

Bonacorsi Family Farm

Local Farm to Table. Fresh Fruits Daily!

t4team2022.wixsite.com/my-site

CIS 9590 - Team #4

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Section 01: Bonacorsi Family Farm - Technological Rejuvenation

A) Project Summary

As the coronavirus pandemic of 2020 ravaged cities big and small, traditional small businesses in need of modernization require much-needed assistance to survive in this landscape of weary consumers looking to protect themselves and their families.

Bonacorsi family farms of Upper Deerfield is a small community food provider that has been in the Bonacorsi family for five generations. Due to the impact of the coronavirus pandemic, the business has sharply declined, and without decisive help, the coming collapse of another small business is in order.

T4 has been dispatched to re-connect local consumers with their community vendor of fruits. We aim to empower small businesses in these trying times by modernizing their technological reach while keeping both business and customers happy and safe.

B) System Breakdown

T4 will construct a new strategy for Bonacorsi family farm's customer-facing interface systems. For this project, T4 will be creating a website, database, inventory planning, and customer allocation system, allowing Bonacorsi to continue interacting with local customers safely during the coronavirus pandemic.

C) Describe the Project Environment

Bonacorsi family farm's current customer-facing interface system that is in place is the traditional face-to-face, physical interaction relying on old-school cash registers, handwritten reports, and word of mouth marketing. T4 will begin impacting its traditional system immediately by digitizing all its processes and services for both employees and customers. This new digital system will contain features that will integrate all of Bonacorsi's business processes into a single platform while creating an environment that will forgo physical interaction for the time being, as the pandemic is still ongoing.

1. New system, current state, and current effectiveness

Bonacorsi family farm's website is a fairly new system with user-friendly functions where it is created for curbside pickup which allows customers to purchase products online. This will be the farm's first-ever deployment of the online website where customers can make online purchases for safety purposes, and it would be easier for them to get access to the products that they want. Some of the impacts that the system may bring are promoting the farm through an online presence, providing safer and convenient service, automating a purchase process, and improving sales and profitability.

2. System's users and functional responsibilities

Our system's users include customers, store managers, and data analysts. Customer will be the main user that uses the website manually to make orders online. To be more specific, customers need an account before they proceed to make an order and they will need to select a specific curbside location where they get to pick up their orders and indicate their preferred pickup date and time in an order note. Once they have selected their desired curbside location, they may proceed to check out or cancel their order. After the customer has confirmed their order, the order will be sent to a store manager for packaging. Their responsibilities involved monitoring and tracking daily inventory, transforming customer orders into packages, and organizing order schedules and status updates. After a week of business, a weekly sales report would be generated. Data analysts will analyze the generated sales reports and turn them into a management report to help the business to make better-informed decisions.

D) Systems Description

1. Principles inputs and forms

Bonacorsi family farm will implement an electronic website where customers can input their information and make orders. Customers are able to browse through the website and search for the types of fruits that they want or the products of their liking. Our user-friendly website is designed to make everything more convenient for the customer while they make purchases electronically on a laptop, mobile devices, or tablet. There are a variety of forms that are included in the electronic website such as login form, account form, order selection form, and checkout form. Once customers input and confirm their information, an order detail will be generated by the system and saved into the database.

2. Data process (Database to store, user interface, and data entry to enter)

The system will allow a customer to create an account, add items to the cart, select pick-up date and time, enter vehicle identification information in order details, and confirm order payment. The system should update inventory quantities, generate and send order invoices to the customers and notify them with confirmation receipt. When customers visit the website, they will interact with the website user interface that is designed to be user-friendly for all users. A customer can browse through a variety of available product items and choose a specific quantity of fruits. If a customer wants to purchase items, they are required to create an account. Once they have created an account, they can log in online and start making any online purchases.

3. Output (Database updates and reports)

The main types of data in the database management system will be customer data and

item inventory data. New data will be created in the system when a new user is registered and a new item is added to the website. The data will be updated when customers change their account information, inventory items are added, and goods are sold. The system will also generate different types of reports including daily process, weekly sales, order detail, and order invoice.

E) Goals for the System

1. Streamline Bonacorsi Farm's Technical capabilities

Given the technological shift that has occurred these past years, any customer-oriented business needs to have a digital footprint. The farm has a straightforward introductory website that serves more as a pamphlet displaying the existence of the farm, rather than a business instrument. We will give the website a more advanced purpose and transform it into an extension of the business, making it an online store for the farm.

2. Maintain and Improve presence during and after the global pandemic

The website is a great tool to create and maintain communications with customers. It serves as a point of reference for existing customers to continue doing business with the farm, but also for new customers that are looking for products offered by the fruit farm. The global pandemic has solidified the need and likeness for online shopping. Having an active website that not only serves as a hub of communication but also as a store, helps in customer outreach and further promotion of the farm.

3. Create additional channels of cash flow, and increase sales

The restructured and repurposed website will create a new stream of business and cash flow – online shopping. Incorporated SEO tools will help in better customer outreach. Those combined with the addition of online purchasing will increase sales.

F) Data Gathering Plan

The goal of T4's data gathering plan revolves around the three major objectives of technology, reach, and sales. In order to achieve these objectives the feedback gathered was from employee interviews. Employees with experience from their past system have given us information about their past experiences in a no system environment. Employees feel that the management of the business side has become cumbersome due to inefficient data gathering techniques and recording transactions. This is understandable as the farm was very traditional in a technological sense. Employees also notified the team that there was a lack of presence in the online space, thus our priorities were to advance Bonacorsi's technological capabilities. Our system realized the solution to all of their problems with a major technological upgrade in order to achieve the major objectives of technology, reach, and sales.

