## Website Redesign: Terra Pave International, Inc.

Information Architecture INF 385E | Spring 2013

Dr. Fleming Seay | Nicholas Mitchell, Shihan Huang, Kelly Liao

## Contents

Executive Summary	3
Initial Concept: Terra Pave's Mission, Vision, and Audiences	4
Mission and Vision	4
Audience	4
Stakeholder, Industry, and User Research	6
Plan	6
Implementation	6
Conclusion	25
Information Architecture and Website Design	26
Blueprint and Interaction Overview	26
Wireframes and Design Decisions	27
Technical Implementation	37
Content Management System	37
Customization & Implementation	37
User Testing, Evaluation, and Iteration	39
User Test 1	39
User Test 2	48
Picture	51
User Testing Conclusions and Highlights	53
Final Design Validation and Summary	54
Summary	54
Accomplishments	54
Non-Accomplishments	57
Lessons Learned	57
Validator Stats	58
Actual Schedule	59
Appendix	61

## **Executive Summary**

In the spring of 2013, the early-stage pavement materials company Terra Pave International Inc. worked with an information architecture (IA) team to produce a strategic redesign of its corporate website. The IA team consisted of graduate students from the School of Information: Nicholas Mitchell, Shihan Huang, and Kelly Liao. The team assessed the company's history, mission, direction, customers, stakeholders, industry, competition, and content. Based on the assessments, the IA team has recommended and executed a new website strategy.

Terra Pave's previous website had been designed primarily with two goals: To educate prospective investors about the value proposition of the company's products; and to gain regulatory approval to deploy its products on projects that fell under public jurisdiction. The content on the original website had consisted of technical research summarized into a semitechnical format for investors and regulators to understand. Having secured funding from investors and approval from the Texas Department of Transportation (TxDOT) to deploy its products, Terra Pave has begun to focus on winning contracts. Sales and marketing efforts to this date, however, have been hampered by gaps in the company's web credibility as well as misprioritization and poor labeling of web content.

To meet the challenge, Terra Pave International focused on three goals recommended by our team:

- Established credibility among civil engineering decision-makers while acknowledging secondary audiences such as media groups, politicians, and a concerned public. Incorporating a professional-level visual language (photography, logo, colors, and copy) reinforced a visual sense of credibility and struck a proper balance between material and financial advantages and environmental and safety advantages.
- 2 Provided a targeted and extensible content browsing experience for civil engineering decision-makers by renaming and re-organizing page categories and navigation.
- 3 Enabled stakeholders to manage their site easily and effectively regardless of prior web experience by setting up an content management system that balanced performance with novice-level usability.

## Initial Concept: Terra Pave's Mission, Vision, and Audiences

#### Mission and Vision

The mission of Terra Pave International, Inc. has been to provide cost-effective, eco-friendly products for improving roadways, parking lots, airfields, and all other traffic-bearing asphalt surfaces. Independent studies have shown that Terra Pave's products perform comparably or better than standard industry products for a significantly lower cost and longer life. In addition, its products came without the environmental, safety, and health concerns that existed about competing products.

The Terra Pave website, however, was formerly a research documentation site with an overt sense of environmentalism that would antagonize many of its customers. To do business in the existing industry, the website had to balance the environmental tone of its value proposition with the other key benefits of its offerings. Input from sales and operations stakeholders have turned the site into an extensible resource for marketing and sales to a broad audience as well as an authoritative source for onboarding content future employees and volunteers.

#### **Audience**

The audiences for the terrapaveinternational.com website consisted of four distinct and sometimes overlapping user groups.

One of the most important website users was the civil engineer. This user was often either a decision maker or primary influencer in the purchasing decision as well as the person responsible for overseeing the project. The engineer was interested in projects (precedence), cost, purchasing process, deployment, and sometimes political permission to make a purchasing decision or recommendation. None of this information, however, was presented on the previous website. The top of the sales funnel consisted of cold calls, warm leads, and pre-existing connections. No matter what the nature of the sales lead, however, the process still required sending email attachments with PowerPoint and PDF files of sales presentations, raw research, and sales brochures. Both marketing studies and anecdotal experience suggest that emails with numerous attachments do not often get opened.

The second most important user was the Terra Pave stakeholder. The previous website had been hand-coded rather than designed with a content management system. Since the company did not have volunteers or employees with enough skills in HTML and web programming to edit the original site, much of the site content could not be readily updated. Furthermore, its sales documents were disorganized and poorly formatted for its intended audiences. Sales staff complained that the only way to provide more information to engineers was to send emails with large attachments that were not often opened rather than a simple link to a company webpage. This contributed to a stranglehold on sales since presenting its most recent projects to prospective customers was one of the most critical functions required to win new contracts.

The IA team also considered two secondary audiences in the design of this website due to the potential for positive attention to the mission of the company. One secondary type of audience consisted of politicians and constituents in local communities where projects might be deployed. As the successful legal case against Pacific Gas & Electric Company (Edward L. Masry and Erin Brockovich) had demonstrated, public concern about local environment, health, and safety issues had significant power to affect companies doing business in the community. Negative press about the petroleum-based industry standard product called MC-30 paired with positive press about the water-based Terra Prime had the potential to increase sales of Terra Pave's product.

The other secondary audience consisted of media organizations. These groups included industry journals, conferences, and business journals that have already publicized the company and environmental, local news, and yet-to-be identified groups that would have reasons to publicize the company.

Table: Summary of website audiences and roles

Audience	Role
Civil Engineer	Decision-maker, influencer, project manager, purchasing oversight
Terra Pave stakeholder	Content manager.
Local Community (Politicians and community members)	Regulate business activity socially and politically
Media (Journals, conferences, local news, activism groups)	Increase company awareness, promote the company mission, and discourage the use of competing products.

## Stakeholder, Industry, and User Research

#### Plan

- Introductions to company with primary stakeholder contact.
- Iterative independent assessments of company culture, existing products, industry, competitors, and website.
- Iterative stakeholder meetings and interviews to confirm assessments, ask questions, gather content, and test recommendations.
- Iterative prototypes and user tests.

#### Implementation

#### **Company and Culture Overview**

Terra Pave International consists of three full-time staff and three part-time, long-term volunteer graduate students not including this IA team. Other students such as this IA team volunteer on an ad hoc basis at various times and intervals. Since its founding, the company has been under great pressure to become self-sustaining before the venture funds will have been exhausted in spring 2014.

Andres "Andy" Jackson - Chief Executive Officer and sales co-founder

Andy's greatest apparent value has been his ability to introduce Terra Pave to his international network of construction contacts. An initial Brazilian project and sole distributorship had been won directly from Andy's network. Andy has not attended any of the team meetings that the IA team has attended since he offices remotely. The two other full time staff members have been open to the IA team speaking with him, but they have not pushed for it. Andy is former CEO of Soils Control International Inc.

#### Dr. Yetkin Yildirim - Chief Technology Officer and technical co-founder

Yetkin has been passionate about the products because he conducted the primary research and promoted the research at various conferences. During the funding stage, he traveled extensively to meet with prospective investors. This has been a difficult process that he has become highly motivated to avoid repeating. In the absence of a COO until spring 2013, Yetkin has also been an active part of the regulatory approval process as well as overseeing local sales and volunteers. He has been willing to let the IA team take the project wherever the team recommends. Yetkin is concurrently appointed as Research Assistant Professor at the Center for Transportation Research, Cockrell School of Engineering, IC2 Institute, and Department of Civil, Architectural and Environmental Engineering in the Cockrell School of Engineering.

#### Abdul "Abe" Suzek - Chief Operating Officer

Abe's greatest value has been his previous management experience, including the oversight of daily operations for a sizeable video and web production company in Houston. Terra Pave's

investors from New York who already knew Abe for his management skills so they recommended his appointment since the Terra Pave team lacked an operations manager at the time of funding. Abe has been in Houston until Spring of 2013 and has contacts with Houston area construction firms.

#### Alexander Voice - Business Development and Sales

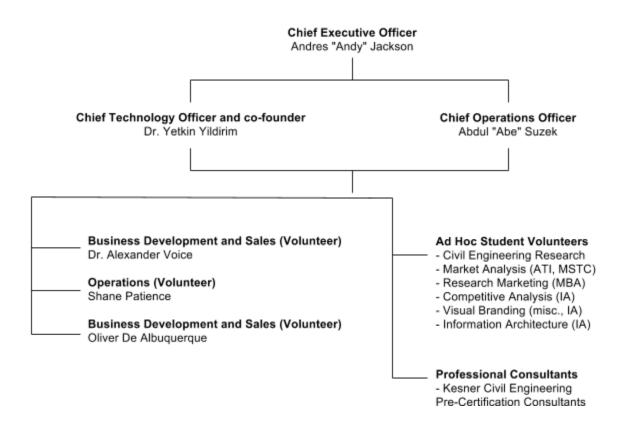
Alex has been instrumental in discovering what was important to prospective customers. His months of contact with engineers has provided a body of formative research for the IA team. In spring 2013, Alex successfully defended his PhD dissertation in chemistry at the University of Texas. He has made plans to move to Houston in order to begin working in the energy industry.

#### Shane Patience

Shane has been a graduate student in the Master's in Technology Commercialization program at the University of Texas. His role has been to be a de-facto COO to eliminate roadblocks and bottlenecks in sales, production, and support operations.

#### Oliver De Albuquerque

Oliver has been a former graduate student at the University of Texas who has continued to volunteer to do sales prospecting and business development.



#### **Stakeholder Meetings and Interviews**

#### **Introductory Meetings**

- Meeting 1: The IA team met privately with Dr. Yetkin Yildirim for an introduction to the company and discussion about the potential scope of work.
- Meetings 2 and 3: After The IA team met privately with Dr. Yildirim to make a formal project proposals and establish an initial course of action.

#### **Stakeholder Meetings**

- Meeting 4: Dr. Yildirim invited us to a stakeholder meeting where we met the
  other stakeholders except for Abe Suzek who was not in town yet. The
  stakeholders and IA team expected us to guide them regarding: domain name;
  company logo; and organizing information concerned with product
  demonstrations and test samples.
  - Kelly Liao and Alex Voice determined that the existing documentation of cold calls and warm leads provided a sufficient base of user research about civil engineering and political audiences of the website.
- Meetings 5-8: Over the course of five stakeholder interviews prior to any design work, it became clear that the single greatest roadblock to winning new contracts was convincing civil engineers at public and private organizations that the products were reputable and were of surpassing quality and lower cost compared to existing products. According to Alex Voice who had been making cold calls and warm calls from summer 2012 until now, city engineers consistently requested case studies before they would consider using the products. The only real documentation of existing projects, however, were in the form of a blog post written in Portuguese of a project in Brazil. PDFs and web pages featuring research papers were the only other form of documentation. This stakeholder resorted to sending emails with attachments, and the response rates were low.
- Meeting 9-12: Presented an initial website strategy with hi-fi wireframe focused on establishing credibility and ease of use. Recommended professional-level visual language, reorganization and updating of labels, navigation, and content. Prior to this meeting, the IA team developed low-fi wireframes that were refined into the hi-fi wireframe for the presentation. Stakeholders agreed wholeheartedly with our assessments. In particular, Dr. Yildirim felt very excited and pleased that our recommendation to focus on credibility echoed the advice that Dr. John Daly of the McCombs School of Business had just recently given him. The COO asked for our critique of new logo versions being drafted. The feedback resulted in a live demo against which we conducted the first round of user tests.
- Meeting 13: Presented a revised live demo site with lorem ipsum text based on results of the first user test. The primary feedback consisted of renaming "Case Studies" to "Projects" and "Purchase" to "Get a Quote". We received buy in to conduct a second round of user tests that included engineering and business contacts of the stakeholders.

