

ENSE 271 Project report-out & lessons learned

Team name & members

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Project sponsor

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Business need/opportunity

- The problem we are going to fix is the professor's/lab instructor's lack of knowledge regarding the accreditation process and what they should be submitting as well as the administrators' lack of organization and dynamic ability to control the accreditation process. Essentially, the accreditation process must be done correctly and efficiently so that the engineering program can be acceptable in terms of the value of a degree. As it currently is, there is an increased chance that accreditation standards could fall short due to hard to manage files and responsibilities. The business opportunity comes from U of R administrators involved in the engineering program's accreditation process as they currently assign classes' graduate attributes (pieces of the accreditation puzzle) through static excel sheets and other pdf files. They also receive class data via forms filled out by professors who often fill them out wrong or don't do them at all. The administrators hope to be presented with a solution that is easy to understand and gets the old job done in an organized and dynamic way.

Reflections on project planning

- Our Northstar customers will be professors and lab instructors at the U of R as we will also be attempting to provide a platform for these users to organize data collection forms and other important accreditation files as well as submit their class data through easy-to-understand forms. We also want to solve the problem of professors submitting incorrect data or not submitting anything at all by providing them with easy-to-understand accreditation information. Our carryover customers are the U of R Faculty of engineering & applied science administrators responsible for accreditation/data collection. This means that our customers (David and Gina) are our carryover customers as we believe their needs are reliant on the professors. Our goal in future MVPs is to create dynamic processes and bring their excel worksheets/disorganized and hard-to-track data collection to a simple application that will suit their needs.

- Assumptions made in the beginning stages were that we could accomplish all of our website goals through the use of WordPress plugins and could achieve our MVP in the time we had. Other than the time constraint, we had collaboration constraints and design constraints. The collaboration difficulty we faced was that our group had to account for a 14 hour time difference which made meeting up to work on the project harder to organize. The design constraints came from our ability to only meet with the customers once a week so we may have not been able to get the best possible MVP to them. We also found it hard to visualize what our final deliverable would be as we were not familiar with Wordpress in the beginning stages.
- Our key findings from affinity diagramming and empathy mapping were that there was a clear disconnect between the admins and professors as Gina had been visibly frustrated by the lack of success in class data collection. We also found that professors were just as frustrated with their lack of knowledge about what was required of them. As a result we wanted to clear up these issues by providing the professors with the information and an easy to use program that would make Gina's job easier as well.
- Our initial user story map and MVP was unrealistic to accomplish in such a short time frame. We had planned to make two different types of user, analytics, feedback pages, and other features that are not required in a minimum deliverable. Ultimately, as we got closer to the deadline, we realized the most important aspect is the forms and learning pages for the professors. This realization caused us to change our Northstar customer from the admins to the professors since the admins are actually dependent on what the professors submit. In this regard, we took out a lot of the unnecessary features and focused on the information page, forms page, and a general communication line (through news posts) that could limit potential problems. We believe it was important to create the MVP so we could track our progress and get a better idea of how a project changes due to its constraints.
- Through prototyping, we found that the customers wanted something simple and similar to what they have seen in the past. In our lofi prototype, we learned that the admins actually preferred that our home page looked similar to other website landing pages rather than provide information right off the bat. In our Hi-fi prototype, we learned that there was a generational gap in what the user preferred as a way of organizing forms. Tim liked filter options and not using a folder structure while Dave liked the folder structure. This design idea can be linked to their long term memory as Dave is most likely familiar with using folders to organize his files while Tim is most likely more advanced with technology and prefers the quickest way of finding something. We also targeted the users memory by making the layout of the website very similar to past sites they have visited. We also used affordances such as dropdowns for options and icons for the create a form button to indicate the user could create a form. Folder icons in our hifi prototype represented the storage of multiple sub files/folders. Another design idea used in our hifi prototype was Gestalt Theory as we focused on the whole rather than parts by creating similarity between

each page and the navigation menu in the header. Each page in our high fidelity prototype used similarity, proximity, and common region to make the individual parts appear to be one whole.

Reflections on project results

Feel:

The activities teach us step by step to achieve the final goal: Create the website for professors to submit data and admins to collect the data. It gives us a good experience and we learn a lot of knowledge. First, we know how to divide the final goal into different parts in the story map, we set our first MVP here. Second, we know how to use Adobe XD to build the low-fi prototypes. Third, we can use Adobe XD more skillfully and use it to build the high-fi prototypes. At last, we learn how to use the wordpress to achieve our high-fi prototypes into the website. Every time we talked with David and Gina and they gave us feedback, we improved our production. Things we liked about the project were that we were actually put in a position where we could create a software project, use our knowledge gained in class/labs and use it in a real situation, and work with other software students to accomplish a common goal. Our dislikes of the project were that with the shortened semester and time differences among group members, it was harder to deliver the product on time. Even though some of the team members had jet lag effects, in our joint efforts we complement each other and help each other in areas of expertise, we did a great job on our project. Producing the hifi prototype went well as we were comfortable working in Adobe XD at that time, and we produced a solid prototype. Communication at times was one of the aspects that didn't go as well as we mainly only messaged each other on weekends. This led to the final wordpress site being mainly done on the last weekend before the due date.