Section 02: System Representation

A) Summary

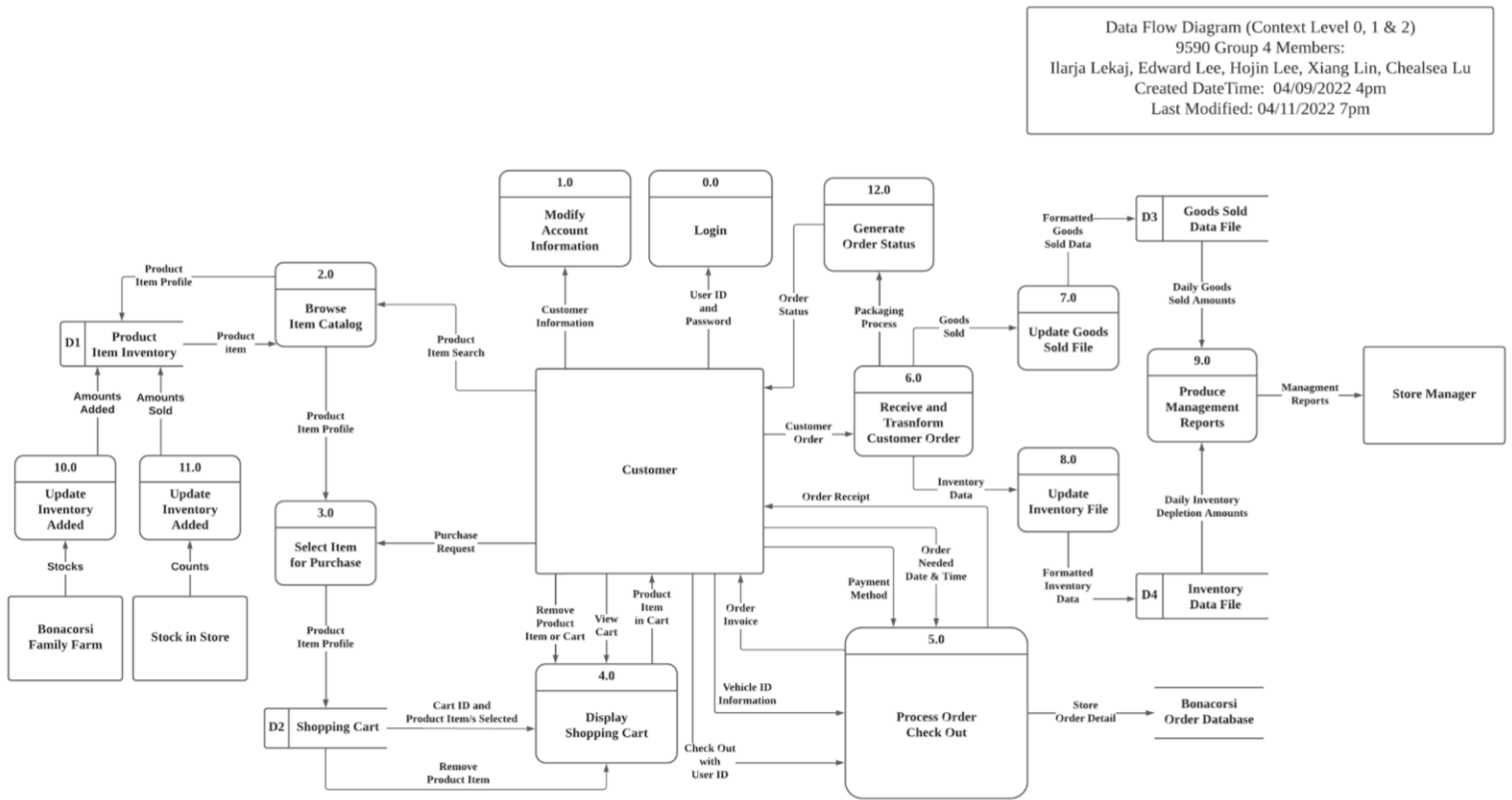
The purpose of a website is to exist as a user-friendly platform for all of our end-users. The primary function of the website is to create a technologically adept environment to improve the connectivity between the client and the business while also improving the cohesion between the business and its management staff.

On the client-side, the system will allow customers to interact with the business by allowing customers to create an account, place and pay for their order, enter important information, view their account and order status, and receive notifications.

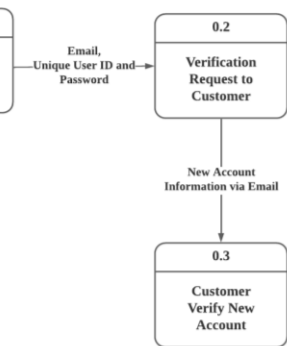
On the business side, our system allows the customers to create an account, add multiple items to their shopping cart, purchase said item(s), and receive information from the customer about the pick-up information. Orders can be managed to be picked up by the customer in a safe fashion during the pandemic while adding another channel of revenue in a more technologically advanced world. In return, the business will have an efficient way to manage customers and their inventory with the database system created. Without the need for their traditional way of recording data, Bonacorsi farms will be able to utilize their data more effectively through analysis.

For the reporting, management staff will be able to query data that is collected through the website's database functionalities. This will allow management to look into the performance of products and review customer order preferences.

