



## Team Pepperoni Project Report

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## 1 Introduction

### 1.1 Purpose

The purpose of this collaborative project is to create a new way for Pizza Hut to accept online bulk orders. The current system relies on communication through phone calls to place large orders. The proposed system will enable users to order large quantities of pizza online through an interface that feels similar and cohesive with the current Pizza Hut ordering experience.

### 1.2 Task Identified

There is only one task that will be tested by users. This task involves the user ordering thirteen pizzas through the new ordering system. The types of pizzas are given, and the participants do not need to enter any personal information or details. The delivery options are preselected as they have no bearing on the task.

### 1.3 Assumptions

It is assumed that the test participants are familiar with ordering online. The exact kind of pizzas that they must order will be given to them, so they will not have to make decisions regarding the type of food to order.

## 2 Analysis

### 2.1 Personas

<b>Persona 1:</b>	<b>"Last Minute Mom"</b>
<b>Name:</b>	<b>Betsy Babbage</b>
<b>Job title/Responsibilities:</b>	<b>Mother/Birthday Planner</b>
<b>Demographics:</b>	<ul style="list-style-type: none"><li>• 30 years old</li><li>• Mother of two</li></ul>
<b>Environment:</b>	<b>Forgot to order food for her twins' birthday party. Needs to order many pizzas to feed a lot of kids to avoid embarrassment.</b>
<b>Quote:</b>	<b>"What kind of pizza does everyone want? Jacob get down from there!"</b>

<b>Persona 2:</b>	<b>"Prepared Boss"</b>
<b>Name:</b>	<b>Mike McGruber</b>

<b>Job title/Responsibilities:</b>	<b>Manager/Presentation Leader</b>
<b>Demographics:</b>	<ul style="list-style-type: none"> <li>• 45 years old</li> </ul>
<b>Environment:</b>	<b>Manager orders a set number of pizzas for a business meeting in advance.</b>
<b>Quote:</b>	<b>“Great work today, lunch is on me!”</b>

<b>Persona 3:</b>	<b>“College friends on the weekend”</b>
<b>Name:</b>	<b>Ryan Rango</b>
<b>Job title/Responsibilities:</b>	<b>Hosting small get together at home</b>
<b>Demographics:</b>	<ul style="list-style-type: none"> <li>• 19 years old</li> <li>• In school</li> </ul>
<b>Environment:</b>	<b>A group of friends get together on the weekend and all want different types of pizzas to order that night</b>
<b>Quote:</b>	<b>“Pineapple doesn’t belong on pizza. Let’s do half pepperoni.”</b>

## 2.2 Task Analysis Tools

In order to develop a new system for ordering pizza, which will live alongside the old one, a heuristic evaluation ([Appendix 6.1](#)) was done on Pizza Hut’s website prior to making changes. The conclusions of the heuristic evaluation are that the original website has some trouble with navigation options. For example, users cannot search for items they like. The site also lacks support for a detailed cart while the customer is adding pizzas to the cart. This problem is addressed with the new large ordering system design.

The cognitive walkthrough of the prototype ([Appendix 6.2](#)) shows a close look at how a user might interact with the website. Based on the walkthrough, the process to enter the bulk ordering menu appears to be simple and straightforward. However, testing will show if these assumptions are correct.

## 2.3 Task Details

### 2.3.1 Detail

The participant will order thirteen pizzas: five cheese, five pepperoni, and three sausage. All the pizzas are large and have hand tossed crust.

### 2.3.2 Analysis

Thirteen pizzas would definitely qualify as a large order. This task features simple pizza choices without customization, so it frees up the design to allow or disallow custom pizza creation.

### 2.3.3 Discussion

Pizza huts website needs to be able to handle larger orders. Customers expect to be able to order their pizza through the internet and that includes last minute party planners.

## 3 Prototype and Design ---

### 3.1 Overview of Prototype and Design Features

The prototype consists of three pages with the “Larger Orders” page having the new content ([Appendix 6.3](#)). This page contains elements like any other ordering screen found on the website to maintain consistency, but the size of the tiles has changed. The tiles, which hold the name and order button, are now less wide.

To the right of the ordering tiles is a list with names of foods and a digit to count the quantity. This is basically a basic version of an at-a-glance shopping cart. Competitor research ([Appendix 6.6](#)) showed that other websites such as Dominos have a shopping cart that exists on the side. This helps the user reference what they have already added to the cart. This design frees up some of the cognitive load the user may have when trying to remember all the pizzas they need to order.

