CSCC01 Deliverable 3

CodeShippers

June 29, 2020

Contents

1 Project Setup

What tools will you use for your task board?

- We will use Jira for our task board.

What tools will you use for your burn-down chart?

- We will draw out the burn-down chart by hand.

Who will maintain the burn-down chart? How?

- Henry Huang will maintain the burn-down chart.
- The chart will be maintained manually, and will be updated after every standup meeting.

What is every team member's role?

- Henry will submit deliverables and maintain the Jira board (snapshots).
- Justin will be the lead in creating presentations.
- Richard will edit and finalize documents for deliverables.
- Riyasat will communicate with Jaya and clients.
- Sayon will act as the Scrum Master and will organize team standup and planning meetings.

What tools, if any, will you use for communication?

- We will use Facebook Messenger, Discord, and Microsoft Teams to communicate with each other remotely.
- We will use Google Docs to edit documents and Google Slides to create presentations together as a team.

When do you plan to meet in person?

- We do not plan to meet in person for the duration of this project, due to the ongoing pandemic. As a replacement, we plan to hold online team meetings (in the form of group calls on Facebook Messenger).
- We will have a weekly sprint planning meeting before each sprint where we build a Sprint Backlog, burn-down chart, and a rough plan of how the sprint will progress. This plan should include a prioritization of the tasks in our Sprint Backlog, and an outline of what days each of us will be working on what tasks. These meetings will occur on Mondays from 6:30 to 8 p.m.

- We will have a weekly sprint review meeting after each sprint to retrospectively analyze what went well, what went poorly, and how to improve our workflow for the next sprint. These meetings will occur on Mondays from 6 to 6:30 p.m.
- As well, we plan to hold short (15 minute) online team stand-ups each day to discuss progress since the last stand-up, any difficulties we are experiencing, whether we are blocked, and what we plan to work on for that day.

How will you use your repository on GitHub?

- We will have a `master` branch which will contain a working version of the software which is ready for deployment at the end of each sprint.
- We will have a `development` branch which will contain a version of the software that is under development during the current sprint. This version should be working but not considered ready for deployment because there are still features from the current sprint that must be implemented. At the end of each sprint, the development branch will be merged into the master branch for deployment.
- We will create a separate branch for each `feature` and `bugfix`, and eventually merge these branches into the development branch when they have satisfied our DoD. Each feature branch will be responsible for implementing a single user story or task described in the Sprint Backlog. Each bugfix branch will be responsible for correcting an unexpected result found in the software.
- Feature branches will be named `SD-#-description`, where `#` is the task ID number given to the feature in the Sprint Backlog, and `description` is a short description of the feature. Bugfix branches will be named `bugfix-description`, where `description` is a short description of what the bugfix is correcting.
- A single commit should represent a single coherent unit of work. Specifically, any commit should not rely on a following commit in order to function correctly. Commit messages should be no longer than 100 characters, written in past tense, and contain no spelling or grammar mistakes. We will not commit any auto-generated files such as dependencies (i.e., node modules).
- We will also use the repository to sort our deliverables, software content, and sprint snapshots.

Which machines will be used for development by each team member? E.g., a CMS virtual machine, a Linux laptop, a Windows home computer, etc.

- Henry will use a Windows laptop and macOS laptop.
- Justin will use a Windows home computer and Ubuntu Laptop.
- Richard will use a Windows home computer and Windows laptop.
- Riyasat will use a macOS laptop.
- Sayon will use a Windows laptop and Linux Mint laptop.

What is your DoD (definition of done)?

- Implementation of the user story satisfies its acceptance criteria.
- All subtasks of the user story are complete.
- Addition of completed user story or task to the current build successfully creates a new working build.
- Create a test file for the user story or task.
- The user story or task should be peer reviewed by at least one team member.
- Run existing tests and make sure they pass.
- The code is documented and is styled according to the Google style guide.
- The working product and its features are approved by the client.

2 Product Backlog

Customer: Ordering Process

- As Tom (a customer), I want to register for an account on the website so that information about my delivery address, payment options, and favourite restaurants will be kept for easy access in the future.