Meeting 14: Final website presentation and project hand-off discussion.

#### **Content Analysis of Existing Website**

#### Home page

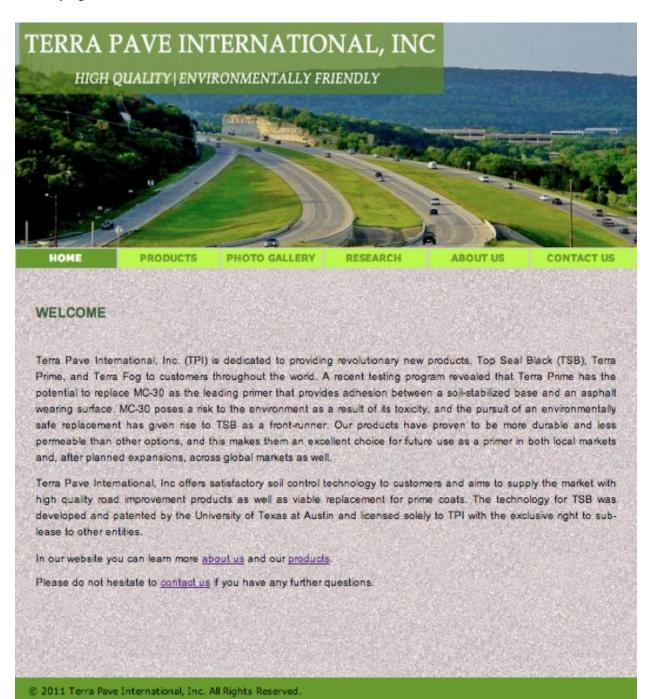


Figure 1: Screenshot of TPI's Home Page

#### Observation

- At the home page of Terra Pave International Inc. (TPI), it's obvious that there is no company logo, which largely prohibits the company's branding performance.
- For the commercials "High Quality" and "Environmentally Friendly", the font format is not outstanding at all and cannot impress its audience with the products' advantages.
   Besides, they are neither company-specific nor product-specific to stress the product benefits.
- As for the color of this page or the whole website, it is neither appealing to its users' searching and browsing experience nor seems to be trustworthy for them.
- For the textual content of this homepage, it primarily relates to the products but doesn't have a brief and strong introduction of this company. It sounds better and more exact to define it as "Introduction" instead of "Welcome". Reading the paragraphs carefully, the words are not promotive at all and they are wrongly focused on comparing with another product. Not to mention that there are inconsistency and inaccuracy of phrases and terms used in these two paragraphs and across the whole website.

#### *Implication*

- 1 A company logo needed to be created by design, and the commercials may require modification of both font style and content.
- 2 The layout of the page was revised as well, since the current one looks too simple and not informative.
- 3 The color system of the whole website was necessary to be selected again so as to be representative of the company's features or culture.
- 4 It was highly recommended that the content of this page should be rewritten by some marketing and advertising professionals

#### Product page



Figure 2: Screenshot of TPI's Product Page

#### Observation

• From the previous main product page, it is known that there are three products sold by TPI – Top Seal Black, Terra Prime and Terra Fog. However, the navigation system shown on the left is not named as product names, but as "DUST CONTROL", "PRIME COAT", "FOG SEAL" and "COMPARISON". Obviously, this would easily arouse user' confusion that they cannot get access to product information by using the local navigation system of the product page. What's more, even though "COMPARISON" page is used to be proof of the products' priority but it reduces not only the website's but also the company's credibility.

#### **Implication**

- 1 Name the local navigation system of the product page as the product names, or at least include them.
- 2 On each product page, the product's functions, features, application methods and how much should be used are expected to be introduced to the audience.
- 3 As for the "COMPARISON", since it is cited from research articles about the products, it would be more reasonable and accurate to put it on the project page or be classified as product updates.

### Photo Gallery page



Figure 3: Screenshot of TPI's Photo Gallery

#### Observation

 As a photo gallery of a pavement material company, merely exhibiting photos of roads on which the products are applied is far less than enough. Users will have queries such as where these photos are taken and what products have been applied on these roads.

#### **Implication**

- 1 Therefore, for the purpose of clarification and promotion the basic information of those photos is expected to be added. The information could be when they are taken, where they are taken, what products have been applied on the roads shown in these photos.
- 2 A common approach to show the products' performance is using a "comparison" gallery which contains the photo collections of "Before Product Application" and "After Product Application".
- 3 Another way to raise the photo gallery's trustworthiness and effectiveness is to link photos to the specific projects that this company was involved in. Namely, try to create stories for those photos in order to have a real context or background for them.

#### Research page

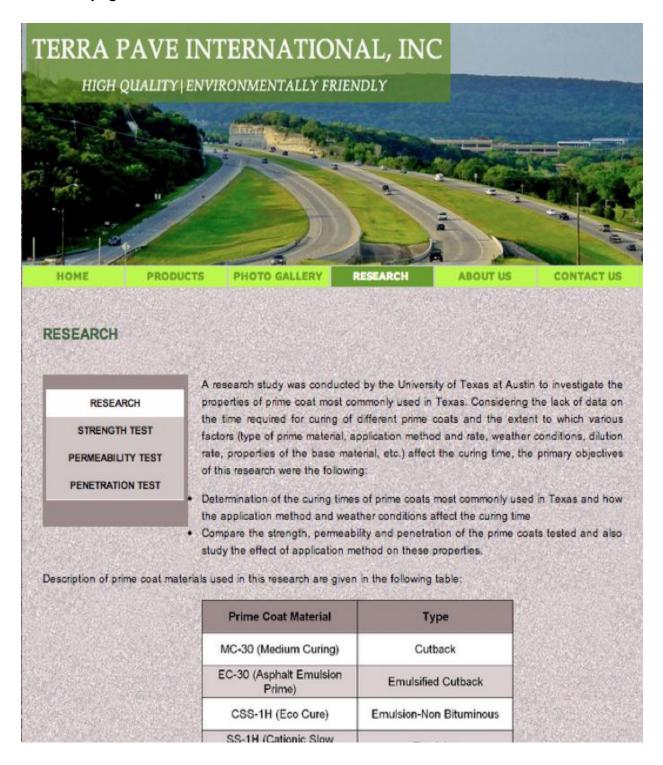


Figure 4: Screenshot of TPI's Research Page

#### Observation

- The research page is designed to help the audience fully understand the benefits of TPI products. Ironically, its publication resources and researchers involved in the research are disclosed to the audience. This possibly would do harm to the credibility and integrity of the research page.
- Another issue with this research page is that whether it is appropriate to make it a web
  page of the company's website. Currently, it is unclear to us that what the audience of
  such a pavement material company website expect to see and find on it. Many people
  probably underestimates the products' performance because they think they are still on
  the way of researching and improving rather than maturely produced.

#### **Implication**

- 1 The links which direct users to the publication resources of these research articles and the researchers' profiles need to be attached on the research page. The presentation of the content, tables and sentences revealing TPI products' remarkableness are expected to be polished.
- 2 Do an user survey for the website's contents to find what the audience expect to see and find in the website.

#### About Us page

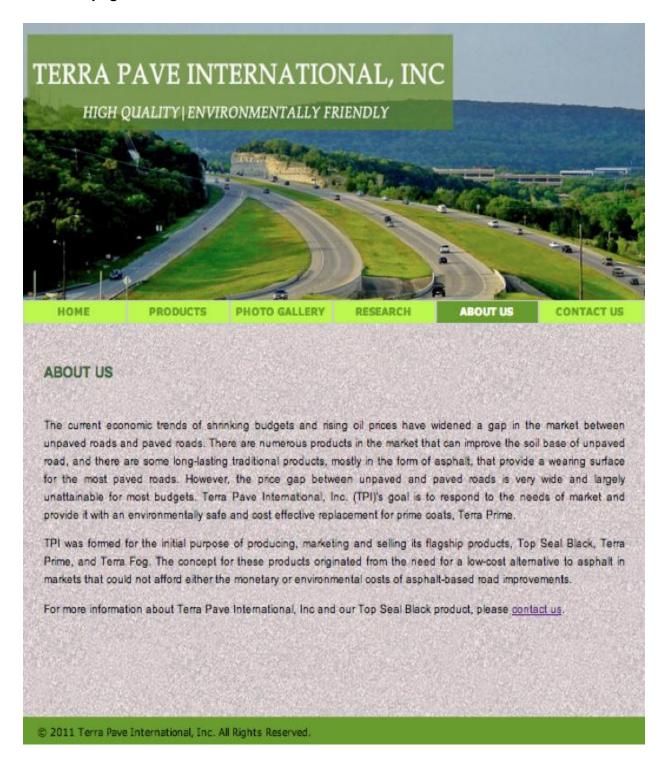


Figure 5: Screenshot of TPI's About Us

#### Observation

Reading through this page, it is easily to arouse people's curiosity that it is more
important to show the audience what the company has or wants them to know, or set it
up in a more formal arrangement like including company's mission, culture, business
and service area and etc.

#### Implication

1 Information of this company's professionals on board, culture, mission and so on are mandatory to be introduced and described on this page.

#### Contact Us page

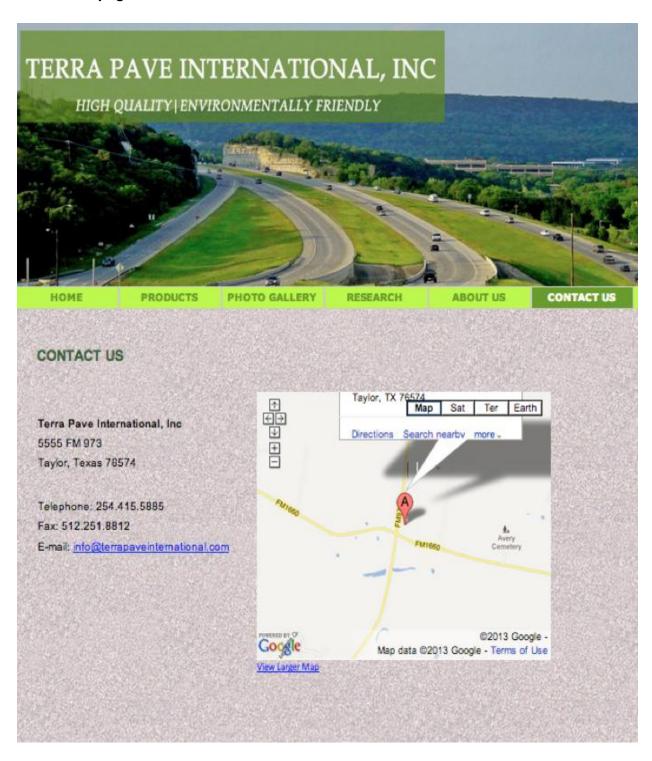


Figure 6: Screenshot of TPI's Contact Us

#### Observation

• Except from the long email address which may make the users feel uncomfortable, everything shown on this page is reasonable. The resolution of the map maybe the only thing that needs to be modified since the current one it too narrow to be recognized as a place in Austin.

