



## Team McDonalds

Tutorial: T18B

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## Sales System

COMP1531 19t1 Group Project - Final Report



**This machine  
has no brain.  
Use your own.**

\*notes: McDonalds, "i'm lovin' it" and the Golden Arches logo are trademarks owned by McDonald's Corporation and its affiliates.

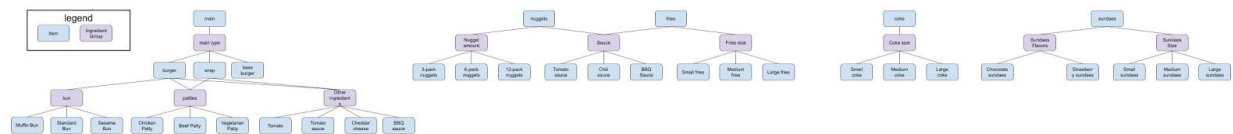
# TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b>	<b>2</b>
<b>Design</b>	<b>3</b>
<b>User Story</b>	<b>4</b>
1. TERMINOLOGY	4
2. EPIC STORIES	4
3. USER STORIES	4
<b>Class Diagram</b>	<b>11</b>
<b>ER Diagram</b>	<b>12</b>
<b>Log Book</b>	<b>13</b>

# Design

In this design, we strive to make the system as robust and general as possible. With lots of options configurable instead of hard-coded in the system, we can achieve the original requirements. In the meanwhile, our codebase can be easily adapted to potential future requirements without rewriting code but through configuration. For example, for the inventory, even though the spec says that for bottled drinks there will be either cans (375ml) or bottles (600ml). But in our design, instead of hard-coding those, we make all of them configurable (currently through a configuration file/db without front-end, but in real life, there's usually a manage portal). So in the future, we can adapt to even more units for future requirements. This will achieve what the requirement asks but is also flexible for potential future requirements. In fact, we didn't change a single line of code for requirement changes for Milestone 3 (addition of sundaes), and only modified the configuration.

To do this, we implemented a tree-like structure for item configuration. A similar data structure is also used in order to store content. An example diagram is attached below.



For a larger version of the image, visit

<https://drive.google.com/a/adamyi.com/file/d/1wreQSCYG1DdRYckJ9x6n1YopHpcoh8SE/view?usp=sharing>. A copy is also included in the source code repo.

# User Story

Source of truth:

<https://docs.google.com/spreadsheets/d/1wZ794XR8N1M9bWgASx4JkzMh-WmmB8M1dfChf0Xzh8Y/edit?usp=sharing>

Also available at:

<https://docs.google.com/document/d/18cd048HCGWWj9Pxx0DlyPICec7mcsh0LN66ZKyXKw30/edit?usp=sharing>

## 1. TERMINOLOGY

### Priority

The smaller the number, the higher the priority.

P0 - "Must-now"

P1 - "Must-have"

P2 - "Important to have"

P3 - "Nice to have"

### Size

1 = 2 hours

## 2. EPIC STORIES

ID	Description
ES1	As a customer, I'd like to be able to place food orders.
ES2	As a staff member, I'd like to view and update orders.
ES3	As a staff member, I'd like to check and update inventory.

## 3. USER STORIES

The following tables are auto-generated at: 2019-04-25 11:01 (UTC)

NOTES: Do not modify the following tables by hand in the doc. Modify it in the spreadsheet, and ping adamyi@ to regenerate the following tables.

<b>ID</b>	US1
<b>Epic ID</b>	ES1
<b>Name</b>	customize main
<p><b>User-Story Description:</b></p> <p>As a customer, I should be able to customize the ingredients of a main so that I can have what I like to eat.</p> <p><b>Acceptance Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The customer should be able to choose from either a customizable burger or a wrap or a base burger.</li> <li>2. The customer should be able to select the type and number of buns (standard, sesame, muffin) if the customer chose a customizable burger.</li> <li>3. The number of buns should be validated and should not exceed a certain limit.</li> <li>4. The customer should be able to select the type and number of patties (chicken, vegetarian, beef), were a customizable burger or a wrap selected.</li> <li>5. The number of pattie should be validated and should not exceed a certain limit.</li> <li>6. The customer should be able to optionally add other ingredients (tomato, tomato sauce, cheddar cheese) to the main, were a customizable burger or a wrap selected.</li> <li>7. For all the aforementioned selections, items out of stock will be greyed-out and hence cannot be selected.</li> <li>8. In addition to the base price of burger or wrap, each of the selected ingredients (buns, petties, and others) all carries its own additional price and a final net price (sum of each ingredient price and base price) should be displayed to the customer</li> </ol>	
<b>Priority</b>	P0
<b>Size</b>	3

