

Pizza 4 U - The Pizza Website 4 U

Final Report

Group 22

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ABSTRACT

This documents includes the proposal, software survey and usability tests for the pizza ordering web service, Pizza 4 U.

SOFTWARE PROPOSAL

INTRODUCTION

Overview

Food delivery has been a staple for the food industry for years. The first online food delivery website was unveiled in 1994 by Pizza Hut to allow customers to order pizza remotely and without the use of a phone. For the first time food could be ordered with just the press of a few buttons. Now nearly all restaurants have some form of online ordering. In 2015 it was reported that of the 70 billion dollar delivery industry 13% of it is done through online ordering. This makes online food ordering a 9 billion dollar industry, and with websites like Pizza Pizza, Swiss Chalet, and Domino's the industry is experiencing rapid growth. This is why it is crucial that companies create a more human friendly experience.

Ordering food online can be frustrating and confusing; the cost of the order is not usually shown until the end of the ordering process and some of the order options are unclear. With a streamlined ordering human interface the online ordering industry can take over more of the delivery market share, save time for employees and increase company profit margins.

Issues

Food ordering services are often unclear about what is being ordered and how much it will cost. During the first group meeting, it was decided to order pizza, and the experience is what made the team decide to pick this as the project. At

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multiple times while ordering, the team was confused, and even after ordering it was unclear if the order was actually received. It wasn't until the final screen that the team was informed what the order would cost. The team was confused by topping options, such as the difference between double and extra cheese.

Functionality

The final product will be comprised of a complete web-based user interface that will guide the user through the ordering process, then track and output the contents of the user's order. This product will not connect to any external services, but will instead simulate placing the order with a string containing the order's information. This string will also be formatted and output onto the screen. Any data needed for the product will be mocked up and no databases will be used.

Expected work

Investigative hands-on research will be done to determine what works well and what confuses, frustrates, and makes the user's task difficult. Once it has been determined what needs to be done in order to make a great user experience, the team will design and then implement a website front end.

Team roles will be fluid, but divided as follows:

Sullivan: Documentation lead

Aidan: Head Developer

Marlee: Team Lead

Evan: Quality Assurance

SOFTWARE SURVEY

Introduction

Online pizza ordering has always been a confusing task. From the poorly designed web pages, to the surprising complexity of ordering pizza, many companies have been unable to develop an effective webpage. Four companies' websites have been critiqued to gain a better understanding of what is currently on the market for online ordering. In order to fairly test multiple pizza providers it was decided that each restaurants site be given the same task, a pizza with peppers, mushrooms, and extra cheese on one side and pepperoni, peppers, and no cheese on the other.