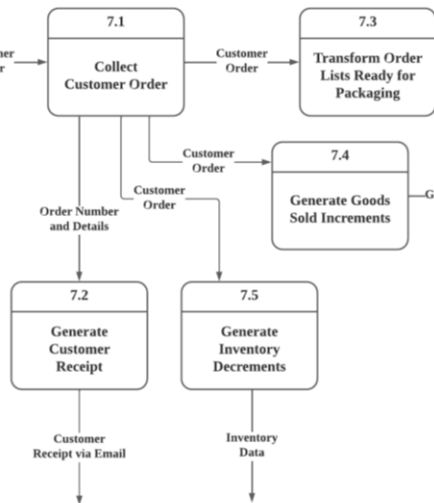
B) Data Flow Diagrams



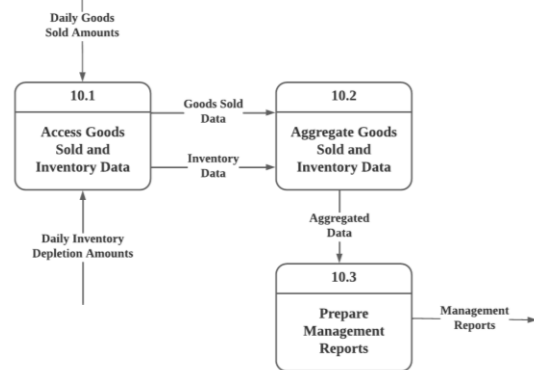
Level 1: Process 0



Level 1: Process 7



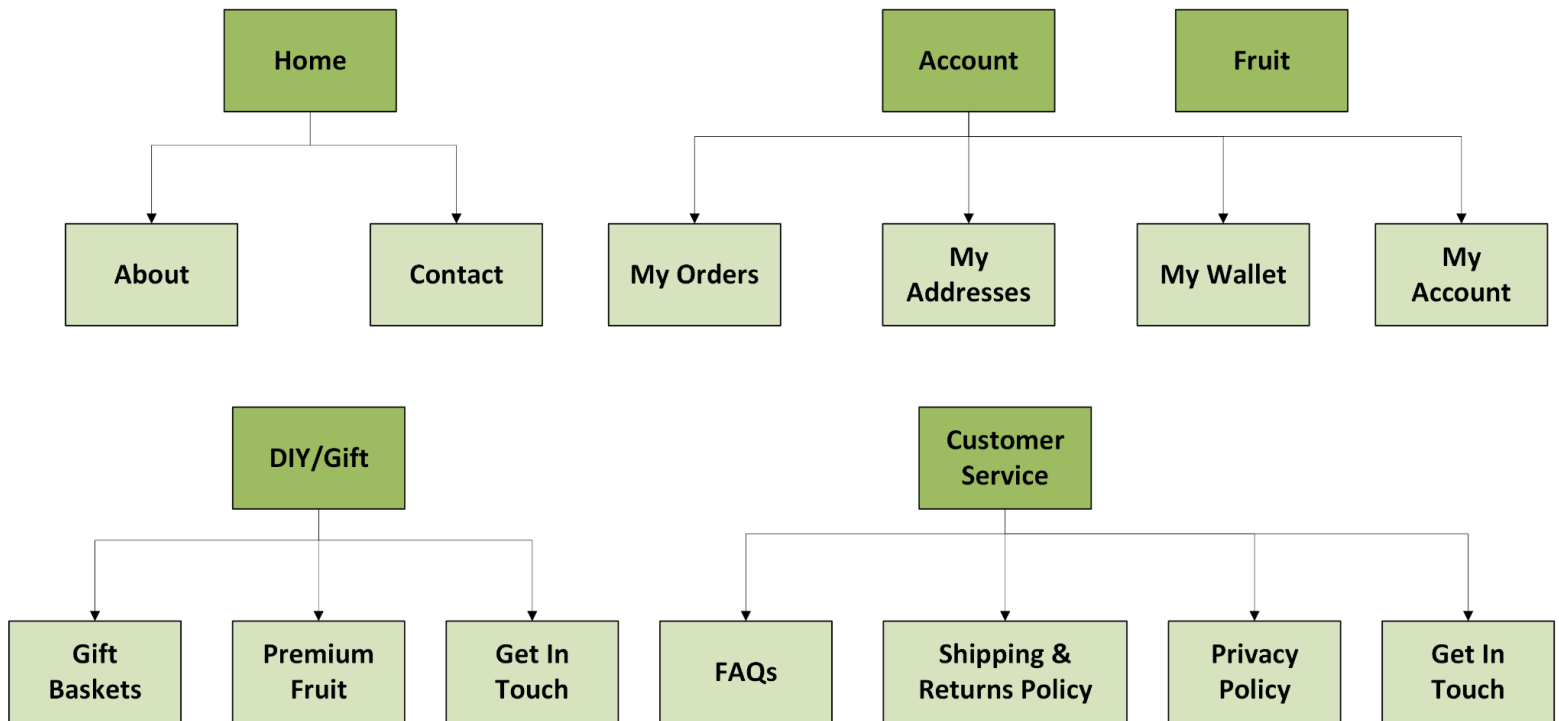
Level 1: Process 10



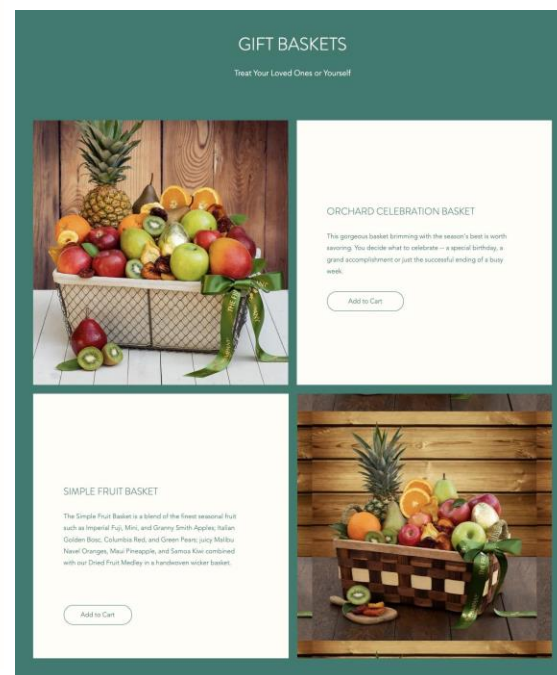
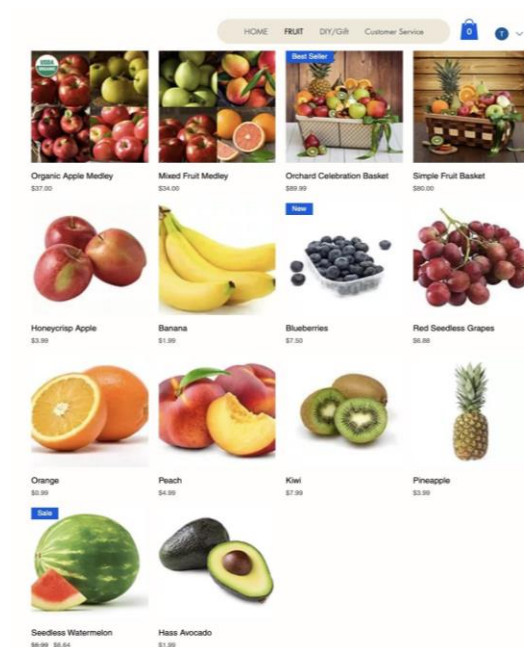
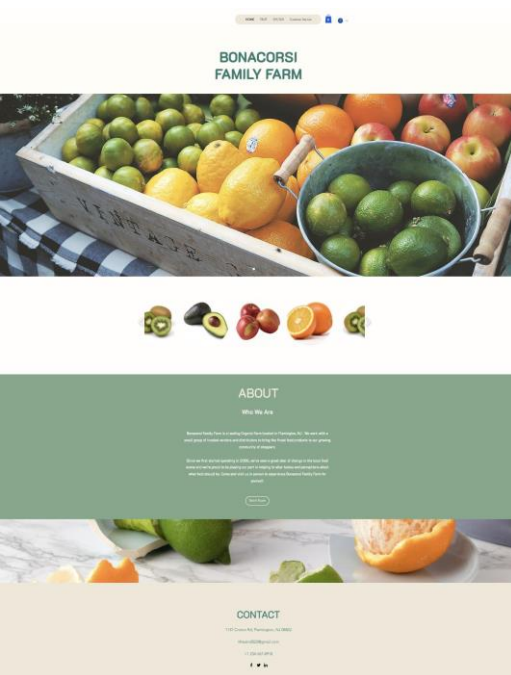
Level 2: Process 10



C) Menu Hierarchies



D) Website Design



- **Order Invoice**
 - Order number, Item order, billing, payment information, and total
- **Marketing & SEO:**
 - **Top traffic sources**
 - where site visitors are coming from
 - **Order conversion by traffic source**
 - which sites and campaigns bring orders to the site
 - **Response status over time**
 - errors encountered on the site