### 3.2 Task

#### 3.2.1 Design

A new larger ordering page was added to allow customers to purchase large quantities of pizza. It features a few choices of pizza, breadsticks, and soda.

#### 3.2.2 Design Justifications

The design of the “Current Order” tile was based on reducing the amount of information the customer would have to remember when ordering their pizzas. This is especially useful when the customer is ordering many pizzas.

#### 3.2.3 Prototype Rational

The prototype is simple and straightforward. It looks like the rest of the Pizza Hut website, and it allows users to bulk order pizzas. Ideally, the style would be updated to include some kind of Pizza Hut artwork or flair.

## 4 Testing ---

### 4.1 Participants

The participants for this experiment are college students around the age of 21 of varying demographics and family members who are considerably older. Subjects were recruited upon request among which were friends or family of each group member. There was no compensation for their time.

## 4.2 Scenarios

The task instructions participants were given is included in the appendix ([Appendix 6.4](#)).

## 4.3 Equipment

- Desktop/Laptop computer
  - Windows 10 OS
  - MacOS
- Screen capture software
  - Bandicam
  - Quicktime
- Axure Share website implementation
- Google Chrome

## 4.4 Subjective Metrics

A post test system usability scale was given to users measuring how satisfied with the system they were ([Appendix 6.7](#)). This questionnaire will help guide redesigns to the website to improve on what they thought was lacking.

## 4.5 Quantitative Metrics

Time on task and error rate were measured values taken during the session. The time starts when they user starts at the home page and is finished when they reach the checkout page. Errors are whenever the participant attempts to follow a wrong link or inputs an incorrect amount of pizzas to the order. Clicking the same incorrect link multiple times does not count as multiple errors to avoid inflated error scores.

## 4.6 Test results

Note: Try copy-and-pasting the link if it doesn't work.

Videos Link :

[https://drive.google.com/drive/folders/1v4JNLs0mUpKJTaD7lo2\\_eC6z6eworxc2?usp=sharing](https://drive.google.com/drive/folders/1v4JNLs0mUpKJTaD7lo2_eC6z6eworxc2?usp=sharing)

Participant (firstname)	Time (sec)	Error	SUS (x/40)
Rod	167	3	36
Chris	144	4	35
Connor	85	4	38
Shatrujit	40	1	40
Aditya	51	0	36
Anshuman	37	1	39
Dylan	38	1	40
Nick	30	0	40
Jaymie	40	1	36
Fabian	64	3	36

Xina	98	2	37
Patrick	90	0	38
Averages	73.66666667	1.666666667	37.58333333
Standard Deviation	44.76470471	1.497472618	1.831955405

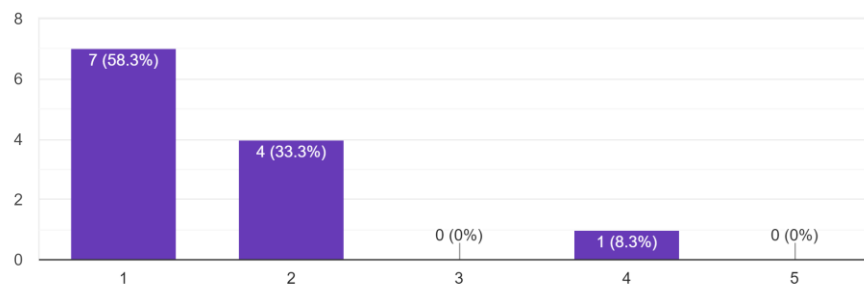
Errors tended to come from the initial step of finding the large orders menu. This shows that there needs to be a better way to guide a customer who wants to make a large order.

Time-on-task averages over a minute. This is pretty fast for a bulk pizza order in a system the participant has never seen before.

The survey results were very positive, but the participants were friends of the testers. The most varied response was:

10. I think you have to be good with technology to use this site.

12 responses



This could be due to people not having the same idea of what it means to be good with technology.

## 5 Conclusions

### 5.1 Discussion of Results

The prototype had positive feedback from the participants. Although, because the participants were mainly friends or family of the testers the data must be looked at a little differently. The videos give a good look at where users take time to do part of the task. Some participants struggled to find the large ordering menu to start the process. This may not be reflected in the survey.

### 5.2 Lessons Learned

One of the lessons that was learned was that what may seem obvious to the designer may be hidden or hard to see to the user. The "Large Orders" button seemed like it was self-explanatory and in an obvious location. It turns out that the button location and name were overlooked. Designers should



be careful about making assumptions like that. Some detail that may not seem as important can impact usability greatly.