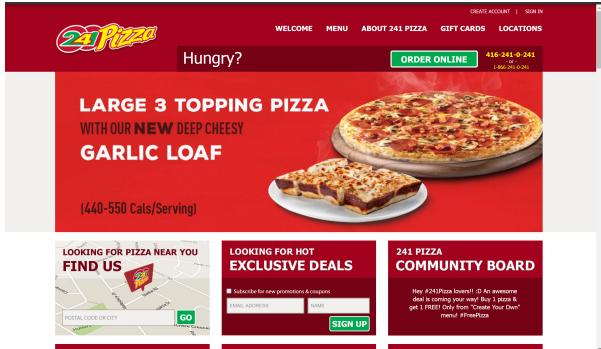


Figure 1. 241 Pizza Homepage

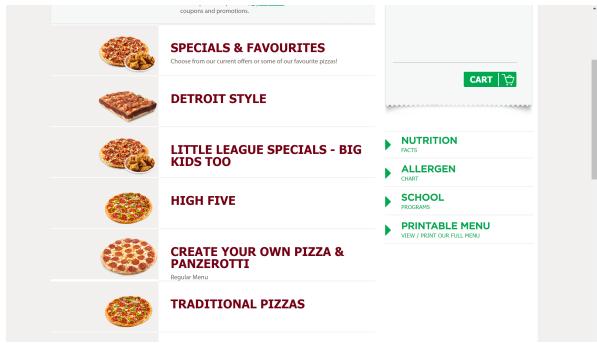


Figure 2. 241 Pizza Menu Page

241 Pizza Critique

241 Pizza is a budget oriented pizza service, so one would think that their online ordering service should be simple and streamlined due to the lack of options. This is not the case. Upon navigating to their order page, the user is overwhelmed with many options, including deals and sides, all with very similar looking icons. The user has to carefully read each option in order to find out how to order pizza. The only clue to the user that points to the menu for ordering pizza is a small subtitle that reads "regular menu". Once the user clicks this, a sub-menu opens and allows the user to choose between one or two pizzas, or a panzerotti. This is very clear and allows the user to select a size once an option is moused over. The topping selection screen is sorted into categories allowing the user to easily find their desired toppings. A graphics allows the user to specify if they want the topping on the whole pizza or on half. As topping are added or removed, the price and the calorie count update. Sauce and doneness options selected via clicking arrows. The order of these options is very strange, with regular at the far left, then going to light and then to well done. This is confusing for the user.

The checkout page is fairly standard, with many text boxes for delivery information. With this service it took a user two minutes and fifty seconds to complete an order of our test pizza, which is longer than most other services that were tested. This service had some good elements and some bad elements. It was very easy to select toppings and indicated which side to put them on, but it was far too difficult to place a very simple order. More easily visible and distinguished elements could help fix this problem.

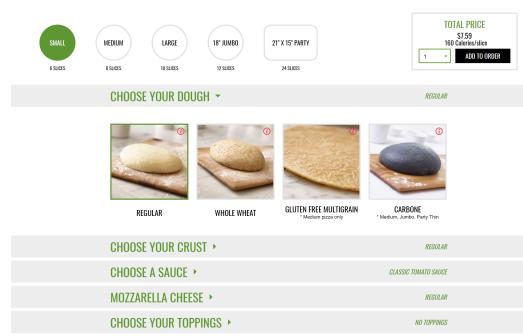


Figure 3. Pizza Nova's Pizza Customization page

FIRST NAME *	<input type="text"/>
E-MAIL ADDRESS *	<input type="text"/>
POSTAL CODE*	<input type="text"/>
STREET NAME*	<input type="text"/>
STREET NUMBER*	<input type="text"/>
CITY*	<input type="text"/>
LOCATION TYPE	<input type="text"/>
PHONE NUMBER*	<input type="text"/>
DELIVERY INSTRUCTIONS	<input type="text"/>
WHEN WOULD YOU LIKE YOUR ORDER?	<input checked="" type="radio"/> Immediately <input type="radio"/> Future Time
Cancel Order CONTINUE	

Figure 4. Pizza Nova's Delivery Information page

Pizza Nova Critique

Pizza Nova has one of the better interfaces seen in the pizza delivery world. The website opens to all the current specials Pizza Nova is currently offering, if a user clicks the order now button they will be taken to the interactive order form where preferences can be entered, or the user can chose a predetermined pizza (e.g. Hawaiian) and then a pick a size.

The form options are clearly labelled and placed under expandable menus. The menus the user are not using are compressed to not clutter the screen and the price of the pizza is live updated at the top of the page. These features help the interface to get an advantage on their competitors however, the underlying issues with online pizza delivery are still there. Using the control order, Pizza Nova was not able to complete it. The site only offered cheese on the entire pizza or none at all which made it impossible to do no cheese on one half.

After the order is confirmed the user needs to enter their home information. All the fields are text fields except the street name and location type. This disrupts the flow of entering information and causes browser auto-fill to not work, this slows things down. After all the address data is entered the user has to specify how they will be paying at the door and confirm their order. Finally, there is an order summary page and a place order page right after another, which seems redundant since those are essentially the same thing. Due to the trouble making the test pizza i.e. cheese on one half, Pizza Nova took well over 5 minutes to complete a full order.

