# Scrum

### Product Backlog

The product owner constructed the product backlog from the requirements previously elicited. These requirements were converted into functional tasks which were categorized based on their importance of the features to the application’s functionality. From these, the sprint backlogs were to be composed. The SCRUM guide was consulted so as to ensure that the product backlog creation process was in accordance with the SCRUM methodology. The following is the product backlog as at the beginning of the first sprint:

1. Construct the UI to view the menu items:

The laying of the project foundation, the planning of the model classes to give us an idea of how information will be stored and handled in our application.

2.1 Adding and or deleting menu items from the db:

Creating a database and its controller based off the models and schema developed, adding and creating views to interact with our users and get user input (via tap) to perform the necessary update and store the required data.

2.2 Load Information from database:

Loading the data from the database and displaying it into the respective views.

2.3 Display the user’s Data:

Ensuring that there is seamless communication between views and controllers and controllers, models and database.

1. Call waiter:

Creating a view to interact with our users based on a timing mechanism via a random number generator.

1. Improve upon the Menus’ Sections UI:

Improving user experience and intuitiveness.

### Roles

The following are the assignment of roles for the three sprints that were conducted. The scrum guide was also used to ensure that each member knew what their role entails as well as what is expected of them.

#### First Sprint

Product Owner: Jada Gooding

Scrum Master: Laurel Jackson

Development Team: Matthew Cyrus, Lydelle Corraspe, and Dalton Brown

#### Second Sprint

Product Owner: Jada Gooding

Scrum Master: Matthew Cyrus

Development Team: Laurel Jackson, Lydelle Corraspe, and Dalton Brown

#### Third Sprint

Product Owner: Jada Gooding

Scrum Master: Lydelle Corraspe

Development Team: Laurel Jackson, Matthew Cyrus, and Dalton Brown

### Sprint Backlog Summary

#### Sprint Backlog 1

In this first sprint, the team implemented the shell of the application. The team focused on constructing the navigational path(s) an intended user would utilize; whilst adding the item details for the various sections of the menu such as, the price, the item description and a photo thus, giving the user all the information they are seeking on a particular item.

#### Sprint Backlog 2

The team continued using Scrumy.com in the second sprint. The team focused on implementing one major feature, which was the adding or deleting items from the order. The time frame for this sprint was initially 4 days based on our scrum schedule developed at our teams’ initial scrum planning meeting; however, the goal was not met, thus an extension of 3 days was given by the scrum master.

#### Sprint Backlog 3

The team focused on implementing the last major feature, which was the calling the waiter to the table. The team also looked at finalizing the application layout and design. The time frame for this sprint was initially 2 days; however, an impromptu meeting was also held and an extension of 1 day was added on to the schedule by the scrum master.

You can view the progresses of each sprint cycle [here](https://myuwi-my.sharepoint.com/:x:/g/personal/jada_gooding_my_uwi_edu/ETGC-OoXt6dFp_-gPpINAN4BqcP-d_nboAaWYgq_yj9Q-A?e=VrhfO8).

Figure 1 Burndown Chart from all sprints

## Sprint 1

The first sprint began on the 1st of November and ended on the 5th of November. During this sprint only two “daily” scrum meeting times were decided upon, they were: Friday at 10am and Sunday at 6pm. During this sprint, the team covered the first item on the product backlog list.

The main task in the sprint was further broken down into smaller tasks and assigned to a team member. As seen on the scrum sheet, the scrum master prioritized the sub task based on a scale of high importance to low importance and also kept track of task progress to completion.

During the first sprint, which spanned 5 days, an initial sprint meeting, and two in person meetings were held. For the first half of the sprint, the tasks were completed in a timely manner and the scrum master notified the team that we were on track with our scrum schedule.

### Change Report

No major changes were implemented at this stage of development. The team identified that the layout and design of the application needed to be improved on.

### Conflicts and Solutions

Conflicts were inevitable, and the solutions were not always swift. During this sprint the major conflicts were working with android studio, and git.

As the first week progressed and everyone chose a task or two to handle, some members experienced blockades as the working code developed by on developer only worked on later versions of the software application. Solution for this problem included the development team utilizing their personal laptops only in order to further develop the application as the Lab facility provided ran an older version.

Git issues involved an error whilst pushing to git. Thus, our contingency plan was to check all files being committed to master before pushing. However, after removing files from the staging area and redoing the commit process ensuring the paths were correct, the non-fast forward error still appeared and was not solved as of the end of sprint 1. A google search also did not help eliminate this error.

### User Testing

A cognitive walkthrough was conducted for the application with the current low fidelity design at that time. The product owner carried out our user tests. There was an incentive to this approach, as it allowed for a good relationship, and speedy response from the tester. This was because the user would feel more compelled to support the application.

From this test changes were made to the proposed software interface. The team rearranged the main application to utilize a grid layout using image buttons instead of a list view. Thus, striving for smooth use of the user interfaces.

### Review

There was a product backlog change where the priority of the Tasks were changed as it was identified that a latte task carded to be completed in sprint 3 (View bill) should be merged with adding and deleing from the db which is carded to be completed in Sprint 2.

## Sprint 2

The second sprint took place from the 9th of November to the 15th of November. During this sprint an additional meeting time was added so that communication between team members can remain optimal. The new time added was Wednesdays at 1:00pm. Therefore, this made a total of three SCRUM meetings per week, however, some impromptu meetings were also held. The team only planned to implement two major features for the application, these features were adding and deleting items from the order and viewing the bill.