### 5.3 Conclusion

The prototype has some good ideas, but the process probably needs to more integrated into the current Pizza Hut experience. It should be up to the website to determine what exactly a bulk order is. This should happen without the user needing to know. Perhaps some popup that tells the user that they need to switch to a restricted menu when ordering large quantities of pizza would be a more integrated design. The sidebar with current order information should be looked at to help the user keep track of a large order.

## 6 Appendixes

### 6.1 Heuristic Evaluation

PIZZA HUT		Score	Comments
<b>Features &amp; functionality</b>			
1	Features and functionality meet common user goals and objectives.	<b>Good</b>	
2	Features and functionality support users desired workflows.	<b>Good</b>	
3	Frequently-used tasks are readily available (e.g. easily accessible from the homepage) and well supported (e.g. short cuts are available).	<b>Good</b>	
4	Users are adequately supported according to their level of expertise (e.g. short cuts for expert users, help and instructions for novice users).	<b>Moderate</b>	<i>While there is an option for re-order favorite items for expert users, novice users might be overwhelmed by the plethora of 'order now' buttons on the homepage, and ambiguous chunking.</i>
5	Call to actions (e.g. register, add to basket, submit) are clear, well labelled and appear clickable.	<b>Good</b>	

<b>Homepage / starting page</b>			
6	The Homepage / starting page provides a clear snapshot and overview of the content, features and functionality available.	<b>Moderate</b>	<i>Too much of the homepage is highlighted which leads to confusion and separate elements are not clearly distinguished.</i>
7	The home page / starting page is effective in orienting and directing users to their desired information and tasks.	<b>Poor</b>	<i>While the homepage provides a variety of options it is unclear which path the user can take and isn't effective in directing users to their desired tasks.</i>
8	The homepage / starting page layout is clear and uncluttered with sufficient 'white space'.	<b>Good</b>	
<b>Navigation</b>			
9	Users can easily access the site or application (e.g. the URL is predictable and is returned by search engines).	<b>Good</b>	
10	The navigational scheme (e.g. menu) is easy to find, intuitive and consistent.	<b>Poor</b>	<i>There is no clear entry point and due to the number of options to do the same task, the time taken is more.</i>
11	The navigation has sufficient flexibility to allow users to navigate by their desired means (e.g. searching, browse by type, browse by name, most recent etc...).	<b>Poor</b>	<i>There isn't an option to search.</i>
12	The site or application structure is clear, easily understood and addresses common user goals.	<b>Poor</b>	<i>The application structure is more complex than it should be — the user is in a state of confusion if they are on the right page to be ordering things.</i>
13	Links are clear, descriptive and well labelled.	<b>Moderate</b>	<i>Links which require to be bolded aren't — like menu, and deals. While re-order button which is not used much is bolded.</i>
14	Browser standard functions (e.g. 'back', 'forward', 'bookmark') are supported.	<b>Good</b>	

15	The current location is clearly indicated (e.g. breadcrumb, highlighted menu item).	Poor	<i>The current location isn't indicated anywhere and is inconvenient for the user.</i>
16	Users can easily get back to the homepage or a relevant start point.	Good	
17	A clear and well structure site map or index is provided (where necessary).	Good	
<b>Control &amp; feedback</b>			
22	Prompt and appropriate feedback is given (e.g. following a successful or unsuccessful action).	Good	
23	Users can easily undo, go back and change or cancel actions; or are at least given the chance to confirm an action before committing (e.g. before placing an order).	Good	
24	Users can easily give feedback (e.g. via email or an online feedback / contact us form).	Good	
<b>Forms</b>			
25	Complex forms and processes are broken up into readily understood steps and sections. Where a process is used a progress indicator is present with clear numbers or named stages.	Good	
26	A minimal amount of information is requested and where required justification is given for asking for information (e.g. date of birth, telephone number).	Good	
27	Required and optional form fields are clearly indicated.	Poor	<i>There are some places where required fields aren't mentioned to be so and the user finds out only after submitting the form — for example, choosing the crust in the pizza.</i>

