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# User Manual

Cafeteria Management System: Resolve Solution  
Partners (Pty) Limited  
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<https://github.com/toniamichael94/MainProjectCOS301>

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# Contents



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# **1 Introduction**

This document contains the user manual for the Resolve Cafeteria Management System that will be created for Software Engineering (COS 301) at the University of Pretoria 2015, by the group T-RISE.

## **2 Vision**

The vision of this project is to implement a fully functional software application that will be maintainable, with detailed supporting documentation and an instruction manual for the Cafeteria Management System. This system will, amongst others, assist in executing orders from the cafeteria, managing the cafeteria's inventory, generating bills, and perform various reporting tasks.

## **3 Background**

### **3.1 The current situation/ problems the client currently experience**

As specified in the project proposal document from Resolve, the cafeteria is currently cash only and does not accept bank cards or electronic payments. This is inconvenient for employees as they have to carry around cash if they want to purchase anything from the cafeteria. Employees may choose to go to an external food outlet where they can pay with their preferred method of payment, which uses time and fuel. Thus, this means the cafeteria does not achieve the maximum amount of income which hinders its growth and improvement.

A problem with the cafeteria itself is that certain meal items are hardly in stock due to either lack of ingredients to make the meal or under estimating the quantity of the meal item required.

### **3.2 How the aforementioned problems will be alleviated by the CMS**

The Cafeteria Management System will provide a means to accept payments from employees, at the canteen, using their employee access cards or access card numbers, with an amount being deducted from their salary at the end of the month. The option of cash payments ,however, will not be discarded. At

the end of each month, the bill for the month will be sent to either payroll, to the employee, or to both. This option is thus configurable from the user's profile. The employee can also set a spending limit for each month. There will also be a system wide limit that users cannot exceed.

The system will predict which inventory items needs to be bought for the next week in order to avoid the "out of stock" situation described above. The system will also enforce that when the cafeteria manager adds meal items to the menu, he adds inventory items for each menu item. This is done so that each time a menu item requires an inventory item, the quantity of the inventory item will decrement until it reaches zero and is marked as "Out of Stock" on the menu. This is done so that when the user is ordering food, he/she can clearly see which items are not in stock and hence does not need to find this out at the canteen.

## 4 System Overview

The Cafeteria Management System is a system designed to assist users to order food efficiently from their office's canteen and to be notified when their order is ready for collection. The system will also assist cafeteria staff with keeping track of the orders in real time as well as managing inventory. The system will also provide for configuring the branding settings of the cafeteria. The system is intended to be used in a corporate environment whereby users have the option to allow their cafeteria expenses to be deducted from their salary or immediately pay for orders. In addition, the system will allow management to view the bill reports of the different users. All users will also be able to access their spending history, set favourites and other similar functionality which will all be explained in this user manual.

## 5 System Configuration

The system requires a Windows/Unix based host to run the server. This host must have the associated technologies installed (the installation of these technologies will be discussed below). The host must be connected to the internet in order to allow any required dependencies to be installed and set up for the operating system environment. The configuration of the server requires an active email account to facilitate communication between the system and end users. End users will only require a PC equipped with a web

browser such as Mozilla, Chrome or Internet Explorer, as well as an active internet connection. The types of data that will communicate and stored will be data of the NoSQL database MongoDB. The menu items that the cafeteria manager will add to the menu will be stored in the database, to be communicated/displayed on the menu page. The inventory items that these menu items entail will be stored too. The categories that can be added to the menu by the cafeteria manager will also be stored in the database in order to populate the navigation bar, the actual dynamic pages and various other places in which these are displayed. The cafeteria manager is the only user who is able to retrieve the menu and inventory data, in order to edit or delete it. The other users will just be able to view the menu data on the menu page.

The user's sign up information will also be stored and will be communicated on the profile page of the user. Each user will only have access to their own information. The superuser, however, will be able to search for users and update their IDs or delete them from the system.

The branding information such as the cover carousel images, the theme, the contact information and the canteen name will also be stored to be communicated on various pages. The superuser is the only user who be able to edit and add this information. Other settings that the superuser can configure, are the system limit and the roles of the users will be stored and used for determining the privileges associated with the various roles and the checks done on the users' personal spending limits. The superuser will also have access to the audit trail of all actions performed on the system. The finance manager will have access to the order history of each user in order to view their bills and invoices. The cashier will also have access to the orders placed in order to process them i.e. mark an order as ready and as completed. All the crucial information such as the order history and other changes made will be stored in an auditing table. Each user will have access to their personal spending history as well as a notifications page, populated with "Order pending" and "Order ready" notifications.

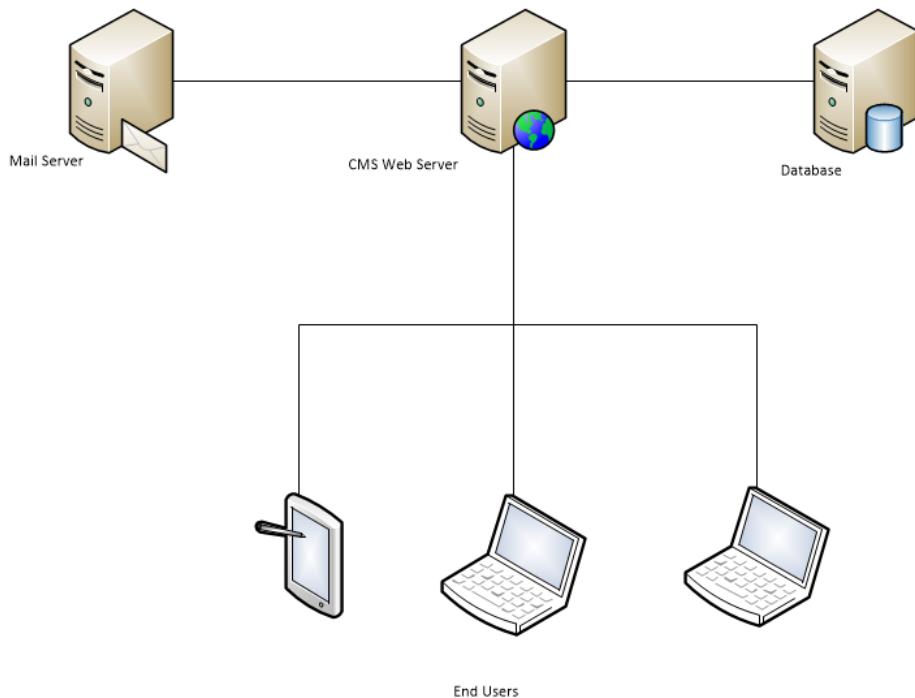


Figure 1: Overview of System - Servers and Clients

## 6 Installation

### 6.1 Prerequisites

For the programmer, who will maintain the code:

