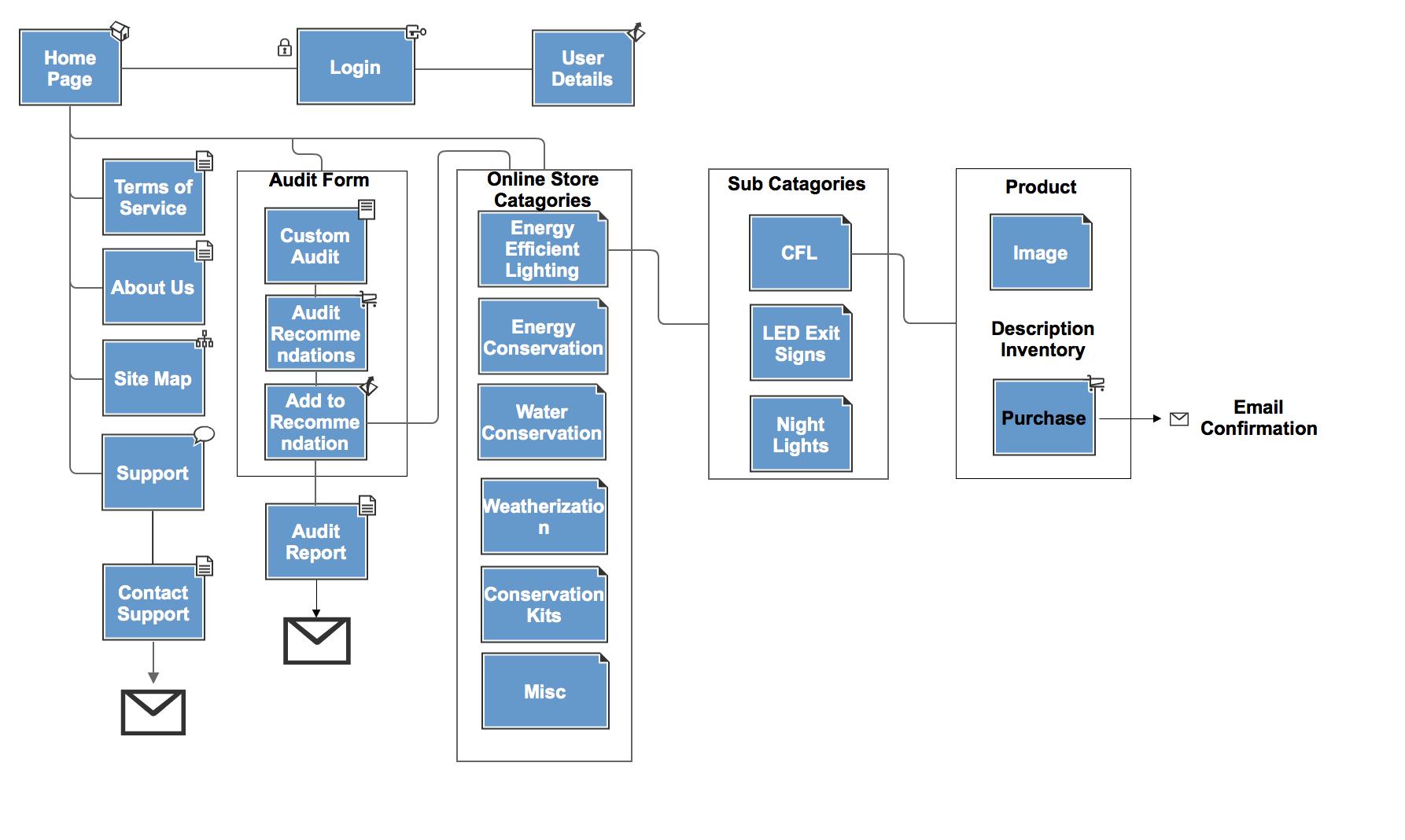
[www.hes.lbo.gov/consumer](http://www.hes.lbo.gov/consumer)

[www.energycircle.com](http://www.energycircle.com)

<http://www.amconservationgroup.com/index.asp>

Please note that none of the sites do what we do…simple audit=custom energy saving kit with guaranteed savings….plus traditional online store to buy energy efficient products for your home.

Site Map

**Specification Requirements**

This is the flow of the application and should be reviewed carefully ensuring that all data/fields needed are noted and are in the

right order.

