

Camp Washington and Northside Hardware Store Website

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Abstract

Camp Washington and Northside Hardware are two local small businesses in Cincinnati, Ohio owned by Kevin Bomkamp. The two stores have been in business since the 1940's and have never had their own company website or any other form of internet recognition or branding. The goal of our creative team is to create a mobile friendly, modern, and responsive website to increase business, revenue, and the overall customer demographic. The features of the website are not only focused on providing an exceptional user experience and a modern fresh design for customers, but provides an easy to use interface for the business to maintain orders, inventory, and more.

Introduction

In this day and age, most businesses have a dedicated website. When smaller businesses who are wishing to expand their clientele don't take the advantages that websites can offer, they are missing out on many different opportunities. Websites have the potential to help bring more recognition and grab the attention of prospective customers on a daily basis.

Solution

The solution is a functional, responsive website for two local hardware stores. The website has the ability for customers to view a catalog of items for sale, reserve available stock for pickup, live help chat, inventory management, promotion management, and more. The inventory management system will be used daily by the store owners and managers. The responsive design is for ease of access from a personal desktop computer to a tablet and cell phone. The reservation system is available so customers can buy and reserve the products that the stores offer. The reservation system will allow the user to specify which location they would like to pick the products up from, further increasing the user's experience. The website features a customizable user profile, so that when a user signs up to be a member, they will be able to enter and review their own personal information, such as wish lists and order history. In addition to creating a user account, the user can also sign up for emails that will include promotions and general news about the stores. The goal is to enable Camp Washington and Northside Hardware to be able to

acquire all the benefits of having a dedicated website that will not only include a larger client base, but increased profits, and overall better organization.

Technology Used

Front End

A variety of different technologies was used for this project. Bootstrap, a HTML, CSS and JavaScript framework, was used as the foundation to help build the responsive features. For the front end of the website we used jQuery, JavaScript, CSS3, and HTML5. Integration with PayPal was used for our payment handling, and integration with PureChat was used for our live chat feature.

Front End Images

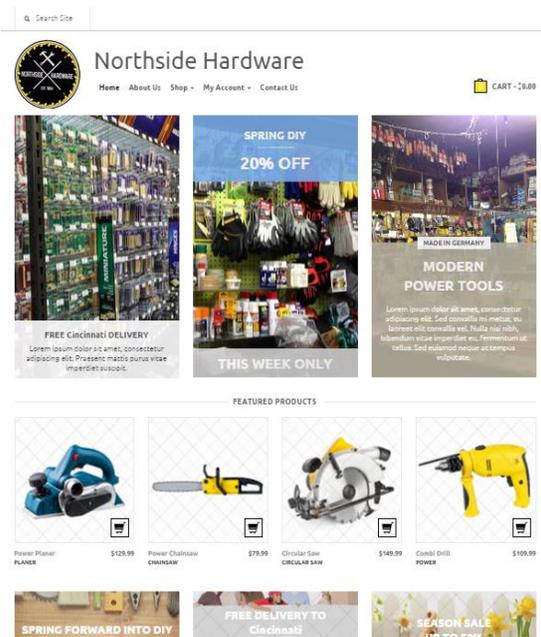


Figure 1. Web View

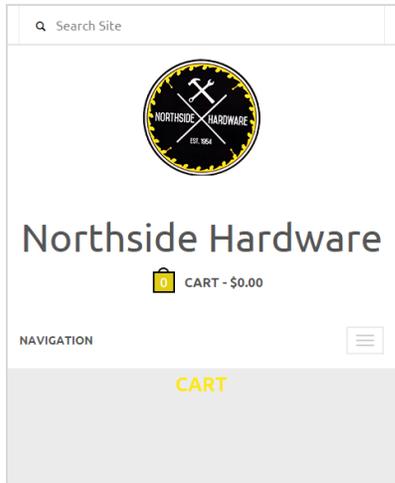


Figure 2. Responsive View



Figure 3. Mobile View

Back End

The core of our backend code was written with PHP, and our web API was written with C#. We hosted our website, database, API, and worker processor on the cloud using Azure. Using Azure gives us more flexibility while saving us money and time. Within a few hours the stage and production environments were setup, along with auto scaling, and backup settings. Azure allowed easy implementation of continuous deployment using GIT, and easy code conversion from stage to production. Our database is hosted on MySQL. We used ClearDB to store and manage the MySQL database. On production we host the MySQL databases on a Linux server on Azure.