Current project:

We almost translate all of the prototypes into wordpress, because we only have 6 weeks, we consider professors as our Northstar customers. Actually, we also have an idea about the admin part, and prepare an interesting plugin for it (PublishPress Permissions). We found it was more difficult to translate our design from the hifi prototype to the wordpress site as there were many design limitations and problems with plugins conflicting with each other that didn't allow certain customizations to look how we wanted. As a result, there are several aspects of our site that look different from the Hifi prototype.

We found that the people centered design topics learned in class was a great help in implementing our site. We wanted to deliver a product that had high discoverability and was easy to use which required knowledge on topics that would aid this. Listed below are some design topic examples.

- Affordance: On our website, we do have some affordances. The different color of text in the menu tells users currently on which page. And users can click the image or text of the carousel to the detail page of the news. Those affordances make our website's interface look simple. We also used buttons that afforded to be pressed and a resulting action would occur.

- Signifier: On the learn page, the arrows in the graduate attribute part can show the detailed information about the certain GAs. On the form page, the button, “create a form” can lead users to an empty form. Those signifiers make it easier for users to use our website.
- Low threshold, low ceiling: We think our website is easy to use, and all of the functions are helping users to submit data or collect data. Therefore, our website doesn't have too many functions to discover.

Future project:

For future projects, things that we would do the same are clearly defining a line of communication among collaborators and documenting all project deliverables. We would also use Gestalt theory and tap into the user's memory to provide a more enjoyable experience as well. We will divide the final goal into different stages. Therefore, we can step by step to finish it. This means that we would constantly refine and adapt our MVP and future MVPs to accomplish our goal. Things we would do differently include better time management, stronger methods of receiving feedback from customers, and doing more intensive research on the methods of solving the problem. Getting feedback will ensure that we solve real customer needs. If we have enough time in the future, we need to learn the key knowledge of the tools. It will save our time and we may find a more proper plugin to achieve our customer needs rather than selecting the first plugin that does the job. In terms of our project, we would probably like to use more icons as signifiers and provide better feedback messaging. As an example, once you submit a form, you are redirected to the forms page without a message/popup. This is due to the premium features of the form plugin costing money which was an additional constraint of ours.

Opportunities and design ideas for future work have been significantly improved as a result of this project. We have gained additional experience working in a collaboration setting and dealing with challenges such as being online and working from different parts of the world. We also gained some insight on the aspects of people centered design that will make our future designs more desirable and enjoyable. Some of these design ideas include Gestalt theory, signifiers, discoverability, usability, affordances, and more. We also will find feedback very useful and the idea that we are not the user which will assist in future opportunities and the success of our projects.

WordPress themes and plugins

- Astra (theme)
 - User rating: 5/5
 - Last update: June 7, 2021
 - Active installations: 1,653,898
 - What it does: Starting theme for the project. It started us off with a main page, blog page, and some others that we changed to fit our vision.
- Gutenberg
 - User rating: 5/5

- Last update: 3 days ago
 - Active installations: 300,000+
 - What it does: Provides blocks for the site i.e. headers, text blocks, image blocks, etc.
- Getwid
 - User rating: 5/5
 - Last update: 4 weeks ago
 - Active installations 40,000+
 - What it does: Extra plugins for Gutenberg blocks. We used this for our dropdowns in the learn page. And it has a really good plugin to achieve the carousel.
- Search & Filter
 - User rating: 4.5
 - Last update: 3 weeks ago
 - Active installations: 40,000+
 - What it does: Allows us to filter out the data we don't want to see, or pop out the data we want. We used this feature for filtering files on the form page by year or class.
- LoginPress
 - User rating: 4.9/5
 - Last update: 4 weeks ago
 - Active installations: 293,390
 - What it does: Allows us to customize our login page with background images, different types of user login options, and additional design features.
- Peter's Login Redirect
 - User rating: 4.5/5
 - Last update: 3 months ago
 - Active installations: 100,000+
 - What it does: After logging in, the user lands on the home page instead of the backend.
- PublishPress Permissions
 - User rating: 4/5
 - Last update: 1 month ago
 - Active installations: 8000+
 - What it does: Controls what the user can see based on their role. As of right now we don't have the admin view implemented but once we do, this plugin would allow us to make the separate pages for the admin and then assign users with a user role to only be able to see their forms while users with an admin view could see the admin side of things by easily controlling which type of user can see certain page.