Report
Second Iteration

GROUP 16

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Contents

1. <u>Overview</u>

"*Sign Off Pizza is an innovative pizza company, bringing you the slices you love through the platforms you love. Incorporating Twitter as an essential element of their ordering system, Sign Off Pizza aims to bring tech-savvy people together around a pizza Capricciosa or their very special pizza Laguna. NOW ALSO AVAILABLE IN LONDON!*

Order now and get 10% off your first purchase!"

This document discusses in detail the use and implementation of the Sign Off Pizza app, with sections covering its user stories, the contributions made by the members of team 16 in its development, as well as the thorough testing it has been subjected to. Team Communication and Cooperation is also discussed.

2. <u>Running and Accessing the System</u>

This section covers the commands needed for using the "Sign Off Pizza" app, as well as all data necessary for accessing user, admin and staff areas.

2.1   <u>Commands needed to start the system</u>

1.   Create a clone of the repository by opening the terminal window in codio and typing "git clone https://github.com/COM1001/team-16".
2.   Once the above has finished, you need to browse to the "team-16" directory by typing **cd team-16** in the terminal window.
3.   Install all of the gems required to run the system by typing **bundle install** in the console. The installation process may take a few seconds.
4.   To run the web application, type **ruby app.rb** in the terminal window.
5.   Open a new browser window and using your individual Codio terminal box domain, open the web app using this domain and the port number assigned to you, following this format:
        http://DOMAIN_NAME.codio.io:PORT_NUMBER/
It should look something like:
        http://pinball-farmer.codio.io:4567/
where the port number is placed after the semicolon.

2.2   Usernames and passwords

The following usernames and passwords can be used to access different areas of the website[1]. A consideration about the admin accounts is that admins in different cities can edit pizzas that are available to both locations, but each admin may only add or edit a pizza of their own specific location.

Type of Account	Username	Password
Customer Area	Leon	password
Orders Area (staff)	orders	orders
Marketing Area (staff)	marketing	marketing
Admin Area (Sheffield)	admin1	admin1
Admin Area (London)	admin5	admin5

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[1] Note: the admin account can also access the marketing and orders areas of the website

3.   <u>User Stories (Updated)</u>

Following feedback, user stories written in the Autumn Semester have been modified or deleted altogether. The following user stories are split into sections, each with its own types of users. Each user story is paired with a number of detailed acceptance criteria. The estimated difficulty ranges from 1 to 16, in multiples of 2, and the priority ranks are "low", "medium" and "high".

Changes as a result of Autumn Semester feedback are <mark>highlighted in green</mark>, explanations are provided where necessary, and removed content is shown with strikethrough.

3.1. Business Details

- As the **admin**, I want an appropriate name for the business, so that it is easily recognizable and searchable.
  - When I Google the name of the business, I want to find it on the first page of the search results.
  - It must not have the same name as any other (popular) existing companies.

  HIGH PRIORITY
  ESTIMATED DIFFICULTY: 2

- As the **admin**, I want an appropriate business identity/logo for the business, so that it is also easily recognizable amongst our customers.
  - When I visit the website, I want it to be clear that the logo is associated with our business.
  - The logo must be appropriate for both web and print.
  - The logo must not be similar to any other existing logos, for copyright reasons.

  HIGH PRIORITY
  ESTIMATED DIFFICULTY: 2

- As the **admin**, I want the menu to contain a wide variety of pizza varieties, so that most client preferences will be covered
  - The menu should be displayed clearly and attractively
  - The prices should be reasonably low, to accommodate students and low-income customers.
  - <mark>The London menu must contain an exclusive bolognaise styled pizza only available to customers in London</mark>

  Explanation: This acceptance criteria was added as a result of the client informing us that they would be opening a branch of the business up in London and that the London location must have an additional exclusive pizza.
  MEDIUM PRIORITY

ESTIMATED DIFFICULTY: 2

3.2. Website Features/Design

- As a **customer**, I want a mobile-first approach to the website, so that I can easily view it using any device and make an order on the go.
  - o The website should first be created for a mobile view and then scaled up to a desktop view.
  - o It must not require an additional app, everything will be done via the website and Twitter.

HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

- As the **admin**, I want a minimalistic website design, so that it is easy to use by our customers.
  - o The website must have clear features that are easy to use and are not obstructed by over-the-top designs.
  - o The website must be ~~intuitive~~ formatted in a manner that is easy for a user to interact with
  - o The design needs to be optimized to reduce loading speeds.
  - o The website needs to be compatible with all types of web-browsers.
  - o The background of the website must be suitable to provide contrast with text on the website
  - o All buttons should be on the bottom right of a form
  - o Form labels and entry boxes require padding between them

Explanation: The client requested the background change, as it was seen to affect the readability of the text. The client also requested that buttons used for submitting form information be moved to the bottom right of a form and that there was more space between a label and an input box, This was not deemed a major issue by the client but more an issue of personal design preference. Criteria was also altered as a result of the word "intuitive" being ambiguous and potentially confusing

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 4

- As the **admin**, I want a design that does not have any pop-ups, so that our users do not have an uncomfortable experience using our site
  - o There should be no ads on the website that are going to decrease the value of the customer's experience.
  - o There should be no pop-up alerts of any kind.

LOW PRIORITY
ESTIMATED DIFFICULTY: 1

- As the **admin**, I want to have a separate section for customers and staff accessed via a login area, so that work can be efficient and people only work on their respective branch.
  - o Each user account must be assigned a unique value to differentiate between whether it is eligible for staff privileges or not
  - o Those without such privileges must not access any other private sections of the website

HIGH PRIORITY
ESTIMATED DIFFICULTY: 8

- As a **staff member responsible with orders**, I would like to be able to be able to manage the orders of our customers, so that our business can operate efficiently.
  - o All orders shall be assigned automatically a unique order number.
  - o All orders must be easy to search, find and track
  - o All orders have to be viewed in a special window, making their managements easy and intuitive

HIGH PRIORITY
ESTIMATED DIFFICULTY: 8

3.3. Customer Accounts

- As a **customer**, I must be able to make an account on the website of the company, so I can then make an order
  - o I must easily login and logout
  - o I must enter a valid address
  - o After registering as a user, I should be re-directed to the menu area of the website where I may proceed with an order

Explanation: This additional acceptance criteria was added because previously after registering a user would be re-directed to the home page containing the login form which did not seem intuitive given that they had registered and should therefore be logged in.
HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **customer**, I must be able to connect my Twitter account to my website account, so that I can place orders
  - o I must have both a website account and a twitter account to make an order.
  - o The process should be easy and intuitive

HIGH PRIORITY
ESTIMATED DIFFICULTY: 8

- As a **customer**, I would like to be able to check if I am eligible for delivery, so that I can order pizza to my address
  - o I must receive an instant notification when I type in my address and click a **submit** button to see if my address is eligible for delivery

  LOW PRIORITY
  ESTIMATED DIFFICULTY: 4

- As a **customer**, I must be able to update my contact details, so that the business will be able to order pizza to my changed address
  - o It must be easy to update my details
  - o I must be notified if I enter details in an incorrect format

  MEDIUM PRIORITY
  ESTIMATED DIFFICULTY: 8

- As a **customer**, I would like to be notified via Twitter when I place an order, so that I will know if my order has been received
  - o If my order was incorrectly entered, I want to be notified, so I can alter or cancel it.
  - o If I want to cancel an order, I must phone the company and discuss the possibilities with them.

