



Redesigning the DoughBoyz Website: *Supplemental Materials*

DATE:
DECEMBER 16, 2021



WPI

Worcester Community
Project Center



Doughballs from DoughBoyz

Student Authors

Zihang Chen
Jessica Goode
Lia Kelly
Ivan Klevanski

Project Sponsor

Justin Amevor
Director of DoughBoyz



Project Advisors

Dr. Corey Denenberg Dehner
Worcester Polytechnic Institute

Dr. Elizabeth Long Lingo
Worcester Polytechnic Institute



Lia Kelly, Jessica Goode, Ivan Klevanski
(left to right), Zihang Chen (out of frame)

Our Team

Page numbers refer to the supplemental materials booklet.

Title Page.....	i
Our Team.....	ii
Table of Contents: Supplemental Materials.....	1
Table of Contents: Booklet.....	2
List of Tables and Figures.....	3
Authorship.....	4
Appendices	
Appendix A: SWOT Analysis of DoughBoyz	5
Appendix B: Website Features Before and After.....	6
Appendix C: Informed Consent.....	8
Appendix D: Interview with Software Developers Questions.....	9
Appendix E: Interview with Dean and Emissary Questions.....	10
Appendix F: Interview with Purvi Shah	11
Appendix G: Focus Group Questions	12
Appendix H: Key for Comparative Matrices	13
Appendix I: Gantt Chart.....	14
Appendix J: Technical Website Development Definitions.....	15

Page numbers refer to the main booklet of the report.

Title Page.....	i
Our Team.....	ii
Abstract.....	iii
Acknowledgements.....	iv
Introduction and Background	
Food Insecurity: Facts and Facets.....	1
Food Insecurity in Worcester.....	2
Food Assistance Programs.....	4
What is DoughBoyz?.....	5
Benefits of an Effective Website.....	5
Project Goal.....	6
Methodology: The Five Step Systematic Plan	
Objective 1.....	7
Objective 2.....	8
Objective 3.....	9
Objective 4.....	10
Objective 5.....	11
Findings and Results: Expressing the DoughBoyz Dual Mission with Website Design	
Introduction.....	12
Identifying the Target Audience.....	12
Website Alternatives.....	13
Separation of Frontend and Backend.....	14
User Interface Design.....	15
Technical Revisions.....	19
Conclusion and Recommendations.....	21
References.....	22

Page numbers refer to the main booklet of the report.

Tables

Table 1. Comparative Matrix (Blank)	8
Table 2. Website Platform Preference Comparative Matrix	14
Table 3. Catering Request Form Comparative Matrix	20

Figures

Figure 1. Food Insecurity Percentages by Ethnicity and Race	1
Figure 2. Graph of Median and Mean Net Worths by Ethnicity and Race	1
Figure 3. Graph of Food Insecurity Trends and Predictions	2
Figure 4. USDA Food Access Research Atlas of Food Deserts in Worcester, MA	3
Figure 5. Graph Showing Decrease of Food Insecurity by SNAP	4
Figure 6. Justin Amevor with the DoughCart	5
Figure 7. Original Index Page with Menu	5
Figure 8. Graphic of Methodology	7
Figure 9. Organization of Agile Sprints by Team	10
Figure 10. Original About Us Section	12
Figure 11. Response to an Option from the Backend	15
Figure 12. Updated Index Page with Colorful Slideshow	16
Figure 13. Updated Menu Bar	17
Figure 14. Updated About Us Page	18
Figure 15. New Newsroom Page	19
Figure 16. New Login System Front Page	20

Authorship

The work represented in this student report was distributed evenly among project members; however, a collaborative effort was pursued in order to follow a consistent narrative. As a group, all team members performed editing to ensure that writing was compatible throughout the report.

Authorship	
Section	Drafting
Abstract	Jessica
Acknowledgements	Jessica & Lia
Introduction:	All
Food Insecurity: Facts and Facets	Jessica
Food Insecurity in Worcester	Lia
Food Assistance Programs	Jessica & Lia
What is DoughBoyz?	Lia
Benefits of an Effective Website	Ivan & Zihang
Project Goal	Ivan
Methodology	Ivan
Results and Findings:	All
Introduction	Jessica
Identifying the Target Audience	Jessica
Website Alternatives	Ivan
Separation of Frontend and Backend	Zihang
User Interface Design	Jessica & Lia
Technical Revisions	Ivan & Zihang
Conclusion and Recommendations	Lia

Appendix A: SWOT Analysis of DoughBoyz

The team performed a SWOT analysis on the business of DoughBoyz at the beginning of the project (October 2021). This was to inform the team on the how the website should be developed regarding its target audience.

