ENSE 871: Project Report & Lessons Learned

Team Information:

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Project Sponsor:

Dr. Tim Maciag (ENSE 871 Lecturer)

Business Need and Opportunity:

The Saskatchewan Regional Centre of Expertise on Education for Sustainable Development (RCE-SK on ESD) aims to change education in our region to make it more sustainable. ESD enables us to collaborate to find and follow paths to sustainability, resulting in improved quality of life and the preservation of healthy ecosystems. They advocate environmental stewardship, social justice, and intergenerational equity through active environmental stewardship.

Individuals and groups in Saskatchewan are looking at a variety of local/provincial ESD projects. The transmission of knowledge work, that is, what everyone is doing, what knowledge they are getting, and how others might collaborate, could be enhanced.

The RCE-SK online platform could be a suitable consolidated repository for this information. It is necessary to have a better grasp of how to disseminate, share, and expand knowledge about local/provincial ESD efforts. In addition, the web platform should provide ways to signal local/global willingness/need to engage on current and future projects.

Reflections on Project Planning:

Customer Segment

Northstar Customers: Volunteers, Teachers and Researchers.
Carryover Customers: Local Communities, Existing or Past Volunteers, Researchers, Environmentalists, Past Project owners.

Key Findings

1. Looking for a better look and feel for the Projects and Profiles section of the current website.
2. How Information on Sustainability Development can be presented better
3. Recognition Event news will be more structured
4. Introduce a map showing the projects and click for details
5. Attract more users by site interaction & suggestion and dynamic search facility
6. All information showing in the page should be more organized and attractive than current
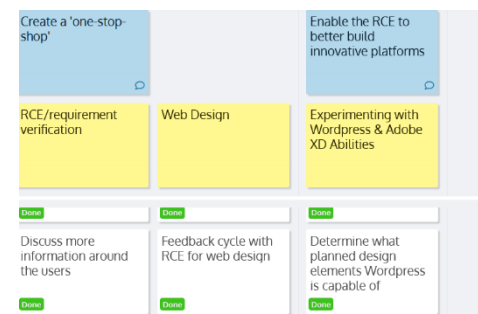
Affinity Diagram

Actors	Projects Info	Search	Clarification	Primary Needs	Future Scope
Volunteers	Projects and Profiles	By SDG Goals	Unstructured Information	Revamp the look and feel of Projects and Profiles	More Publicity
Local Communities	Current and Past Projects	By Theme	Categorizing the Projects	Advanced Search	Attracting more Volunteers
Project Owners	Active and Closed Projects	By Region	Projects Visualization	Competitive Design	Motivating more Projects
Stakeholders	Recognition Events	By Ecosystem		More Collaboration	Growing RCE Network
Environmentalist		By Target Audience		Live Maps/ Geo Pin Points	Social Media
Researchers					
Teachers					

Assumptions Made and Constraints Uncovered: We did the basic information gathering session with the client. However, we faced an obstacle while implementing the ideas on WordPress. We were unable to implement some search sections due to existing theme constraints and paid add-ons.

## Initial & Evolution USM/MVP

1. **Customer section:** People who want to know about RCE projects & profiles and awards.
2. **Value proposition:** Viewing the project by applying various search criteria and seeing the project location on map. Users can get more information by clicking details of the project such as project initiation date, current status, leaders, project history and details and connected sustainable goals.
3. **Activity Completed:** Firstly, produced a low-fidelity prototype by paper and pencil with the finding of an empathy map and requirement shared by RCE. Then we constructed the high fidelity via Adobe XD.

| Create a 'one-stop-shop'		Enable the RCE to better build innovative platforms
RCE/requirement verification	Web Design	Experimenting with Wordpress & Adobe XD Abilities
Done	Done	Done
Discuss more information around the users	Feedback cycle with RCE for web design	Determine what planned design elements Wordpress is capable of
Done	Done	Done

Finally, we implanted our Hi-fidelity prototype in the WordPress platform by maintaining the current website look and feel and theme.

4. **Result:** Redesigning the Project and profile page with new look and feel. Incorporate advanced search and show the result in list view and tiles view. Project details are shown by clicking details. Results are also shown on the MAP based on search criteria or location the user selects.