#### **Implication**

- 1 Modify the resolution of the map and make it clear that whether it's the place of office or service.
- 2 Moreover, an interactive form of contact information could be created to in order to help the users leave their message in a quicker way.

Competitive research data was gathered and compiled using Capital IQ - a financial information provider and market research platform. Ten construction material companies were selected with a specified criteria in industry classification ("construction material"), geographic location (U.S.) and revenue (LTM: 5~10 \$mm). The companies selected were as follows: The Top Shop. Colorado Precast Concrete, Advanced Concrete Systems, Ratliff Ready-Mix, Van Der Vaart Holding Company, Jerry Preston Hauling and Material Supply, Newcods, Fireside Hearth & Home, Croell Redi-Mix and Enterprise Precast Concrete. We learned that while not every company website that was researched was a direct competitor to TPI, there was at least some relationship to TPI (i.e. similar products, audience, or services). In our competitive research we found that a majority of these company websites have been well constructed and designed. Further design research revealed that some of the websites have been designed and constructed by professional web design companies. Therefore, in order to learn TPI's shortcomings from other construction material companies, an observational analysis is conducted on these ten websites. The tables below compare the elementary website structure of the companies we researched with the structure of the TPI website and highlight competitor trends in pages and site layouts.

# Comparison of Existing Website Structure and Organization with Industry Cross-Section Main Website Structure Comparison

Main Page	<u>Page</u> <u>Occurrence</u>	Describing Terms	Lower-division Pages	Does TPI have ?
HOMEPAGE	10/10	"overview", "home", "about".	Company mission, location, news, introduction, awards or certificate, photo gallery	√
PRODUCTS	9/10	"products", or use products names directly.	Products and product features	PRODUCTS - DUST CONTROL, PRIME COAT, FOG SEAL, COMPARISON
ABOUT US	6/10	"company history", "history"	History, contact us, location, and associations.	V
PHOTO GALLERY	2/10	_	_	V
SERVICE	3/10	"customer	FAQ, instruction,	-

		service"		
PROJECT SHOWCASE	2/10	"experience	_	-
CONTACT	9/10	"contact us", "resources"	Location, guide, handbook, notebook, Q&A, video	√

## Lower-Level Pages Comparison

Lower-division Page	Page Occurence
History	2/10
Management Team/Stuff	3/10
Certificates/Awards	3/10
Location	10/10
DIY (Calculator)	2/10
FAQ	4/10
Instruction/Guide	3/10
Sign Up For Newsletter	2/10
Portfolio	3/10
"What's New"	2/10
Credit Application	1/10
Association	1/10
Product Features	1/10

#### Layout Elements Comparison

<u>Element</u>	Website Occurrence
Company Logo	9/10
Navigation System	8/10
Company Location	4/10
Contact Information	8/10
Mission Statement	1/10
Sitemap	3/10
Privacy	5/10
Copyright	4/10
Legal Notice	3/10
Support	1/10
Service Area	3/10
Facebook	1/10
About Us	2/10
Product	2/10
FAQ	1/10
Home	2/10
Photo Gallery	1/10
Careers	1/10

From the tables and data above, it can be concluded that:

- The TPI website has most of the essential web pages, but the content on each page is not appropriate for the intended audience.
- According to the products and services provided by TPI, an FAQ section or a DIY
  calculator will useful for users to get more information about the products and their
  application methods.

- Under the main pages of the website, lower-division pages of "Certificates/Awards", "Instruction/Guide", and newsletter or social media links are suggested to be added.
- As for stable elements of layout on each page, in addition to company logo, primary navigation system and copyright which already exist on the original website, at least contact information should be attached on each page.

#### **Audience Research**

Alex voice provided a spreadsheet documenting his cold calls, warm leads, conversations, and meetings from Summer 2012 to Spring 2013. The most requested type of information was case studies of previous projects. Interviews with Alex and the team revealed that there was a significant problem sending company information. Alex has had to send emails with a high number of large attachments rather than being able to send a link.

#### **Catalog of Existing Documents**

Document Type	Format	Stakeholder	Audience	Notes	For Site?
Go to Market Strategy	PPT	MKT/BSDV	Internal	business charts and graphs	No
Introducing Terra-Prime	PPT	MKT/BSDV	External	limited overview of Terra Prime	Yes
NIOSH report on asphalt toxicity	PDF	OPS	Internal?	research	Yes
ozone nonattainment as of march 2012	PDF	MKT/BSDV/ OPS	Internal?	research	Yes+link
TCEQ - Revisions to the state implementation plan for the control of ozone air pollution	PDF	OPS	Internal?	research	Yes+link
Terra Pave Final Presentation	PPT	MKT/BSDV/ OPS	Internal	for executives and investors	No
tnrcc cutback asphalt	PDF	OPS	Internal	research	No

TPI Feb 20 Presentation (updated deck).pdf	PPT	MKT/BSDV/ OPS	Internal	research	No
Terra Pave International - Controlling the Soils of the World	PPT	MKT/BSDV	External	significant images and description of application process and outcomes - military tanks, stone quarry, dirt road, parking lot	Yes

#### Conclusion

Overall the research plan succeeded. The company had already been accustomed to taking on new sets of volunteers for various projects so the stakeholders were prepared for our participation. This made the process feel very natural. Early stakeholder meetings and interviews created rapport and credibility that was required to take the multi-faceted project from a pre-existing site to a live demo of a full redesign. The stakeholders cooperated with the IA team throughout the entire process.

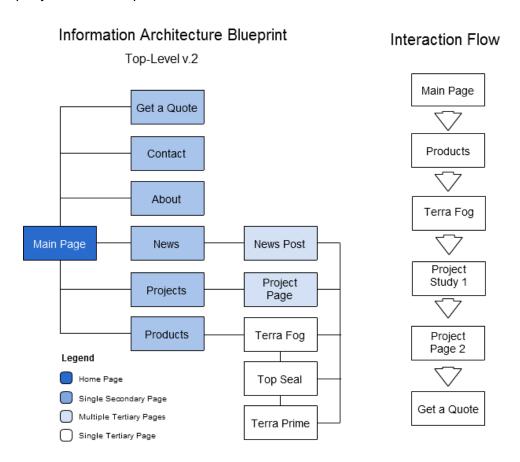
Two challenges, however, hampered the progress. The disorganization and quality level of existing content required our team to make content edits in order for user tests to reasonably assess credibility. Miscommunication and unexpected delays in receiving content, CMS and server access, and theme installation required the IA team to scramble in order to run enough user tests to assess design iterations.

Despite these challenges and the short ramp up time, the level of trust and cooperation was remarkably high. Sales and marketing teams trusted the IA team with sensitive customer data. They made themselves available for interviews and discussions. All requests for content were met. Stakeholders received critiques about existing content. These outcomes confirmed our assessment of the company culture and how to work with it. Terra Pave's view of the industry, competition, and the existing company website matched our independent assessments, and they were positively surprised by new recommendations that they had not considered in light of our analysis of a competitor's website. The success of our partnership had set the stage to implement the website strategy that the IA team recommended.

## Information Architecture and Website Design

#### **Blueprint and Interaction Overview**

The following two diagrams represented high-level views of the site architecture as well as an example of a customer interaction with the website. The information architecture blueprint on the left was a representation of the site map. It included the entry point at the main index page. At the secondary level, users had access to six individual pages: "Products," "Projects," "News," "About," "Contact," and "Get a Quote." At the tertiary level beyond the "Products" page there were three additional pages "Terra Fog," "Top Seal," and "Terra Prime." At the tertiary level beyond the "News" and "Projects" pages there will have been multiple pages as new projects and news items were added. The Interaction Flow diagram on the right represented a typical user interaction with the website. The interaction that was represented was a user that visited the main page of the site for the first time and was getting detailed product information before making a purchasing decision on asphalt repair materials for an apartment complex. The user got general information about Terra Fog from the main page and product overview page. They linked to the page on Terra Fog for more information and then linked to Terra Fog project pages. Convinced by this information, the user linked to the contact page to get in touch with the company and made a purchase.

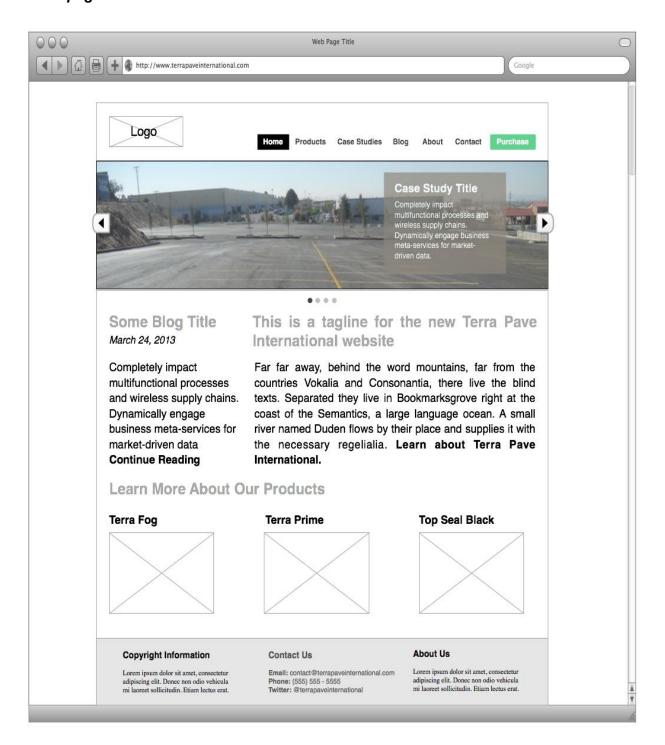


#### Wireframes and Design Decisions

#### Overview

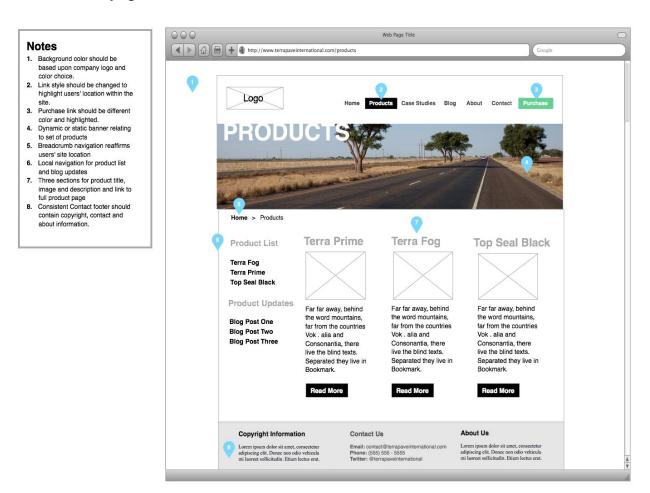
The following images were the high-fidelity wireframes used prior to website implementation. The high-fidelity wireframes were the result of early whiteboarding, sketching and some initial low-fidelity wireframe designs. We presented the wireframe concept to our stakeholders where we received an overall positive response. We also received stakeholder feedback and recommendations leading into website implementation to better align with content, business and user goals. At this stage, we did not have a company logo or branding available. The wireframes reflected that and, therefore, had a strong focus on product and content interaction. The intent in our wireframes was to focus on audience and stakeholder needs as well as utilize gestalt, minimalist and modern design principles. It was equally important to minimize without eradicating the environmental benefits that come with the company product line due to political perceptions related to product cost and efficacy. Perhaps, the most important goal in the design was to leave space for marketing language, quick content delivery, high-resolution images, and politically neutral benefits (such as cost and effectiveness) as a way of emphasizing company credibility.