2. Data that will be produced:

- Items purchased
- Date and time
- Payment method used
- Location for pick up
- Order total amount

3. Who can run the report:

- Sales Manager
 - responsible for overseeing the sales process
- Sales Analyst
 - responsible for analyzing sales trends and providing insight on sales strategies

4. Sample layout:

Reports > Page Visits

Page Visits ⌵

Understand how each page of your site performs. [How to use this report](#)

Time period: Apr 11 - Today

Bar Chart
Bar Chart Split
Table

Select a time period: Last 30 Days | Select columns: Is 13.Entry page or 26.Page views or 27.Si... | More • 24

just now ↺ ⋮

Entry page ①	Page views ⌵	Site sessions ①	Unique visitors
/ { Homepage }	159	91	91
/shop	5	2	2
/copy-of-diy-gift	5	2	2
/cart-page	5	1	1
/product-page	4	2	2
/checkout	3	1	1
/account/my-addresses	1	1	1
/account/my-account	1	1	1
/account/my-wallet	1	1	1
/thank-you-page/e10ca121-8cc4-4aa0-b3f...	1	1	1
/product-page/banana	1	1	1
/product-page/organic-apple-medley	1	1	1
/product-page/fuji-apple	1	1	1
/product-page/simple-fruit-basket	1	1	1
/account/my-orders	1	1	1
/copy-of-contact	1	1	1

Section 03: Project & System Analysis

A) Project Analysis

The development and launch of the reimagined website is completed in a 3-month period. During this time the team will work on creating and updating the website, as well as employing SEO tools to boost revenue. The team will work closely with the farm's owners and their Sales Manager. Below is a breakdown of the costs of this project:

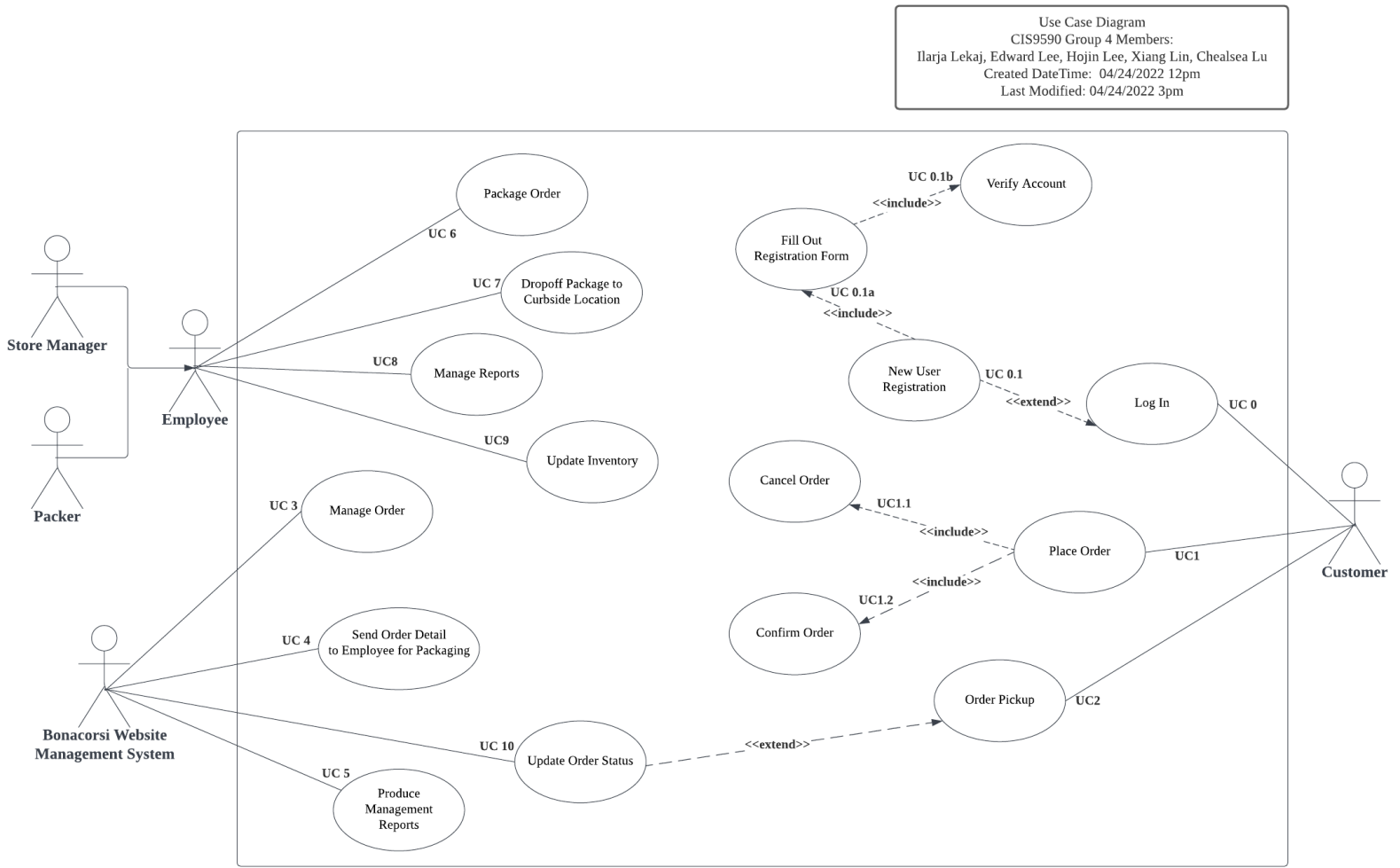
COSTS OTHER THAN LABOR	COST/HOURS				
	TOTAL	FIXED COST	LABOR COST	HOURS	COST/HOUR
Hardware (computer & inventory scanners)		\$2,000.00			
Wix Webpage ('Business Unlimited' subscription = \$27/month x 3 months)		\$81.00			
Internet		\$300.00			
Travel cost		\$300.00			
Domain		\$10.00			
Server testing		\$59.00			
Total		\$2,750.00			
LABOR					
Program Manager		\$7,000.00	100	70	
Project Manager		\$4,000.00	100	40	
Database administrators		\$8,800.00	200	44	
Business Analyst		\$3,600.00	100	36	
Web designer		\$3,200.00	100	32	
Total		\$26,600.00	600.00	\$222.00	
TOTAL COST		\$29,350.00			