28	Appropriate input fields (e.g. calendar for date selection, drop down for selection) are used and required formats are indicated.	Good	
29	Help and instructions (e.g. examples, information required) are provided where necessary.	Good	
<b>Errors</b>			
30	Errors are clear, easily identifiable and appear in appropriate location (e.g. adjacent to data entry field, adjacent to form, etc.).	Good	
31	Error messages are concise, written in easy to understand language and describe what's occurred and what action is necessary.	Good	
32	Common user errors (e.g. missing fields, invalid formats, invalid selections) have been taken into consideration and where possible prevented.	Poor	<i>Required fields in certain forms can be highlighted in a better manner so the user is aware that they are required.</i>
33	Users are able to easily recover (i.e. not have to start again) from errors.	Moderate	
<b>Content &amp; text</b>			
34	Content available (e.g. text, images, video) is appropriate and sufficiently relevant, and detailed to meet user goals.	Good	
35	Links to other useful and relevant content (e.g. related pages or external websites) are available and shown in context.	Good	
36	Language, terminology and tone used is appropriate and readily understood by the target audience.	Good	
37	Terms, language and tone used are consistent (e.g. the same term is used throughout).	Good	

38	Text and content are legible and scannable, with good typography and visual contrast.	<b>Good</b>	
<b>Performance</b>			
43	Site or application performance doesn't inhibit the user experience (e.g. slow page downloads, long delays).	<b>Good</b>	
44	Errors and reliability issues don't inhibit the user experience.	<b>Good</b>	
45	Possible user configurations (e.g. browsers, resolutions, computer specs) are supported.	<b>Good</b>	

## 6.2 Cognitive Walk-through

Step:	<b>Navigate to large ordering system</b>	<b>Find the desired item type</b>
<b>Know the action?</b>	Yes, user came to PizzaHut.com to order copious amounts of pizza, so they will want to find the system.	Yes, the intent is to purchase pizza.
<b>See the control?</b>	Yes, the Large Ordering system is prominently featured in the menu bar, not in menu dropdowns.	Yes, the selections are large and at the top of the page.
<b>Understand the control?</b>	Yes, it's a simple navigational link.	Yes, it's a simple grid of items with large "Add to Order" buttons.
<b>See the feedback?</b>	Yes, link immediately directs the user to the Larger Ordering system page.	Yes, they will immediately see the item they want to purchase.


Step:	Select the desired crust on the pizza/Select desired soda size	Select the quantity of the items to order
<b>Know the action?</b>	Yes, the user will want to modify the crust/size of the pizza/soda (or keep it the same) as it's a common ordering task.	Yes, the user will want to bulk order pizzas/sodas/breadsticks, as this is the large ordering system.
<b>See the control?</b>	Yes, it's prominently featured on each item's order square in the grid, right above the "Add to Order" button.	Yes, it's prominently feature on each item's order square in the grid, right next to the "Add to Order" button.
<b>Understand the control?</b>	Yes, it's a common dropdown with a list of options.	Yes, it's a common dropdown with a list of number options.
<b>See the feedback?</b>	Yes, after clicking the desired crust/size, the user's selected crust/size populates the dropdown control.	Yes, after clicking the desired quantity, the quantity will populate the dropdown control.

Step:	Add item(s) with selected crust and quantity to order.	Checkout
<b>Know the action?</b>	Yes, after making each of the two selections available, the only thing left to do is add to order	Yes, after finishing selecting all the items they want, the user will want to purchase
<b>See the control?</b>	Yes, the "Add to Order" buttons are large and red.	Yes, there are two large red checkout buttons prominently featured next to the order summary.
<b>Understand the control?</b>	Yes, the button says exactly what it does.	Yes, they are large buttons/links.


<b>See the feedback?</b>	Yes, immediately after clicking, the “Current Order” totals on the right side are updated, and the cart icon at the top is updated.	Yes, after clicking the button, the user is immediately directed to the checkout.
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### 6.3 New GUI snapshots

[Menu](#) [Deals](#) [Large Orders](#)



DELIVERY | 40 - 50 MIN  
1234 S Pepperoni Ln, Tempe,  
AZ, 85281  
[change](#)


 \$0.00

Welcome to Pizza Hut! [\(Sign In\)](#)

HUT REWARDS | [Join](#)

## Large Orders

Cheese Pizza  
\$12.99




Hand Tossed Pizza

1

Add to Order

Pepperoni Pizza  
\$14.74




Hand Tossed Pizza

1

Add to Order

Sausage Pizza  
\$14.74




Hand Tossed Pizza

1

Add to Order


Breadsticks  
\$5.59



1

Add to Order

PEPSI  
\$1.89



2 Liter

1

Add to Order

Go to Checkout

Current Order

Cheese Pizza	0	<a href="#">Remove</a>
Pepperoni Pizza	0	<a href="#">Remove</a>
Sausage Pizza	0	<a href="#">Remove</a>
Breadsticks	0	<a href="#">Remove</a>
Pepsi	0	<a href="#">Remove</a>

Discount:  
**0%**

Go to Checkout

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## Current Order

Cheese Pizza	0	<a href="#">Remove</a>
Pepperoni Pizza	0	<a href="#">Remove</a>
Sausage Pizza	0	<a href="#">Remove</a>
Breadsticks	0	<a href="#">Remove</a>
Pepsi	0	<a href="#">Remove</a>

**Discount:**

**0%**



## 6.4 Instructions for participants

Your task is to bulk purchase 15 pizzas:

- 5 Cheese
- 5 Pepperoni
- 3 Sausage

All of them **Hand Tossed Crust**. Do not worry about delivery address or payment information. Go to the checkout page when you are finished adding your pizzas.

