

Team DEC1612
ISU Department of Sustainability
Dr. Samik Basu
Bri Gerads - Project Lead
Daniel Cain - Webmaster
Guan Keng Lim - Communication Leader
<http://dec1612.sd.ece.iastate.edu>

2/19/2016

ISU Green Your Residence

Project Plan

Contents

1 Introduction

1.1 Project statement

1.2 purpose

1.3 Goals

2 Deliverables

3 Design

3.1 Previous work/literature

3.2 Proposed System Block diagram

3.3 Assessment of Proposed methods

3.4 Validation

4 Project Requirements/Specifications

4.1 functional

4.2 Non-functional

5 Challenges

6 Timeline

6.1 First Semester

6.2 Second Semester

7 Conclusions

8 References

9 Appendices

1 Introduction

1.1 PROJECT STATEMENT

The project is a web development application for the ISU Department of Sustainability, specifically for the Green Your Residence Project. This is an online, interactive tool focused on assisting the students to “green” their dorm room/apartment/home.

1.2 purpose

This project helps us all to learn how to “live green”, which means to understand our responsibility in creating a better global environment . It will help us to create a more sustainable campus and community by assisting us in saving energy, saving water, reducing gas emissions, etc. By purchasing sustainable items and adopting green living habits, it will help us to save money .

1.3 GOALS

The goals of the project are to create fun and engaging activities for the DoS’s website, create ways to give users up-to-date information on Green Living, and develop the project in such a way that users will be inclined to return to the website for more information.

- Interactive virtual dorm room builder which allows students to construct living spaces similar to their own
- Allow students to drag-and-drop appliances and electronics
- Interactive surveys/quizzes
- Mouse over the items will show tips on “greening” it
- Saving carts page which shows the impact on changes

2 Deliverables

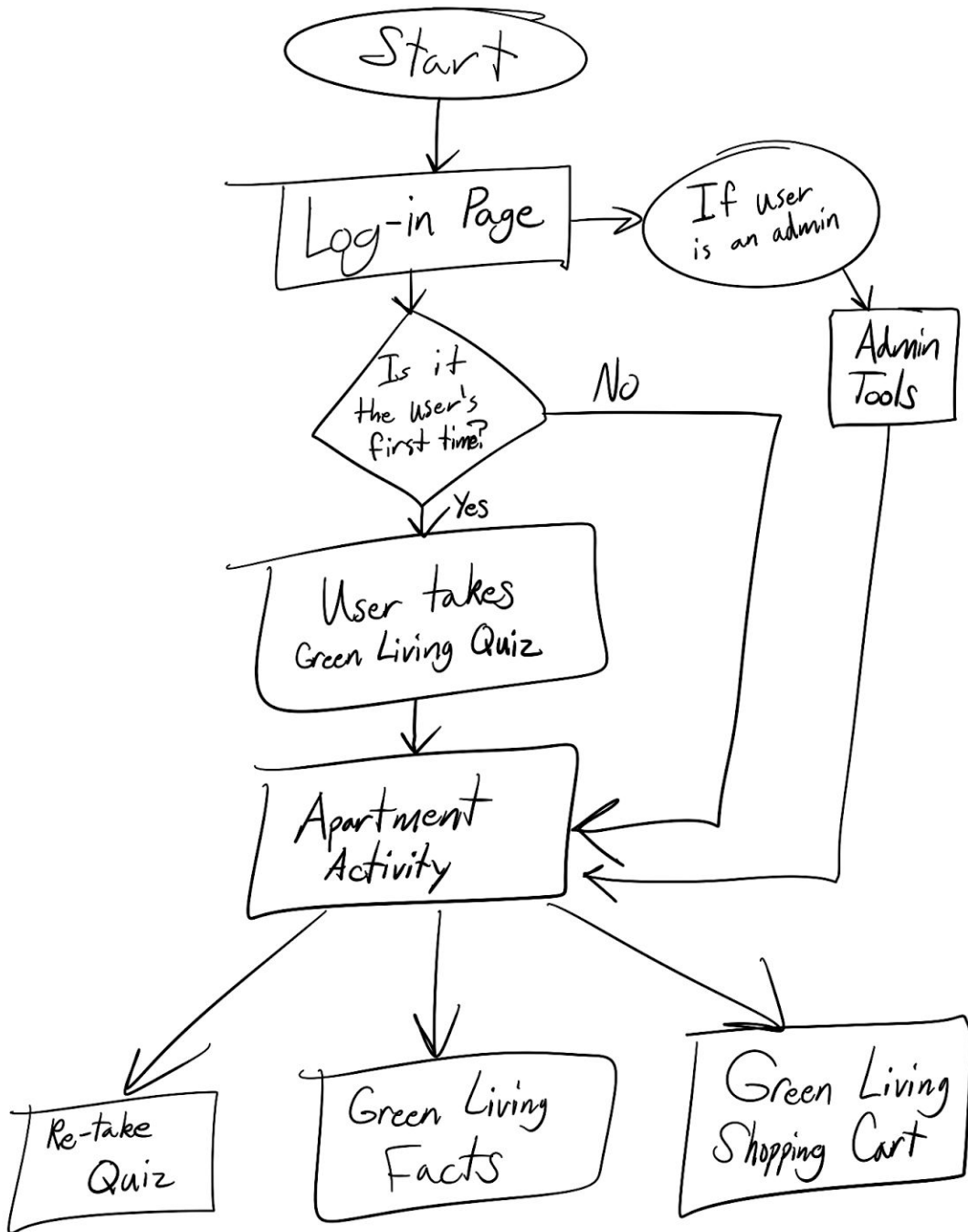
The deliverables is having an interactive room builder where the user can design a room after their room or a floor plan much like their own. Additionally, there must be an interactive quiz that welcomes the user to the website asking the user about their household items. Once the user finishes creating their room, there will be another interactive quiz asking about the usage of their items (such as “Do you unplug your phone charger when you aren’t using it?”). Once this quiz is complete, it will notify the user of ways they can make their habits more green. The user can then “make the changes” to their habits and it will show the user their savings in a “Savings Cart”.