The Cafeteria Management System must have the associated technologies, NodeJS, MongoDB, AngularJS, Express, Bower and grunt installed on the host (the installation of these technologies will be discussed below). These are free and open source software and can be obtained from the following sites:

<https://nodejs.org/download/>

<https://www.mongodb.org/downloads>

The applications are available for both Windows and Unix environments and include setup guides on their respective web pages.

Once installed, NodeJS includes a package manager called NPM. This package manager will be available from the terminal and will be used to

install all dependencies. The following dependencies have to be installed first (Run these commands one by one in the command prompt or terminal):

```
$npm install -g bower  
$npm install -g grunt-cli
```

After these commands have successfully installed the respective applications you can download the Cafeteria Management Software from the GitHub repository : <https://github.com/toniamichael94/MainProjectCOS301>

This can be done by cloning the repository onto a remote location on your PC, if you do not know how to clone a GitHub repository, please visit:

<https://git-scm.com/book/en/v2/Git-Basics-Getting-a-Git-Repository> under the section "How to clone an existing repository" you will find the GitHub documentation on how to do this.

Once you have cloned the GitHub repository and installed the above mentioned technologies, please move on to the next section , which will take you step by step in configuring the Cafeteria Management System (CMS).

*Please note that 'CMS' will be referred to in the rest of this document as an abbreviation for the Cafeteria Management System*

## 6.2 Setting up CMS

For the programmer, who will maintain the system:

Before starting the system, an email account has to be set up to facilitate communication between the system and end users. The details of this account can be configured in the following config file:

```
~/Cafeteria_Management_System/config/env/production.js
```

*(The document can be opened in any text editor or IDE such as NetBeans, WebStorm or atom - just to name a few )*

Under the section 'Mailer', the following fields should be specified:

- MAILER\_FROM: A name indicating the sender of mail.
- MAILER\_SERVICE\_PROVIDER: The service provider of the email account
- MAILER\_EMAIL\_ID: The email ID of the account set up for CMS

- MAILER\_PASSWORD: The password of the account set up for CMS

In a terminal/command prompt, navigate to the CMS directory and execute the 'npm install' command. This will install all the packages required to run the system:

```
~/ Cafeteria_Management_System/ $npm install
```

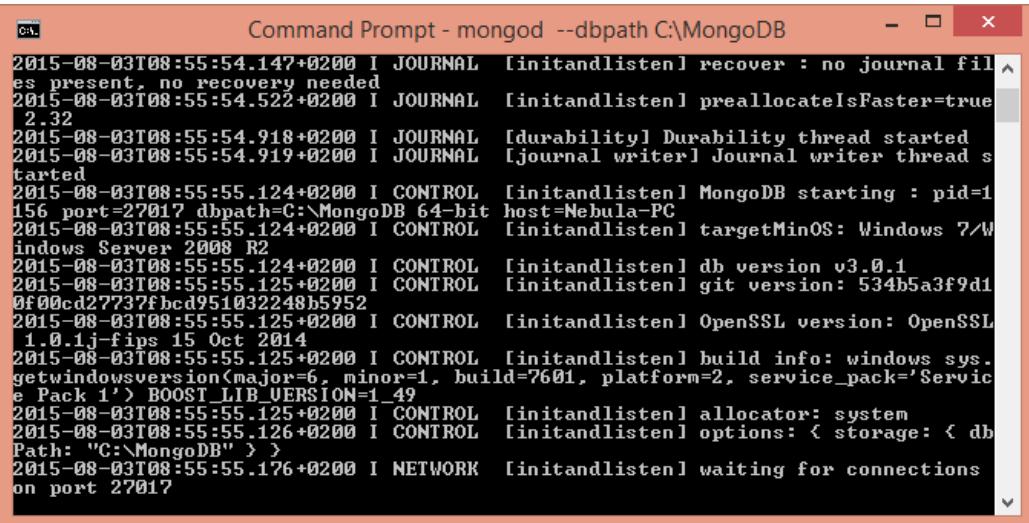
If all dependencies were installed successfully, then MongoDB can be started with the following command in a completely new terminal or command prompt:

```
~/mongod --dbpath "directory"
```

Where "directory" is a path to the folder which Mongo will use as a working directory.

*Remember that this command has to be executed in a separate terminal.*

Below is an example of what the output should look like :