<b>ID</b>	US2
<b>Epic ID</b>	ES1

<b>Name</b>	choose sides and drinks
<b>User-Story Description:</b> As a customer, I should be able to optionally order sides and drinks of my choice so that I can have an even better meal to enjoy.	
<b>Acceptance Criteria:</b> 1. The customer should be able to optionally add sides (nuggets, sundaes, fries) and/or coke to the order in addition to the main. 2. The customer should be able to specify certain attributes (e.g. different amounts, size, flavours, etc.) of each side/drink (e.g. small coke, large fries, 6-pack nuggets, medium chocolate sundaes).	
<b>Priority</b>	P2
<b>Size</b>	2

<b>ID</b>	US3
<b>Epic ID</b>	ES1
<b>Name</b>	checkout
<b>User-Story Description:</b> As a customer, I should be able to checkout my selections and pay for them so that I can collect what I have chosen and eat them.	
<b>Acceptance Criteria:</b> 1. The customer should be able to complete the order with the selected items. 2. The customer should be able to pay for the order with their credit card by entering their name, card number, CVC and expiry date. 3. The customer should receive a unique order ID after payment. 4. After payment, the stock of the ordered items/ingredients should be deducted	

correspondingly	
5. For some items, like buns, the ordered quantity equals to the deducted stock amount. For other items, like coke, the ordered quantity differs from the deducted stock amount (e.g. 1 small coke -> 150ml stock).	
Priority	P0
Size	1

ID	US4
Epic ID	ES1
Name	check status
<p><b>User-Story Description:</b></p> <p>As a customer, I should be able to check the status of my past orders so that I can turn up immediately upon food being ready.</p> <p><b>Acceptance Criteria:</b></p> <ol style="list-style-type: none"> <li>1. The customer should be able to input an order ID to an order status check page.</li> <li>2. After inputting the order ID, the user should be able to see the content of the order and whether it's available for pick-up.</li> <li>3. If the inputted order ID does not exist or belong to an order which doesn't belong to the customer, an "Invalid Order ID" error needs to be prompted up.</li> </ol>	
Priority	P2
Size	1

ID	US5
Epic ID	ES2

<b>Name</b>	list orders
<p><b>User-Story Description:</b></p> <p>As a staff, I should be able to view a list of all current orders (not yet available for pick-up) so that I can choose which order to serve first.</p> <p><b>Acceptance Criteria:</b></p> <ol style="list-style-type: none"> <li>1. Staff should be able to view a list containing the ID, order time, and total price as a table.</li> <li>2. Customer (non-staff) shouldn't have access to the table (redirect with Access Denied error message).</li> <li>3. Only and all current orders (not yet available for pick-up) are shown in the table.</li> <li>4. The list should be sorted according to order time, with the oldest one on the top.</li> <li>5. A staff member should be able to select one order from the order list to be redirected to a detail page of that order.</li> </ol>	
<b>Priority</b>	P1
<b>Size</b>	2

<b>ID</b>	US6
<b>Epic ID</b>	ES2
<b>Name</b>	view order
<p><b>User-Story Description:</b></p> <p>As a staff, I should be able to view the details of an order so that I can prepare the food to serve a customer.</p> <p><b>Acceptance Criteria:</b></p> <ol style="list-style-type: none"> <li>1. In the detail page of an order, a staff member should be able to see the ID, items, ingredients, and order time of that order.</li> </ol>	