3 Design

3.1 PREVIOUS WORK/LITERATURE

This project is based on the prototypes from last semester's SE 409/CS 509 course. Features of the project are both based on those suggested by these prototypes and with original prototypes proposed by the Senior Design team. There are similar websites already in existence that were created by other universities, such as Notre Dame ([link](#)), Bentley ([link](#)), and Brown ([link](#)). However, our project has a much heavier emphasis on interactivity with the users.

3.2 PROPOSED SYSTEM BLOCK DIAGRAM



3.3 ASSESSMENT OF PROPOSED METHODS

This project can be made in several different ways. For instance, all of the features can run in the Unity Video Game Engine for HTML, and could even allow us to have real-time rendered 3D graphics. However, this work require all members to learn how to use the Unity engine, which can be very challenging. Our plan is make the site using HTML and assisting libraries. This will be much easier to learn, and will also make load time *significantly* shorter than if we were to use a video game engine.

3.4 VALIDATION

To ensure that the project is fully functional, the project team plans on dedicating several weeks at the end of our project timeline for Quality Assurance. We also plan on testing features for bugs as we implement them into the full project.

4 Project Requirements/Specifications

4.1 FUNCTIONAL

- The project shall allow users to customize a virtual living space to the point where features and amenities are similar to their own.
- The website shall let users take a quiz that both tests the user's knowledge on Green Living, as well as gathers information on the user's current conservation and consumption habits.
- There shall be prominently placed facts and tips about Green Living throughout the website.
- The website shall allow admin users edit the website's content.
- The website shall let users log in with their Iowa State ID.

4.2 NON-FUNCTIONAL

- The website's admin tools shall be easily useable for an average user.
- The design of the visual shall match the design standards of the iastate.edu domain.
- The website shall have minimal loading times.
- The website shall have a simple, yet intuitive user interface.