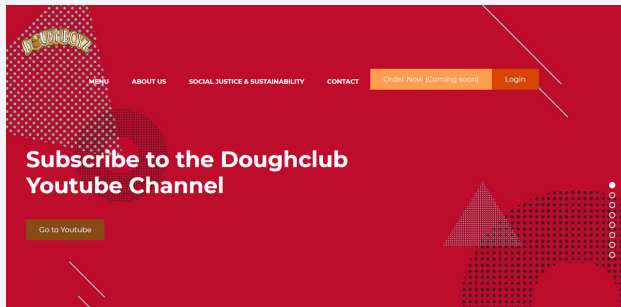
SWOT Analysis of DoughBoyz				
	Strengths	Weaknesses	Opportunities	Threats
Business	<ul style="list-style-type: none"> -He has events that he has catered (experience) -He has a lot of student teams working for him -Dough Cart exists 	<ul style="list-style-type: none"> -Target audience is ambiguous -More ideas than can be handled at once -Not fully functional yet (i.e. DoughCart, individual order, etc) -Minimal staff 	<ul style="list-style-type: none"> -Subscription service -Central food hub/ kitchen 	<ul style="list-style-type: none"> -Business alone might not be able to fuel all of the needs of the non-profit side
Non-profit side	<ul style="list-style-type: none"> -He has a strong passion -He has multiple ideas of where to go 	<ul style="list-style-type: none"> -He has many passions -Need clarification of direction -Business's funds are limited to grants 	<ul style="list-style-type: none"> -Incorporation of Doughclub into DoughBoyz website so that users have exposure to both -Collaborate with Dean of Students 	<ul style="list-style-type: none"> -Confuses his main business' mission
Online media	<ul style="list-style-type: none"> -He has a social media already started -Has a website base already 	<ul style="list-style-type: none"> -Non-linear information on website -Primary purpose of website is unclear -Target audience is ambiguous 	<ul style="list-style-type: none"> -Creating more social media accounts (ex. Tiktok) for further exposure 	<ul style="list-style-type: none"> -Confuses his main business' mission on the website

Appendix B: Website Features Before and After

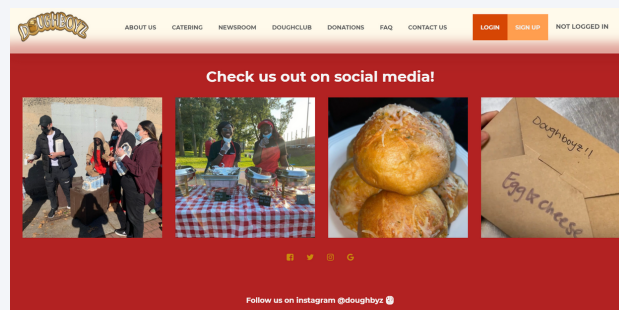
The table below presents features in the DoughBoyz website before and after the team applied renovations in their new model. Comparison photos of the original website and updated website model are provided on the following page.

Website Features		
Feature	Before	After
Pages	Single page	Multiple pages
Colors	White background with brand colors [brown, red, orange]	Beige background with brand colors [brown, red, orange]
Sections	Index, Menu, About Us, Social Justice & Sustainability, Contact	Index, About Us, Catering, NewsRoom, DoughClub
Top Section Buttons	Order Now (Coming Soon), Login	Login, Sign Up [displays status]
Account system status	Unimplemented	Implemented
About Us Section	Presented on index page: About Us, Employment, Doughboyz & Covid-19	Presented on About Us page: Our Story, The DoughCart
Social Justice & Sustainability Section	Presented on index page: Doughboyz Anti-Racism policy, Black Business Star, Social Justice & Sustainability	Presented on About Us page: Doughboyz Anti-Racism policy, Black Business Star, Doughboyz & Covid-19
Menu	Presented on index page: displayed outdated menu items	Presented on Catering page: displays updated menu items through Clover
Contact Us form	Supplied via SurveyMonkey	Based in backend
Method of catering request	Contact information displayed, no web interaction	Button linked to catering form via Google Forms
NewsRoom Page	Unimplemented	Articles supplied by backend displayed in one location for user
Other new features		Social media integration, customer review, Featured In, DoughClub page