#### Home page



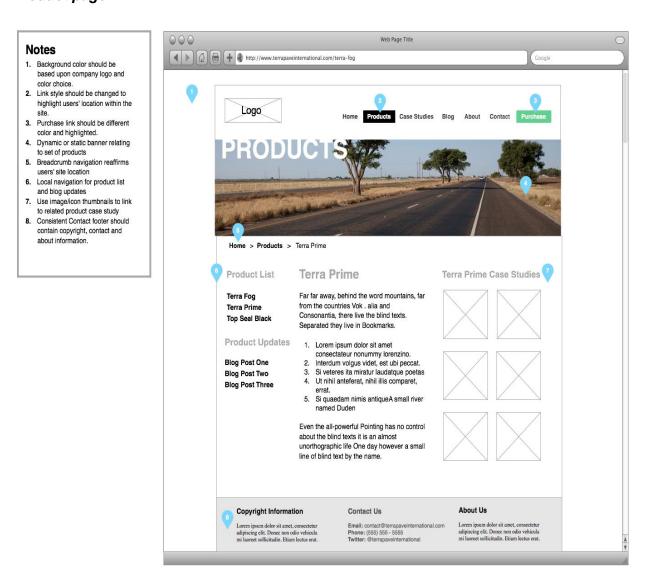
**Figure: New Home Page Wireframe** 

#### Main Product page



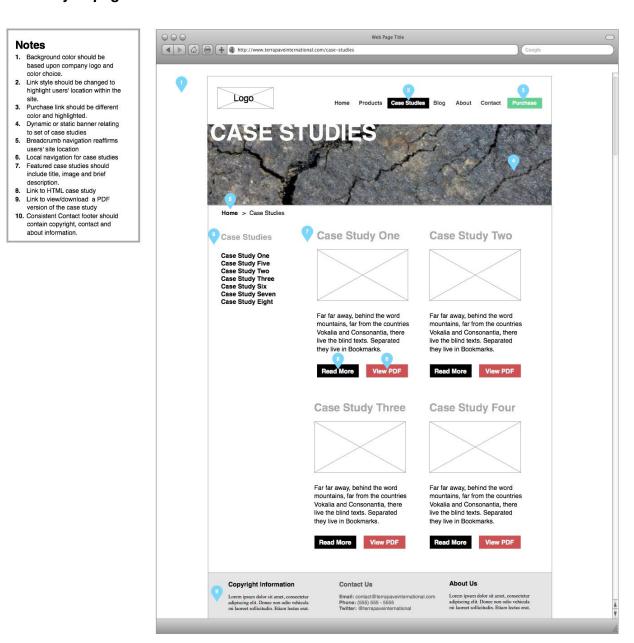
**Figure: New Main Product Page Wireframe** 

#### Product page



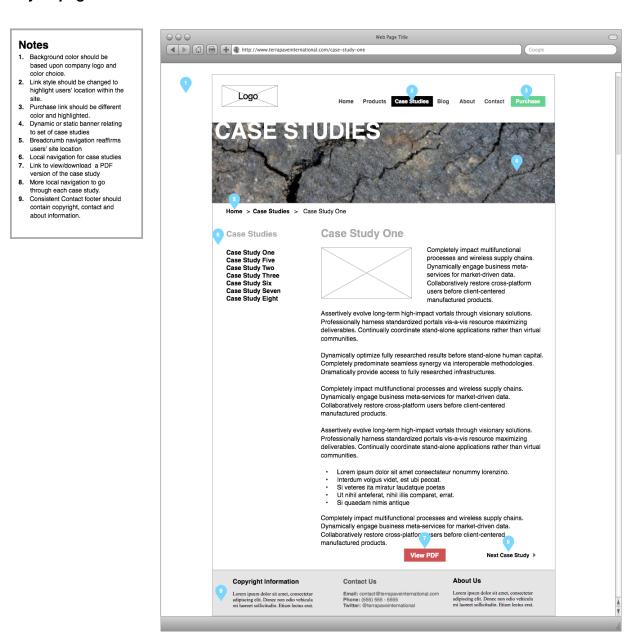
**Figure: New Product Page Wireframe** 

#### Main Project page



**Figure: New Project Page Wireframe** 

#### Project page



**Figure: New Project Page Wireframe** 

#### Main Blog page

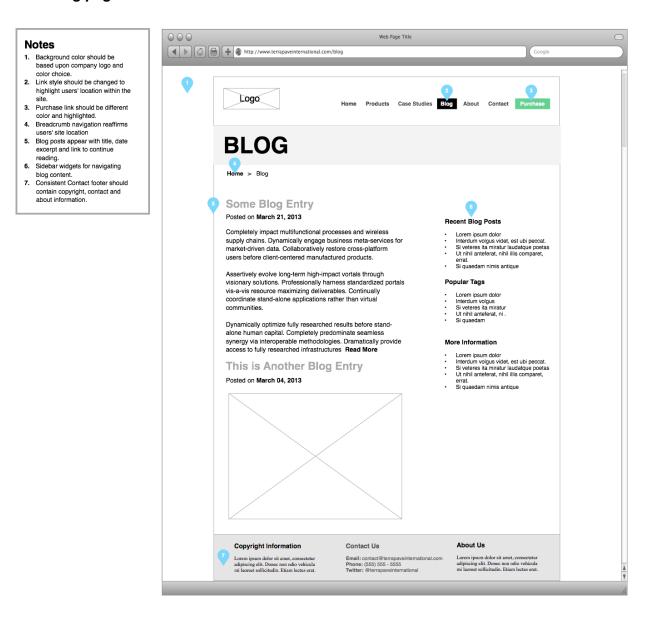
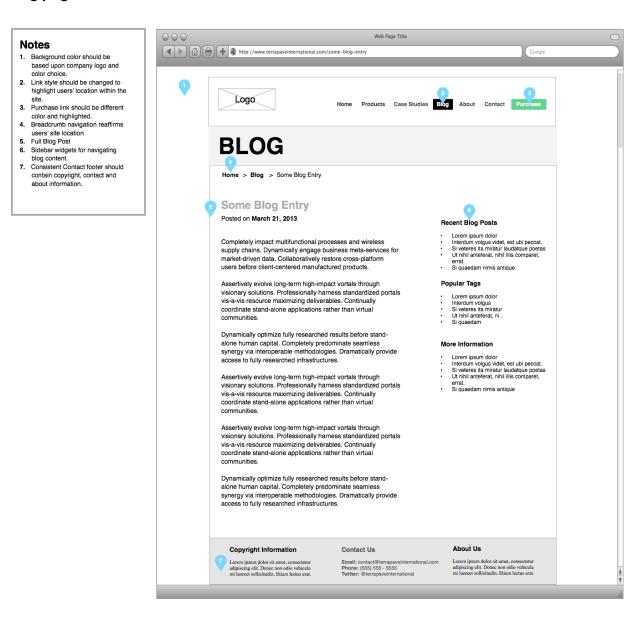


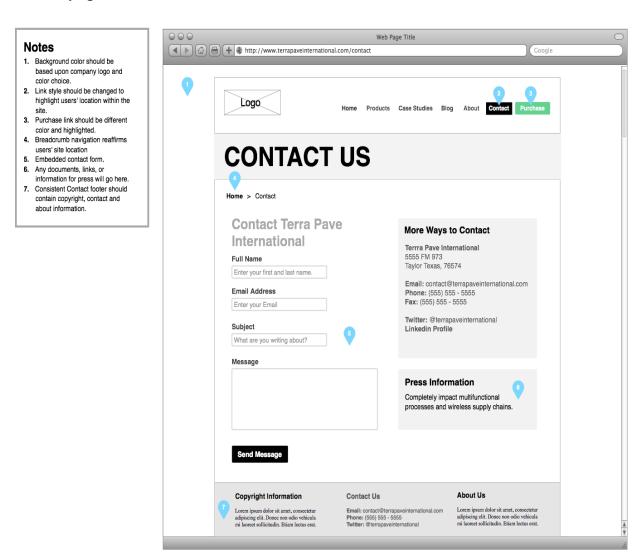
Figure: New Main Blog Page Wireframe

#### Blog page



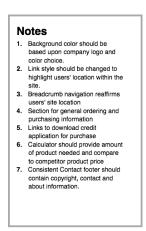
**Figure: New Blog Page Wireframe** 

#### Contact page



**Figure: New Contact Page Wireframe** 

#### Purchase page



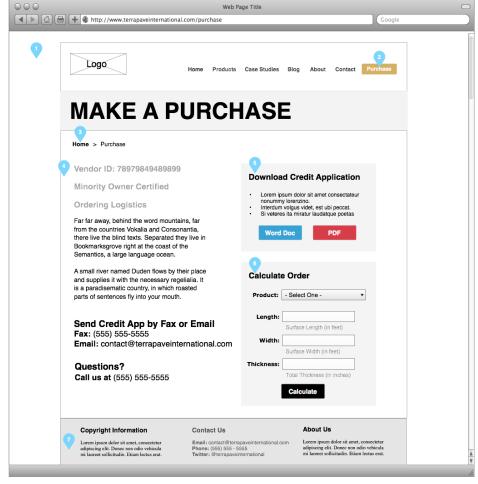


Figure: New Purchase Page Wireframe

# Technical Implementation

# **Content Management System**

We received approval from company stakeholders after presenting them with our high-fidelity wireframes. They provided us with feedback that we would use during to adjust our designs in the technical implementation phase. Moving forward with our designs and stakeholder feedback, we selected Wordpress for our website implementation. A content management system was a necessary component for website implementation given that the business needs a ways for employees or company volunteers to manage the site and its content without mandatory HTML or web programming knowledge. There are a few reasons why we selected Wordpress other available content management systems. One reason was that it was a tool that was most familiar to the Information Architecture team and thus could allow more rapid development. Another reason, Wordpress is an industry standard, which meant good software support and documentation. Finally, when compared to other content management systems it struck an appropriate balance between the learning curve and the opportunity for customization.

Terra Pave gave us consent to use Wordpress; however, there was more than one approach for getting our wireframe design to work with the CMS. One option was to build a completely new theme; another option we had was to use an available free theme, and the other option was to use an established proprietary theme. We wanted to rapidly build the information architecture so novel theme development was not the best option. We also wanted to ensure that company credibility could be best maintained by our theme choice, which could not be guaranteed with a free theme. So, we recommended an established theme be certain that the site theme would be well supported and updated in the future. We chose a theme called *Chameleon* by Elegant Themes because it seemingly supported many of our design interests. There would still need to be significant customization, but it put us several steps ahead of where we wanted needed to be to reach project goals.