  MEDIUM PRIORITY
  ESTIMATED DIFFICULTY: 8

3.4. Staff accounts

- As the **admin**, I must be have access to the features available to all staff accounts, so that I can easily check that everything is going according to plan.
  - o I should be able to do anything on the website with unrestricted access

  HIGH PRIORITY
  ESTIMATED DIFFICULTY: 2

- As the **admin**, I would like to be able to change the menu on the website, so that we can experiment with new foods
  - o The menu can also have side dishes(i.e. chips) besides pizzas
  - o When I change parts of the menu, I do not want customers to be made aware of it

  LOW PRIORITY
  ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with orders**, I must have a specific account that is capable of managing orders placed by our customers, so that the business flow is never interrupted
  - This area of the website needs to be simple and responsive to allow for instant updates of orders as they are placed
  - I must not be able to access any other website features, other than Order Management

HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with marketing**, I must have a specific account that is capable of accessing the marketing features associated with the business so that we can run periodic marketing campaigns
  - I must be able to implement twitter based competitions such '1st retweet gets a free pizza', so that we can increase our twitter following and hence our customer base.
  - I would also like to periodically tweet our followers about offers and discounts so that we can increase our customer following.
  - I must not be able to access any other website features, other than Marketing Management

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 4

3.5. Twitter integration with the website

- As the **admin**, I would like our twitter account to automatically follow people who mention #pizza, so that we can effectively advertise our business.
  - All pizza companies in the area should be followed
  - All people retweeting pizza-related tweets (i.e. containing #pizza) should be followed

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 8

- ~~As the **admin,** I would like the Twitter account to automatically unfollow any customers who have not ordered pizza in a while, so that only constant clients receive exclusive offers.~~
  - ~~If a person has not ordered a pizza/been inactive for more than 6 months, unfollow them.~~

EXPLANATION: this user story was deemed too complicated to implement in time and, since it was low priority, was left for further development in the future
LOW PRIORITY
ESTIMATED DIFFICULTY: 8

- ~~As a **customer**, I must be able to easily order on the website, so that I can get my pizza as fast as possible~~
  - ~~The tweet should be formed automatically when I enter my order~~

EXPLANATION: Ambiguous redundant user story

~~HIGH PRIORITY~~

~~ESTIMATED DIFFICULTY: 4~~

- As a **customer**, I want to be able to make one-click purchases of pizzas to speed up the order process.
  - There must be a website design that allows me to click on an image of a pizza and then make an automatic order tweet
  - I must be able to specify/modify whether or not I want one-click purchases
  - If I want, I must be able to receive a notification whenever I am about to make a one-click purchase
  - The tweet should be formed automatically when I enter my order

EXPLANATION: acceptance criteria from the redundant user story above has been put here since a one click purchase ensures a customer can easily order
LOW PRIORITY
ESTIMATED DIFFICULTY: 8

- As a **customer**, I must be able to use Twitter hashtags, so that I can specify whether I would like to have my order as a collection or as a delivery order
  - The hashtags are #Collect and #Deliver
  - I should specify in my account details what my default order-collection preference is, so that the hashtag is automatically added
  - I should be able to modify the tweet if I want delivery instead of collection.

HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with orders**, I would like all tweets to follow a standard pattern, so that they are easy to track and process.
  - The general format should be "#DELIVERY/#COLLECT #pizza_name for @user_name"
  - If a user wants different kinds of pizza, he will tweet multiple orders
  - If a user wants more pizza of the same type, the tweet will contain the number. Ex: #deliver/#collect 10 #pizza_name #size for @user_name
  - By adding the @user_name, the system should automatically connect to the website account and find the user's address.

HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with orders**, I would like all pizza names to be shortened, so that each tweet will not go over 140 characters
  - o The abbreviation should still be legible and understandable. For example, a pizza Margherita could be shortened to #MARG
  - o The ordering system should automatically process the abbreviation and display it in its full form.

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with orders**, I must be able to send a confirmation tweet to any verified order, so that the customer knows their order has been received
  - o When I view an order, there must be a button on the website that I can click to send an automatic confirmation tweet to the twitter account that placed the order.