Prototyping activities and findings
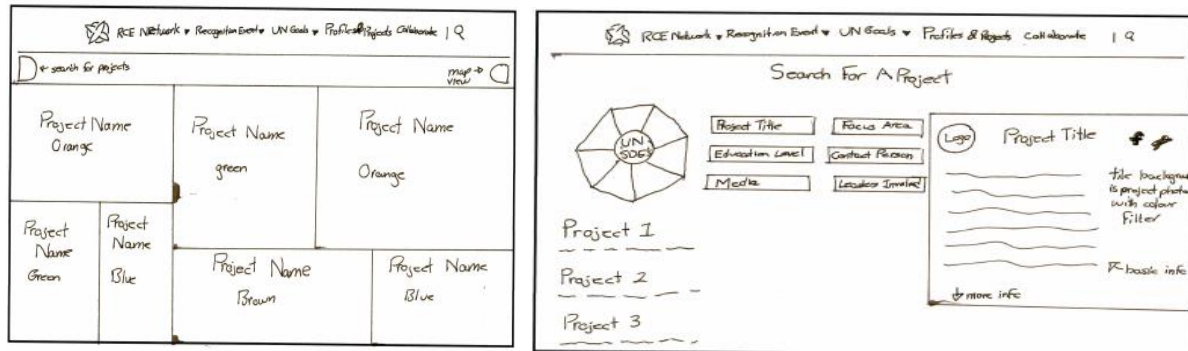
We Used Paper and pencil for Lo-fidelity prototype
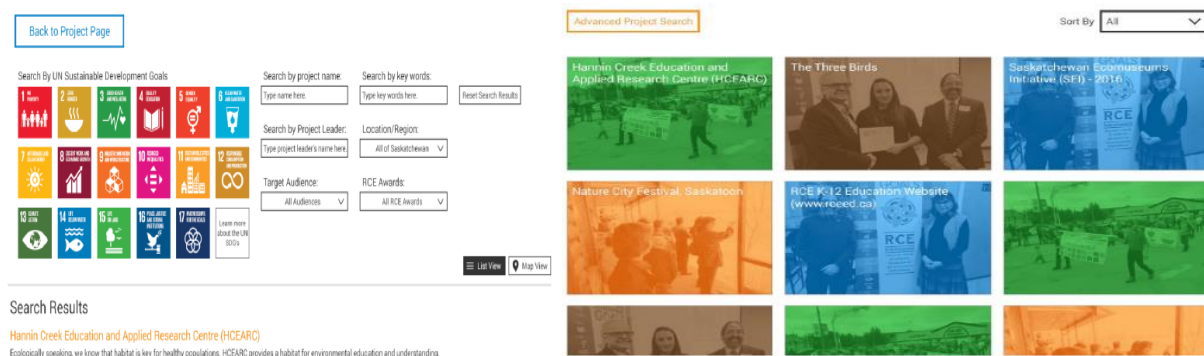
and Adobe XD for the Hi-fi prototype. We followed affordances, Gestalt and simplicity in our design. All of the elements within the page give off the feeling of wanting to be clicked and interacted with. Clicking on a colorful project tile causes a project information tile to slide in from the right of the screen while dimming the background. Gestalt's design principles were used when designing the low fidelity prototype. The tile system uses elements of continuity and similarity.

Besides, each page is designed in a system of layers (two layers max). When a user clicks on a project, a tile slides in from the right of the screen with all of the project information which is

more interactive than opening at a new page. The user has many different options to interact with the website, but it is displayed in a visually attractive and friendly way.

Reflections on Project Results:

Summarize How you felt about this project (likes/dislikes)

Firstly, the project allowed us to gain hands-on experience with what we learned in the class. We practically implemented brainstorming, card sorting and construct empathy mapping, fast feedback cycle, lo-fi and hi-fi prototyping as a team. Secondly, we have a unique opportunity to interact with the client directly which is rare compared to other classes. We learnt how to communicate with a client and collect their feedback which has lifted our confidence in how to deal with clients. In addition, the project introduced us to tools and techniques used in the professional world. Before the class, we have no zero knowledge of Adobe XD and WordPress. According to WordPress, roughly 40% of the web is running on WordPress. Additionally, Adobe XD is one of the leading prototyping tools so we are very pleased that we had the opportunity to learn both tools. In addition, Git hub, storyboard, and producing MVPs all are widely used in the professional world. As a result, we got a proper software engineering practice here.

Summarize what went well during the project

First, we were highly impressed with the project activity design. We started with user requirement mapping, then constructed the empathy mapping. Everyone made their part, and some crazy ideas were also produced by teammates which is beneficial as it provides a different dimension of thinking about design. This project introduced most group members to GitHub. Only one group member had experience using GitHub and now, all members have experience with that. We had no issue with setting up the project in AWS. The team worked with Adobe XD and storyboard.com smoothly. We collected the customer notes from each activity which enabled us to work within the agile methodology. Though WordPress is not a smooth experience at the initial stage, as we became more familiar with it, we were able to introduce more complex design elements.