## 6.5 Researcher guidelines

Software:

Bandicam Screen Recorder

Quicktime Screen Recorder

Chrome

Prototype Link: <https://id41xo.axshare.com/>

Post Survey: <https://goo.gl/forms/Di0OrlYZdlBFQKQj1>

Process:

1. Tell them to bulk purchase 15 pizzas:

- 5 Cheese
- 5 Pepperoni
- 3 Sausage

All of them **Hand Tossed Crust**. They do not need to input delivery address. They just need to go to checkout.

2. Start recording and then let them use the website without assistance.

3. Once they hit the checkout page end the recording.

4. Open the survey and use their first name as the first response.

Data Format:

Use an excel spreadsheet with columns: Participant (first name) - Time (sec) - Error - SUS (x/40)

This way it will be easy to combine the raw data.

The video should be titled their first name (last initial or some identifier if conflicts occur) and stored in the 463 google team drive in the "Videos" folder.

The first name of the video and the first name of the participant in the spreadsheet should be the same.

Errors are any time they click a link that would send them to the wrong area. Do not count the same link as an error more than once (they may be spam clicking).

The SUS score is the addition of all the responses in the participant's survey. Reverse coded questions are marked in the report draft and should be calculate by subtracting the response from 6. For example, (6 - response). The total is out of 50.

## 6.6 Competitor Research

### Papa John's

The process Papa John's website uses for bulk ordering appears to be for the customer to contact Papa John's over the phone. Their catering page has little information on what can be ordered. They would rather the customer contact them to be guided through the process. Papa John's does not support the type of ordering we wish to implement on the Pizza Hut website.

### Domino's

The Domino's website features the group ordering tool for ordering large amounts of pizza at a discount. There are different discounts for different ranges of pizzas ordered. The interface shows pictures of the different basic and specialty pizzas which can be added to the cart. A calculator is included that helps the customer figure out how many large pizzas they should order for a specified number of people. The menu is limited, but there are a good amount of pizzas to select from.

### Chick-Fil-A

As opposed to the process with other competitors, the only option available to order food on Chick-Fil-A.com is to order catering. This is an obvious option, too, as the homepage has both a large "Order Food" button and a large "Order Catering" button. Both buttons arrive at the same screen, which asks if you would like this catering order delivered or ready for pickup. After selecting either option, you are prompted to enter location information, then are prompted to choose from a list of stores. Each store lists its minimum catering amount and hours prominently. After selecting a store, you are prompted to enter a delivery date and time. This process is very intuitive. After all of this, you can easily browse and choose bulk food options to add to your cart. This is a very seamless process and is something to look at while drafting our project.

### Subway

Subway offers options for both individual orders and catering. The user can select whichever option they want on the 'Order Now' page. You are allowed to enter your location manually or detect it automatically, choose a store nearby based on the location, add items to your cart from the catering menu and select a desirable time/date for the bulk order. However, the whole process is extremely

tedious — 1) the option to detect your location automatically is not visible upfront. 2) there are restrictions on the items which can be ordered via catering but there are no instructions for that on the website, they only become apparent when you try to add them to your cart. 3) the minimum preparation time for any bulk order is 24 hours but again there is no instruction which says so, you get an error message when you submit a form with a time chosen lesser than that. The entire process is frustrating and leaves much to be desired.

## 6.7 Post-session questionnaire

All responses on a 1-5 scale and questions marked with “\*\*\*” are reverse coded.

1. I found it difficult to complete my order\*\*\*.
2. I would use the website to bulk purchase pizzas.
3. I thought that the ordering process was simple.
4. I found the website layout consistent.
5. I found the ordering process complex\*\*\*.
6. I think that I could use this website without assistance.
7. I found it easy to keep track of what I was ordering.
8. I would not recommend this website for bulk purchasing to a colleague\*\*\*.
9. I think that bulk ordering through this website is easier than through a phone call.
10. I think you have to be good with technology to use this site\*\*\*.