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 4

- As a **staff member responsible with orders**, I must be able to send a tweet to any invalid order, so that the customer knows their order has been entered in an incorrect format/lacks important information
  - o If an order doesn't contain any of the necessary hashtags, a tweet shall be sent to the user making the order.
  - o When I view an order, there must be a button on the website that I can click to send an "Incorrect Order" tweet to the twitter account that placed the order.

LOW PRIORITY
ESTIMATED DIFFICULTY: 4

3.6. Marketing

- As a **staff member responsible with marketing**, ~~I want to be able to send tweets to all users, containing special offers~~ I want to add tweets directly from the website.
  - o I should be able to easily conceive interesting tweets with fun offers
  - o I should be able to send this tweet to all valid Twitter accounts

  EXPLANATION: Twitter forbids or restricts sending a large number of tweets to different users at the same time. It was deemed unnecessary, as most users will already be following the Twitter page.
  MEDIUM PRIORITY
  ESTIMATED DIFFICULTY: 2

- As a **staff member responsible with marketing**, I want to be able to create Twitter marketing events, i.e. first retweet gets a free pizza.
  - o I should be able to track the first person to retweet
  - o The event must not be stopped after the first retweet, to keep the campaign open and thus have more visibility

MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 2

3.7. Business statistics

- As the **admin**, I would like to be able to access a feature on the website that tells me daily, monthly and yearly statistics about our twitter following and customer accounts, so that we can deduce whether we need to implement more marketing solutions.
  - o These statistics must be easy to understand
  - o These statistics must displayed graphically
  - o The graphics should tell us
    - How many followers
    - ~~How many unfollows~~
    - How many users
    - ~~How many active users~~
    - ~~How many retweets on Twitter marketing events~~

EXPLANATION: some acceptance criteria were eliminated, as they were deemed unnecessary by the client, who only wanted statistics of numbers of followers and distinct users.
MEDIUM PRIORITY
ESTIMATED DIFFICULTY: 16

4. <u>New User Stories and Acceptance Criteria</u>

The client repeatedly stated that having a working website is their priority, thus all attention was turned towards creating a simple efficient ordering system, behind a beautiful interface. Following feedback, new User Stories and Acceptance Criteria were added.

- As a **customer**, I want all links to be consistent, so I can access them at all times
    - There should be no disappearing links when moving from a page to another.

    HIGH PRIORITY
    ESTIMATED DIFFICULTY: 2

- As a **customer/admin/staff**, I should not be able to access parts of the website I do not have permission for, e.g. if logged in as a customer user, I can only access customer web pages
    - I should be redirected to a neutral page if I attempt to enter a restricted zone, i.e. Menu

    HIGH PRIORITY
    ESTIMATED DIFFICULTY: 2

- As an **admin**, I must have the links, allowing me to access the order and marketing areas of the website.
    - I must at all times be able to view what my employees are seeing

    HIGH PRIORITY
    ESTIMATED DIFFICULTY: 2

- As a **customer**, I should only be able to interact and make an order from the menu, if I am logged in
    - I must be able to view what is currently available on the menu at all times, so I can decide ahead of time what to order.

    HIGH PRIORITY
    ESTIMATED DIFFICULTY: 8

    -
- As a **customer**, I must only view pizzas available in my current location, e.g. if in London, I should see the pizzas exclusive to London, even if my original address is in Sheffield
    - I should still be able to see pizzas available in both locations