# **Customization & Implementation**

The underlying theme that was used for the TPI website is the *Chameleon* theme developed by Elegant Themes. It provided the team with a launch point for implementation. The theme was an HTML5 responsive layout that included templates and existing design features that we could adapt and modify with our own customizations. Before we moved into any of the site styling and branding, we customized the structure to reflect our information architecture blueprints. This included creating and naming pages, defining URL paths, defining widgets and adding plugins. As we continued to customize and build into the theme, we added some content and copy, which had been sent to us by Terra Pave. Once we had a skeletal framework for the site, we took the design to our stakeholders for feedback.

The Terra Pave stakeholders gave us some suggestions and critique for our early implementation. They also supplied us with some additional web content that we could use to put into the site. We took their feedback and added content back into our implementation. This helped us to grow and customize the site. To customize, the team wrote customized HTML, CSS and PHP to better reflect high-fidelity wireframe designs and company brand. Other modifications and customizations were made to optimize and improve website information architecture and design. We made additional theme customizations and changes after observing users and getting feedback during our first user test.

# User Testing, Evaluation, and Iteration

Both rounds of user tests generally focused on credibility. Since this was a subjective topic, we chose to ask open-ended questions about why users chose the credibility score that they chose. In addition to credibility, User Test 1 also tested basic the usability of finding certain product information and sending the information to a colleague. All six positive responses confirmed that the existing architecture generally met the strategic goal of providing efficient access to product information. As a result, we eliminated the usability aspect of testing in the second user test so that we could further explore what affected credibility.

For User Test 2, we replaced the tri-column product section in the homepage with Projects so that Projects could be represented more equally compared to Products. We also filled out the Get a Quote page which had been empty in the first test. In effect, we had changed variables in the second test that could have affected the test results in order to shift into a deeper exploration of credibility. The questions, however, remained the same. We reasoned that if the answers to the same open-ended questions contained very similar complaints or compliments even though the tasks changed, then issues with the quality of content must be the problem rather than the placement of content.

# **User Test 1**

**Formative Development:** Stakeholder feedback on wireframes during Website Strategy and Design Presentation.

**Goal:** Assess the credibility of the company based on the visual language and experience on site as well as how efficiently the site provides key product information.

**Format:** Live on-site at UT Civil Engineering Department Anonymous; no identifiable info recorded. Talk-out-loud. Facilitator + up to two note-takers. Two laptops with Wi-Fi. 6 total users sought.

Dates conducted: April 24, 2013 - April 25, 2013

# **Orientation Script**

Thanks for taking part in this user test. My name is [name], and I am a graduate student doing a user test under Dr. Fleming Seay in the School of Information here at the University of Texas. This is a project to investigate the effectiveness of a website for a new pavement materials company. The company is being supported by the Austin Technology Incubator and the Center for Transportation Research at the University of Texas.

During the session, I will ask you to do a few tasks and will observe you while you do them. Please try to think out loud while you're working. Just tell me whatever is going

through your mind. Please know that we're not testing you, and there is no such thing as a wrong answer. You will help us understand what works or doesn't work with this system by doing this.

Also, please be completely honest when expressing your thoughts. I'm just here to moderate the study, so nothing you say about this system will upset me or hurt my feelings. If something about using the site is hard or doesn't make sense, be sure to let me know. Also, if something works well or surprises you in a good way, be sure to tell me about that too. We want all of your feedback.

By listening to your thoughts and observing your actions, we hope to evaluate the browsing experience for this website. The test will last approximately 5 minutes followed by a simple survey that should take 5-10 minutes.

Nothing you say or do will be used to evaluate you. Also, no personally identifiable information will be gathered during this study. This study is completely voluntary. You can stop the test at any time for any reason. Do you have any questions before we get started?

# Tasks:

- 1 Staying on the home page, talk out loud about first impressions you have about the company.
- 2 You have heard about a new type of prime coat. Use the website to find out more about that product.
- 3 You want to send a PDF of a product article about fog seal to a colleague. Use the website to access the PDF.

# **Observations and Post-Test Survey Results and Conclusions:**

# **User Test 1 Observations**:

### User 1

- Task 1
  - Using the slider navigation to read company information.
  - Positive Feedback
  - Doesn't tell a whole lot about pavement
  - Not sure what they are selling.
  - o check the image slide one by one
  - o scroll down and scroll up
  - "look good"
  - "feel confused about this company and what is this company for "
- Task 2
  - Used the top navigation link
  - Used local navigation
  - o Went to PDF file

- find Product page and then scroll down
- o use local menu
- "easy to find the information"
- "I like the research picture"

# Task 3

- Looking around for Fog Seal product
- Clicked on Projects
- Used local navigation.
- Get a Quote "not sure how to do it"
- Ask for more instructions

# User 2

# Task 1

- Seems like a simplified, white space
- Nice Images
- Images tell the company story
- Social Networking +
- Oversimplified
- More visuals
- Three Main Products
- Good Contact Information

# Task 2

- Went to product page from Top Nav
- Opened PDF
- Looked at graphs
- Looking for an advertising slogan
- Easy to find
- Not much content
- Not enough technical details
- Need Something to compare it to

### Task 3

- Wanted an image on the homepage
- Found PDF easily

# User 3

- Task 1
- o play with the image slider first
- scroll down and up
- "don't know what they do"
- More from the name than any visuals
  - Scrolling down something to do with pavement
  - Reads the blurb to find out more about what they
  - Thought the company was about a way to fix concrete without replacing it
  - Likes the slider and lots of pictures

- Terra Fog picture makes sense because it's going from bad concrete to good concrete
- Said products were listed clearly
- Noticed ABJ reference in Local Nav and was impressed
- o cool that contact info is easy to access. noticed twitter acct
- Get a Quote is easy to see; hates it when websites don't highlight the most useful action

### Task 2

- Went to products page using product picture on lower part of homepage
- "product seems easy to implement"
- Used PDF button for document
- laughed: "higher is better / lower is better" that makes it really easy to understand why Terra Prime is better
- Not enough product info on product page to describe what sets the product apart from other products (aka. commodity vs. better/faster/cheaper)
- Presented well
- o Graphs are helpful
- Brief summary works better
- Bullet points work better
- Lost navigation
- Download format vs open in the same window
- click on Products and then on Prime Coat
- scroll down and up, click "View PDF"
- "information is presented well"
- o graph in the pdf is pretty cool?
- but have trouble going back to the main product page
- pdf in demo format? see the same content of the website also in the pdf document

# Task 3

- used Local (side) nav "really easy because the links are there"
- Easily found second PDF
- would email the link or just send the main URL
- Content is too similar on product pages
- o find Fog Seal using local menu
- "I feel confused about the navigation system because of the inconsistency of headers and the local menu"

### User 4

# Task 1

- Seem like they are needing to fix concrete.
- Slider is good
- Go from good to bad
- List products pretty clearly

- Featured in Austin business journal good
- Social Media is good
- o Get a Quote is very easy to see

# Task 2

- Used products link. Easy to find.
- Seems like an easy to implement solution
- Good use of graph information
- Simplified and PDF on the website
- Didn't get the product
- Image on the page, to give more appeal

# Task 3

- Easy to get from one product to another
- Went to product
- Copy and Paste
- Give the user the page link instead.

# User 5

# Used mouse

- Task 1
  - Clean
  - o effort was put into the site
  - o concise and good amount of info
  - company looks professional
  - o "This site looks clean."
  - o "concise, but good information"
  - o scroll down and scroll up a lot
  - o "this company looks professional"

# Task 2

- used product picture in lower homepage; also noticed product tab at top clicked on Terra Prime from side bar
- o info looks alright; not too long
- o Terra Prime Products...
- Use product tab Prime Coat
- "The local sidebar looks okay".

# Task 3

- Used left nav
- "I didn't know there was a PDF until I saw the View PDF button on Prime Coat"
- Fog Seal from Products -> View PDF
- o "I need to scroll down in order to find the 'View PDF'".

# User 6

- Task 1
  - seems like nice layout, standard website for a pavement company
  - o "nice layout"

- o "standard website for pavement company"
- o scroll down and up
- Task 2
  - o used products tab at top
  - o sees Fog Seal first, then Prime Coat
  - o clicked on Read More -> View PDF
  - Products tab -> Prime Coat -> Read More
- Task 3
  - o used browser Back button, then went to FS from left nav
  - o I would either email the link or download the PDF and send
  - Go back to the main product page -> Fog Seal -> Read more -> View PDF or send a link

# **User Test 1 Survey Results:**

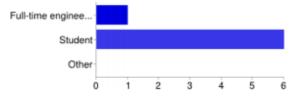
Kelly Liao

Edit this form



# Summary See complete responses Publish analytics

### What is your current occupation?



 Full-time engineering professional
 1
 14%

 Student
 6
 86%

 Other
 0
 0%

### If you are a student, what is your major?

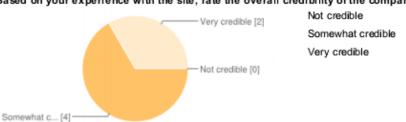
Computer Engineering - Software Civil Engineering Aerospace
Engineering ee Electrical and Computer Engineering Mechanical Engineering

# Briefly describe what products this company provides.

Pavement products that specialize in environmentally friendly applications.

Pavement and protective coating Materials for roads and other pavement applications they are some products to improve the quality of pavement. Provides coats and seals for primarily roadways to repair aging infrastructure in a cheap, easy, and environmentally friendly way. Road Pavement, cement, finishing, and other things related to road constuction

# Based on your experience with the site, rate the overall credibility of the company.



https://docs.google.com/forms/d/1FXMaFXmLS\_bq.QdnE2BdptzynLMrVoWJ1tSWjgcE5hMsAriewanatytics

1/3

0%

67%

33%

### Briefly explain why you chose the credibility rating that you chose.

Presented reasonable information, and gave a professional look with scientific records shown in datasheets about their products. I would expect this in a pavement company. Seems like they offer different products, use good technical language, however I don't know enough to effectively evaluate if these are actually good. The site looked clean and refined and there did not seem to be any inconsistencies in formatting or content. I would have seen more credibility if there were badges of various governmental entities (if any) supporting the company the introduction is simple and neat which show the professional of the company. in addition there are some pictures make it easy to get the figures of the products. I would have given it somewhat credible, but the link to the Austin Business Journal Article made me pick 'very credible'. With further browsing and reading I may have found them very credible without the ABJ link, there just wasn't enough time for me to evaluate. The look of the page made it seem that it had been thought out, so it was slightly credible. The "spec sheets" for their products also seemed to have graphs and figures, so they were probably thought out. However, it seemed like there was a lack of material to find. Only one 3-pagePDF about an product seems like it was too short.