  Priority: 1, Estimated Cost: 6

- As Tom (a customer), I want to login to my account on the website so that information about my delivery address and payment details which I had previously entered can be used to make an order rather than having to re-enter this information.

  Priority: 1, Estimated Cost: 5

- As Tom (a customer), I want to logout of my account on the website so that my information does not get compromised.

  Priority: 1, Estimated Cost: 2

- As Tom (a customer), I want to view a list of restaurants which displays their name and logo.

  Priority: 1, Estimated Cost: 4

- As Tom (a customer), I want to select a restaurant from a list of restaurants to view specific information regarding it, such as its contact information, location, menu, prices, and promotions, in the form of text and pictures.

  Priority: 1, Estimated Cost: 5

- As Tom (a customer), I want to be able to choose between delivery and takeout options for my order.

  Priority: 2, Estimated Cost: 2

- As Tom (a customer), I want to select items from a restaurant's menu and have them placed in a virtual shopping cart for purchase.

  Priority: 3, Estimated Cost: 10

- As Tom (a customer), I want to give ratings to restaurants that I have ordered from, on a scale of 1 to 5.

  Priority: 4, Estimated Cost: 6

- As Tom (a customer), I want to receive a virtual receipt of my order by email, which lists the items ordered and their individual prices, the total price, and any discounts applied.

  Priority: 5, Estimated Cost: 10

- As Tom (a customer), I want to keep track of my delivery, so that I can plan my schedule accordingly.

  Priority: 6, Estimated Cost: 40

Customer: Website Navigation and Searching

- As Tom (a customer), I want to have a search engine to search for restaurants that are nearby, by providing an address and obtaining a list of restaurants that are deemed nearby, so that I do not have to commute too far for takeout orders.

  Priority: 2, Estimated Cost: 12

- As Tom (a customer), I want to have a search engine to search for food options by providing a type of cuisine and obtaining a list of restaurants which sell that type of cuisine, so that I can conveniently select food based on my current tastes.

  Priority: 2, Estimated Cost: 6

- As Tom (a customer), I want to have a search engine to search for food by price by providing a specific price range and obtaining a list of restaurants whose average food prices fall within that range, so that I can easily find food based on my current budget.

  Priority: 3, Estimated Cost: 6

- As Tom (a customer), I want to read about information regarding a restaurant through restaurant profiles and posts by the owner.

  Priority: 3, Estimated Cost: 4

- As Tom (a customer), I want to sort restaurants by customer ratings, so that I can easily determine which restaurants provide the most widely recommended services.

  Priority: 4, Estimated Cost: 6

- As Tom (a customer), I want to select certain restaurants as my favourites and have them put into a personal list which I can view.

  Priority: 4, Estimated Cost: 6

Restaurant Owner: Uploading Information

- As Jane (a restaurant owner), I want to register for an account on the website so that I am able to independently access and edit my restaurant profile, including my menu and information.

  Priority: 1, Estimated Cost: 10

- As Jane (a restaurant owner), I want to upload basic information about my restaurant such as a name, an address, a telephone number, and the type of food we serve to a restaurant profile for customers to see.

  Priority: 1, Estimated Cost: 6

- As Jane (a restaurant owner), I want to upload text, pictures, and videos to my restaurant profile that showcase my restaurant's food and menu.

  Priority: 1, Estimated Cost: 6

- As Jane (a restaurant owner), I want to occasionally offer promotions of my own design, such as flat-rate or percentage discounts, the details of which I can upload to my restaurant profile for customers to see.

  Priority: 6, Estimated Cost: 6

Restaurant Owner: Community Engagement

- As Jane (a restaurant owner), I want to share stories regarding my restaurant by uploading text, pictures, and videos to a section on my restaurant profile about my culture, recipe origins, and cooking tips for customers to see.

  Priority: 3, Estimated Cost: 8

- As Jane (a restaurant owner), I want to display a section on my restaurant profile with information about special community events, recommended restaurants, and social media links, to inspire closeness among the local community.