**Functionality (ecommerce site is secondary to getting people to start the audit)**

1. **Front End Ecommerce Site** - This is a simple, easy to use ecommerce website. With the goal being focused around energy efficiency.
   1. **Categories**
      1. These will be unlimited
   2. **Sub Categories**
      1. These will be unlimited
   3. **Products**
      1. Title
      2. SKU
      3. Image thumbnail w/ enlarge option in lightbox/shadowbox
      4. Description
      5. ~~Product Reviews~~
         1. ~~Overall Star Rating with 0-5.0 rating~~
         2. ~~Read Reviews~~
         3. ~~Write a Review~~
         4. ~~Review Section – Functionality to delete reviews in admin console.~~
            1. ~~Individual User Ratings Section~~

~~User Name~~

~~Location~~

~~Star Rating 1-5~~

~~Description~~

~~Recommend yes/no~~

~~Helpful~~

* + 1. Price
    2. Quantity – empty text field – numerical only
    3. Add To Cart – button
    4. Potential savings – Dollars / Gallons / Emissions
  1. **Cart – this will be on the right side of the product list and will keep a running total of product totals and energy savings as the user shops.**
     1. Quantity
     2. Name
     3. Price
     4. Energy Savings
     5. Total
     6. Checkout - button
  2. **Check Out – This will be the main check out. Users will have the options to check out with out registering or with their accounts.**
     1. **View Cart –** Table format
        1. Quantity
        2. Name
        3. Description
        4. Price
        5. Total
        6. Energy Savings – This will update as the user adds / removes products from their cart
        7. Remove - button
        8. Sub Total (Minus Tax & Shipping)
        9. Proceed To Check Out – button
        10. Continue Shopping - button
        11. Empty Cart - button
     2. **Check Out With Account –** this will pull their details from the user manager.
        1. **Login**
           1. Username – Email Address
           2. Password
     3. **Check Out With Out Account - All fields within are input text fields and required unless otherwise noted.**
        1. First Name
        2. Last Name
        3. Email Address – Invoice will be sent here
        4. Contact Phone Number
        5. **Shipping Address**
           1. Street Name
           2. Unit #
           3. City
           4. State – predefined drop down – if located in same state, charge tax.
           5. Zip Code – numerical only
        6. **Billing Address – Check Same As Shipping**
           1. Street Name
           2. Unit #
           3. City
           4. State – predefined drop down
           5. Zip Code – numerical only
        7. **Credit Card**
           1. Credit Card Number – numerical only
           2. Expiration Date – date format – numerical only
           3. Security Code on back of card – numerical only
     4. **Shipping – By selecting shipping, this will update the price in the sub total. (One shipper integrated)**
        1. Ground – Should show Price and radio button to select
        2. 2nd Day Air – Price – Radio Button to select
        3. Next Day Air – Price – Radio Button to select
     5. **Complete Transaction – button to complete transaction, send to confirmation screen with order# and details of order and send invoice to email.**
     6. **Cancel – Returns to root of shopping cart, but does NOT empty shopping cart.**
  3. **Terms Of Service**
  4. **About Us**
  5. **Support**
     1. **Email Form to Contact**
        1. **Email**
        2. **Subject**
        3. **Body**
        4. **Human Verification – reCaptcha**
        5. **Send**
  6. **Newsletter Signup –** this will sign up people that just want to get updates. This will be integrated into a 3rd party application to be able to send out the updates.

1. **Audit** – This is a **custom audit** form that helps the user select an energy conserving package to purchase through the ecommerce store. The need the ability to add or remove items from this package as well.
   1. **Questions** – Each question will be displayed from the question manager.
      * 1. Questions will have any of the types of answer the Administrator chooses in the question manager.
        2. **Question Tip** – convenient tip to describe the reasoning of the question.
   2. **Questions for Audit – EXACT ORDER OF QUESTIONS WILL COME FROM DALE.**