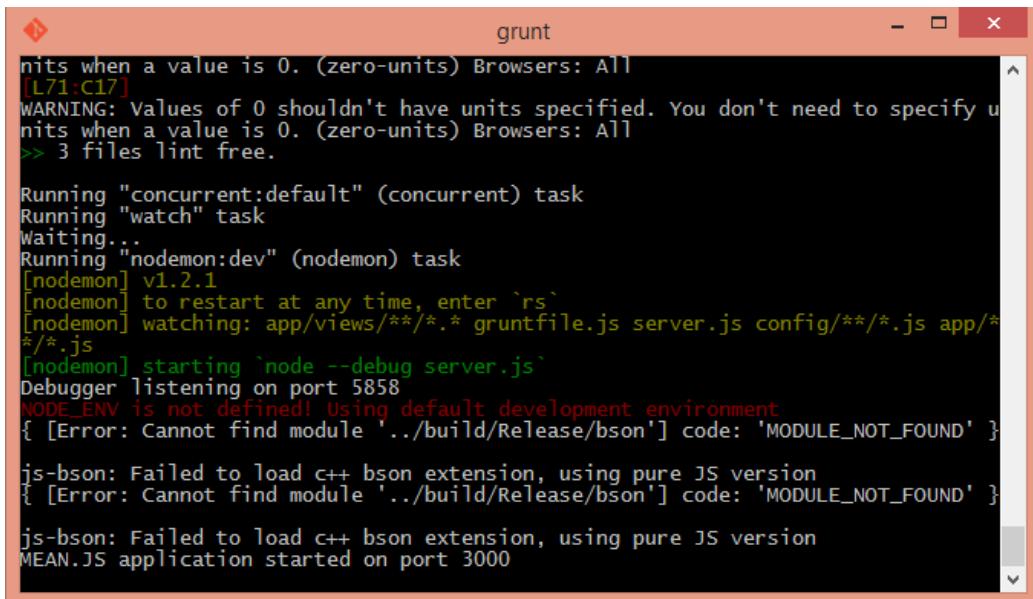


```
2015-08-03T08:55:54.147+0200 I JOURNAL [initandlisten] recover : no journal files present, no recovery needed
2015-08-03T08:55:54.522+0200 I JOURNAL [initandlisten] preallocateIsFaster=true 2.32
2015-08-03T08:55:54.918+0200 I JOURNAL [durability] Durability thread started
2015-08-03T08:55:54.919+0200 I JOURNAL [journal writer] Journal writer thread started
2015-08-03T08:55:55.124+0200 I CONTROL [initandlisten] MongoDB starting : pid=1156 port=27017 dbpath=C:\MongoDB 64-bit host=Nebula-PC
2015-08-03T08:55:55.124+0200 I CONTROL [initandlisten] targetMinOS: Windows 7/W indows Server 2008 R2
2015-08-03T08:55:55.124+0200 I CONTROL [initandlisten] db version v3.0.1
2015-08-03T08:55:55.125+0200 I CONTROL [initandlisten] git version: 534b5a3f9d10f00cd27737fbcd951032248b5952
2015-08-03T08:55:55.125+0200 I CONTROL [initandlisten] OpenSSL version: OpenSSL 1.0.1j-fips 15 Oct 2014
2015-08-03T08:55:55.125+0200 I CONTROL [initandlisten] build info: windows sys.getwindowsversion(major=6, minor=1, build=7601, platform=2, service_pack='Service Pack 1') BOOST_LIB_VERSION=1_49
2015-08-03T08:55:55.125+0200 I CONTROL [initandlisten] allocator: system
2015-08-03T08:55:55.126+0200 I CONTROL [initandlisten] options: { storage: { dbPath: "C:\MongoDB" } }
2015-08-03T08:55:55.176+0200 I NETWORK [initandlisten] waiting for connections on port 27017
```

Figure 2: MongoDB Terminal - Expected output when running MongoDB

Once mongo has been started, the CMS server can be started with the following command:

```
~/Cafeteria_Management_System/$ grunt
```



```
grunt
[nits when a value is 0. (zero-units) Browsers: All
[L71:C17]
WARNING: Values of 0 shouldn't have units specified. You don't need to specify u
nits when a value is 0. (zero-units) Browsers: All
>> 3 files lint free.

Running "concurrent:default" (concurrent) task
Running "watch" task
Waiting...
Running "nodemon:dev" (nodemon) task
[nodemon] v1.2.1
[nodemon] to restart at any time, enter `rs`
[nodemon] watching: app/views/**/*.* gruntfile.js server.js config/**/*.* app/*
**/*.js
[nodemon] starting `node --debug server.js`
Debugger listening on port 5858
NODE_ENV is not defined! Using default development environment
{ [Error: Cannot find module '../build/Release/bson'] code: 'MODULE_NOT_FOUND' }

js-bson: Failed to load c++ bson extension, using pure JS version
{ [Error: Cannot find module '../build/Release/bson'] code: 'MODULE_NOT_FOUND' }

js-bson: Failed to load c++ bson extension, using pure JS version
MEAN.JS application started on port 3000
```

Figure 3: Grunt - When grunt is running, output should be similar to this.

Now the Server and the Database are running and we can get started with the rest of the setup process.

Note: Inside the browser one will run localhost:3000 to view system.

To terminate the server, the user can enter the Ctrl+C command in the "grunt" terminal. The user can also terminate the MongoDB service by executing the same command (Ctrl+C) in the MongoDB terminal.

## 7 Getting Started

Access to the Cafeteria Management System is through a standard web browser. Different types of users have access to different facets of the system. The system has a default super user account and an admin user account, where both of these users can assign different roles (cafeteria manager, cashier, etc.) to the users. They also have global access to the whole system. These users can then sign in to access the facet of the system they are authorised to.

## 7.1 Administrative Users

When the CMS is started initially with an empty database there will be no users in the database and this includes no administrative users.

Thus, to generate the administrative users, on the first startup of the system, one should navigate to the sign in page and sign in with empty credentials. If the system is started for the first time with an empty database, on sign in with empty credentials (proceeding to submit the signin form without filling in username or password) administrative users will be created.

**The system will have a Super User:**

Employee ID: SuperUser

Password: SuperUser

**And the system will also have an Admin User:**

Employee ID: AdminUser

Password: AdminUser

**WARNING :**

Administrative users will have global access to the whole system, thus it is of utmost importance that the administrative users should be set up with the first start up of the system and their credentials should immediately be changed for security.

*\* Note at all times there can only be 1 super user and 1 admin user - this is done for security purposes*

## 7.2 Creating an Account

Once the user has clicked the "Sign Up" option on the navigation pane, the user will be directed to the signup form, where the user should fill in their details.