Payback Time

Assumptions:	Amount
Costs:	
Program Manager	\$7,000.00
Project Manager	\$4,000.00
Database administrators	\$8,800.00
Business Analyst	\$3,600.00
Web designer	\$3,200.00
Outsourced software and services	\$2,750.00
Total project cost (all applied to year 0)	\$29,350.00
Benefits	
Increase in profits	\$5,000.00
Increase in profits from new line of business	\$3,000.00
Shipping saved with curbside pickup (200 orders * \$7)	\$1,400.00
Customer service saved with website service (200 hrs * \$20)	\$4,000.00
Inventory count savings (10people * 10hrs * \$20/hour profit)	\$2,000.00
Sales Analyst cost saved	\$4,000.00
Total annual projected benefits	\$19,400.00

B) System Analysis

a. Use Case Diagram



b. Use Case Narratives

- Login

Use case: Login	
ID: UC0	
Brief Description: Customer logs in to their account.	
Primary actors: Customer	
Secondary actors: N/A	
Pre-conditions: Customer has an account.	
Main flow:	
Actor action	System response
1. Customer inputs User ID, and Password.	System displays input information.
2. Customer clicks Sign In.	System validates data and displays Your Account page.
3. End use case.	
Post-conditions: UserID and password are valid and login is successful.	
Alternate flows: System presents message that login information is wrong.	

- New User Registration

Use case: New User Registration	
ID: UC0.1	
Brief Description: Customer creates an online account in the website.	
Primary actors: Customer	
Secondary actors: N/A	
Pre-conditions: Customer is a new user or they don't have an account on the website	
Main flow:	
Actor action	System response
1. Customer clicks Create Account.	System displays enrollment form.
2. Customer enters required information.	System displays the information entered.
3. Customer clicks Register.	System validates data and new account generated, verification email will send to customer to verify account.
4. Customer clicks Verify Account.	System displays account successfully verified.
Post-conditions: Customer email address is still active and successfully created a new account.	
Alternate flows: Account is already created for that email address, so it cannot be created.	

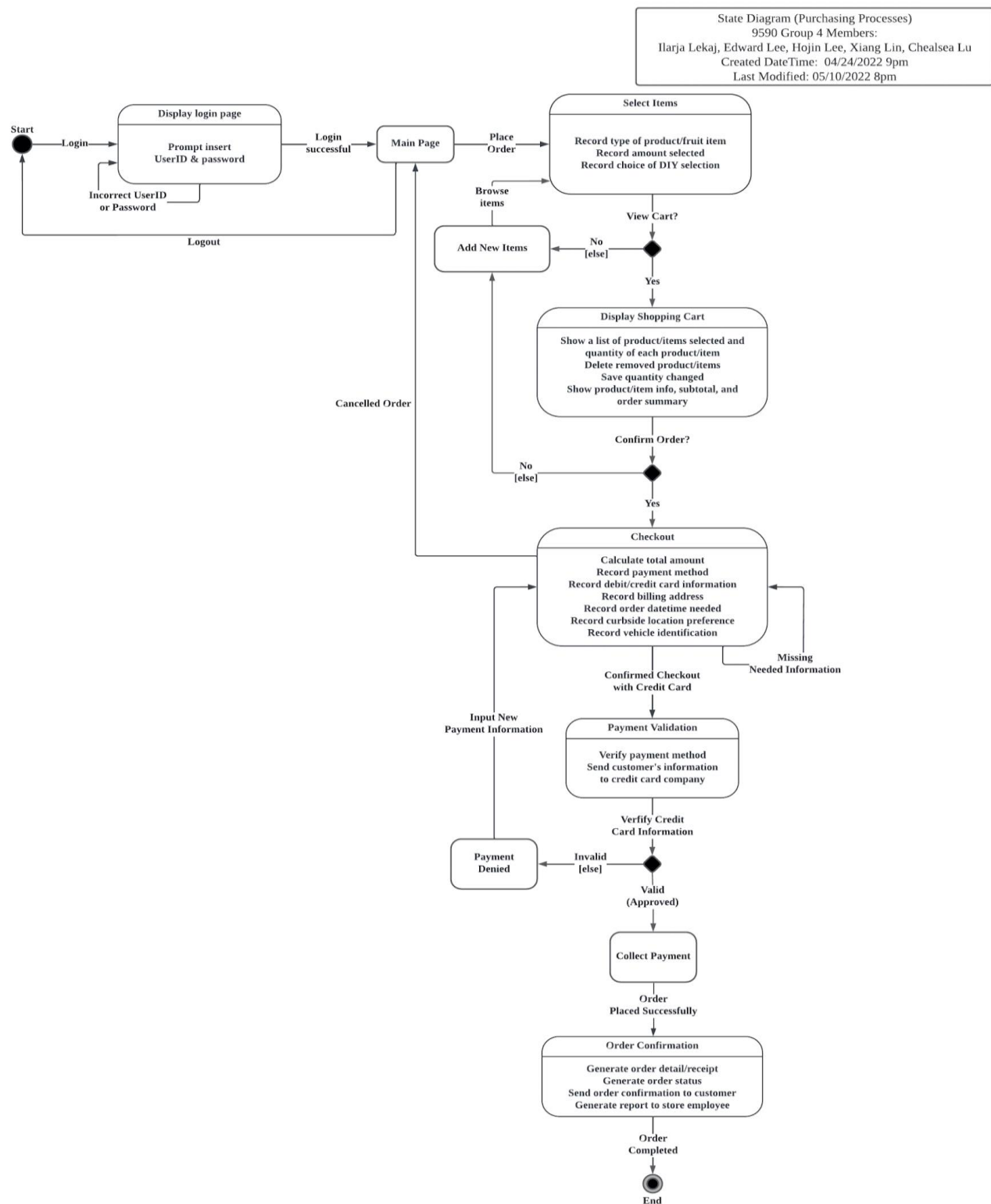
- Place an order

Use case: Place an order	
ID: UC1.1	
Brief Description: Customer places an order.	
Primary actors: Customer	
Secondary actors: N/A	
Pre-conditions: Customer has a valid account.	
Main flow:	
Actor action	System response
1. Customer browse through fruit items.	System displays all items and fruit availability.
2. Customer selects items.	System moves items selected into shopping cart.
3. Customer clicks on shopping cart to perform any modification.	System saves any changes customer made.
Post-conditions: Customer proceed to checkout.	
Alternate flows: N/A	