Back End Images

The screenshot shows the ClearDB My Dashboard. At the top, there are navigation links: "Welcome Mike Staker", "Help & Support", "My Account", and "Sign Out". Below the navigation is a "My Dashboard" section with a "Create a new database" button. A table lists two databases:

Name	Connect URI	Size	Message	DB Size	Status	Message	Database Plan	Actions
uc_29620441438308	NA	20 MB	Online	All systems are operating normally.	Memory	Upgrade Delete		
Online@ucproject	NA	20 MB	Online	All systems are operating normally.	Memory	Upgrade Delete		

Below the table is a "Managing Your Databases" section with instructions on how to manage databases. There is also an "SSL Certificates" section with instructions on how to manage SSL certificates. At the bottom, there is a "My Certificates" table:

Name	Certificate Format	Platform	Common Languages Used	Actions
ClearDB CA Certificate	PEM Format	Linux, Unix, Windows	PHP, Perl, C, C++, Java, Ruby, Objective-C	Download
Client Certificate	PEM Format	Linux, Unix, Windows	PHP, Perl, C, C++, Java, Ruby, Objective-C	Download
Client Private Key	PEM Format	Linux, Unix, Windows	PHP, Perl, C, C++, Java, Ruby, Objective-C	Download
Client Certificate Bundle	PKCS#12 Binary Format	Windows Only	C, C++, OK VB.NET, ASP.NET	Download

Figure 4. MySQL Database for CMS

The screenshot shows the Azure Storage Dashboard for "ucproject". The top navigation bar includes "DASHBOARD", "MONITOR", "CONFIGURE", "CONTAINERS", and "IMPORT/EXPORT". The main content area shows a monitoring chart that is unavailable, with a message: "Monitoring chart unavailable. Enable monitoring in the configure page." Below the chart is a "services" section with a table:

SERVICE	ENDPOINT
Blobs	https://ucprojectblob.core.windows.net/
Tables	https://ucprojecttab.core.windows.net/
Queues	https://ucprojectqueue.core.windows.net/

On the right side, there is a "quick glance" section with links to "Visit the new portal", "View Applicable Add-ons", "Download drive preparation tool", "Create an import job", and "Create an export job". Below this, there is a "STATUS" section showing "Online" and "MANAGEMENT SERVICES" with "Operation Log". The "LOCATION" is "West US", "PRIMARY STATUS" is "Available", and "SECONDARY STATUS" is "Available".

Figure 5. Azure Storage (Site Backups, DB Backups & Blob Storage)

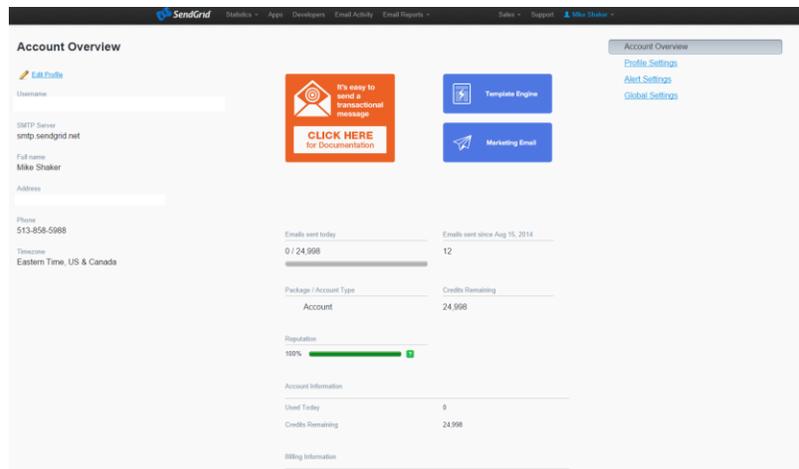


Figure 6. SendGrid API (SMTP Mail Server Hosted on Azure)

User Profile

Potential Users

Our potential users include store employees, store managers, construction companies, independent contractors, and everyday consumers.

Software and Interface Experience:

The website features a responsive design. It will primarily be used by customers on a desktop computer, but is optimized for the individual to have access on the go, via a tablet or mobile device. There is a general “About the Company” section for background on the businesses, workers, and owners. Also available is a list products and individual product details such as descriptions, prices, and availability. Customers can reserve the products that the store has in stock, and specify what time to pick up their reserved items. The “Promotions” section of the website will indicate current promotions and discounts.

Experience with Similar Applications:

Users will only need basic computer knowledge to use the website. Once the user has reached the website, the site will be intuitive enough for the user to find help, products, promotions, and services.

Task Experience

The targeted users will generally have an idea of what they are looking for once they reach the website. The average user will feel comfortable navigating the website, resulting in completing all tasks with ease. A homepage sliding carousel is implemented to give users a head start in their search.