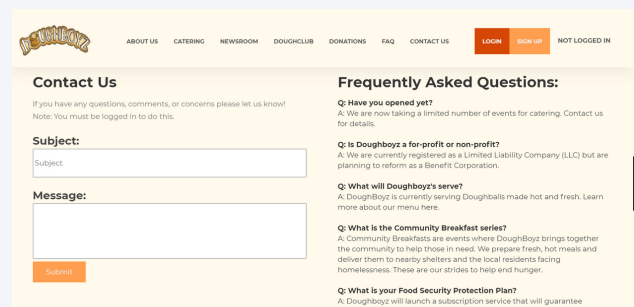
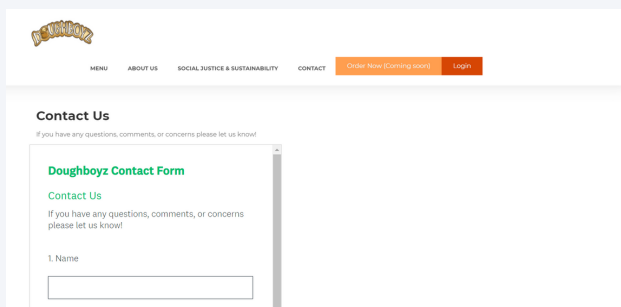
Appendix B: Website Features Before and After



DoughBoyz' index page before and after (left and right)
featuring a slideshow of business related information



DoughBoyz' index page after
featuring the newly implemented social media integration



DoughBoyz' index page before and after (left and right)
featuring the contact form

Appendix C: Informed Consent

We presented this or a similar statement to all interviewees and focus group participants:



The purpose of this interview is to gather information about website development and design. This interview will be used in an Interactive Qualifying Project that is to assess the website of a business that works against food insecurity.

We are students from Worcester Polytechnic Institute doing research with Doughboyz, a business aimed at alleviating food insecurity among college students at WPI. We will be making improvements to the business' website. We are interviewing software developers to learn about how experts address website development. While we would like to use your name in our final report, we are happy to keep your identity confidential if you so desire. We will share, prior to publishing, how we use your answers in our final report. If you would like, we can provide you with a copy of our final report at the conclusion of our study.

We would like you to understand that:

- Interviews may be recorded by audio or video which you may agree to now.
- There are no foreseeable risks or discomforts in the process of this interview.
- Your participation is completely voluntary, and you have the right to refuse to answer any question.
- You have the right to withdraw from the interview at any time. Should this happen, there will be no consequences for your withdrawal and all information collected will thus be destroyed.
- Should you agree to our use of identifying information, you have the right to refuse partial disclosure of your identity in any form and at any point in time.
- The researchers may publish in their report quotations given by you.
- The researchers will not use in their report identifiable information unless otherwise given permission in the Consent for the Use and Publication of Identifying Information.
- If you have any questions, you are free to contact the researchers via email at gr-wcpc-doughboyz-b21@wpi.edu. Our faculty advisors, Corey Dehner & Elizabeth Lingo, may be contacted at cdehner@wpi.edu and ellingo@wpi.edu, respectively.

This consent form is for the researchers to collect information in the following interview. By agreeing to these conditions, the participant grants permission for the use and publication of disclosed information

Appendix D: Interview with Software Developers Questions

These questions were presented to software experts to gain information on both methodological practice and website development fronts.

Oleg Simakoff (10/26/21)

1. What are some team/software development strategies or practices that were proven to be effective in your career?
2. What are some web development practices that are important to follow (with further elaborations in terms of security, performance, code guidelines, and search engine optimizations)?

John Masone (10/31/21)

1. I want to start off getting to know a little more about you and your history. Tell me some more about what you do and who you work for.
2. How long does it typically take you to build a website? Start to launch.
3. When it comes to web maintenance, how do you manage identifying and fixing bugs?
4. How do you deal with spam prevention?
5. Would you say it's better to restart or take what the website has and add on to it?
6. In terms of our project, what is your opinion on website builders like Squarespace or Wix?
7. What aspects of a website are most important in your opinion? From a developer standpoint and a viewer standpoint?
8. Is there a preference you have for using a language? Why?
9. How do you go about making a mobile version of a website?

Appendix E: Interview with Dean and Emissary Questions

We used the following questions to develop the benefit side of the DoughBoyz' brand.

Dean Snoddy (11/5/21)

1. Tell us how you got interested in working with food insecurity on campus.
2. What has your progress been like in terms of the food pantry?
3. We read about a previous IQP in 2019 that took data on food insecurity on campus, and your name was in the published report. Do you mind telling us a little about how you helped?
4. What is the meal plan project you have going on at the moment?
5. How can DoughBoyz support the creation of the food pantry
6. What resources are available to support food insecurity projects (grants, staff)
7. Do you have any people that you believe we should talk to next?

Florekenthia Jolibois (11/11/21)

1. Tell us how you started working with the Dean of Students?
2. How do food insecure students reach out to you?
3. Dean Snoddy discussed opening more student positions so that insecure students have more "access" points. How do you see this going in the future?
4. How could the DoughBoyz website benefit your cause?