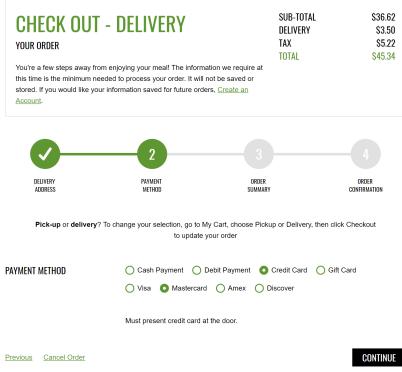


Figure 5. Pizza Nova's Payment page

Lava Pizza Critique

Lava Pizza is a pizza franchise local to Hamilton which is popular with students due to its variety of toppings and free delivery. Lava's website looks clean and modern, but it struggles with some strange design choices which may confuse the user. For instance, the Shop and Menu items do similar things where Shop loads a page which displays all items as well as a list of sub-menus which are dropped down by the Menu button. When browsing the available items, the combo and gourmet pizza options use default pictures (which states "NOT THE ACTUAL PICTURE") and have no description other than the title. In order for a user to understand what is included in the combo or on a pizza the user must click on the item and load the order page.

The pizza customization page is relatively well-designed. All components (dough, sauce, cheese, toppings, dips, etc.) are kept on one page and the price is updated as changes are made, so the user can easily see and understand their order at a glance. Something particularly well done is when selecting a topping it presents you a Left/Whole/Right option for where to place it on the pizza, and if one side is selected it creates another topping option for the 2nd half. However, when selecting a topping the user must scroll through a 77-item list which is very time consuming and makes finding the desired topping difficult. To improve on this, the existing meat/cheese/vegetable/halal categories could be split into different lists.

The checkout page is standard for a pizza store. Since the company is local and payment is done at delivery and not online, it could be streamlined by removing the billing address requirement and not requiring the province (or even city) for the address. For our test pizza, the complete order took 3 minutes 35 seconds with 2 minutes 30 seconds of that time used for customizing the pizza.

Domino's Critique

Domino's Pizza is a large pizza franchise with many locations around the world. Domino's is extremely popular for online pizza orders, due to their frequent deals and robust customization. Domino's boasts a home page with the most visible option being the Order Online button, leading you to the most important task. This follows Norman's principle of