Frequency of Use:

The use of the website will vary depending on if you're an employee or a customer. Customers will use the website depending on frequency of household needs, DIY projects, and how much business a company or contractor is getting at the time. The estimated amount of user use is about 3-4 times a month. Store employees and managers use the website daily for administration and inventory purposes.

Use Case Diagram

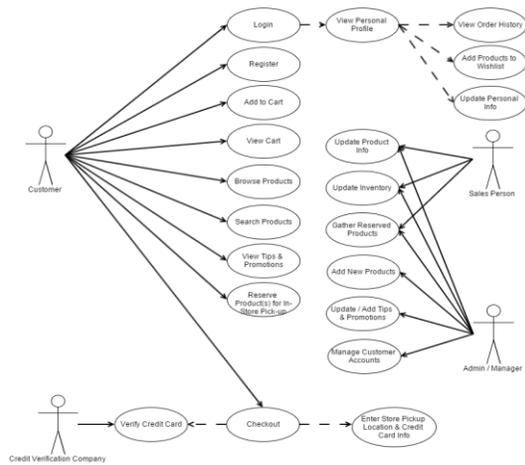


Figure 7. Use Case Diagram

Proposed Budget

The proposed budget is at an estimated amount of \$2875 per year plus the initial cost of \$2400. Web hosting is around \$892.80 - \$2675.40 per year. Ongoing support for the websites with all its functionalities and plugins is at an estimated \$400 per year. If development was done by a small firm and not for free by family members, the proposed budget would be much higher because the cost of development. The estimated cost of development is \$60/hour times 40 hours which would amount to \$2400.

Graphical Budget View

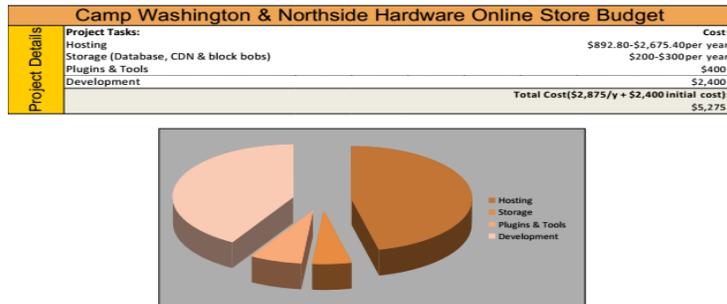


Figure 8. Budget View

Timeline

The proposed timeline for our tasks is outlined in the graph below.

Tasks

Name	Begin date	End date
Planning	9/1/14	9/29/14
Identify Requirements	9/1/14	9/15/14
Business Contract	9/15/14	9/16/14
Team Contract	9/16/14	9/17/14
Risk Identification/Management	9/18/14	9/28/14
Kick-Off Meeting	9/29/14	9/29/14
Analysis	10/1/14	10/17/14
Research tools needed	10/1/14	10/10/14
Research CMS Platforms	10/13/14	10/16/14
Research other Competitors	10/16/14	10/16/14
Define Prototypes	10/17/14	10/17/14
Design	10/23/14	11/27/14
Set up web server	10/23/14	10/27/14
Set up CMS	10/23/14	10/27/14
Design Artwork	10/28/14	11/4/14
Design Site Map	11/5/14	11/7/14
Design Page Layouts	11/7/14	11/11/14
Design Navigation	11/11/14	11/17/14
Design Database Structure	11/17/14	11/27/14
Implementation	11/28/14	3/31/15
Development	11/28/14	2/17/15
Developing APIs	11/28/14	12/5/14
Developing UI	12/8/14	2/17/15
Structure the Implementation Model	2/18/15	2/23/15
Plan the Integration	2/24/15	2/27/15
Implement Systems	3/2/15	3/5/15
Implement security module	3/2/15	3/5/15
Implement Outside Technologies	3/5/15	3/13/15
Implement Responsive Code	3/16/15	3/26/15
User Testing	3/26/15	3/31/15
Maintenance	4/1/15	12/15/15
Migrate to Production	4/1/15	4/2/15
User Training	4/3/15	4/3/15
Go Live	4/6/15	4/14/15
On Going Support	4/15/15	12/15/15

Figure 9. Project Timeline

Conclusion

This project delivers a modern and responsive website solution that will be able to increase the business' overall success. This will be a welcoming change for customers and will also provide them a convenient way to navigate the site, ask questions, and find products. The admin section of the site provides the company with a convenient, user friendly interface with which they can manage store inventory, orders and more. Overall, the focus is on providing the user and employees with the best experience possible.

Works Cited

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"User Experience Basics." *User Experience Basics*. Usability.gov, n.d. Web. 08 Mar. 2015.