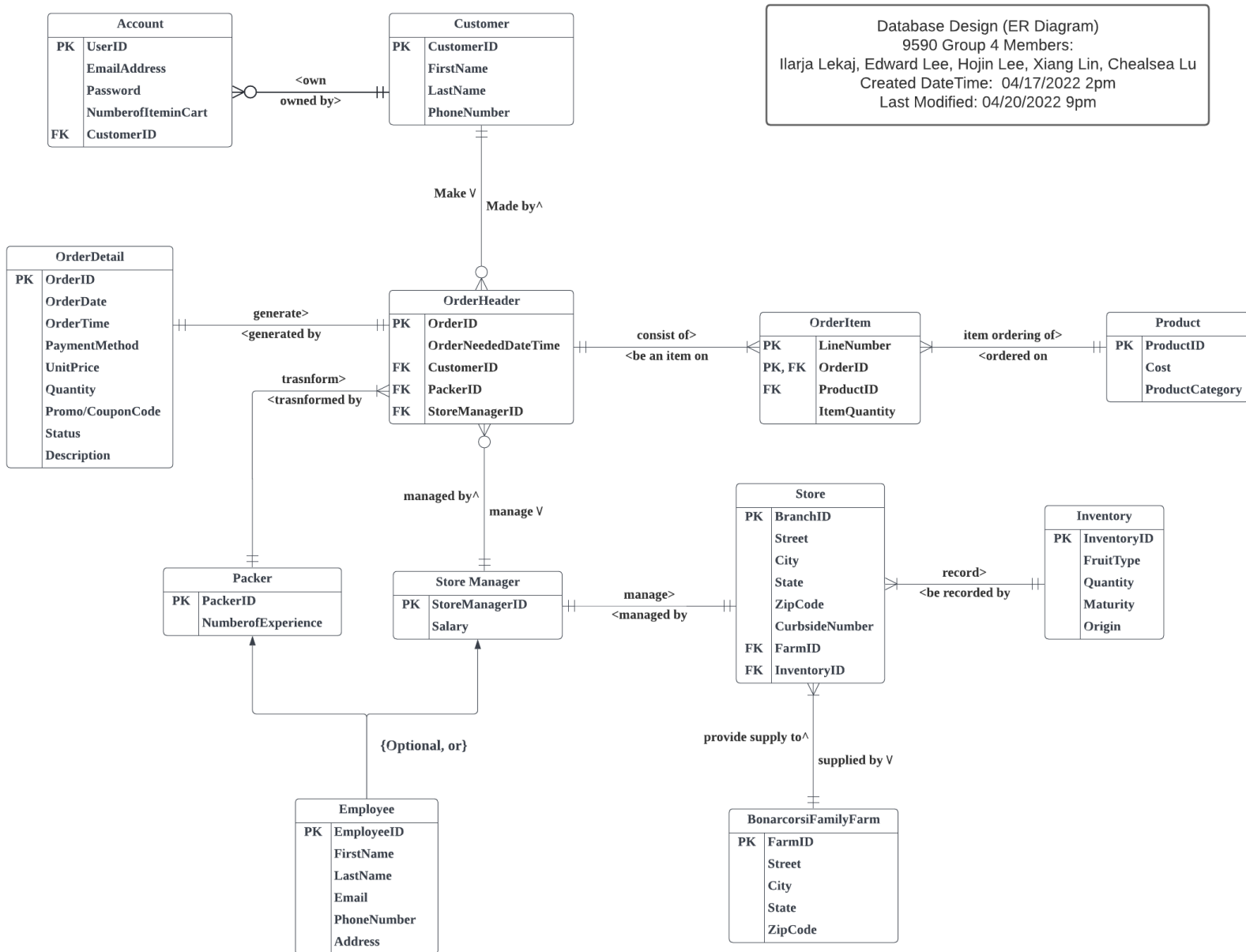
- Confirm an order

Use case: Confirm an order	
ID: UC1.2	
Brief Description: Customer confirms an order.	
Primary actors: Customer	
Secondary actors: N/A	
Pre-conditions: Customer has an account & items in shopping cart	
Main flow:	
Actor action	System response
1. Customer clicks on checkout to proceed to the checkout page.	System asks for payment information, datetime option, and curbside location that customer prefer.
2. Customer provides payment information, datetime option, and curbside location that they prefer.	System asks customer to confirm order details.
3. Customer confirms order details are correct.	System generates order receipt
	System sends customer order confirmation email.
	System sends order information to employee for packaging.
	System updates order status.
Post-conditions: Customer's order ready for packaging.	
Alternate flows: Customer's payment information is not valid. Customer wants to make edits (payment access denied)	

C) Process Analysis - Purchasing



D) Database Design (ERD)



Section 04: System Features & Prototype

A) Navigation & Pages

Home page navigation

As soon as you open the webpage you are greeted with a menu bar that gives the options to go to the Fruits page, the DIY/Package page or Customer Service. On the right side, there is a shopping bag icon that directs the customers to the shopping cart. Besides that, there's a Login button that links to the Sign In/Sign Up page. The rest of the home page contains imagery that portrays the farm business, a section for quick access to fruits available for purchase, and below that an informative paragraph that informs the customer about the business. The About section also has the Get in Touch button that directs the viewer to a different page where they can leave their contact information and ask any questions or concerns. Lastly, the page footer shows the farm address as well as the business contact information. Everything on one page makes it easier and more convenient and appealing for customers to navigate and purchase from the website.

DIY/Gift Packages

The website will help customers to buy different fruits that the farm produces and also get different fruit packages. There will be a separate menu option that displays and links to the DIY/Gift packages. When clicking there they will be brought to the new page that displays the different packages divided into two categories: Gift Basket and Premium Fruit. On the page, the customers will see a picture that represents what the packages will look like, a brief description of them, and the option to buy them. When customers click on the 'Add to Cart' button they will be redirected to a new page that opens up linking to the product page. Some of the packages have different options to choose from, so once the customer chooses the option, the amount and input pickup information if they are doing curbside pickup, they can click on the page's 'Add to Cart' and they will have the chosen product on their shopping cart. They can then click on the Cart icon in the upper right corner of the page and be directed there where they can choose their payment option and checkout.

B) User Input & Transaction

How to create a user profile

One way to have a faster checkout experience is to have an online account with your information saved. That is why our website offers that option also. Additionally, management is interested in tracking new vs returning users, and established profiles help in making the distinction. To create a profile the customer clicks on the 'Login' button in the upper right corner of the Home page. They will be directed to the 'Login' screen that asks them if they already have an account or if they want to 'Sign Up' for one. New customers click on 'Sign Up' and are brought to the page that asks them for an email and password for the account. Once the customer fills those out, they click on Sign up and they have created their account.