### What did you like the least about this website (if anything) and why?

Dated layout, information at a variety of focal points, and the user isn't guided to find information as well as it could. Seemed okay all around. Nothing comes to mind none, the website is pretty good but i may find somewhere i don't like if i use it for a longer time. To get even what I thought to be basic information, I had to open up the pdf and read through it. Not knowing a lot about the subject, it makes it hard because the pdf contains so much information. It seemed too simple. Almost like they cut out information, images, links just for the sake of simplicity. It made it seem less professional

# What main thing would you change about this website (if anything) and why?

Less initial information, with fewer (but more direct) navigation options that shorten the mental overhead needed to process the correctness of my navigation decision. The copy can be changed in between products to avoid confusion. Nothing For presenting on large projectors, the saturation of the colors is low and a more contrasting color scheme would lend itself better to be easily seen in these types of applications. the index page, personally i prefer a simpler index. Highlights of key features, or things to know on the product page. Also including some header image with each product. Add more information about every product.

### What did you like the most about this website (if anything) and why?

Group of products, links, and photos were all reasonable and predictable. The overall layout was informative. Clear layout, wasn't cluttered with information, legible, things seemed easily accessible. It was clean and refined—it looked like someone put a good amount of effort into designing it—i like the the contact page, it seems it is very easy to use. The homepage. It is nicely laid out with a good balance of information and visual attractiveness. Adding some of that feel to some of the other pages could bring them up to par. It looked very good. The images were nice and the titles were right there in the center. This made it so that I could find everything immediately. It was not difficult at all to find the information that I needed.





# **Summary:**

Visual credibility: Strong;

Usability: Strong

Content credibility: Weak. Text content was too sparse, repetitive and did not efficiently

highlight the most important aspects of the products compared to its competition.

Main recommendation: fix the copy.

# User Test 2

**Goal:** Assess the credibility of the company based on the visual language and experience on site as well as how efficiently the site provides key product information

**Format:** Anonymous online opinion survey to TXDOT PE's, misc. PE's, Austin Technology Incubator colleagues, engineering students, and miscellaneous testers.

**Task:** Take up to 3 minutes to browse the website <a href="www.terrapaveint.com/demo7/">www.terrapaveint.com/demo7/</a> and then complete the opinion survey online

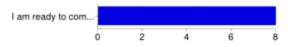
**User Test 2 Survey Results:** 

Kelly Liao Edit this form

8<sub>responses</sub>

# Summary See complete responses

Take about 3 minutes to browse the website www.terrapaveint.com/demo7/. The link will open in a separate window. Then check the box below to start the opinion survey.



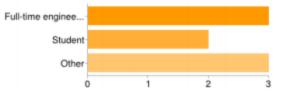
I am ready to complete the opinion survey. 8 100%

# Opinion Survey for Terra Pave International Website (Anonymous)

Take as much or as little time as you would like to complete the survey.

# About you. (Section 1 of 3)

# What is your current occupation?



Full-time engineering professional Student

Other 3 38%

# If you are a student, what is your major?

MFA in design Civil Engineering MS Tech commercialization

# Credibility and Clarity (Section 2 of 3)

https://docs.google.com/forms/d/1j2CS8tL9mJVP0bmCETvP7uAzi5pr91oVOJGCzUE6qH8Niewanalytics

1/4

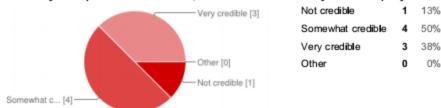
38%

25%

# Based on the information you found on the website, describe what stands out to you about any or all of the products on this website?

This is a asphalt company that produces polymer based asphalt to increase durability and strength. They also had 3 different projects in Austin, elPaso, and amazon. They all seam to be eco-friendly and economical alternatives to traditional payement treatments. Seems like a clean, mobile responsive site. The about page doesn't have any pictures of the staff or information about founders or execs. Seems odd. Also doesn't talk about your history or when you were started. The ABJ article has a cut off photo of someone. After the products are applied there is a clean and finished look. The part that stands out to me are that they are eco-friendly and cost effective. In my mind, that means that they are sustainable alternatives for many projects. That being said, you never mention sustainability once. It is a buzz word in today's industry and I feel like you need to play up that aspect. You also don't talk about lifecycle cost saving or anything. I feel like doing that would help too. The nice images of good-looking roads. Top seal black appeared to offer radical changes quickly to non-urban populations. The other two products are largely undifferentiable from the current industry standards on the main page -you must go to the detail pages to find out why they're better. But TSB is immediately apparent as an exciting new product. It appears that the products are more environmentally friendly and are more effective than the most widely used products.

### Based on your experience with the site, rate the overall credibility of the company.



# Briefly explain why you chose the credibility rating that you chose.

The only things they provide is UNiversity of texas to support themselves, however, they didn't provide any sign or logo from university. The other reason was, they didn't proof any thing in this page, I expected to see they lab or manufactory, or some videos of their process. Credibility is greatly improved by citing several projects in which Terra Pave products were used. Pages don't show who I'm working with a mentioned above. Only three projects listed as examples. There was no mention of cost impact. I would also like to see testing data proving the product does what it claims. The website is pretty and looks well designed, but the information is pretty vague. You don't really sell me enough on the product, and you have a "projects" tab, but you don't say what the point of the projects were or caption any of the pictures associated with it. You don't even have comments from the project owners. Furthermore, in the products tab, you use the same stock sentence: "Insert Product Name" patented by the University of Texas at Austin, "insert short description". It is easy to use, requiring no special equipment or handling

procedures. These all occur very close to one another and the repetition is very obvious. The site is simple yet professional, and it is easily navigated. It's not cluttered with text, and it uses images to explain the products. Precisely because the site is attractive, minimal, and confident. It makes it appear that the company is not over-extending in its product line, and that it does have traction in a variety of cities. Good: It came out of a major University. Bad: Too much information which makes it seem like you are trying to hide something. Just tell me what the TxDOT requirements/Specs are and how your product meets or exceeds them. Then tell me the back-up information.

# Likes, dislikes, and changes. (Section 3 of 3)

### What did you like the least about this website (if anything) and why?

it does have too much to read about. Even as a civil engineer (though not one experienced working with pavements), it's not immediately clear to me what these products are for and how they're different from one another. Doesn't exactly tell me who the customer is. Governments? Construction contractors? Developers? What am I getting a quote for? What size project or problem do I have? Seems like I'd need millions. There were not enough example projects the product. I would also clarify the use for each product in a short and concise way. I dislike how you reuse pictures. It is a small website with only a few things to look at, don't reuse pictures so close together. Also, you picture for the news page is just cutting people off. NA. I would like to see a few words about the vestly improved Eco-friendliness of your products right on the landing page. The main text is hard to read (thin black text on grey speckled background). Too much information on each page.

### What main thing would you change about this website (if anything) and why?

It add more video of process and pictures of lab or manufactory. Greater differentiation between three products. So I know with absolute clarity what each is for, how they differ. Help me quickly understand the pain and how you solve it. Have a video, tag line or something on the front page so I know if I'm in the right spot. Clarify application of the products. I would prefer some captions with the photos. I don't care for your product description PDF. I feel their should be more pictures of the product itself and application of it. Not just end and finish result. I also think that the information could be conveyed more attractively, like the ones used by AutoDesk for their products. It is product brochure after all and it is supposed to help sell the materials. Lastly, the Terra Pave logo in the pack of the PDF is just distracting and makes it difficult for me to focus on the text (actually makes me dizzy to look at it). I would remove the watermark and place it elsewhere. The banner image for Top-Seal Black is a little blurry. Maybe another image could replace it. Precisely the above... 1) background and text choice 2) Use more bullets. Your decision makers are not going to be wanting to do a research project on your product. 3) It comes across very academic. Your road companies are not academics. Be straight forward. Save the academic tone for the technical/research tab. 4) Include a technical

https://docs.google.com/forms/d/1j2CS8tL9mJVP0bmCETvP7uAzi5pr91oVOJGCzUE6qH8Niewanalytics

information data sheet so that a Contractor can submit the sheet to the Engineer for approval. 5) Include photos of your products. The photos look like roads that could be anywhere. If the main product is a primer, show the primer on the base. Show me it being applied. Show the containers it comes in. The pictures of cars driving on roads does not tell me anything.

### What did you like the most about this website (if anything) and why?

the graphic seems simple and its easy to find information inside. Simple and straightforward. Only three products listed. Only three example projects. Not too much overload. Seemed clean and nice on all mobile devices. Clean website, easy to navigate. Easy to tell how I get into contact with the supplier. As I said before, site is pretty and easy to navigate. Just get up the value of the content and it will be fine. I like that the site balances text, white space, and images well, which keeps it from getting cluttered. Very clean, vibrant pictures, content logically accessible but you're not bombarded with it on the landing page, white papers available. Overall it's just a very good way to present your information. It's exactly what a website should be. The research tab was well done and did a good job at meeting the level of the audience that would be interested in the research.





# **User Test 2 Summary:**

Visual credibility: Strong;

Usability: Strong

Content credibility: Weak. Text content was too heavy, repetitive and did not efficiently

highlight the most important aspects of the products compared to its competition.

Main recommendation: fix the copy.

# **User Testing Conclusions and Highlights**

Across both tests, the primary complaint focused on the quality of content in the Product pages. In the second test, additional complaints arose about the thinness of content in the Project pages. The primary compliments focused on visual presentation, efficacy of the navigation, and ease of use in sharing information.

# Final Design Validation and Summary

# Summary

Through the course of this project the information architecture team had significant accomplishments. First and foremost, we worked with Terra Pave staff, potential audience and available content to develop a strong information architecture. This information architecture served as a pivotal foundation to design and implement a website redesign for the company. We left stakeholders with a website that could deliver a message to their audience that they were a credible source of pavement materials and an improved alternative to problematic competitor products. Each page that we designed was done so in a way to encourage audience engagement and product interaction. While there were some tasks that were accomplished, such as building a product calculator and content refinement, we left the company with appropriate tools and infrastructure for a full deployment. We concluded by summarizing some additional testing to identify issues with web standards validation.

# Accomplishments

# Information Architecture

Our team came to this project with the goal of researching the needs and tasks requirements for the customers and visitors of the Terra Pave International website, the needs of the company stakeholders, and the organization of available company web content and assets. Our goal was to redesign the company website and firmly install an information architecture that would satisfy these business, user and content needs. We analyzed the website that the company was using to deliver their message about the Terra Pave products and product research. From the start, we knew that the company website lacked an information architecture that could deliver a clear message to a consumer audience. We met with company stakeholders each week to learn more about the products and the industry. Before we moved into any of the information architecture, we learned as much as we could from our stakeholders and the asphalt industry. Once the team felt, it had clear picture of the company the audience and each of their goals, we moved into design iterations. Through whiteboard sketches, low-fidelity and high-fidelity wireframes, and website implementation, we received feedback from our stakeholders. We organized and arranged available web content to include into our information architecture. Toward the end of the project, we put our information architecture in front of users to test. By the end, we had built the company a new website and a sustainable and effective information architecture.