Priority	P0
Size	1

ID	US7
Epic ID	ES2
Name	update order
<p><b>User-Story Description:</b></p> <p>As a staff, I should be able to mark the order as done so that the customer knows whether it's available for pick up.</p> <p><b>Acceptance Criteria:</b></p> <ol style="list-style-type: none"> <li>1. A staff member should be able to mark an order as done (available for pick-up) in the order details page.</li> <li>2. An error message would appear if a customer (non-staff) tries to mark an order as done by directly accessing the API (since the button won't show up in frontend).</li> </ol>	
Priority	P1
Size	1

ID	US8
Epic ID	ES3
Name	check stock
<p><b>User-Story Description:</b></p> <p>As a staff, I should be able to check the stock at any time so that I can know which inventory item needs to be refilled.</p>	

**Acceptance Criteria:**

1. The staff should be able to view a table containing all the inventory items (e.g. burgers, wraps, nuggets, fries, drinks, etc.) and the stocked quantities.
2. A customer (non-staff) should not have access to the inventory table (redirect with Access Denied error message).
3. The quantities must be displayed in whole quantities (no decimals).

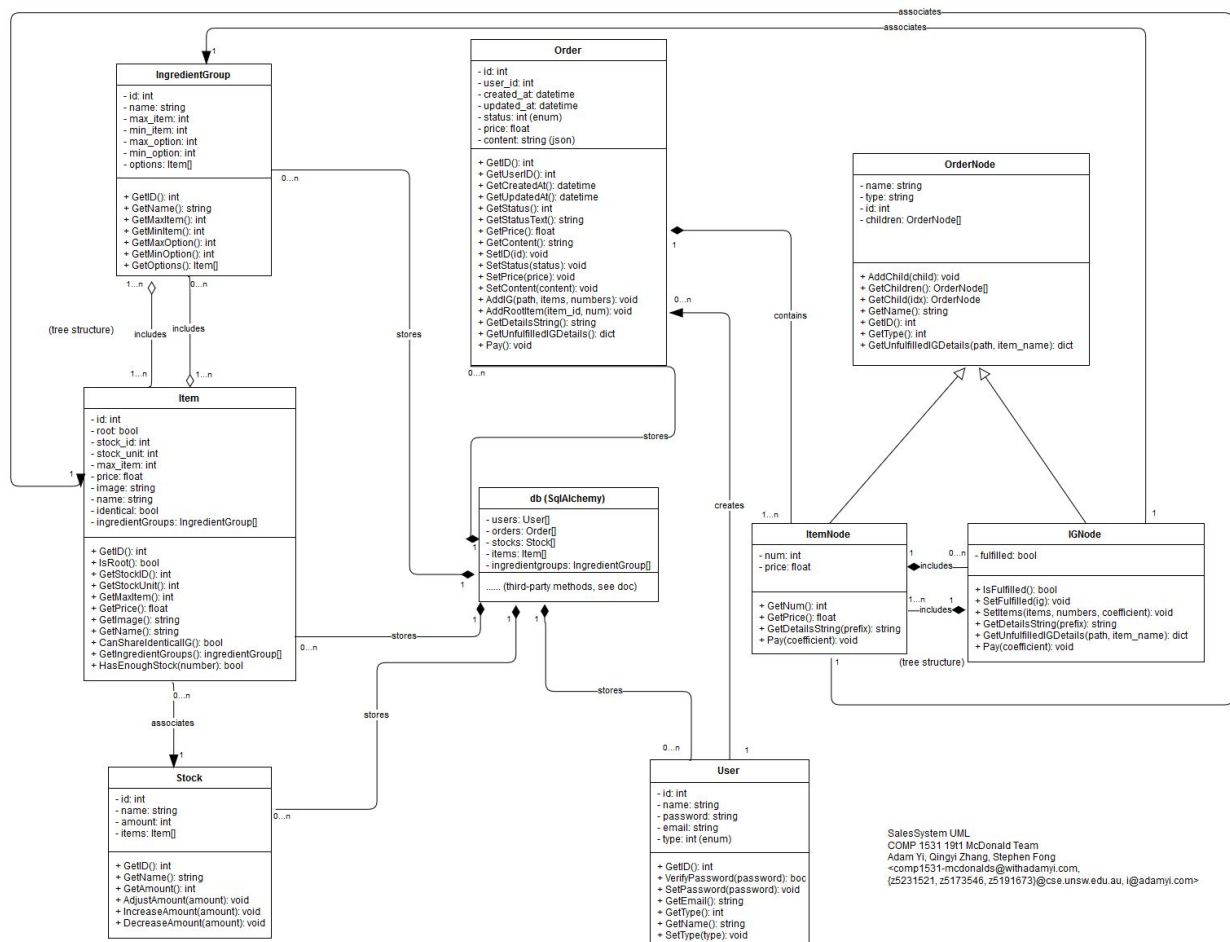
<b>Priority</b>	P2
<b>Size</b>	2

<b>ID</b>	US9
<b>Epic ID</b>	ES3
<b>Name</b>	refill stock
<b>User-Story Description:</b> As a staff, I should be able to refill the stock so that I can keep all ingredients available for customers.	
<b>Acceptance Criteria:</b> <ol style="list-style-type: none"> <li>1. The staff should be able to increase the stock of items in whole quantities (no decimals) by inputting the increased quantity number.</li> <li>2. The staff should be able to decrease the stock of items in whole quantities (no decimals) by inputting the decreased quantity number.</li> <li>3. If the decreased quantity is larger than the current stock, the stock would be set to 0 instead of a negative value.</li> </ol>	
<b>Priority</b>	P3
<b>Size</b>	2

# Class Diagram

For a larger version of the following diagram, visit

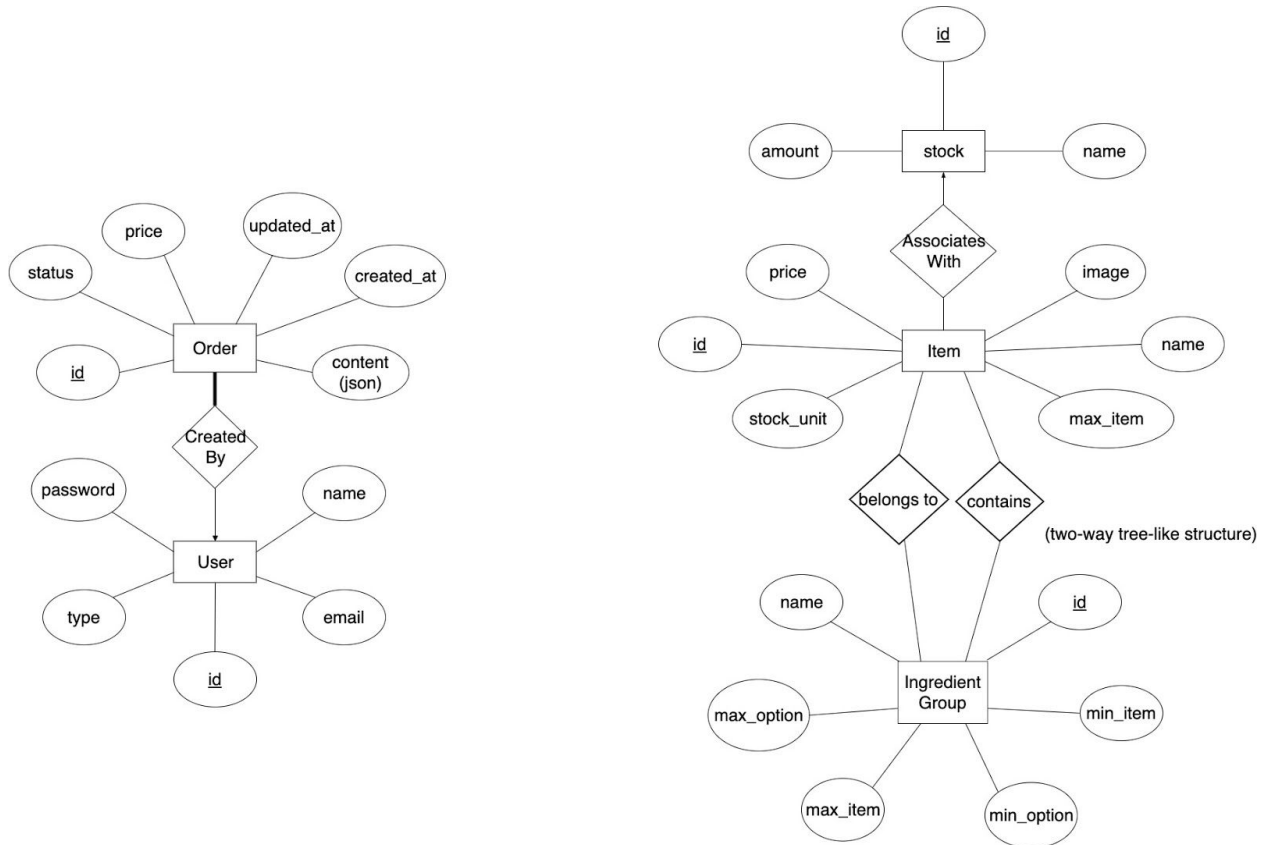
<https://drive.google.com/a/adamyi.com/file/d/1k1eOZWTrfvWP4jBDs5XFLNtI45uX6A8y/view?usp=sharing>. A copy is also included in the source code repo.