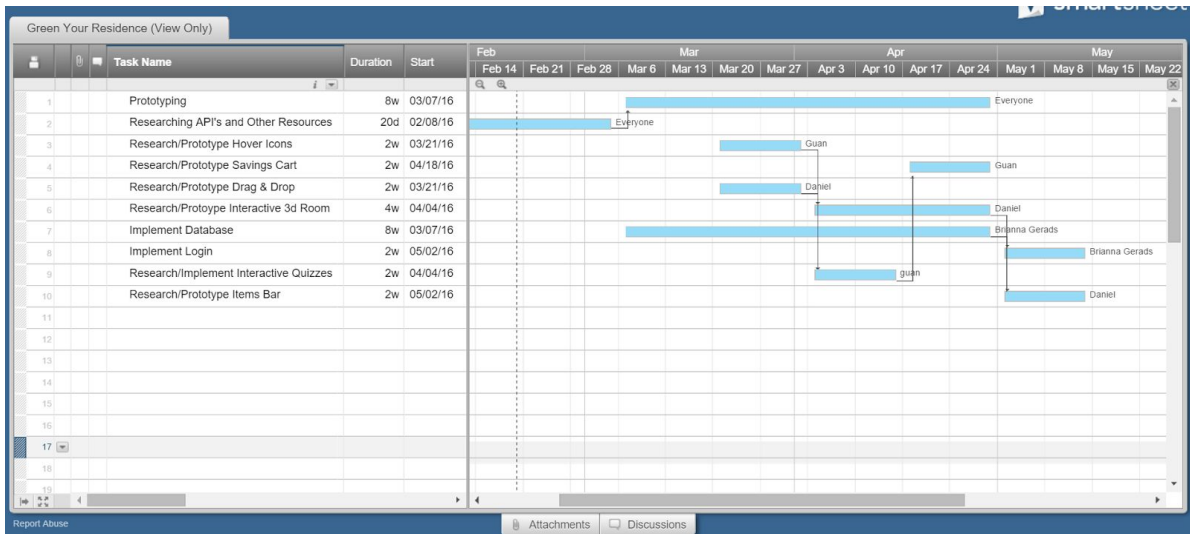
5 Challenges

As “greening your dorm room” is not an attractive topic, so we must think of a suitable way to design and implement this project. If the project we design is not interesting enough, students will not willing to use it or they will not spend much time on it. Also, as we have little knowledge on how to “green” the environment such as reducing gas emission, saving energy, etc, this will lead us to designing the wrong tool or providing the wrong information to the users. So, we must consult our client(which is an expert in this area) and conduct survey before implementing the project.

6 Timeline

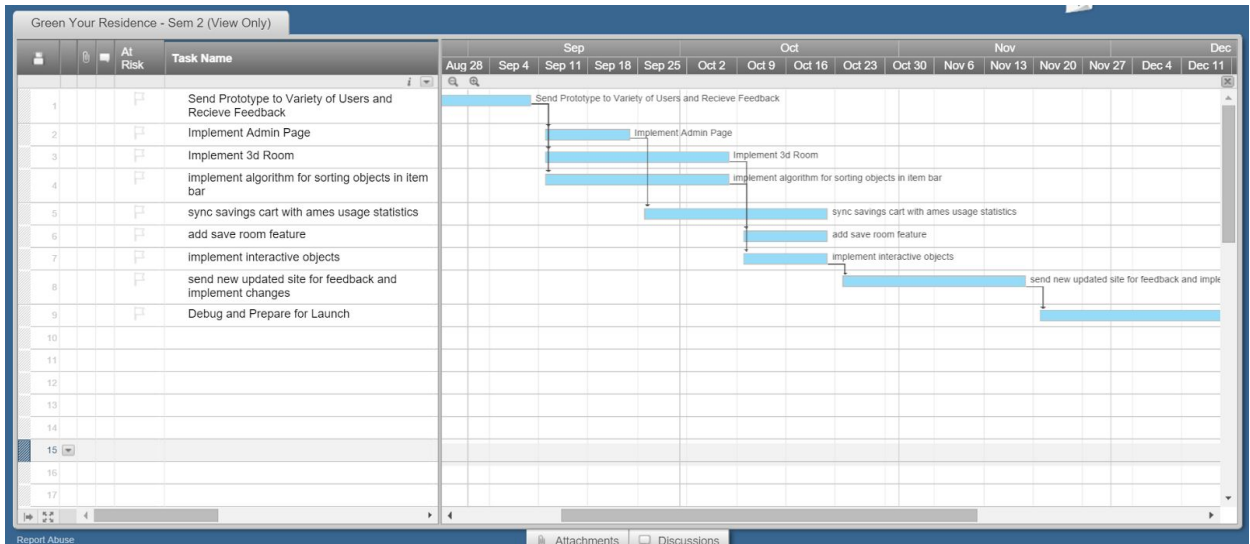
6.1 FIRST SEMESTER

<https://app.smartsheet.com/b/publish?EQBCT=414d26df2bfa459fb6110fe96752b674>



6.2 SECOND SEMESTER

<https://app.smartsheet.com/b/publish?EQBCT=ea16b1ae3d09451585d76cd2bf944dbd>



7 Conclusions

Our goal is to provide our client, Merry, with all of the deliverables she asked for: Savings Cart, interactive room builder, and interactive quizzes. We intend to complete a prototype of the website with these features by the end of Spring semester. Once the prototype is done, we intend to spend the fall semester adding and changing features to make the website more modern and easily maneuverable. The website is meant to be fun and engaging to encourage use so we will do some user testing once the prototype is complete.

8 References

Hovering:

<https://www.google.com/url?q=http://www.scientificpsychic.com/etc/css-mouseover.html&sa=D&ust=1455918655416000&usq=AFQjCNFa8PBKY0CE5f7RqHI2h2omOS8fMw>

<http://www.menucool.com/tooltip/css-tooltip>

Hovering Icons:

<http://ianlunn.github.io/Hover/>

Drag and Drop HTML5 + KineticJS:

<https://mobiforge.com/design-development/touch-friendly-drag-and-drop>

Notre Dame Green Your Dorm Room:

<http://green.nd.edu/news/13924-green-your-dorm-room/>

Bentley University Green Your Dorm Room:

<http://www.bentley.edu/offices/sustainability/green-your-dorm-room>

Brown University Green Room:

<https://www.brown.edu/initiatives/brown-is-green/greenroom>

AngularJS:

<https://docs.angularjs.org/guide>

9 Appendices

Nothing to include here.