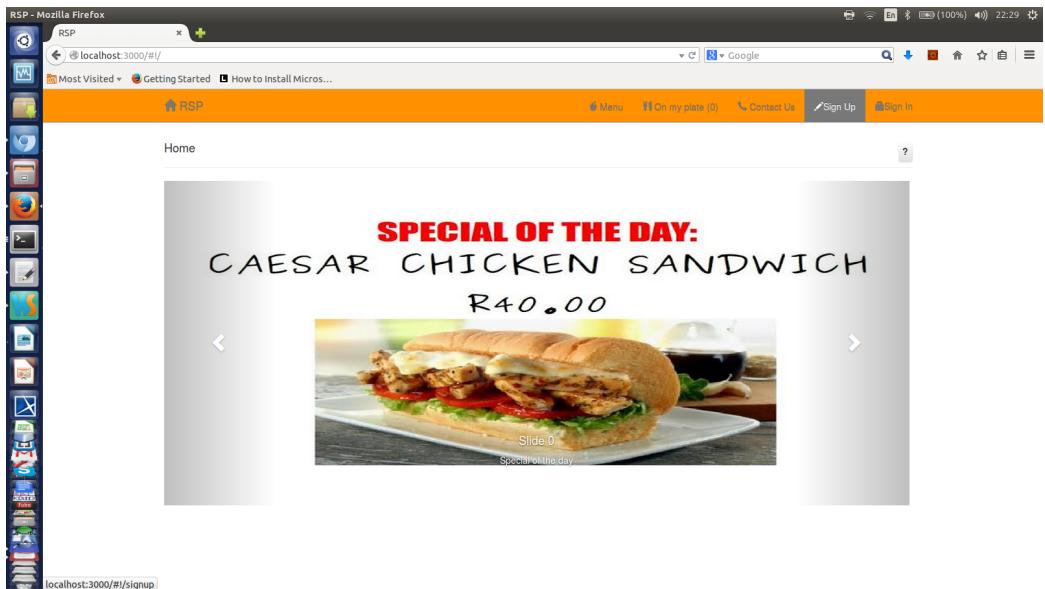


Figure 4: Sign Up - as indicated by the grey box on the page

When the button is clicked, the CMS will direct the user to the signup page where the user can fill out all the details. Once the user have completed the form, the user will click submit and if the form is correctly filled in , the user will be notified upon success and will be signed up for the system. They will hence be redirected to the home page. The user will then use the password created and employee ID to log in to the system. If the information entered is not valid, a thorough error message will be displayed indicating what the problem is so that the user can rectify it.

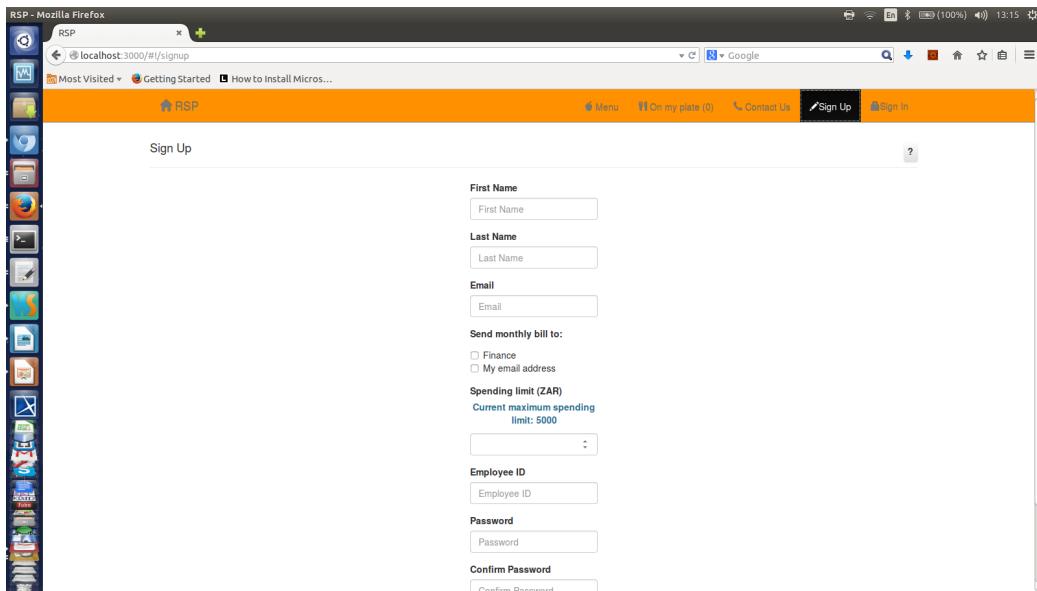


Figure 5: Sign Up Page - details to be filled in - all fields are required

*Employee ID* will be assigned to users by their company - no Employee ID can be reused.

The *e-mail address* to receive notifications of when their orders are ready and to receive monthly financial bills.

The *spending Limit* is the maximum amount you may spend each month.

*Note that all the fields may be edited when logged in*

After signing up and creating a new account the user will automatically be logged in.

### 7.3 Logging In

To sign in, the user must click on the 'Sign In' tab on the navigation bar.

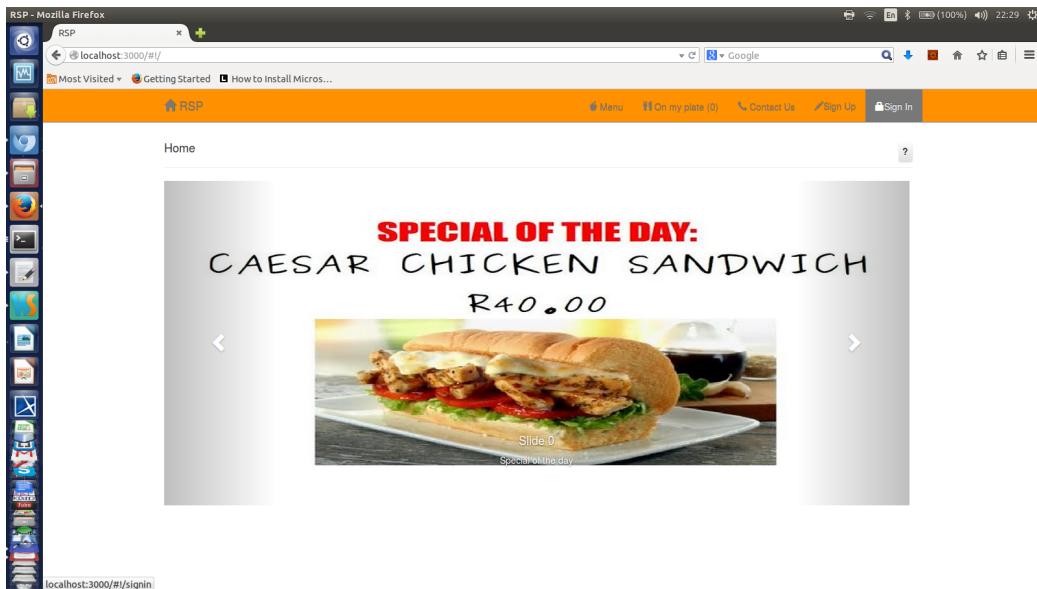


Figure 6: Sign In - as indicated by the grey box on the page

Once the user clicks on the sign in tab, the CMS should direct to the sign in page :