|  |
| --- |
| **General Questions** |
| 1. Enter zip code |
| 2. Enter approximate amount paid each year/per annual for Heating (Space and Water), Cooling and Electricity. |
| 3. Do you pay demand/time of use electric rates (i.e. different electric rates at different times of the day)? |
| 4. Enter your homes approximate square footage (limit to 10,000) or unsure. Note to user: Include both finished and unfinished basements. |
| Do not include unfinished attics, carports, attached garages, decks and screened porches. |
| 5. Enter Year Built: Drop Down: Before 1975, 1975 to 1993, 1993 or newer |
| 6. # of people-enter number (20 max) |
| 7. # of levels/stories (include basement)-options: 1, 2, 3, 4, 5, 6, |
| 8. What type of foundation do you have? Slab, Basement, Crawlspace (check all that apply) |
|  |
| **Air Sealing and Insulation (Put these questions toward the end of audit. Put easy to answer questions first so they can get momentum i.e. light bulbs or appliances)** |
| 9. How many inches of insulation do you have in your attic? Drop Down 0-10 inches, 10 or more, unsure |
| 10. If #8 was answered basement or crawlspace we would ask follow-up question of how much insulation is on it? Show picture-un-insulated, insulated |
| 11. Does your home feel drafty or warm and cozy-Select picture. |
| 12. Do you have any of the following?: Select pictures: Ceiling penetrations-fans, access, recessed lights, whole house fan, ductwork |
| infrequently traditional fireplace with flue, plumbing, electrical chases, doors, windows, basement penetrations-rim and band, |
|  |
| **Heating and Cooling** |
| 13. Do you have a programmable thermostat? Yes/No/Unsure |
| 14. How is you home heated?: Show pictures of forced air or radiators |
| 15. Do you have air supply registers in your ceiling/next to attic? Yes, No or Unsure-Show picture |
| 16. What is used to heat your home? Select picture: Gas furnace, Heat Pump, Oil, Propane, Electric Baseboard/Resistance/Space, Geothermal, Wood, pellet stove, other combusting fuel, |
| 17. Do you use electric portable space heaters? |
| 18. Do you have central air? |
|  |
| **Lighting** |
| 19. Do you have recessed light fixtures-show picture of one-options: Y or N |
| 20. Do you have candle shaped lights?-show pictures of one-options: Y or N |
| 21. Do you have standard light fixtures-show picture of one-options: Y or N |
|  |
| **Appliances and Electronics** |
| 22. Do you have refrigerators or freezers older than 1993? Yes, No or Unsure |
| 23. How many locations do you have multiple electronics plugged in (example: entertainment center, home office, etc.) |
| 24. Do you have a dehumidifier? Picture Y or N |
| 25. Do you have a pool?-Y or N. If yes-Q: Do you have your pool pump on a timer? |
| 26. Do you have a pond pump or fountain?-Y or N. If yes-Q: Do you have your pond pump or fountain on a timer? |
| 27. Do you have a hot tub?-Y or N. |
|  |
| **Water** |
| 28. How is your water heated? Select picture: Gas tank, electric tank, heat pump, propane tank, oil tank, solar w/gas backup, |
| solar w/electric backup. Select one only. |
| 29. # of half bathrooms-options: 1, 2, 3, 4, 5, 6 |
| 30. # of full bathrooms-options: 1, 2, 3, 4, 5, 6 |

* 1. **Report**
     1. **If use does not input home size or utility bill they can select from**
        1. Inefficient Home
        2. Average Home
        3. Very Efficient Home
     2. **If user inputs home square footage and annual cost in dollars for heating**, cooling and electricity.  Based on their inputs we would put them on the scale.  The scale is in $ per sq foot.
     3. $0 per sq foot=Zero Energy Home (super star)
     4. $0.1 to $0.40 per sq foot=Very Efficient Home
     5. $0.41 to $0.80 per sq foot=Average Home
     6. $0.81 to $1.20 per sq foot=Inefficient Home
     7. $1.21 to Infinite per sq foot=Very Inefficient Home

Example 1:  6000 sq ft home uses $2400 per year for heating, cooling and electric.  Divide 2400/6000=$0.40=Very Efficient Home

Example 2:  1500 sq ft home uses $1200 per year for heating, cooling and electric.  Divide 1200/1500=$0.80=Average Home

Note:  We would not show the dollar amount on the scale...just the verbiage on the gauge.

* 1. **Report** – Report suggest what packages they should buy and shows amount of savings over life of the product.
     1. It will also provide energy savings recommendations based on their answers.
     2. Climate Zone – This will display a pre-populated answer based off their zip code (first question in audit) of 1-5 different climate zones.
  2. **Packages** – Packages will be determined by the customer’s answers during the audit – they will link to the store to purchase.