# ER Diagram

For a larger version of the following diagram, visit

<https://drive.google.com/a/adamyi.com/file/d/1wZPlwiT9y23hvgBQ7Pvv5bG6Yobs1Zfv/view?usp=sharing>. A copy is also included in the source code repo.

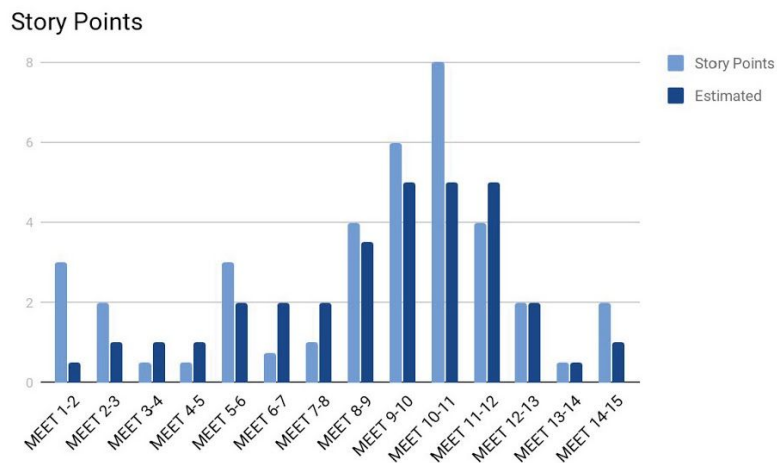


# Log Book

Also available at

[https://docs.google.com/document/d/1JWe3iAEdkyLZCBprzDV05UO\\_sa7G\\_jfE52jgdbu4cZ4/edit?usp=sharing](https://docs.google.com/document/d/1JWe3iAEdkyLZCBprzDV05UO_sa7G_jfE52jgdbu4cZ4/edit?usp=sharing). A copy is also included in the source code repo.

## COMP 1531 McDonald Team Log Book



### MEETING 1

05 MARCH 2019 / 19:00 PM / 1531 Lab

#### Attendees

Adam, Stephen, Roy

#### Notes

- Wrote the first draft of user stories together.

#### Assigned Tasks

- All: Think about how to improve user stories

## MEETING 2

08 MARCH 2019 / 14:00 PM / Consultation

### Attendees

Adam, Stephen

### Notes

- User stories reviewed by tutor
- Edited based on feedback together

### Assigned Tasks

- N/A

## MEETING 3

10 MARCH 2019 / 20:40 PM / GVC Meeting (kxj-qicr-ngz)

### Attendees

Adam, Roy

### Notes

- Final review of user stories
- Submitted user stories

### Assigned Tasks

- All: think about design

### Meeting Recording

<https://drive.google.com/a/adamyi.com/file/d/1ArhMM5jWgC4RGzwZw686ftqzRb7n3pd4/view?usp=sharing>