  Priority: 6, Estimated Cost: 6

Restaurant Owner: Customer Service

- As Jane (a restaurant owner), I want to offer an online ordering service to customers such that when customers select items from my restaurant's menu and places an order through the website, a list of the items ordered, their prices, the total cost of the order, and a note indicating whether it was a takeout order or delivery order is sent to me.

  Priority: 2, Estimated Cost: 10

- As Jane (a restaurant owner), I want to view analytics on the customers that order from my restaurant, such as their location, what they ordered, and other data, so that I can improve my business model.

  Priority: 5, Estimated Cost: 20

  Note: This is currently an epic. We will discuss this requirement further with our clients and break this down into multiple user stories after gaining a better understanding of what data should be collected and how to analyze the data.

Explanation of Priorities & Estimated Cost:

- Priorities are set on a scale from 1 to 6 where 1 denotes the highest priority and 6 denotes the lowest priority. We decided to use a scale from 1 to 6 in order to correspond our user stories with our sprints. For example, priority 1 user stories would be completed in the first sprint, priority 2 user stories would be completed in the second sprint, and so on. Since we have roughly 6 weeks to complete the project, the lowest priority we have assigned is 6.
- We assigned priorities to user stories based on two main factors. We initially prioritized our user stories solely based on what requirements our clients prioritized. Then, we rearranged the priorities of user stories based on the necessity of implementing certain requirements before others. For example, the user story "As Tom (a customer), I want to sort restaurants by customer ratings" requires having implemented the user story "As Tom (a customer), I want to give ratings to restaurants that I have ordered from". This is because customers must be able to give ratings to customers before being able to sort them by customer ratings. Thus, the priority of the "give ratings" user story must be at least as high as the priority of the "sort by customer ratings" user story.
- Estimated cost equates to the number of hours that we estimate are required to complete the user story.

3 Release Plan

The length of our sprints will be one week long. Since we do not have a large amount of time to develop our software, we decided to go with a fairly short sprint length. This is so that we can more accurately measure our progress by making sure that we are up to date each week rather than, for example, every two weeks.

One week sprints also allow us to easily correspond each sprint with a priority in our user stories. Since our priorities range from 1 to 6 and we have roughly 6 weeks to complete our project, we can assign priority 1 user stories to sprint 1, priority 2 user stories to sprint 2, and so on.

4 Sprint Plan

4.1 Sprint Backlog

As Tom (a customer), I want to register for an account on the website so that information about my delivery address, payment options, and favourite restaurants will be kept for easy access in the future.

Priority: 1, Estimated Cost: 6

Acceptance Criteria:

- Given Tom wants to register for an account, when Tom clicks on the "Sign Up" button, then he will see a form where he can fill out his email, password, name, delivery address, and payment information.
- Given Tom fills out all required fields of the account creation form and clicks on the "Submit" button, then his account information will be stored in the website's database.

As Tom (a customer), I want to view a list of restaurants which displays their name and logo.

Priority: 1, Estimated Cost: 4

Acceptance Criteria:

- Given Tom wants to view the available restaurants on the website, when Tom clicks on the "View Restaurants" button, then he will be redirected to a new page, containing the list of available restaurants with their name and logo displayed.

As Tom (a customer), I want to select a restaurant from a list of restaurants to view specific information regarding it, such as its contact information, location, menu, prices, and promotions, in the form of text and pictures.

Priority: 1, Estimated Cost: 5

Acceptance Criteria:

- Given Tom wants to view information about a specific restaurant, when Tom clicks on his restaurant of choice, he will be redirected to a new page, containing the contact information, location, menu, prices, and promotions of the restaurant

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As Jane (a restaurant owner), I want to register for an account on the website so that I am able to independently access my restaurant profile, including my menu and information.

Priority: 1, Estimated Cost: 10

Acceptance Criteria:

- Given Jane wants to register for an account, when Jane clicks on the "Sign Up" button for restaurant owners, then she will see a form where she can fill out fields for her email, password, name, and restaurant information such as restaurant name, address, telephone number, and type of cuisine, as well as her menu.
- Given Jane fills out the information on the form, when Jane clicks on the "Submit" button, then her account information will be stored in the website's database.

As Jane (a restaurant owner), I want to upload basic information about my restaurant such as a name, an address, a telephone number, and the type of food we serve to a restaurant profile for customers to see.