    HIGH PRIORITY
    ESTIMATED DIFFICULTY: 8

- As **a London and Sheffield admin**, we would like to manage a separate business in Sheffield and in London, while using the same website.
  - As **a Sheffield admin**, I must only be able to edit pizzas that are exclusive to Sheffield or are available in both locations.
  - As **a London admin**, I must only be able to edit pizzas that are exclusive to Sheffield or are available in both locations.
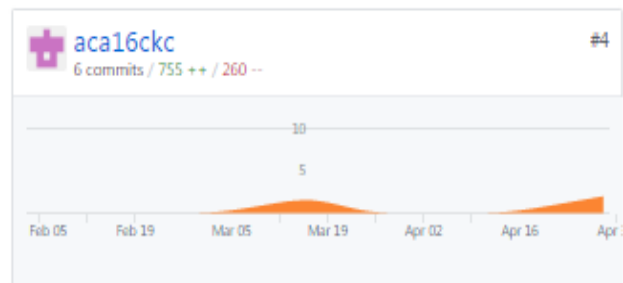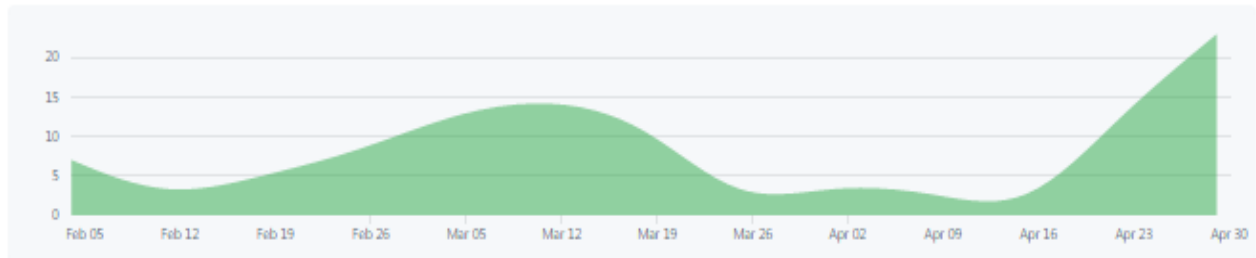
HIGH PRIORITY
ESTIMATED DIFFICULTY: 4

5.   <u>GitHub Contributions[2]</u>

Feb 5, 2017 – May 1, 2017

Contributions: **Commits** ▾

Contributions to master, excluding merge commits

LeonSingleton   #1
52 commits / 19,333 ++ / 5,204 --

SophieProud   #2
33 commits / 26,146 ++ / 8,259 --

smmspiers   #3
13 commits / 898 ++ / 542 --

aca16ckc   #4
6 commits / 755 ++ / 260 --

raulmihai   #5
2 commits / 86 ++ / 5 --

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[2] SophieProud is the username of Ruxandra Maria Mindru

6.   <u>Burndown Chart – Second Iteration</u>

Below are all completed user stories during the second iteration, with difficulty points added.

User Stories	Points	Completion Date
As a customer, I want all links to be consistent, so I can access them at all times	2	15/04/17
As a customer/admin/staff, I should not be able to access parts of the website I do not have permission for, e.g. if logged in as a customer user, I can only access customer web pages	2	13/04/17
As an admin, I must have the links, allowing me to access the order and marketing areas of the website.	2	29/03/17
As a customer, I should only be able to interact and make an order from the menu, if I am logged in	8	30/03/17
As a customer, I must only view pizzas available in my current location, e.g. if in London, I should see the pizzas exclusive to London, even if my original address is in Sheffield	8	15/04/17
As a London and Sheffield admin, we would like to manage a separate business in Sheffield and in London, while using the same website.	4	15/04/17
As a customer, I would like to be able to check if I am eligible for delivery, so that I can order pizza to my address	4	28/04/17
As a customer, I would like to be notified via Twitter when I place an order, so that I will know if my order has been received	8	21/04/17
As the admin, I would like to be able to change the menu on the website, so that we can experiment with new foods	4	15/04/17
All orders shall be assigned automatically a unique order number.	4	27/04/17