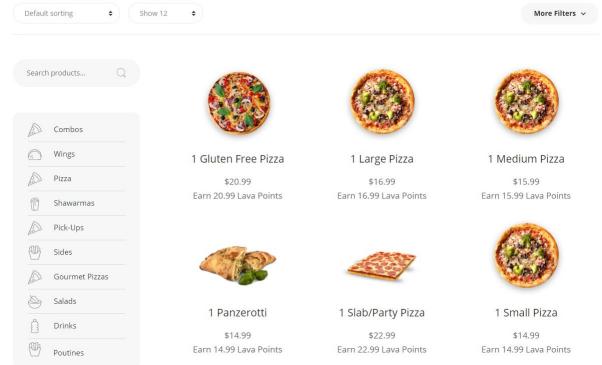


Figure 6. Lava Pizza's Menu

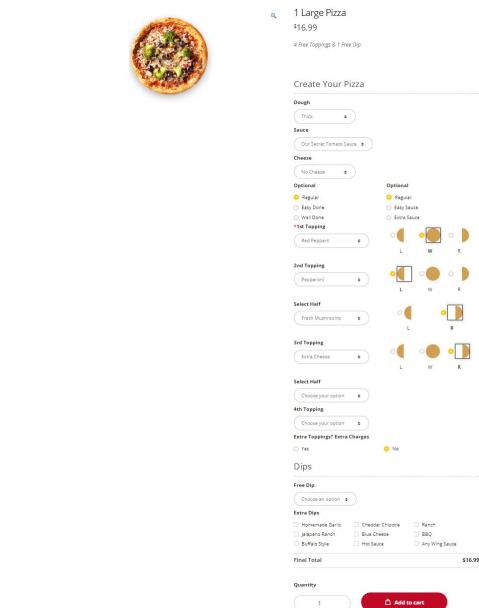


Figure 7. Lava Pizza's Pizza Customization Page

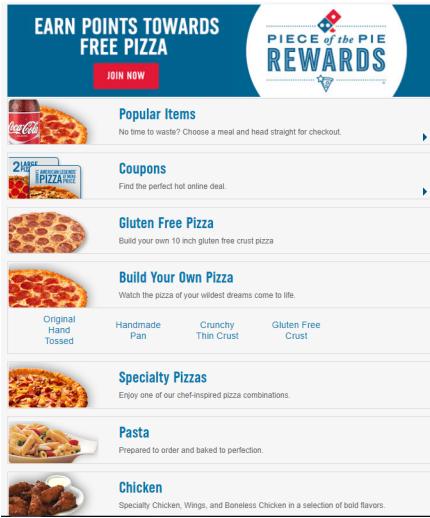


Figure 8. Domino's Pizza's Order page

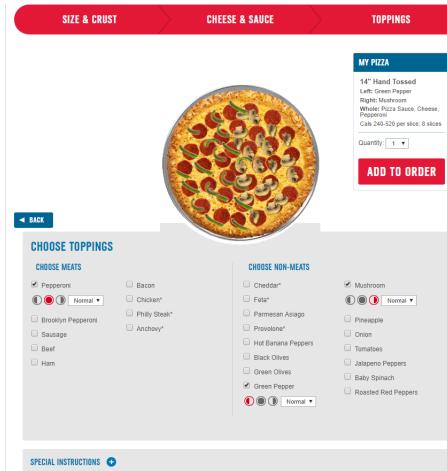


Figure 9. Domino's Pizza's Build Your Own Pizza topping selector page

visibility [1]. The delivery method section uses icons to communicate the two methods, delivery and carryout, so the user understands them at a glance. The order menu is organized into product categories, but their ordering does not seem to represent the most desired tasks. For example, Build Your Own Pizza is the 4th option, which was used to order the control pizza and was not where it was expected it to be.

The pizza order system is very good at using icons and images to communicate quickly. However, it does not follow the principle of constraints[1]. The user can choose to add the pizza to their order before choosing toppings and sauce, which makes the user unsure about whether they should add it to their order before choosing toppings. This confusion can greatly slow the ordering process. The topping selector system is easily one of the more robust systems in the interface. It updates a pizza image live with your toppings, and uses icons to easily explain how to pick toppings for different sides of the pizza. Overall, Domino's is a solid ordering website, with some minor quirks and design flaws that add confusion.

Conclusion

From the above critiques, the flaws and strengths of the currently available pizza ordering services are obvious. Several common flaws exist across the examples looked at that clearly need to be addressed in the project. From poor visibility, to confusing customization options, the existing site all seem to be lacking in usability and functionality.

References

1. Norman, Donald A. *The Design of Everyday Things*. Basic Books.

USABILITY TESTS

Introduction

Usability tests serve to show how easy a program is to use. By having subjects attempt to perform several basic actions, it can easily be inferred how easy a program is to use and can also serve to outline various flaws in the program to allow developers to more easily fix these issues. Below is the testing methodology and procedure for usability tests for the proposed, Pizza 4 U, as well as the results. Conclusion were also drawn on these results.

Testing Methodology

Our usability test was designed to help us measure how well our website appeals to consumers, compared to other commonly-used pizza websites. The pre-test questions were used to determine how familiar users were with an online pizza-ordering process since Pizza 4 U strives to please all levels of users. As our test subjects performed the usability test, each step was timed in order to see which steps the subjects had issues with. Post-test questions were issued to see how the subjects thought Pizza 4 U compared to other websites once they had used it, and to collect any comments and suggestions the subjects had.

Testing Procedure

First, the test subjects were given an introduction, where the purpose of the test was explained and a brief overview of the interface was given. The test subjects were asked a few short background questions, where they give their experience with ordering pizza, their experience with ordering pizza online, and what device they normally use to order pizza online.

The test subjects were then given a laptop computer with the home page loaded, and a wireless USB mouse connected to it. They were then given 5 tasks to perform on the interface, and prompted to "think out loud" and describe their thought process in accomplishing those tasks. The tasks are as follows:

- **UT1** Add a large signature meat lovers pizza to cart.
- **UT2** Customize a small Hawaiian pizza, remove pineapple, and add to cart.
- **UT3** Create a custom extra-large pizza with marinara sauce, thick whole wheat crust, cheddar on both sides and pepperoni, and add it to cart.
- **UT4** Add a small garlic bread side to cart.