1. **Emailed Report**
   * 1. Graphical HTML Email sent to user that fills out the audit of their report answers and links back to the shopping cart with their packages available.
        1. Customer Name
        2. Audit Score with correct reading on the Gauge image
        3. Energy Savings
        4. Links to package to buy
           1. **Return to Audit Score –** returns them to the site to see their audit score.
           2. **Edit Packages** – user will have ability to add/remove products to each package.
           3. **Add To Cart** – adds complete package to shopping cart.
2. **User Console** – This is to manage registered user details. This console will not save any credit card information. **These are also the same fields to register an account on the site – all fields are required unless noted.**
   1. First Name
   2. Last Name
   3. Contact Phone Number
   4. Email Address – This will be the user Name to login to the site with
   5. Street – not required
   6. Unit # - not required
   7. City
   8. State – Drop Down
   9. Zip Code
   10. Password
   11. Password Verify
   12. Update Changes – button
3. **Administrator Console** – This is the backend to the store. From here categories, sub categories, products and orders will be managed.
   1. **Audit Manager – This will be a console that allows products to be tied to the answers of questions in various ways. Administrator should be able to select what type of question from below.**
      1. **Question Manager – this will allow the admin to add/delete/edit/order unlimited questions**
         1. ID
         2. Order
         3. Category – these are related to the audit – not 3.2.1
         4. Question
         5. Dollar Amount Saving as in 3.1.2.3
      2. **Questions**
         1. **Question – Text field to type out the question.**
         2. **Category – Add /Delete Categories**
         3. **Question Tip** – Open Text field that allows the administrator to put a description or explanation of the question.
         4. **Energy Savings** – how much the client will save in energy savings in dollar amounts per question. This important as this is the amount figured in the cart and the Audit savings.
         5. **Environmental Impact** – empty text field w/numerical value
            1. **Units**

Gallons

Lbs Co2

* + - 1. **Energy Score** – This number should be on a scale of 1-100 on how it affects the energy score.
      2. **Yes / No Questions**
         1. **Yes –** Adds selected product to package
         2. **No –** Does not add a product
      3. **Quantity (yes) –** Adds that product to package by quantity (Drop Down)
      4. **Multiple Section**
      5. **Multiple Choice - (a,b,c,d) single answer**
      6. **Link to product**
         1. Is quantity of product determined by quantity answer
      7. **Sliding Answer**1-5,5-10 - or any other variant.  How many product options? 2? 5?
         1. Product 1 if answer is 1-5
         2. Product 2 if answer is 5-10
      8. **2 Part Questions –** Example: What type of foundation? Slab / Basement / Crawlspace – What kind of insulation does your crawl space have? (Image answers) Wall Insulation / Ceiling Insulation / Ceiling & Wall Insulation / None. Different 2nd answers for Basement and Slab.
  1. **Store Manager**
     1. **Categories**
        1. Unlimited
        2. Add / Remove – Can not remove if contains sub category
     2. **Sub Categories**
        1. Unlimited
        2. Add / Remove – Can not remove if contains product
     3. **Products** – Table View – Options (Add New / Delete)
        1. Check Box [Select]
        2. Category
        3. Sub Category
        4. SKU
        5. Title
        6. Description
        7. Image
        8. Price
        9. Save – Button
     4. **~~Inventory Manager – this will notify site admin of low product or availability. This will be product setting – not one amount applied globally.~~**
        + 1. ~~When a product gets to 5-Need to be able to change # based on volume, lead time, etc. remaining the site administrator is sent an email notifying of low stock.~~
          2. ~~When a product gets to 0 the “Add to Cart” is replaced with “Out of Stock”~~
     5. **Orders** – Table View
        1. First Name
        2. Last Name
        3. Email
        4. Phone Number
        5. Order #
  2. **User Manager** – Table View
     1. First Name
     2. Last Name
     3. Email Address
     4. Phone Number
     5. Remove – Button to remove members –prompt to ask “if sure”
     6. Export – Exports all users to CSV or PDF
  3. QuickBooks Export
     1. Exports all customer and transaction data via CSV for given time period.

**Conclusion**

This concludes the specification document. If there are additions, comments, questions or concerns, please let us know immediately. **The entire project depends on the accuracy of this specification document.** Please remember that this is the document that all design and development of the software is based on, so please ensure all features and functionalities of the software are included and clearly defined with this document. Any changes may result in additional scope and a change order.