All orders must be easy to search, find and track	4	21/04/17
As the admin, I would like our twitter account to automatically follow people who mention #pizza, so that we can effectively advertise our business.	8	01/05/17
As the admin, I would like the Twitter account to automatically unfollow any customers who have not ordered pizza in a while, so that only constant clients receive exclusive offers.	2	01/05/17
As a staff member responsible with orders, I must be able to send a confirmation tweet to any verified order, so that the customer knows their order has been received	2	19/04/17
As a staff member responsible with orders, I must be able to send a tweet to any invalid order, so that the customer knows their order has been entered in an incorrect	2	20/04/17
As a staff member responsible with marketing, I want to be able to create Twitter marketing events, i.e. first retweet gets a free pizza.	2	21/04/17
As the admin, I would like to be able to access a feature on the website that tells me daily, monthly and yearly statistics about our twitter following and customer accounts,	16	01/05/17
As a customer, I want all links to be consistent, so I can access them at all times	2	15/04/17
As a customer/admin/staff, I should not be able to access parts of the website I do not have permission for, e.g. if logged in as a customer user, I can only access customer web pages	2	13/04/17
TOTAL	82	

Thus, the burndown chart below reveals the progress of work, as user stories were being completed.

Completed Stories - 2nd Iteration
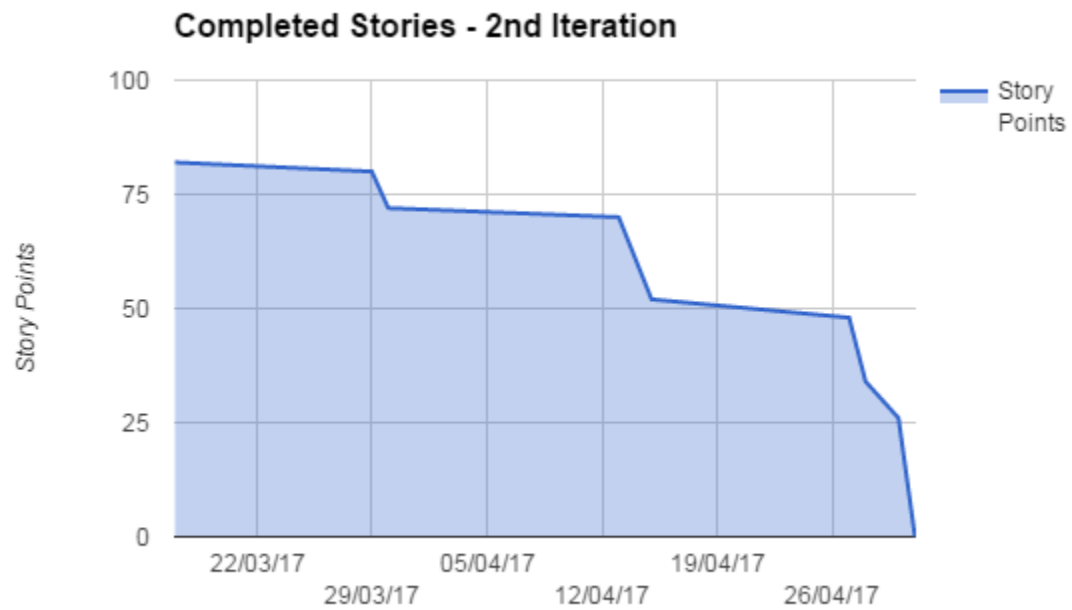
7.   Team Communication and Coordination

Communication was done exclusively on Slack, with references to the shared Google Drive and GitHub repository.

Figure 1 – Part of the completed user stories

To equally distribute work, a spreadsheet of all user stories was created, followed by the nominated programmer. Easter Break posed a considerable challenge, as the team separated and headed home, so maintaining the steady flow of commits from before was hard. Therefore, most work was completed on the last week of April.

Figure 2 – Part of the Easter Break Work Distribution

8. <u>Testing and test coverage</u>

8.1   <u>Approach to Testing</u>

Testing for our website was done automatically using the Cucumber gem. This would involve testing that error values are displayed correctly on the web page, if a user does not enter valid information into a text field or checking that a user's registered details had actually been added to the database correctly.