- **UT5** Fill in checkout details for delivery and place order. After the tests, we asked to users various questions about their experience using our program, including how our service compared to them similar services they had used, what, if anything gave them trouble and if they had any suggestions that could improve our product. All of this data was recorded on a spreadsheet for later use.

The test subjects were timed

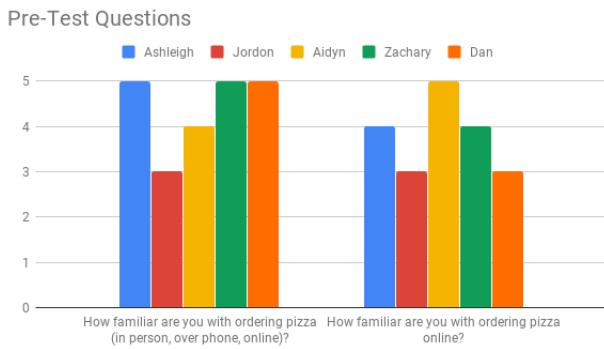


Figure 10. Pre-Test Questions

Usability Test Subject 1 - Ashleigh

Usability Test 1

Ashleigh had no trouble with test 1, completing it in 14 seconds.

Usability Test 2

Ashleigh had no trouble with test 2, completing it in 22 seconds.

Usability Test 3

Ashleigh had no trouble with test 3, completing it in 35 seconds.

Usability Test 4

Ashleigh had no trouble with test 4, completing it in 12 seconds.

Usability Test 5

Ashleigh had no trouble with test 5, completing it in 32 seconds. Autofill was used to fill out delivery details.

Usability Test Subject 2 - Jordon

Usability Test 1

Jordon had no trouble with test 1, completing it in 6 seconds.

Usability Test 2

Jordon had no trouble with test 2, completing it in 15 seconds.

Usability Test 3

Jordon had no trouble with test 3, completing it in 24 seconds.

Usability Test 4

Jordon had no trouble with test 4, completing it in 13 seconds.

Usability Test 5

Jordon had some trouble with test 5, completing it in 85 seconds. Autofill was not used, but the province list was helpful. Steps to complete the order were not clear to the subject.

Usability Test Subject 3 - Aidyn

Usability Test 1

Aidyn had no trouble with test 1, completing it in 13 seconds.

Usability Test 2

Aidyn had no trouble with test 2, completing it in 16 seconds.

Usability Test 3

Aidyn had no trouble with test 3, completing it in 21 seconds.

Usability Test 4

Aidyn had no trouble with test 4, completing it in 13 seconds.

Usability Test 5

Aidyn had no trouble with test 5, completing it in 74 seconds. Autofill was not used.

Usability Test Subject 4 - Zachary

Usability Test 1

Zachary had no trouble with test 1, completing it in 14 seconds.

Usability Test 2

Zachary had some trouble with test 2, completing it in 44 seconds. Zachary had some difficulty with the accordion menu, and he mentioned that pineapple under "vegetables" was not intuitive.

Usability Test 3

Zachary had no trouble with test 3, completing it in 34 seconds.

Usability Test 4

Zachary had no trouble with test 4, completing it in 11 seconds.

Usability Test 5

Zachary had no trouble with test 5, completing it in 29 seconds. Autofill was used to fill out delivery details.

Usability Test Subject 5 - Dan

Usability Test 1

Dan had trouble with test 1, completing it in 48 seconds. Dan struggled to find the Signature Pizza page.

Usability Test 2

Dan had no trouble with test 2, completing it in 33 seconds.

Usability Test 3

Dan had no trouble with test 3, completing it in 35 seconds.

Usability Test 4

Dan had no trouble with test 4, completing it in 17 seconds.

Usability Test 5

Dan had no trouble with test 5, completing it in 57 seconds. Autofill was used to fill out delivery details.