Appendix F: Interview with a Marketing Expert

We used the following questions to develop the understand how to market toward a specific audience in our website design.

Purvi Shah (12/2/21)

- 1.What is your understanding of the DoughBoyz audience based on our website model?
- 2.What are the most important attributes when it comes to marketing a mission based company?
- 3.From our developments so far, how does our model compare to the original? Does it target a clearer audience?
- 4.What are the best marketing strategies for this specific business, DoughBoyz?
- 5.Do you have any suggestions for us?

Appendix G: Focus Group Questions

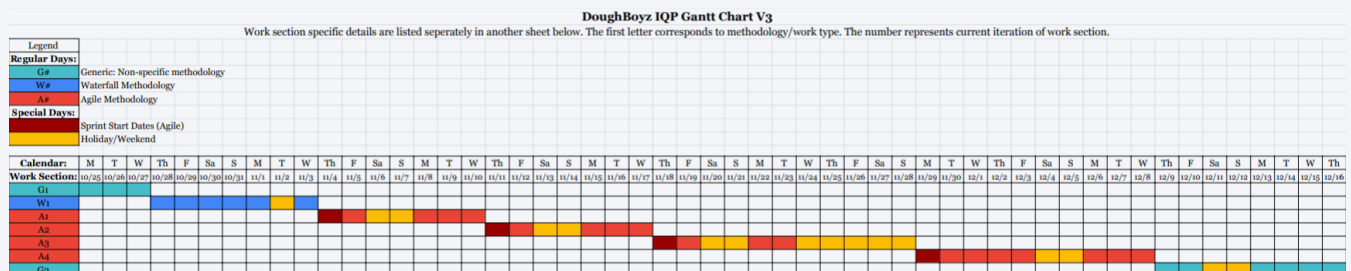
We asked these questions to groups of students at WPI at the beginning and end of the project term. Identities of the students remains confidential. Responses and reactions to the unchanged website had been recorded for the first session. Responses and reactions to our developed prototype had been recorded for the second session.

(11/9) (12/2)

1. Before joining the website, please take note of how long it takes the page to load.
2. What are your initial impressions of the website?
3. Where do you see yourself drawn to the most?
4. What do you think of the food based on the images? How do they make you feel?
5. Is there anything that leaves you wanting more information that is not provided?
6. How is the functionality?
7. How is the visual layout for you?
8. Would you come back to this website in the future?

Appendix H: Gantt Chart

The following Gantt Chart displays how the team split up the waterfall and agile methodologies.



Legend						
Regular Days:						
G#	Generic: Non-specific methodology					
W#	Waterfall Methodology					
A#	Agile Methodology					
Special Days:						
	Sprint Start Dates (Agile)					
	Holiday/Weekend					

Legend of Gantt Chart

Appendix I: Key for Comparative Matrices

Below is the key for each comparative matrix (Tables 2 and 3) which details the meaning for each color, symbol, and acronym.

Color	Meaning	Connotation
	no / high / difficult	bad
	yes / low / easy	good
	free	good
	medium difficulty / conditional	depends
	undecided / unknown / other	neutral

Description	Meaning	
WYSIWYG	What you see is what you get	simple, easy
✓	check mark	

Appendix J: Technical Website Development Definitions

Terminology:

Website builder platform: An online software that allows users to create their own website using simplified modification. Services are generally What You See is What You Get and based on a subscription service.

What You See is What You Get: (WYSIWYG) A form of software editing in which content that edited resembles how it will look as the finished product. This typically takes the form of a "drag and drop" functionality.

GitHub: A cloud hosting service for git repositories.

Git: A Version Control Software (VCS) that allows developers to monitor and keep track of changes made to a program's source code.

Frontend: The part of the web application (website) responsible for physically displaying the website & contains the website logic that the user interacts with (e.g. clicking the login button on the website, accessing different webpages, accessing information from the back-end)

Backend: The part of a web application (website) responsible for maintaining all of the data on (e.g. users, inquiries, news articles, any other structured data) as well as allowing different clients (users) to collect data and display it on their front-end instances.

Cloud service (A.K.A. the Storage provider): a general service that grants developers remote computing power and remote data storage (e.g. storing a front-end and back-end instance)

Google FireBase: A special cloud service maintained by Google that is specifically meant for storing and maintaining web-applications: (unlike a regular cloud service which is more general).

Django REST Framework: A free Python-based, open-source web framework that follows the model-template-views architectural pattern. It is a toolkit that allows a user to build Web APIs.