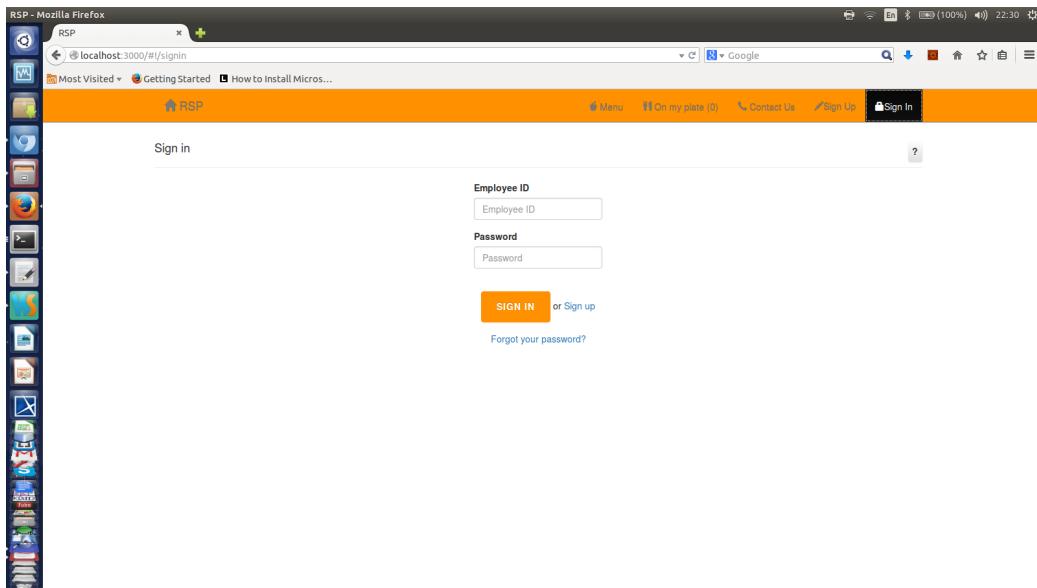


Figure 7: Sign In page - Type the appropriate information in the textboxes and click submit to sign in

The user will fill in their password and Employee ID in the provided slots

and click submit to proceed. If the information entered is valid, the user will be notified upon success and redirected to the home page, logged in on their personal account. If the information entered is not valid, a thorough error message will be displayed indicating what the problem is so that the user can rectify it. If the user can not login due to forgetting his/her password they can click on the forget password link which will redirect to the forget password page:

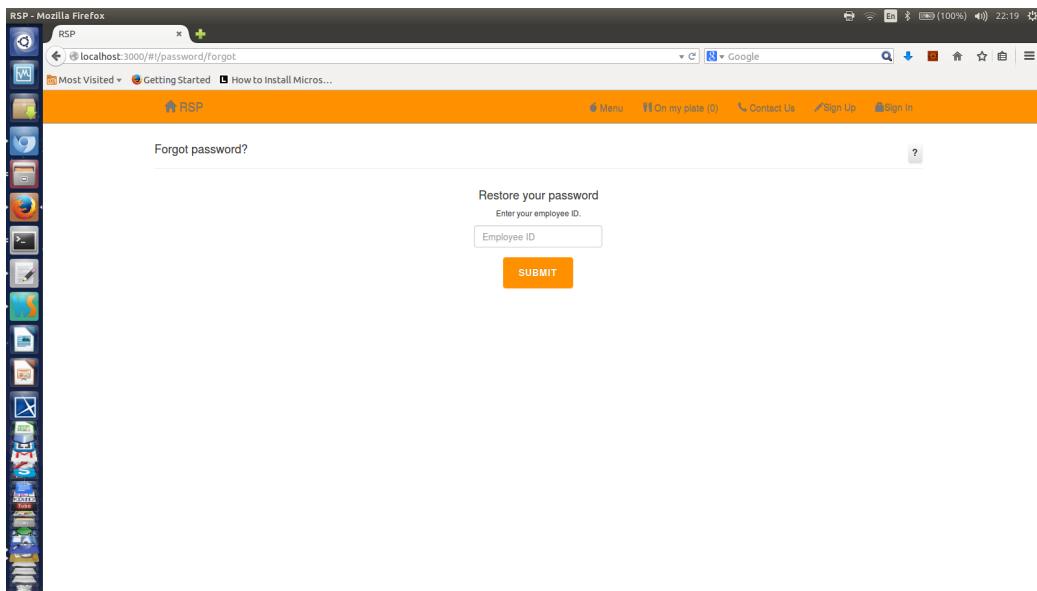


Figure 8: Forgot password page

The "Forgot your password?" option, which once clicks leads the user to a page where the user must enter their Employee ID. The user will then be notified that an email has been sent to their personal email account with further instructions on how to rectify the situation. The user will be sent a link to a page, in order to set a new password.

The rest of the functionality will be described in the section below in detail under the respective headings of how to navigate between pages to administrative settings to ordering an item and so forth.