How to put in an order

To start an order customers have to choose the products they want to purchase. There are a couple of ways to go for that, but the most common and straightforward way would be to go to the 'Fruit' page that contains all products being sold. The customer clicks on the product they want to buy. They are brought to the product page where they need to choose the quantity they want to purchase. After that, they need to fill in their pick-up information in a note box on the product page. If they prefer shipping instead, they need to enter 'N/A'. After that, they click on the 'Add to Cart' button, and the product is added to the cart, shown on a mini cart page on the right side of the screen. The customer can either continue to the Cart page to pay or continue shopping. Once they have all the desired products in Cart, they click on the Cart icon in the upper right corner of the webpage and click 'Checkout'. Returning customers will have their information prefilled while new customers will have to fill in their information. They will choose the shipping option for the product, then the page will direct to the payment option and once that is entered the customer clicks on 'Checkout', and the order is placed. The screen refreshes and gives the customer a confirmation ID in the upper center, a list of items ordered as well as shipping/pickup instructions.

C) Editing Transaction

How to change phone number in My Account

To change personal information in a created account, the customer has to go to the account page. To do that they can click on the My Account icon in the top right corner of the webpage. They will be redirected to the My Account page where they will have the option to change the First and Last name, phone number, profile picture, and cover picture for their profile. To change the phone number, the user needs to delete the one entered and input the correct number. Once that is done, the Update info button will become available in the upper right corner of the screen. By clicking on that the new information is saved. The customer can confirm this by logging off and logging in again.

D) Running report & Querying Backend Database for Data

Report on page visits

One of the benefits of creating a webpage that serves as an online source is the ease of running reports. In order to make the best of the page, one of the things management has to understand is where the traffic is coming from. Page visits report on Wix gives a clear picture of visits by page. That is helpful in determining which is the page that attracts the most customers and is the one that is referred to the most. To generate the report, management opens up the Wix manager webpage, goes to the Analytics & Reports section in the left-hand corner, and selects reports. Based on the frequency of using this report may either be on the top of the list, or you can scroll to its appropriate section 'Behavior'. Once you select the report a new page opens up with criteria to choose from in order to generate the report. One can choose to have a bar chart or table, and then choose a time period to see the activity, comparability to a previous period, and measurement criteria. Once all is selected the page refreshes displaying the required report. You have the option to download the report as a CSV or an excel file.

Section 05: Implementation

A) Executive Summary

Our system implementation process was tasked with each of our team's strengths. The importance of bringing a system to life from scratch for a traditional technological-less company gave us the oversight of the need for an organized process. Using the various project management techniques learned throughout the semester, T4 utilized every single necessary aspect to combat inefficiency.

When planning the project scope, the determination of the creation of what type of system was one of our number one priorities. Through deliberation, we agreed on the website hosted online rather than in-house, due to many existing functionalities that come with the website platform builder. The scalability factor for a small business in the environment we are currently in also played into the factor of T4's choice of system. The website system is very intuitive and consists of pages that can assist all end-users. In addition, anyone will be able to access the website in the future and continue improving and making positive changes.

B) Hardware & Software

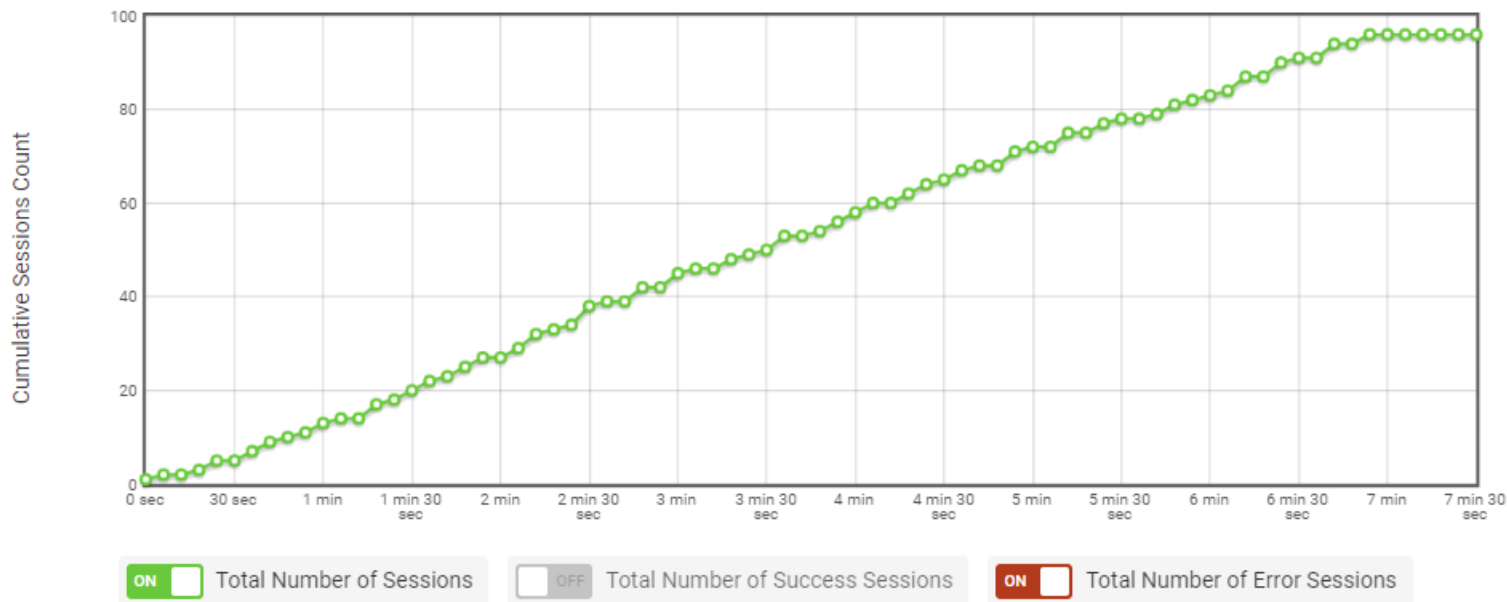
- PHP, JavaScript, HTML, work computers, inventory scanners, and wireless router;
- dotcom-monitor website was used for load testing the website and to discover bugs