## MEETING 4

12 MARCH 2019 / 19:00 PM / 1531 Lab

### Attendees

Adam, Stephen, Roy

### Notes

- Demo user stories to tutor

### Assigned Tasks

- All: think about design



## MEETING 5

23 MARCH 2019 / 18:00 PM / K17 SecLab

### Attendees

Adam, Stephen, Roy

### Notes

- Discuss about designs
- Draw UML
- Gerrit workflow walkthrough

### Assigned Tasks

- Adam: core infra implementation
- Stephen: practice git & write user class
- Roy: practice git & write order class

## MEETING 6

25 MARCH 2019 / 01:00 AM / GVC Meeting (skq-bfmu-dff)

### Attendees

Adam, Stephen

### Notes

- Gerrit workflow walkthrough

### Assigned Tasks

- Continue practice Git and Gerrit workflow

### Meeting Recording

[https://drive.google.com/a/adamyi.com/file/d/11IDpg1WH3NPPg70WX6d-QTOME1z\\_47qs/view?usp=sharing](https://drive.google.com/a/adamyi.com/file/d/11IDpg1WH3NPPg70WX6d-QTOME1z_47qs/view?usp=sharing)

## MEETING 7

27 MARCH 2019 / 16:00 PM / K17 401K MeetingRm

### Attendees

Adam, Stephen, Roy

### Notes

- Adam's presentation on Gerrit workflow  
(<https://github.com/cs1531/gourmet-McDonalds/blob/master/docs/Gerrit%20Workflow%20adamyi.pdf>)

### Assigned Tasks

- Adam: implement inventory models (item, ingredientgroup)
- Stephen: practice git & write user class
- Roy: practice git & write order class

## MEETING 8

2 APRIL 2019 / 19:00 PM / 1531 Lab

### Attendees

Adam, Stephen, Roy

### Notes

- Ran a hackathon
- Implemented account sign in/sign up
- Implemented core db models
- Wrote a simple frontend architecture

### Assigned Tasks

- Adam: implement core order logic
- Stephen: implement order details
- Roy: implement order list

## MEETING 9

4 APRIL 2019 / 15:00 PM / AGSM Syndicate Room 5

### Attendees

Adam, Stephen, Roy

### Notes

- Wrote code together
- Didn't finish anything :(

### Assigned Tasks

- Adam: implement core order logic
- Stephen: implement order details
- Roy: implement order list

## MEETING 10

6 APRIL 2019 / 16:00 PM / AGSM Syndicate Room 5

### Attendees

Adam, Stephen, Roy

### Notes

- Wrote code together
- Implemented order list
- Implemented order details
- Implemented creating order
- Adam's Introduction to SQL statement 101 (Roy and Stephen now know how to write SELECT and INSERT statements!)

### Assigned Tasks

- Adam: improve user experience
- Stephen: improve unit tests
- Roy: configure items and ingredientgroups for Gourmet Burgers offerings

## MEETING 11

7 APRIL 2019 / 16:00 PM / AGSM Syndicate Room 3

### Attendees

Adam, Stephen, Roy

### Notes

- Wrote code together
- Implemented order checkout
- Added configuration data for selling burgers
- Lots of minor fixes and improvements

### Notes

- All: relax

## MEETING 12

9 APRIL 2019 / 19:00 PM / 1531 Lab

### Attendees

Adam, Stephen, Roy

### Notes

- Demo Milestone 2 to tutor

### Assigned Tasks

- All: relax



## MEETING 13

16 APRIL 2019 / 19:00 PM / 1531 Lab

### Attendees

Adam, Stephen, Roy

### Notes

- Finish Milestone 3 (configure sundaes, add inventory list page)

### Assigned Tasks

- All: prepare for Final report

## MEETING 14

23 APRIL 2019 / 19:00 PM / 1531 Lab

### Attendees

Adam, Stephen, Roy

### Notes

- Demo Milestone 3

### Assigned Tasks

- All: prepare for Final report

## MEETING 15

25 APRIL 2019 / 15:00 PM / K17 SecLab

### Attendees

Adam, Stephen, Roy

### Notes

- Write Final Report

### Assigned Tasks

- All: chill