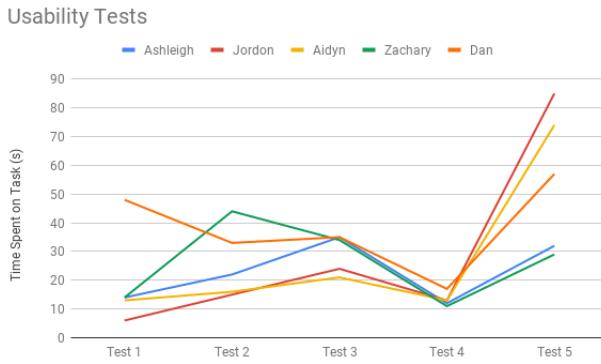


Figure 11. Usability Tests

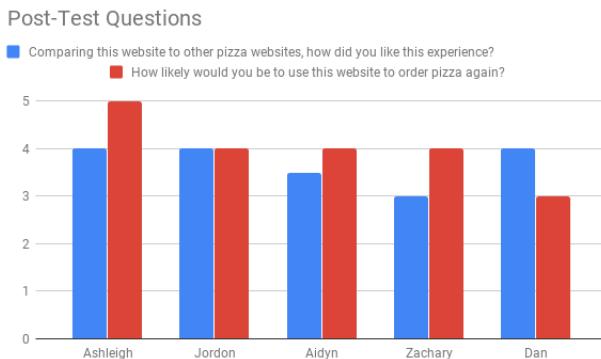


Figure 12. Post-Test Questions

Discussion of Results

From our usability testing, it is clear that Pizza 4 U offers a faster pizza ordering process than competing pizza websites. Using Pizza 4 U, the average time to customize a pizza and check out (test 3 and 5) was 1 minute 12 seconds, whereas our tests of 241Pizza, Pizza Nova, and Lava Pizza had an average completion time of 3 minutes 48 seconds.

Unfortunately while we have created a very fast user experience, Pizza 4 U is not as user-friendly as it could be. Many users had issues with the accordion menus when they first encountered them. When the website was displayed on a smaller screen, users sometimes had difficulty understanding where to click to change toppings in the customization menu due to the buttons becoming clumped together. Sometimes users would fail to immediately see the meat/vegetable topping selection button in the pizza customization page and this would frustrate them temporarily, but all users were able to find it within a few seconds.

Throughout the usability tests many users had issues with the checkout page. According to the users, navigation through the accordion menus of the checkout page is not very easy to understand. In the current iteration of the Pizza 4 U website, users are required to select a method in each menu, fill in the required details, and hit submit in each section before they are allowed to submit their order in the final menu section. Some users did not realize that they had to hit submit for each

section, and when they did hit submit they were not provided with any feedback if the receipt section on the left side of the screen was too long so that the user's details were updated off-screen.

For future versions of the Pizza 4 U website, the focus of improvement will be on improving feedback to the user. A lack of feedback is what caused frustration for many users in the checkout session and the customization sessions. Additionally, our team was too fixated on using accordion-style menus, and the overuse of these menus caused some trouble for new users trying to navigate the checkout page.

For the customization page, a small graphic change (such as highlighting the selected item or a placing a symbol on the selected item) would help the users understand that they have made a change to the pizza, and updating the cart symbol near the top of the page with a the new number of items in the cart would help to show the user that their item was indeed placed in the cart.

For the checkout page, the receipt section should always show the user details on their carry-out/delivery and payment choices no matter how large their order is; this could be implemented by constraining the receipt to fit within the page without requiring scrolling, and adding a scroll bar to the list of items in the user's cart. The accordion menus could be removed and the entire checkout process could be implemented in one section since many users disliked that they had to submit their details separately in each section.

CONCLUSION

From the usability tests performed as specified above, it can be seen that "Pizza 4 U, while mostly easy to understand and use, has a few flaws. The checkout page was often a point of confusion for tests subject due to the lack of feedback and clear instruction. The Signatures page also was found to lack feedback and also lacked visibility as it did not describe what was on each pizza until that pizza was selected. From these usability tests, the team learned that one major point that needs to be worked on is feedback, as that was the common complaint between all test subjects. If the entire project was overhauled to include more feedback elements, such as an improved live view of the cart, we believe that the product would be greatly improved.

From this project the team learned that making something easy to use and understand is a very complex experience, as it is very difficult to predict exactly what a user will think when interacting with a system. By following Norman's Design Principles, we created a product that was overall simple to use, but with several flaws. In the future we now know how to avoid these pitfalls and can hopefully create software that is even more user friendly than Pizza 4 U.