C) Testing & Training

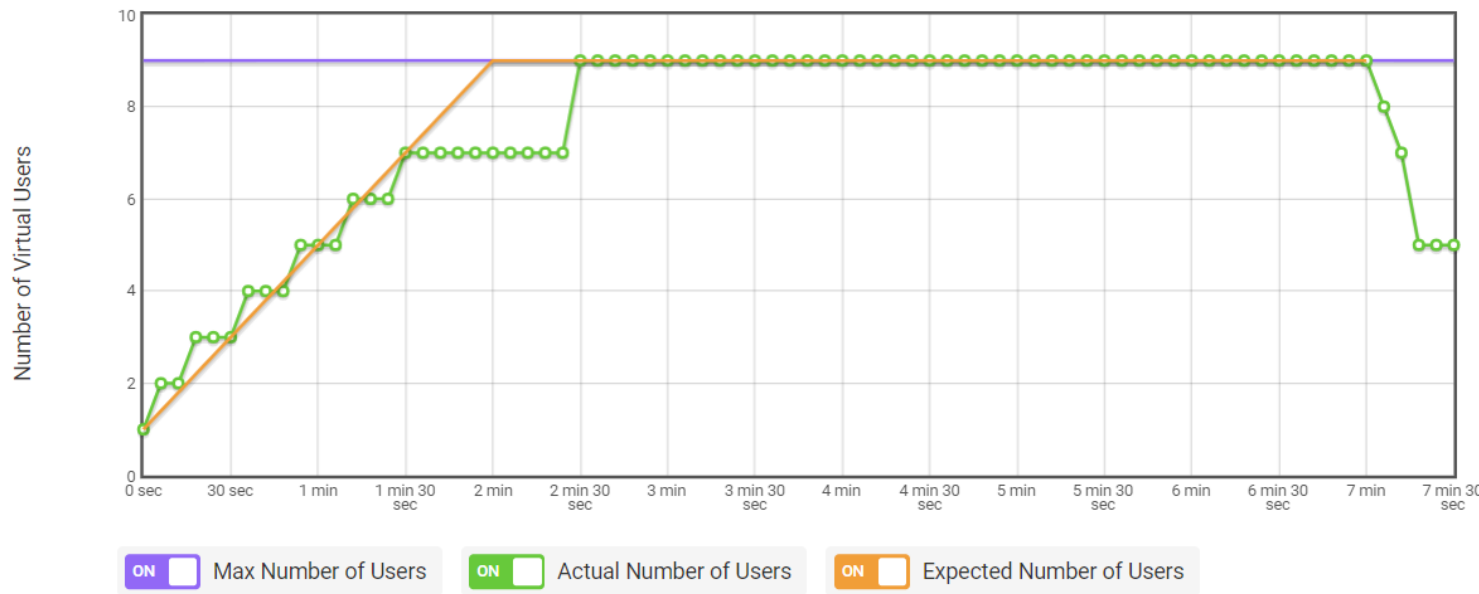
- Purchasing and modifying orders
- Browsing
- Creating a profile and login
- Manual inventory update
- Load test results:

We used a dot-com monitor to stress test the website. It ran 96 sessions, all successfully. The runtime was about 7 minutes, there were no errors encountered, therefore no bugs were identified for fixing. The stress test was finished successfully. Some statistics regarding this test are shown in the summary attached:

Summary	
Load Type	Load Step Curve
Load Start	5/10/2022 6:00:14 PM
Load Stopped at	5/10/2022 6:07:50 PM
Load Duration	00:07:36
Max Users	9
Load Injector Servers	2
Successes Sessions	96
Failures Sessions	0
Cpu Limited Sessions	65
Uncompleted Sessions	0
Total Sessions	96
Max Duration sec	11.16
Average	5.8823
STDDev	1.28
Errors	0
Status	Finished



Execution Plan



D) Implementation Plan

- Publishing the website through Wix
- Creating a domain through Wix
- Getting online exposure with Google SEO tools in Wix

E) Features

- Possible 24/7 support bot
- Email assistance
- Customer service page (FAQ)

F) Future Support

- Automatic inventory update
- Pick up date and time extension

G) Project Tracking (Gantt Chart)

GANTT CHART

PROJECT TITLE	BONACORSI FAMILY FARM	COMPANY NAME	TEAM 4
PROJECT MANAGER	Xiang Lin	DATE	5/12/22
PROGRAM MANAGER	Ilarja Lekaj		
DATABASE ADMINISTRATORS	Hojin Lee & Edward Lee		
BUSINESS ANALYST	Edward Lee		
WEB DESIGNER	Chelsea Lu		

[illegible]

H) Variance Report

Variance Report

Scope	Original	Deviation	Final
Hardware (computer, internet & inventory scanner)	\$ 1,000	\$ 1,000	\$ 2,000
Wix Webpage ('Business Unlimited' subscription = \$27/month)	\$ 81	\$ -	\$ 81
Internet	\$ 300	\$ -	\$ 300
Travel cost	\$ -	\$ 300	\$ 300
Domain	\$ 10	\$ -	\$ 10
Server testing (1 month before launch)	\$ 59	\$ -	\$ 59
Program Manager	\$ -	\$ 7,000	\$ 7,000
Project Manager	\$ 1,000	\$ 3,000	\$ 4,000
Database administrators	\$ 1,000	\$ 7,800	\$ 8,800
Business Analyst	\$ 1,550	\$ 2,050	\$ 3,600
Web designer	\$ 2,000	\$ 1,200	\$ 3,200
Total	\$ 7,000	\$ 22,350	\$ 29,350

Appendix

Reference

<https://www.thefruitcompany.com/>

Meeting Logs

Mar 6th (8PM - 8:30 PM)

Attendees: Ilarja Lekaj, Edward Lee, Hojin Lee, Xiang Lin, Chelsea Lu

Description: Discussed everything in category 1, then assigned the work equally

Mar 9th (1PM - 3 PM)

Attendees: Edward Lee, Hojin Lee

Description: system representation

Mar 10th (7PM - 8 PM)

Attendees: Xiang Lin, Chelsea Lu

Description: Presentation Part 1

Mar 10th (11 PM)

Attendees: Xiang Lin

Description: Section 1 Part 2 Finished, Google Doc updated Google Slides Updated

Mar 12th (3:30 PM - 5 PM)

Attendees: Edward Lee, Hojin Lee

Description: system representation

Mar 31th (7 PM - 9 PM)

Attendees: Edward Lee, Hojin Lee, Ilarja Lekaj, Xiang Lin, Chelsea Lu

Description: prototype buildup

Apr 13th (9:30 PM - 10:30 PM)

Attendees: Edward Lee, Hojin Lee, Ilarja Lekaj, Xiang Lin, Chelsea Lu

Description: prototype buildup

Apr 20th (9 PM - 10 PM)

Attendees: Edward Lee, Hojin Lee, Ilarja Lekaj, Xiang Lin, Chelsea Lu

Description: prototype buildup

Apr 24th (9 PM - 10 PM)

Attendees: Edward Lee, Hojin Lee, Ilarja Lekaj, Xiang Lin, Chelsea Lu

Description: review system representation (DFD, ERD, use case diagram & narratives,)

May 5th (7 PM - 8 PM)

Attendees: Edward Lee, Hojin Lee, Ilarja Lekaj, Xiang Lin, Chelsea Lu

Description: final report and web design