Priority: 1, Estimated Cost: 6

Acceptance Criteria:

- Given Jane has logged in to her account and has gone to her restaurant profile section and wants to upload basic information about her restaurant, when Jane clicks on the "Edit Information" button, then she will see a form where she can fill out her restaurant's name, address, telephone number, and type of cuisine.
- Given Jane has filled out all required fields of the "Edit Information" form, when Jane clicks on the "Submit" button, then her restaurant information will be updated in the website's database, and her restaurant profile will be updated to show the new restaurant information.

As Jane (a restaurant owner), I want to upload text, pictures, and videos to my restaurant profile that showcase my restaurant's food and menu items.

Priority: 1, Estimated Cost: 6

Acceptance Criteria:

- Given Jane has relevant text and media to share about her menu items, when Jane clicks on the "Add Menu Item" button, then she will see a form where she can upload text, images, and videos, which will prompt her to find the media items using a File Explorer interface.

- Given Jane has filled out all required fields of the "Add Menu Item" form, when Jane clicks on the "Submit" button, then her restaurant information will be updated in the website's database, and her restaurant's menu profile will be updated to show the new restaurant's menu information.

4.2 Rough Plan of Sprint

(**ID 1**) Create template for web application (Cost 1)

(**ID 2**) Add database connection to web application (Cost 4)

(**ID 3**) UI to request customer information (Cost 3)

(**ID 4**) Backend to store customer account information into database (Cost 3)

(**ID 5**) Ability for a customer to view a list of restaurants which displays their name and logo. (Cost 4)

(**ID 6**) Ability to select a restaurant from a list of restaurants to view specific information (Cost 5)

(**ID 7**) Backend to store restaurant owner information into database (Cost 5)

(**ID 8**) UI to request restaurant owner information (Cost 5)

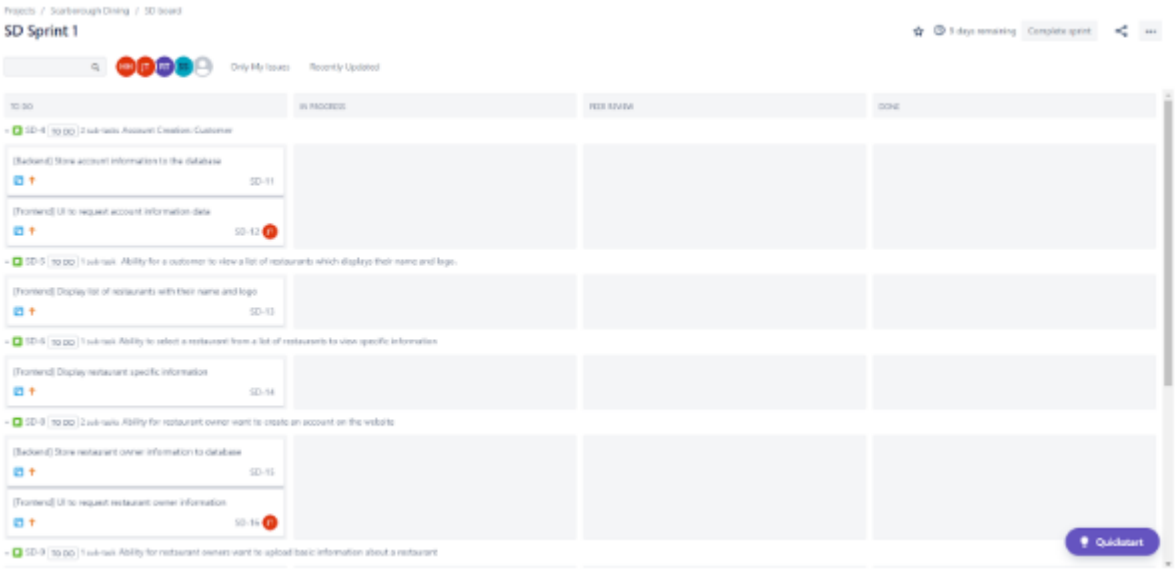
(**ID 9**) Ability for restaurant owners want to upload basic information about a restaurant (Cost 6)