### **Website Structure and Content**

The following sections describe the final website structure and content that we will pass on to the stakeholders. Based on the original website structure - "Home", "Products", "Photo Gallery", "Research", "About us", "Contact us", we designed a new one consisted by the main pages of "Home", "Products", "Projects", "News", "About", "Contact" and "Get a Quote" with some lower-

division pages (see the sitemap below). A project page was added as a way to display all the projects that the company, The company name and brand has been included in at least one of each of the product pages. The "News" page played the role of presenting the product-related or project-related news, and instructing the website's audience to the external sources of these news. On the "Get a Quote" page, we added guidelines of getting a free quote and ordering logistics for TPI's products as well as a calculator used to help potential customers calculate how much of products they possibly need for their projects. What's more, consistent layout elements on each page were composed of the company logo, external social media linkages, a search box, a main navigation system of the whole website and a footer with snippets of "About Us" as a brief introduction of the company, "Copyright Information" and "Contact Us".

# Terra Pave International Sitemap Terra Prime Terra Fog Terra Top-Seal Black Projects Austin, TX Coari, Amazonas Brazil El Paso, Texas News About Contact Get a Quote

Figure: New TPI Website Sitemap

# **Home Page**

The home page is unique from the rest of the site layout and structure. The home page includes a distinct carousel for high quality images. Each of these images is associated with one Terra Pave product page. Beneath the carousel, a web company tagline is included. The tagline is included to immediately captivate the audience with a quick and bold message. A link beneath the tagline engages visitors to learn more about the company. Under the company tagline content, there are three content blocks. One content block was for recently added news, another was for containing more information about the company and third block which included high quality images that lead to projects.

# **Product Pages**

In the product section, we included a local navigation for company products: "Terra Fog Seal", "Terra Prime Coat", "Terra Top-Seal Black.". Also included in the product pages' local navigation is an additional section for product updates. The new navigating terms were more accurate and expressed more product selection more clearly than the original website; the local navigation is more appropriately labeled and defined as true local navigation. The "Product Updates" was the substitute of the previous Research page and Comparison page, which would not have aroused the audience's confusion but left them a good impression that this company was actively developing new products. For the main product page, some high-resolution images as well as "Read more" button were attached to attract the audience to know more about the products.

For the individual product page, several changes were made as well. First of all, the content became more descriptive and promotive. Some words in the paragraphs were set up in bold in order to impress the quick readers; and a "View PDF" button was added as an option for the audience to know more details about the product, to download and save it on their own computers, or even to be used as product demos sharing with others.

# **Project Pages**

The project page showcases work that has been done using various Terra Pave products. Project pages invite users to see for themselves how the products hold up and perform in the real world. Each project page includes it's own set of local navigation. The local navigation is divided into headings associated with each project.

# **News Page**

We added a News page to give Terra Pave stakeholders a way to ensure that company press, articles, and events could be added. The website audience would view these pages and recognize that the company was an active participant in the industry, encourage users interested in the materials to return to the site and pass Terra Pave news to colleagues.

# **About Page**

The About page is used to present random words describing the company and its products, but after our request for new content, the TPI stakeholders sent us a more cohesive paragraph to state the company's mission. Therefore, the new statement was published on this page as it is now.

# **Contact Page**

The contact page includes all available contact information: phone, fax, email, mailing address and social media. It also has a contact form to minimize the steps it might take for a customer to make contact with the company.

# **Get a Quote Page**

This page is used as a call to action throughout the site. It stands out in the navigation to invite users to get more information about making a purchase. It includes content related to ordering

logistics, the quote process, company contact information and a calculator estimating materials amounts for their project

# **Non-Accomplishments**

- 1 Content was too thin for optimal credibility assessment
- 2 Get a Quote Calculator was not completed by TPI in time for this project
- 3 User testing not as targeted towards civil engineering professionals and students as hoped
- 4 Questions still remained on the actual client site so the following documents were not created:
  - a Controlled vocabulary for the site including news post tags.
  - b Templates for each type of page.
  - c Image guidelines (style, content, colors/hues, sizes for each type of image).
  - d News post guidelines.
  - e CMS user account guidelines.
  - f On-site search tuning.
  - g Google Analytics and SEO keywords.
  - h PassPack or KeePass+Dropbox account for password administration.
  - i Responsibilities and assignments for site management.

# **Lessons Learned**

# Shihan Huang:

- 1 A robust process of building a website including website analysis, user survey and user testing, stakeholder interviews, website wireframing and drafting, and final implementation.
- 2 The essential elements of a website, especially to a construction material website Product page and Project page seem to be the most important sections.
- 3 A comprehensive and precise documentation of an information architecture project, such as how to write a strategy document.
- 4 Technical tools that can be used in a website redesign project, such as CMS WordPress and Google Form as an online survey tool.
- 5 With all the necessary content, how to effectively and sensibly organize them into a formal, impressive and credible website.
- 6 How to negotiate with the stakeholders and how to collaborate with group members.

# **Kelly Liao:**

- 1 Working on an international team was still difficult even though all members were proficient English speakers. Extra care to confirm understanding of opinions and next steps was required for the whole team due to differences in English language skills.
- 2 Creating or modifying our own content were required of IA teams in order to produce useful demonstrations for stakeholders

- Working with a small startup stakeholder team did not necessarily mean a nimbler process compared to working with a team within a larger company that was solely dedicated to this project.
- 4 The entire process of user testing and analysis required considerable preparation, coordination, and time. The DECIDE evaluation framework was useful to apply.
- 5 Recording actual dates, taking time to summarize meeting notes after each meeting, and starting off writing in the past tense would have saved time in preparing the final project documentation.

# **Nicholas Mitchell:**

- 1 In certain industries, a company may be very successful without requiring a website equipped with good aesthetic design or built with great information architecture.
- 2 Having clear communication about our role as an IA team was a critical step for setting up boundaries and meeting expectations for the class project and company staff.
- 3 Getting a content inventory in an earlier stage would have helped us to notice gaps in that area in a way that could have been better addressed in later stages.
- 4 Cooperative stakeholders are a tremendous asset to the information architecture strategy. Their input is one of the driving forces in the design process. However, when a stakeholder rejects a design decision, it's important to use make a case based on IA literature and best practices.
- 5 A balanced collaboration with individuals that have diverse backgrounds and knowledge expertise in different areas was beneficial to producing a successful end product.

# **Validator Stats**

Website markup validation was tested with the following website:

# http://validator.w3.org/

The errors that were found using the web tool should be considered non-critical errors (errors that do not affect site performance, functionality or design) and are largely a result of the code written into the *Chameleon* theme developed by Elegant Themes. Other non-critical errors are found to be associated third-party plugins that included were written with out-of-date code or code with minor errors. Another source of validation errors would be the compatibility of the theme, plugins and the custom written code. It is recommended, but not necessary that page errors are tested and addressed where possible prior to a full site launch.

# **Actual Schedule**

# Week 8 - Week 10: Identifying Project Goals and Making Website Wireframes

- We started to have official meetings with some TPI stakeholders and its' workers who
  are available on campus. First of all, we introduced to them about our roles as an
  Information Architecture team instructed by Dr. Fleming Seay and the purpose of this IA
  project.
- We listened to their requirements and expectations of a new TPI website, and more importantly we got to make it clear of the goals of this website that they hope it would accomplish.
- Based on all the materials and resources that TPI stakeholders let us get access to, we
  moved on to the website's architecture design by using wireframing tools like Adobe
  Photoshop.
- After we had finished creating the fundamental wireframes, another official meeting was held with TPI stakeholders and workers about what should be kept, removed or improved on the prototypes.

# Week 11 - Week 13: Website Implementation

- We waited to get the textual content written by the TPI's officers, as well as their registration and payment for the specific theme we chose from WordPress.
- As soon as we received what we needed, we started to implement our designed wireframes on the theme and made it act as a real website.
- In this process, we got together twice a week in order to check out each group member's implementing progress, discussed about either technical problems or choices that we had to make for the website architecture.

# **Challenges**

We had been waiting the TPI stakeholders to send us the website's textual content, and the content that was received doesn't live up to our expectations for fulfilling an informative website.

# Week 14 - Week 15: Stakeholders Interview and User Testing

- We presented our first-implemented website to the TPI stakeholders to show them the
  goals we achieved, the issues that we solved and the considerations taken in the
  implementing process.
- In the meeting with the stakeholders, we discussed about every detail of the new website, listened to their feedback and took notes of it.

- At last of the meeting, we requested for more textual content and high-quality images from them and asked them to assist in our second user testing - helping us deliver some user surveys to some civil engineers and TPI's prospective customers.
- Right after the meeting we modified the first version of website according to the stakeholders' feedback and conducted our first user testing in one of the buildings where the Crockrell School of Engineering at UT reside - Ernest Cockrell Jr. Hall (ECJ). Six engineering student were randomly chosen and invited to do the user testing for the website.
- As soon as the first user testing was finished, we analyzed and summarized both users' answers to the survey and their searching behaviors on the website.
- Revision of the website was conducted again depending on our conclusions from the first user testing. We began to do the second round afterwards, and the user survey was sent by the TPI stakeholders and one of our group members.

# Challenges

The first user testing went on well since there are engineering students at UT willing to help. However, the one which was conducted among the real prospective audience ran into some trouble and we received a decent amount of replies much later than we expected.

# Week 16: Finishing Project Report and Preparation for Project Presentation

- We collected all the work that have done for this project, including all the reports that were written for reporting project status to Dr. Seay and documentation, meeting notes, user testing surveys and results, and our final version of redesigned website.
- Based on the collection above and the prior strategy document, we accomplished the final report for the project.
- We created a slide for the final project presentation and practiced each one's own part individually.
- In our last meeting with the TPI stakeholders, we explained the website's current condition to them and gave them some advice about how to instruct their employees to take over our job and continue by themselves.

# **Appendix**

# A Original Mission/Vision/Audience

It will be cleanly organized in a way that reflects diverse user needs. The typical user groups will be well informed on the variety of products that have been developed. The user groups will understand the cost, safety, quality, performance, and environmental benefits that Terra Pave products offer. The user groups will have easy access to information regarding purchasing requirements. Users interested in the research evidence will easily find the evidence not only sufficient, but impressive. After visiting the website, most users will leave with the information necessary to make a purchasing decision for a Terra Pave product. If they don't make that decision after reviewing that site, they will follow-up with contact to the company by email, phone or social media to finish their transaction.

The audience for the terrapaveinternational.com website consists of three distinct groups of people. Each of these groups falls into a more broadly defined category of potential customer. The first main customer group is the political customer. The political customer is a decision maker charged with the task of choosing asphalt and construction products for their local jurisdiction. This political user is not able to understand (for lack of time, specialization, interest) some of the more technical research and evidence that supports the Terra Pave line of products. Thus will be more interested in getting quick answers and slogans for understanding the products. This information informs their decision as they weigh things like cost, safety and political affiliations. The next important customer is the purchasing administrator. This user is likely to be looking to meet certain criteria of some kind of purchasing document. The Checklist user is engaged with site and is looking for some very specific information. The last significant website user type is the Engineer user. The area engineer is engaged with the research data and published evidence that is available. This user will use research data, cost, and evidence to make a purchasing decision or recommendation.