Summarize what did not go well during the project

It was difficult to recreate all of the design elements that were included in the hi-fidelity prototype due to the highly restrictive plugins. We designed the features of the hi-fidelity prototype to reflect our design ideas for the website upgrade however, we did not take into consideration the restraints that we would be working with when implementing WordPress plugins. Our expected design showed in Astra theme, however, when we applied theme twenty-twenty the look and feel completely changed, we failed to replicate it there as we aimed to integrate the current theme. In addition, we were pleased with the functionality of Elementor and Crocoblock (JetEngine, jetSmartfilter) which enabled us to create custom posts, dynamic fields, Custom taxonomy and a meta field. However, all of these features have additional costs.

How successful was your team in translating prototypes into WordPress reality?

We tried our best to implement what we created and presented in Adobe XD. WordPress was new to everyone in the team and as a result, we faced some difficulties while transferring the Adobe XD prototype into WordPress. We finally got it working with some limitations to the WordPress theme and plugins as per our proposed prototype such as using pages for the projects rather than pop-out tiles. The plugins (Elementor pro, Ninja tables pro and interactive geo map) were used in the final product.

Did you find that the people-centered design ideas discussed in lectures helped/hindered your design explorations?

People-centered design made the team think differently with respect to design and the relationship between the customer and the designer. We found every design philosophy such as Affordances, Gestalt law, how to avoid mistakes and slips enabled us to design the project in a clean and simple but usable way. We got to know about customer/designer interaction, information gathering, iterative feedback cycle and NorthStar and Carry Over customers. Implementing Don Norman's psychology of how people think, react and act when using technology. We learned a lot about Affinity Diagramming, Low-Fidelity and High-Fidelity prototypes and Empathy mapping. In addition, GitHub, MVP (minimum viable product) and user storyboard were introduced hugely used in the professional world. Overall, the class showed us how to deliver a project in a professional environment involving a real client.

What would you do the same for future projects?

We would follow the tools and techniques we learned in the class. As designers and engineers, it is crucial to remember that we must design for the user and not for ourselves. As we encountered limitations with WordPress functionality, having a good understanding of what is possible before working on prototypes will help to keep the expectations of design realistic. We need to select the platform wisely according to our client's needs and comforts rather than simply going with what we think is correct. We can propose our ideas to the client and get their approval.

What would you do differently on future projects?

We can introduce one extra layer while collecting user feedback. We will set tasks with three different categories -easy, medium and hard in prototype testing. Then observe whether they can handle it without saying anything. We can use AdobeXd for porotype testing as it links the activity together. We will test every feature before going to coding.

Summarize opportunities and design ideas for future work

The project showed us why WordPress is the current leader in website building. A good designer can be a full-time web developer by knowing WordPress and CSS. A dynamic and fully responsive website can be easily made by WordPress quickly by selecting the correct theme and plugins. Site

builders like Elementor made the design task easy in WordPress and allowed for extra functionality. There are plugins for databases such as Crocoblock, ACF, Woo commerce that make development easier when a dynamic website with a powerful search function is desired in a very short time. Site maintenance is also quite easy when plugins such as Elementor are used. For example, we can set auto backup without writing any scripts. These are the clear opportunities we see in web development with WordPress. Additionally, for design ideas, we see Affordances, Gestalt law and simplicity are the best. Getting constant feedback and producing MVPs for the client to approve and be part of the design process will help us to stand out as engineers and designers.

WordPress Themes and Plugins:

Creation of the WordPress Instance.

The WordPress instance was created by following the instructions document provided by the Amazon Lightsail. The link on how to create an instance is https://lightsail.aws.amazon.com/ls/docs/en_us/articles/amazon-lightsail-tutorial-launching-and-configuring-wordpress. This link will help to create all the required configuration for the Instance creation. We have used the free 750 hrs credits provided by Amazon for this Project.