(**ID 10**) Ability for a restaurant owner to upload text, pictures, and videos to my restaurant profile (Cost 6)

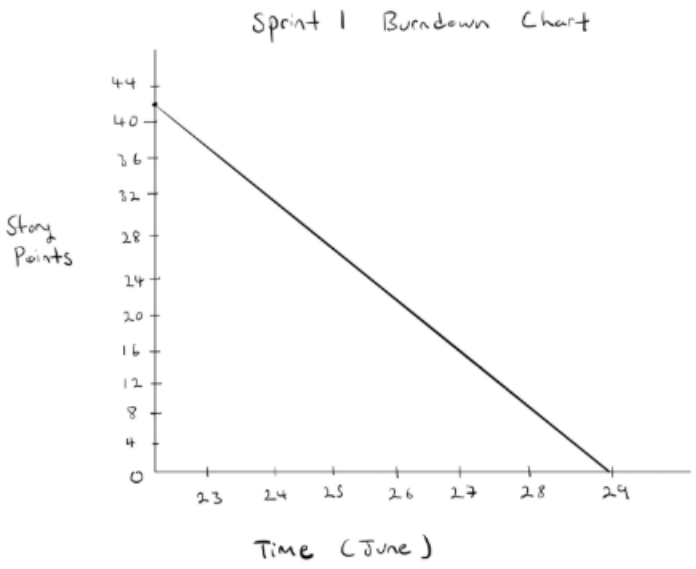
Estimated Iteration Plan

Task ID	Cost	Priority	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Assign
1	1	1	0	1	0	0	0	0	0	Riyasat
2	4	2	0	0	2	2	0	0	0	Sayon
3	3	3	0	0	2	1	0	0	0	Justin
4	3	4	0	0	0	2	1	0	0	Henry
7	5	5	0	1	1	0	0	2	1	Riyasat
8	5	6	0	0	0	0	2	2	1	Justin
9	6	7	0	0	0	0	2	2	2	Sayon
10	6	8	0	0	0	0	3	3	0	Richard
5	4	9	0	0	0	0	0	2	2	Henry
6	5	10	0	0	0	0	3	1	1	Richard
Total	42	N/A	0	2	5	5	11	12	7	N/A
Work Left	42	N/A	42	41	41	34	31	25	0	N/A