The tasks were completed relatively behind schedule, this was because of implementation issue between the application and SQL lite. The development team had to conduct research in order to eliminate the connection error between the database and our application. The scrum master took control of the situation and added 3 days to the scrum guide to allow for this set back. The development team succeed in utilizing the database thus, adding and deleting from one menu section was successful. As a result, implementing functionality of the db for all sections was added to sprint 3 by the scrum master as the duration of sprint 2 came to an end.

### Change Report

One major change as of sprint 2 was to swap firebase db for SQL lite db. This changed occurred as it was best known to the development team. The sprint was originally carded to be completed on the 12nd of November; however, due to the SQL issue aforementioned, the sprint had to be extended by the scrum master to allow all of the tasks to be completed. The scrum master was careful to ensure that this extension was in accordance with SCRUM methodologies. Therefore, he consulted the SCRUM guide for confirmation. Although it is not advised, the decision to extend the sprint was made due to flexible scheduled created which allowed for unforeseen delays.

### Conflicts and Solutions

The main conflict that arose during the sprint was where many of the functionalities that had to be tested were closely connected with the SQL Lite db. Therefore, the tests that were to be implemented on those features had to be delayed until a solution was devised. Thankfully, one of the developers made a breakthrough and the application functionality was up and running.

### Integration Testing

Integration testing was conducted to ensure that the database connected smoothly to the application when a user selects an item to add to their order or if the user deletes an item from their order. The team was able to identify if the database responded with the updates. This was important as these updates are to be shown on the bill. Therefore, giving the development team the confidence knowing an item which appears on the bill supposed to be there and is not a rogue element.

### Review

Although, we were behind schedule with sprint two we were still on track to meet our completion deadline. This is because our original scrum guide developed contained four scrum cycles. As a result of moving the main task from sprint 3 into sprint 2, we were left with playing room on the scheduled. This also enabled the team to complete he product backlog in three cycles instead of four cycles previously planned.

## Sprint 3

The second sprint took place from the 16th of November to the 19th of November. During this sprint the team developed the last two remaining activities from sprint 2, in addition, to the new feature of allowing a user to call on a waiter via a tap of a button. The team discussed various ways to implement this feature at our carded scrum meeting.

The team agreed upon a pop-up message when the button is selected. This button displays a message to the user that a waiter is on their way to the table; this is done through the use of a timing mechanism (utilizing a random number generator between specified targets) developed by the team. And to increase the user experience, given the circumstance where the waiter hasn’t shown up at the table already, another message is shown when the timer reaches halfway.

The git error which occurred in sprint 1 was solved in this sprint cycle, which would explain why the project repository was not updated since the first sprint. The team utilized GitHub Desktop to perform the commits.

### Change Report

No changes we implemented during this sprint.

### Conflict and solutions

No major conflicts occurred during this sprint; the team agreed upon a way forward at our scrum meeting. Therefore, eliminating any questions or misunderstanding the team may have had.

### Defect testing & debugging

The team having developed a full functional prototype began to *break the system* to discover any bugs which were not previously known and ensured all navigational paths were intact. Any bugs found were resolved. User test were also carried out to ensure the database reflected the updates made by the user.

### Review

The team agreed upon having a functional prototype rather than focusing on making the application look pretty, therefore a basic layout and design was applied and an improved version would be implemented for the final delivery.

# Appendix

## Sprint Backlog Cycle #1

A. Task Description: Viewing the Menu Items & more info details such as ingredients, price etc.

**Task Activities:**

(1) Add Menu Appetizer items to local db.

(2) Add Menu Entrees items to local db.

(3) Add Menu Desserts items to local db.

(4) Add Menu Drinks items to local db.

(5) Add functionality to view appetizers.

(6) Add functionality to view main courses.

(7) Add functionality to view desserts.

(8) Add functionality to view drinks.

B. Task Description: Create the main screen and add functionality to its components.

**Task Activities:**

(9) Create home/main screen.

(10) Add functionality to the home screen appetizers button.

(11) Add functionality to the home screen main course button.

(12) Add functionality to the home screen desserts button.

(13) Add functionality to the home screen drinks button.

(14) Add functionality to the home screen call waiter button.

(15) Add functionality to the home screen view bill.

(16) Add functionality to the home screen my order button.

(17) Adjust the home screen layout.

## Sprint Backlog Cycle #2

A. Task Description: Adding and or deleting items to/from the db. (Utilizing 1 menu section).

**Task Activities:**

(1) Database package:

Setup db

(2) Database creation:

(a) Connect db

(b) Create table

(3) Database Helper:

Create DB Helper

(4) Connect db to the application.

(5) Adding a menu item to the db.

(6) Adding multiple items to the db.

(7) Deleting a menu item from the db.

(8) Deleting multiple items from the db.

(9) Integration testing to ensure the db connect smoothly and performed as expected.

(10) (Optional) User input to adjust the quantity of an item to the order.

(11) Adjusting the layout of the application.

## Sprint Backlog Cycle #3

A. Task Description: Adding and or deleting from all menu sections to/from the db.

**Task Activities:**

(1) Adding items to db from all menu screens.

(2) Deleting items to db from all menu screens.

B. Task Description: Loading the data from the db and displaying the updates to the user

(3) User test were conducted by the development team to ensure the data shown on the bill reflected what the user selected or updated on their order.

C. Task Description: Call waiter functionality

**Task Activities:**

(4) Generate a response when the user selects the call waiter button.

(5) Developer the time mechanism.

(6) Perform user test on the call waiter button to ensure the timer performs as expected.

(7) Optional: Food tracker progress bar.