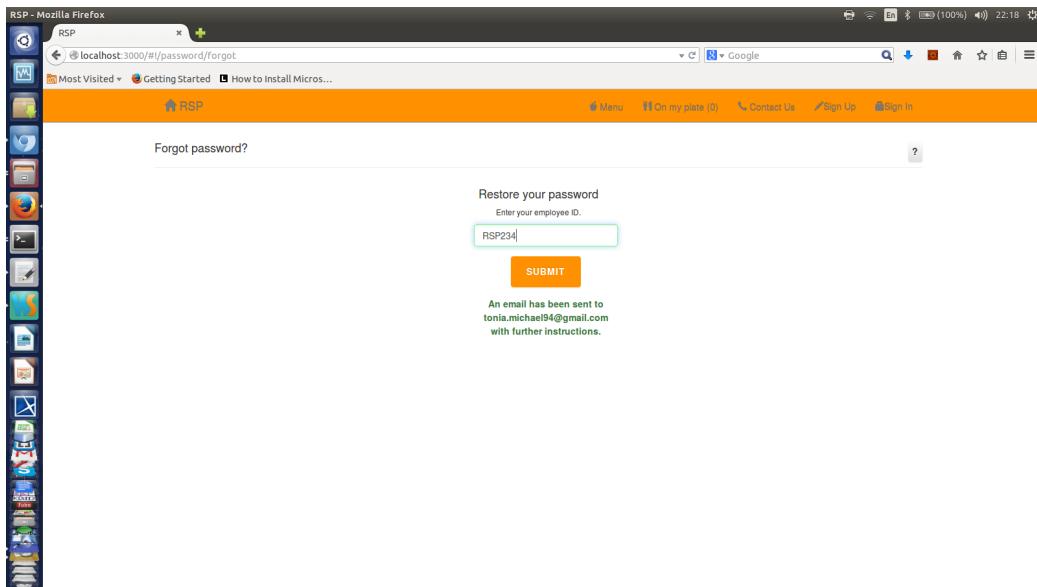


Figure 9: After submitting the form - notified about email sent

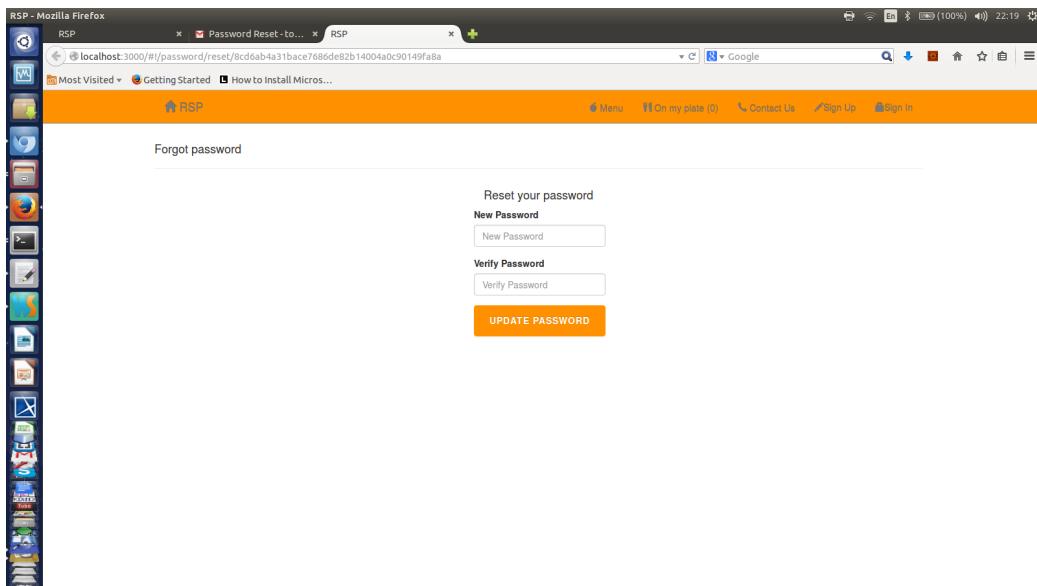


Figure 10: The url sent via email leads to this page - fill in the textboxes and new password is set

## 8 Using The System

### 8.1 The Navigation pane

#### The Navigation pane - once the user is not logged on

On the home page, the name of the canteen is displayed. There is a navigation pane located at the top of the screen. The options available on the pane are "Sign in", "Sign up", "Menu" and "On your plate" and "Contact Us". The Navigation pane will be displayed as follows if the user has not logged in:

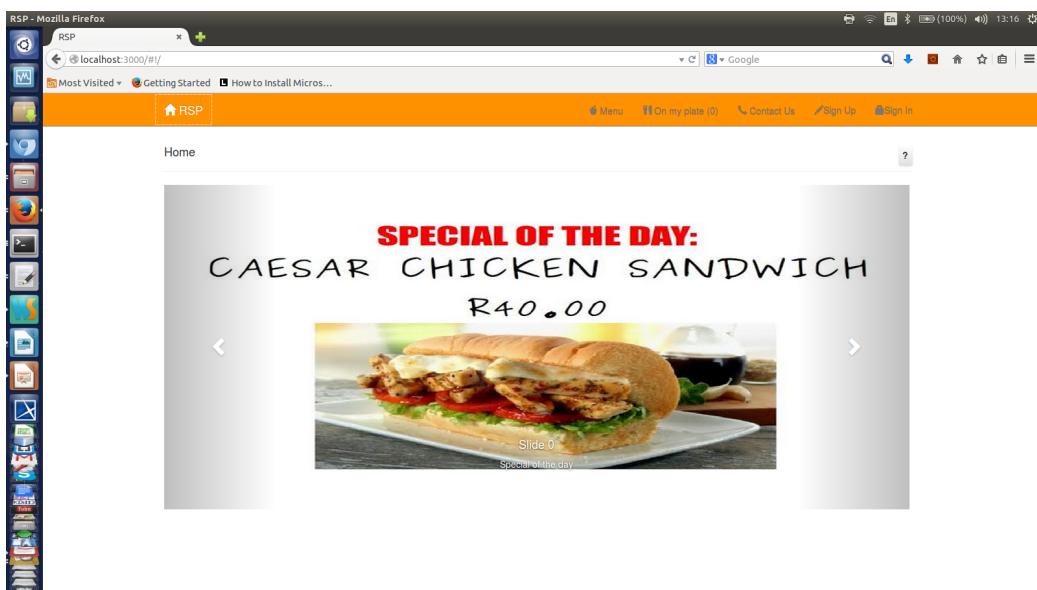


Figure 11: Home Page - user has not logged in

The options on the navigation pane are described below:

1. Home - when clicked, one will be redirected to the home page
2. Menu - when clicked, this will direct user to the menu page
3. On my plate - when clicked, the user will be to an orders page showing items you have currently ordered and the bill total
4. Contact Us - when clicked, it directs the user to a page that contains the contact details of the canteen
5. Sign Up - this button will direct to the signup page where a new account can be created

6. Sign In - this button will direct to a page where the user can sign in and log into his/her account

The user cannot proceed to order food if the user has not signed up and logged in. Hence, the first step a new user should take is signing up/ registering with the system.