4.3 Initial Task Board

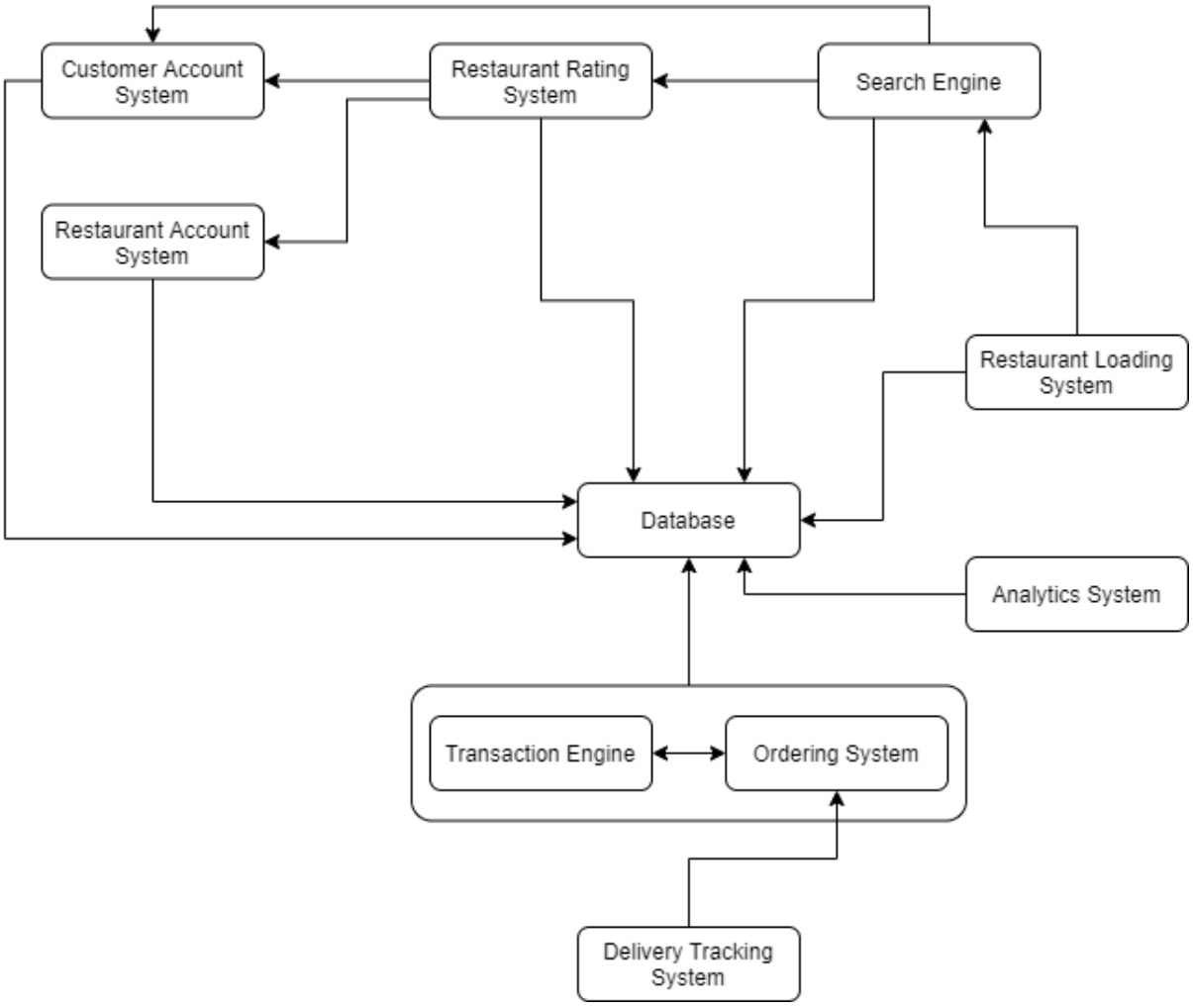


4.4 Initial Burndown Chart



5 High-Level Architecture

5.1 Diagram of Components



5.2 Explanation of Components & Dependencies

Database: Stores information received from the Account Creation System, User Account System, and Restaurant Account System. It also allows access and modification to that information.

Customer Account System: Allows customers to create an account and login to provide their information such as name, address, payment details, and favourite restaurants. Saves this given information and uses this saved information when the user makes orders. Customers are able to later edit or delete information through their account.

- Customer Account System uses Database to save information to and fetch information from the database.

Restaurant Account System: Allows restaurant owners to create an account and login to upload information such as their restaurant name, address, type of cuisine, and menu items. Restaurant owners can later edit or delete information that they had uploaded through their account. Information uploaded by restaurant owners is saved onto the website.

- Restaurant Account System uses Database to save information to and fetch information from the database.

Restaurant Rating System: Allows restaurant owners to receive ratings from customers who have used their services, and allows customers to see the ratings received by that restaurant.

- Restaurant Rating System uses Database to save rating information to and fetch rating information from the database.
- Restaurant Rating System uses the Customer Account System to determine if a customer has submitted a rating for a particular restaurant.
- Restaurant Rating System uses the Restaurant Account System by using the restaurant ID to add or modify the ratings of the restaurant in the database.

Search Engine: Allows customers to filter specific restaurants and food items based on prices, type of cuisine, locations, and customer ratings.

- Search Engine uses Database to fetch information based on the prices, types of cuisine, locations, and customer ratings of restaurants and menu items.
- Search Engine uses Customer Account System in order to retrieve the database ID of the logged in user, in order to receive the customer's location.
- Search Engine uses Restaurant Rating System in order to retrieve information about restaurant ratings given by customers.

Restaurant Loading System: Allows customers to view the list of restaurants according to their preference. Customers can click on a restaurant in the list to view specific information about it such as its address, contact details and menu.