# A.1 Table: Users and roles for terrapaveinternational.com

Role	Abbreviation	TPI Website Audiences
Care about terrapaveinternational.com because they want quick slogan that meets needs of safety, cost, politics, constituents.	Political	Political User Partially engaged with website Does not have checklist or research understanding.
Care about terrapaveinternational.com to	Checklist	Purchasing Administrator - Engaged with website

meet needs of purchasing requirement needs.		On website for meeting purchasing requirements.
Care about terrapaveinternational.com for analyzing product research, quality, effectiveness, cost.	Engineer	Engineer - Engaged with the website Understands Research

# **B** Original Schedule

# Week 8 – Week 9: Gather and Analyze User Research

- Design survey questions for Terra Pave International Inc. (TPI) website to find out its
  users' expectation and interests for such construction material companies' websites.
   Implement the survey questions on some survey implementation platform (e.g., Survey
  Monkey), or at least put the survey in a formal and friendly format.
- Ask marketing team members and stakeholders of TPI for the website's users' contact information, as well as search for and collect contact information of constructor companies' decision makers and engineers on Internet.
- Send emails to all of possible survey attendees to invite them to do the survey for TPI website.
- After receiving replies of the survey, gather all the responses and their survey attendees' basic personal information, such as working organizations or companies and roles of the attendees.
- Analyze and describe user personas and specific scenarios/tasks from the information collected above.

# **Dependencies**

• TPI stakeholders and marketing team, Survey attendees

# **Risks**

- It is not clear that how many contacts TPI stakeholders and marketing team can provide to us and how close their business connection with those possible survey attendees.
- Since there is no way to get to know all the survey attendees personally, it is not sure how many replies we can get from them. What's more, it would be hard to limit the time that they will take to do the survey and reply to us.
- In the end, the outcome of this survey would also be determined by the quality of received responses' as well.

# Week 9 – Week 10: Content Organization

- Collect all the relevant documents of TPI together, which includes products-related publishing articles, presentation slides used for the company's business promotion, and photos concerned with products' performances.
- Synthesize these materials and categorize them by their formats, stakeholders and external/internal source. In retrospect to the original website, determine the content which is going to be retained, removed or added
- On the basis of the analysis result, design how the content will be organized on the website.

# **Dependencies**

 The amount of documents, the comprehension and integrity of information on those documents

### **Risks**

- If the documents are not enough or not analyzed thoroughly, goals and purposes of TPI
  website would not be achieved since its content would be mistakenly chosen and
  organized.
- Lack of comprehension and integrity of these documents would make the content unstable and messy.

# Week 10 - Week 11: Detailed Design & Stakeholders' Feedback

- Pick out technologies that will be used to design and implement the new website on the foundation of all the research. Issues need to be considered about the technologies include Content Management System, managing and administration policies/protocols, maintenance and updating schedules and approaches, programming languages and etc.
- Write sketches of the website's content and make wireframes of the website's architecture and organization. Design prototypes based on the sketches and wireframes.
- Send the sketches, wireframes and prototypes to TPI stakeholders' and ask for their feedback.
- Revise the sketches, wireframes and prototypes according to the stakeholders' feedback and complete a design document for TPI's website redesign in the end.

# **Dependencies**

Technologies, TPI stakeholders' cooperation

# **Risks**

- The usability and functionality of the technologies are vital to the website's implementation, or else the primary plan won't be accomplished on time.
- Since TPI stakeholders' feedback to the design plan is quite important and necessary for
  us to realize the website's goals and purposes, if they were not cooperative there would
  be some trouble within the implementation stage.

# Week 12 – Week 14: Implementation and Testing Cycles

 Based on the design document, use website construction and development tools to fulfill TPI's website redesign.

- After completing the first version of new website, ask TPI's stakeholders and marketing team for feedback and modify the website accordingly.
- When all the redesign work is done, a user testing will be conducted.

# **Dependencies**

• Website development tools, TPI's stakeholders and marketing team, potential users

### **Risks**

- Since not all group members are familiar with the chosen website development tools and skillful at website developing, it may require some time for self-learning. Therefore, the time control becomes more important to be paid special attention to. Since the outcome of this stage is the most direct and foremost presentation of this Information Architecture project. If it is not handled very well, some part of website redesign might have to be finished in rush and the outcome turns out to be rough.
- When it comes to the user testing, potential users of this website are not those who are
  easily being accessed to or available all the time. Therefore, at this step the
  stakeholders' and marketing team members' cooperation and assistance are extremely
  important to accomplish the user testing.

# Week 14 – Week 16: Project Report and Presentation Practice

- Collect all the reports, documents and materials that have been used or written within the process of this Information Architecture project and finish the final project report.
- Make presentation slides on the basis of the final project and practice presenting it before the last presentation class.

# **Dependencies**

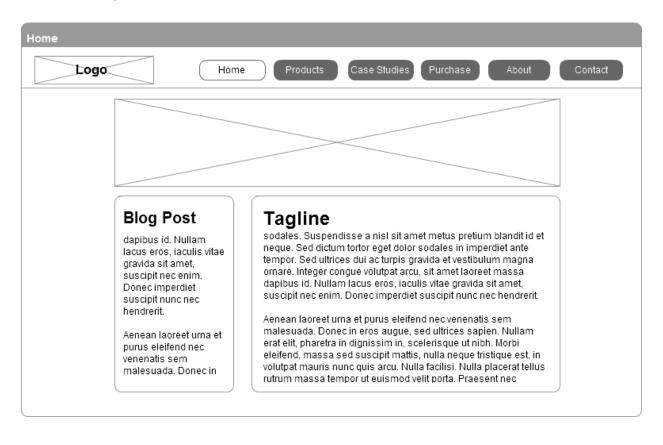
Project group members

# **Risks**

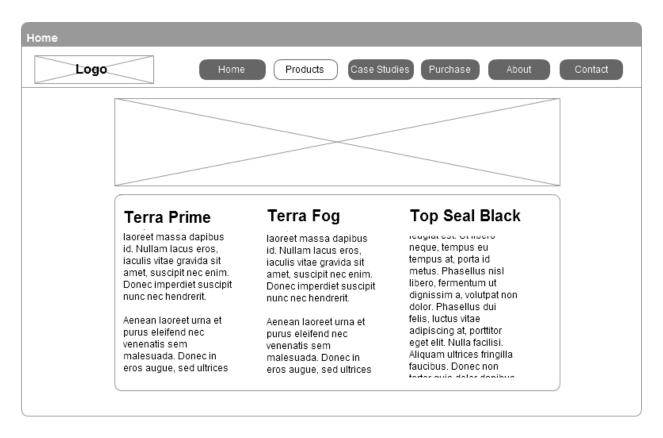
• In the end of a semester every group member would be very busy. The quality of final report and a chance to practice presenting might need more cooperation.

# C Low-Fi Wireframes

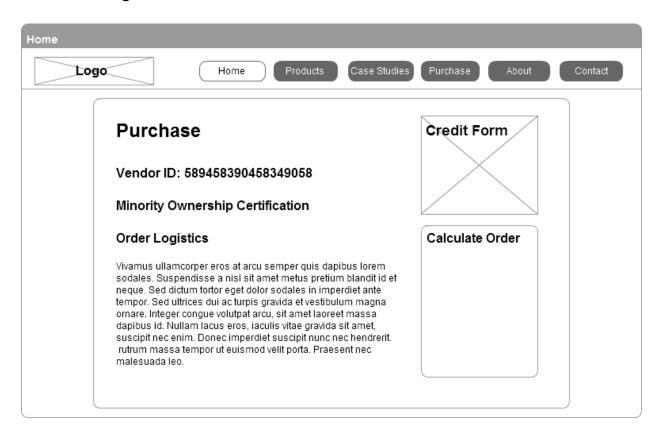
# **C.1 Home Page**



# **C.2 Products Page**



# 3 Purchase Page



# **D WordPress Theme Preferences**

# **D.1 Modern Business Theme**

http://richwp.com/themes/modern-business-theme/

# **D.2 Responsive**

http://wordpress.org/extend/themes/responsive

### D.3 iFeature

http://wordpress.org/extend/themes/ifeature

### **D.4 Catch Everest**

http://wordpress.org/extend/themes/catch-everest

# **D.5 Attitude**

http://wordpress.org/extend/themes/attitude

# **D.6 Chameleon WordPress Theme**

http://www.elegantthemes.com/gallery/chameleon/

# E Technology - Version 1

WordPress CMS with HTML5 responsive theme. Commercial-grade web hosting by WP-Engine or other Virtual Private Network (VPN) host. Domain name registration via GoDaddy.com. Commercial-grade photo gallery widget with embedded videos hosted on YouTube (via company Channel) or Vimeo. Adobe Photoshop (or Paint.net / GIMP) image editing. Passpack.com password administration to manage website, video, and other password authorizations for temporary student assistants.

# **F Other Resources**

# F.1 Blog of Brazil Project

http://topsealbrasil.blogspot.com/

# F.2 Related Publication

www.nxtbook.com/nxtbooks/naylor/FPPQ0211/index.php?startid=34

# F.3. Related Publication

www.nxtbook.com/nxtbooks/naylor/FPPQ0311/index.php?startid=38

# **Punchlist**

# General

- Insert high quality stock pictures (all)
- edit text CSS -> Helvetica sans serif family? (N)
- darker and larger body text (N)
- fix breadcrumb to show home > products > Terra Fog etc... (N)
- move contextual nav to left side of all pages (nested column shortcodes: 1/4 local

nav + content divided into thirds; ) (K)

• replace Lorem ipsum text in each section (all)

# Home/nav

- add LinkedIn icon at top of page\* (N) (Not Possible without Shell access)
- insert new logo and make it bigger (N)
- make nav links bigger (N)
- "Learn more about the company" should link to about page\* (N)

# **Product Pages**

- insert high quality stock pictures (S) done
- add local navigation listing products (s) done
- add buttons for Read more and View PDF use the corresponding brochures from
   <u>Abe that I uploaded into the shared google drive folder</u> see project page for layout
   example (S) done
- experiment with shortcode image sliders (s) done by Kelly

### Project pages

- replace fake projects with real ones (K)
- insert high quality stock pictures (K)
- local navigation with products and projects (K)
- experiment with shortcode image sliders (K) <a href="http://terrapaveint.com/demo7/residential-urbanization-in-coari-amazonas-brazil/">http://terrapaveint.com/demo7/residential-urbanization-in-coari-amazonas-brazil/</a>
- change blue button to flat button (N) silver works
- View PDF button to black (N) (kelly changed to silver objections?) Looks good to me!
- add Brazil project\*? (K) <a href="http://terrapaveint.com/demo7/residential-urbanization-in-coari-amazonas-brazil/">http://terrapaveint.com/demo7/residential-urbanization-in-coari-amazonas-brazil/</a>
- next project button on last project to link to first project (K)

# Blog pages

- remove posting author and comments and category (K) can't figure this out. maybe need to edit child theme blog template?
- add brazil blog\*?(K)

### Get Quote

add content per wireframe\*(N)

Non User Test - General
quality header images on each main page
Recommend a "starter" set of content
recommend image dimensions
recommend controlled vocab for tagging and other sections
create templates for each type of page and post (research, press, etc...)
combine text with thumbnail images and anchor link them to the corresponding page