If a user has not signed in, the user will still be allowed, however, to view the menu, without ordering anything. However, the user will be able to add items to their plate and view them on the "On My Plate" page, but the order will not be sent to the system until the user signs in.

### **The Navigation pane - once the user has logged on**

Once the user has logged on, the options that will be available on the navigation pane are "Menu", "On your plate", "Contact Us" and a dropdown menu labelled with the user's name and surname. Various options are displayed on this dropdown menu depending on the type of the user. If the user is a normal user the following items will be displayed on the dropdown, "Notifications", "View Profile", "Edit Profile", "My History", "Change Password", "Sign out". These pages will be discussed below.

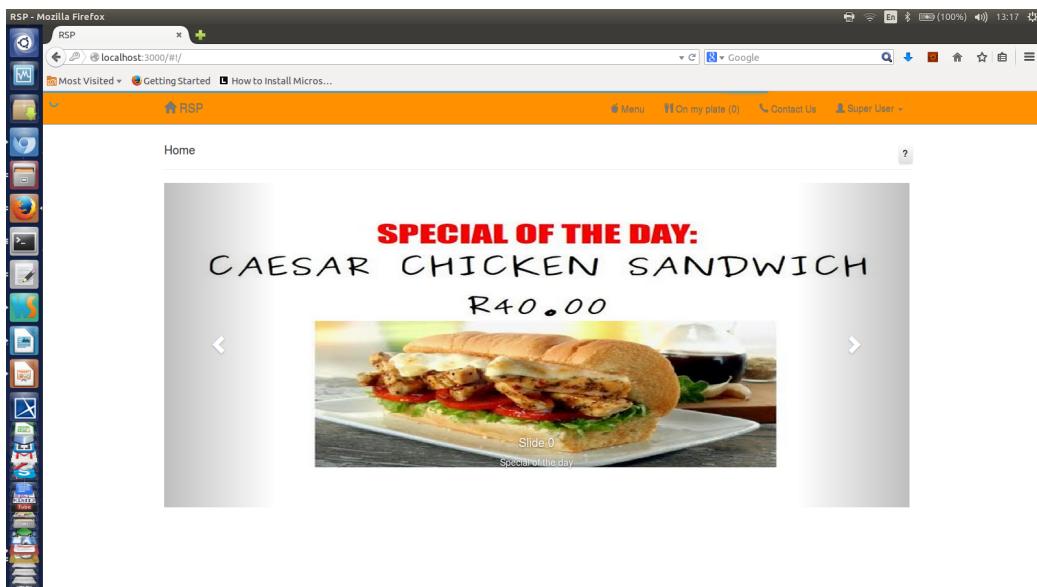


Figure 12: Home Page - user has logged in

When a user is logged in as a normal user he/she will view of the navigation pane as indicated in the figure above.

below we describe the purpose of each of those options:

1. Home - when clicked, one will be redirected to the home page
2. Menu - when clicked, this will direct user to the menu page
3. On my plate - when clicked, the user will be to an orders page showing items you have currently ordered and the bill total
4. Contact Us - when clicked, it directs the user to a page that contains the contact details of the canteen
5. The dropdown menu - when clicked, this will launch a dropdown menu with different options depending on the type of user - the example used is just a standard user with the basic options. These are described below:
6. Notifications - when clicked, this will redirect the user to a page that displays various system notifications. A number next to the "Notifications" label on the dropdown menu will indicate the number of new unread notifications that have been sent to the user.
7. View Profile - when clicked, this will redirect to the profile page of the respective user.
8. Edit Profile - when clicked, this will redirect to the edit profile page where a user can change his/her current details and save it onto the CMS
9. My History - when clicked the user will be directed to page where the user can view a tabular and graphical version of their spending history for the month.
10. Change Password - when clicked, this will redirect to the change password page where a user can change his/her current password
11. Sign Out - this will sign a user out of the CMS and redirect the user to the home page

### **Normal User**

A normal user will only have the options in the dropdown menu as displayed in the image above. If the user obtains another role, there will be extra settings displaying in the dropdown menu.

### Superuser or Admin User

If the user is a superuser or an admin user the options "Admin Settings", "Audits" and "Branding Settings" will also be displayed in the dropdown menu. The superuser and the admin user will be in charge of assigning roles, changing employee ID's, removing employees, setting the system wide spending limit, changing the canteen name, theme and the carousel images of the canteen.