- Restaurant Loading System uses Database to fetch the restaurant information and display it to the customers.
- Restaurant Loading System uses Search Engine to display the restaurant information requested by the customer through filters.

Ordering System: Allows customers to order from restaurants online. Customers are able to choose between delivery and takeout options, select items from a restaurant's menu to be placed in a virtual shopping cart for purchase, and send information about the order (such as items ordered and total price) to the restaurant to notify them of the order.

- Ordering System uses Transaction Engine to handle online transactions that the customer may perform.
- Ordering System uses Database to fetch information about the restaurant.

Transaction Engine: Handles transactions whenever a customer places an order and pays through an online transaction (e.g., credit card, PayPal).

- Transaction Engine uses Database to fetch information about their payment details.
- Transaction Engine uses Ordering System to fetch details about the order being placed.

Delivery Tracking System: Allows customers to keep track of their order being delivered.

- Delivery Tracking System uses Ordering System to fetch information about an order.

Analytics System: Keeps track of customer activity, including their search history, pages visited, ordered food, and reviews.

- Analytics System uses Database to fetch information about customer activity.

6 Retrospection

6.1 What was Changed?

Product Backlog:

- Separated the user story "As Tom (a customer), I want to create an account on the website" into three distinct user stories: registering for an account, logging in to the account, and logging out of the account. This is to provide clarity as to what creating an account entails and in order to ensure that each user story only describes a single requirement.
- Set the user story "As Jane (a restaurant owner), I want to view analytics on the customers that order from my restaurant" as an epic instead, since it was too large to be completed in an iteration but we do not currently have enough information to break it into appropriate user stories.
- Deleted the user story "As Jane (a restaurant owner), I want to be able to create and join virtual networks of restaurants that endorse one another" because this was not actually an essential requirement. This user story was intended to capture the requirement of having "digital social networks", but after conversing with our clients, we have learned that the details of the digital social networks are still in discussion. We will address this requirement after gaining more information from our clients.
- Merged the two user stories "As Jane (a restaurant owner), I want to offer a takeout service to customers" and "As Jane (a restaurant owner), I want to offer a delivery service to customers" into a single user story: "As Jane (a restaurant owner), I want to offer an online ordering service to customers". This is because the two original user stories described nearly identical requirements. As well, they were not estimable. The new user story more clearly describes required features and thus, it is easier to estimate how long it would take to implement.

6.2 Project Progression from Deliverable 2 to Deliverable 3

- After Deliverable 2, the project consisted of some personas and user stories that were generated after consulting with the client. Since then, the project has progressed significantly from this stage.After Deliverable 3 pt.1, an initial plan was created based on the personas and user stories that could be built upon and implemented in the following sprint. This plan detailed what the team decided would constitute a functioning initial release of the product. The plan laid out all the tasks that would need to be implemented to achieve this.Throughout the first sprint, as more tasks were completed, the project looked closer and closer to a functional product. In the early stages, the team dedicated time to learning new and necessary technologies. Then we progressed into setting up the development environment and foundations for the rest of the project. Finally in the later stages, implemented the necessary functionalities of the product.
  In summary, from Deliverable 2 to Deliverable 3, the project went from an initial concept to a simple application.

6.3 Project Velocity

- Our estimated project velocity was 42 story points
- Our actual project velocity was 22 story points

6.4 Plan and Difficulties

Did you follow your plan(s) exactly?

- Throughout the duration of the sprint the sprint plan was followed as faithfully as possible. The original time estimates that were created at the beginning of the sprint were underestimated, and certain tasks took much longer to implement than originally planned. This caused other tasks that depended on these items to be pushed back as well.

What difficulties have you encountered?

- For our first sprint, we didn't account for the extra time it would take for us to set up our local development environments, which slowed the implementation of the tasks. In addition, the technologies that we're using are new to many of us and a part of the first sprint was dedicated to initial research and learning the new technologies before development.

Was your contingency plan useful at that point or did you have to come up with a new solution?

- During the sprint there were no problems that warranted the need to use the contingency plan. All members were present everyday of the sprint, the team ensured this through conducting daily stand-up meetings. It was evident that all members were active and diligent in the development process of the project.