Screenshot of the Instance
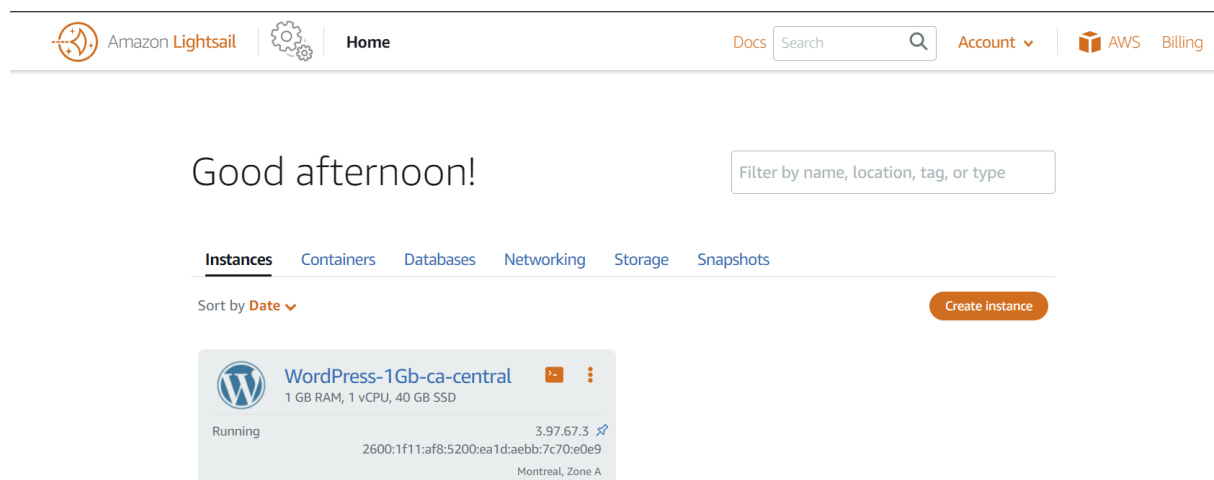
Theme Used:

Name: Twenty Twenty by Wordpress.org.
Version: 1.9
User Rating: 4.5 out of 5 stars.
Number of User Ratings: 60 Reviews (45 reviews for 5 stars)

Theme was last updated on: January 25, 2022
Active Installations: 800,000+
WordPress Version: 4.7 or higher
PHP Version: 5.2.4 or higher

General working:
This default theme for 2020 gives full advantage of the flexibility of the block editor. It provided the ability to create dynamic landing pages with endless layouts using the group and column blocks. The centred content column and fine-tuned typography also makes it perfect for traditional blogs. Complete editor styles give you a good idea of what your content will look like, even before you publish. You can give your site a personal touch by changing the background colours and the accent colour in the Customizer. The colours of all elements on your site are automatically calculated based on the colours you pick, ensuring a high, accessible colour contrast for your visitors.

Plugins used:

1) **Name:** Elementor
   Version: 3.6.2
   User Rating: 4.5 out of 5 stars.
   Number of User Ratings: 6149 Ratings (5506 reviews for 5 stars)
   Last updated on: April 4th, 2022
   Active Installations: 5+ Million
   WordPress Version: 5.0 or higher
   PHP Version: 5.6 or higher
   Compatible up to: WordPress Version 5.9.3
   General working:
   Elementor is the leading website building platform for WordPress, enabling web creators to build professional, pixel-perfect websites with an intuitive visual builder. Quickly create amazing websites for your clients or your business with complete control over every piece, without writing a single line of code. Join a vast community of web creators from all around the world who deliver exceptional websites using Elementor.

   Some of the advantages are:
   - One Platform, Unlimited Web Creations
   - Pixel-Perfect Designs
   - Full Website Kits And Template Library
   - Fully Responsive
   - Accelerated Creation Workflow
   - Fast Loading Websites
   - Strong Community
   - Secure and Compliant

2) **Name:** Interactive Geo Maps.
    Version: 1.5.4.1
    User Rating: 5 out of 5 stars
    Number of User Ratings: 28 Reviews (26 reviews for 5 stars)
    Last updated on: March 9th, 2022
    Active Installations: 20,000+
    WordPress Version: 5.0 or higher
    PHP Version: 7.0 or higher
    Compatible up to: WordPress Version 5.9.3
    General working:
    Create interactive maps with regions and coloured markers. We can display the world map, continent maps and single country maps.

3) **Name:** Ninja Tables Pro.
    Version: 4.1.14
    User Ratings: 4.5 out of 5 stars.
    Number of User Ratings: 267 Reviews (228 reviews for 5 stars)
    Last updated on: March 19th, 2022
    Active Installations: 70,000+
    WordPress Version: 4.5 or higher
    Compatible up to: Wordpress version 5.9.3

    General working:
    This is a WordPress table plugin for a Website. Ninja Tables, the best WP table plugin that comes with all the solutions to the problems we face while creating tables on your posts/pages. It helps in making the table design easy. It helps in importing or exporting WP Datatables or making it responsive. The tables won't slow down the website even if we have thousands of data rows on your online table! You can create and manage tables from the admin panel quickly, effectively, and easily.