As a result of multiple forms of information validation, we had to make sure that the validation worked correctly for different types of test data. As such we made sure to test using invalid data, boundary data and erroneous data. However, through manual testing, we were only able to identify a certain amount of errors/problems before resolving them.

Hence, our test cases were written using Cucumber, which allowed us to further test our system in order to identify any major bugs or problems. The following details outline the console output after conducting a cucumber test of the system after we had resolved problems identified using these cases. Due to the high level of complexity within the code, the second round of tests succeeded with a 70.39% result. Considering the fact that the app works impeccably, it is safe to say that there are no game-breaking bugs.
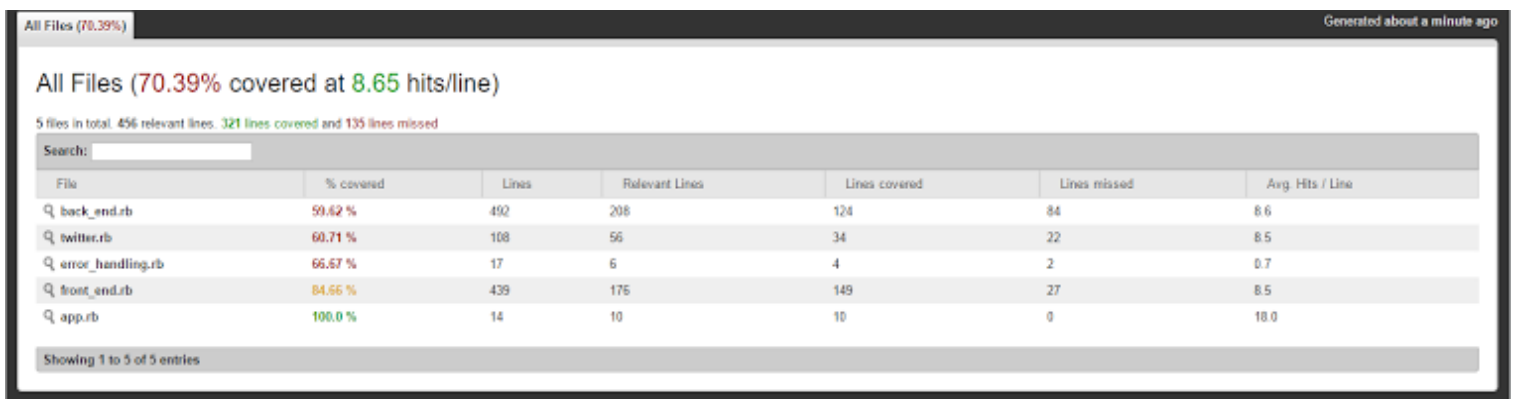
8.2   <u>Coverage Reports</u>

All Files (70.39%)   Generated about a minute ago

All Files (70.39% covered at 8.65 hits/line)

5 files in total. 456 relevant lines. 321 lines covered and 135 lines missed.

Search:

File	% covered	Lines	Relevant Lines	Lines covered	Lines missed	Avg. Hits / Line
back_end.rb	59.62 %	492	208	124	84	8.6
twitter.rb	60.71 %	108	56	34	22	8.5
error_handling.rb	66.67 %	17	6	4	2	0.7
front_end.rb	84.66 %	439	176	149	27	8.5
app.rb	100.0 %	14	10	10	0	18.0

Showing 1 to 5 of 5 entries

Figure 3 - Second Iteration Test Results

9.   Conclusion and Further Development

This document has tracked the work of Team 16 on the second iteration of Sign Off Pizza. The software shall now be delivered to the client, who will have the final word about the quality and robustness of it. Low priority user stories can be finished at their request, if he deems them important enough.

In the end, all work has been finished satisfactorily and the results speak for the involvement of each team member.