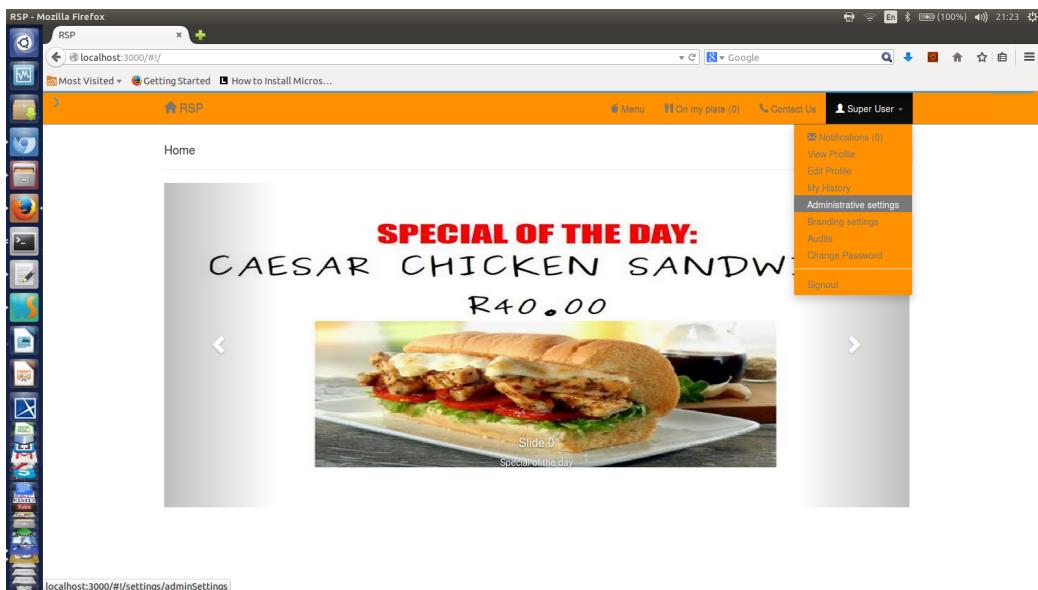


Figure 13: The dropdown menu as per the superuser page

### Cafeteria Manager

If the user is a cafeteria manager, the options "Manage Menu", "Manage Inventory", "Menu items statistics", "Inventory statistics" will be displayed. Manage Inventory is where the stock additions and removals are kept track of. Manage Menu Items is where the different menu meal items will be logged. The statistics pages will display graphical representations of the most popular items and of the items sold

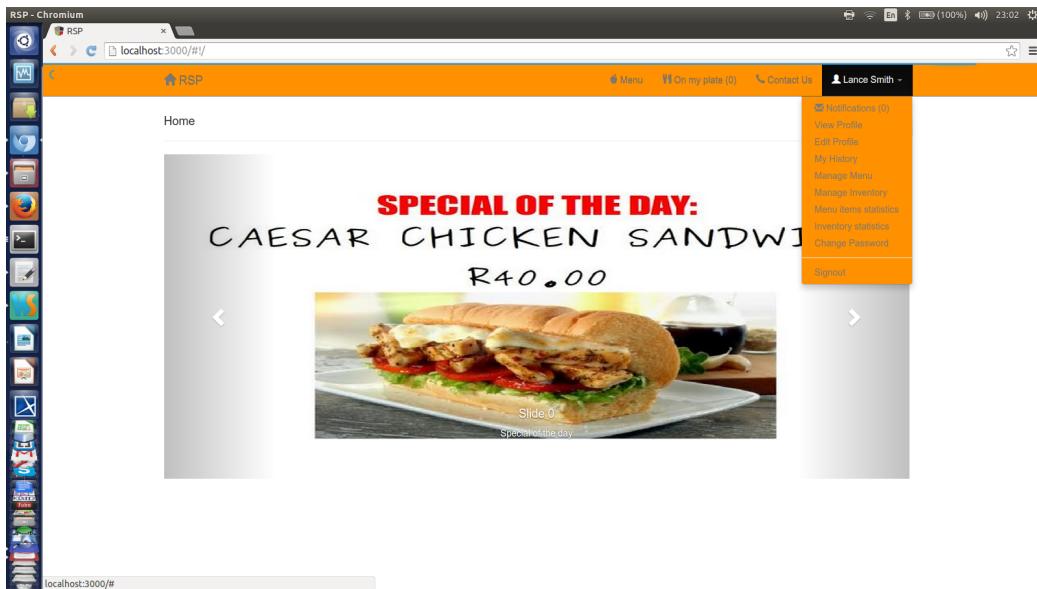


Figure 14: The dropdown menu as per the cafeteria page

## Finance

If user is a financial manager, the option "View Employee Bills" will be displayed. The financial manager will be able to search for employees and view their bills for a configurable period of time.

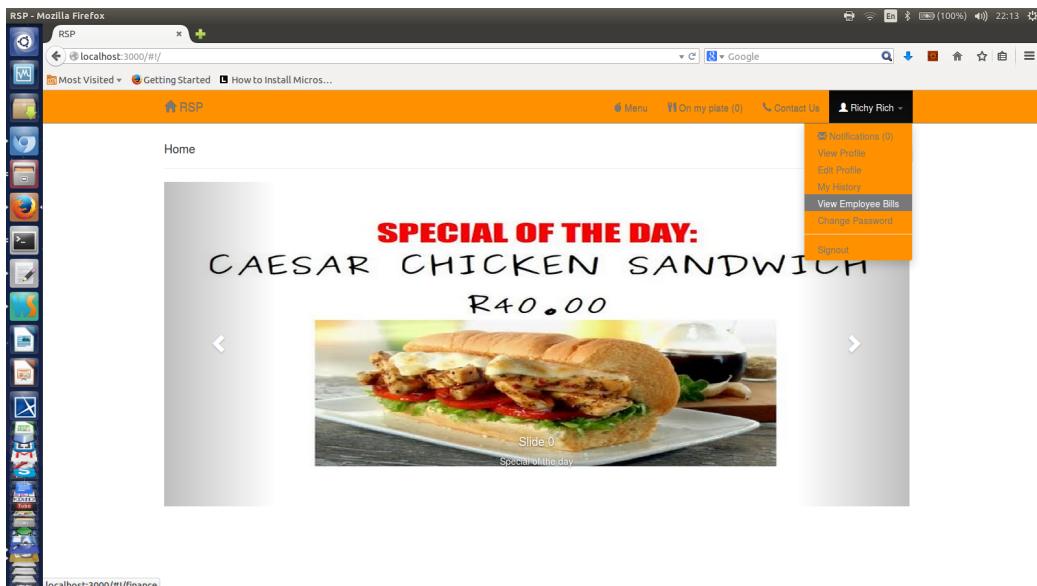


Figure 15: The dropdown menu as per the cafeteria page

## Cashier

If the user is a cashier, the options "Process Orders" will be displayed and it is here where the transactions will occur, such as marking whether orders are ready, and paid for. When the "Order ready" is clicked, notifications are sent to the user via email and via the notifications page, alerting the user that his/her order is ready for collection.

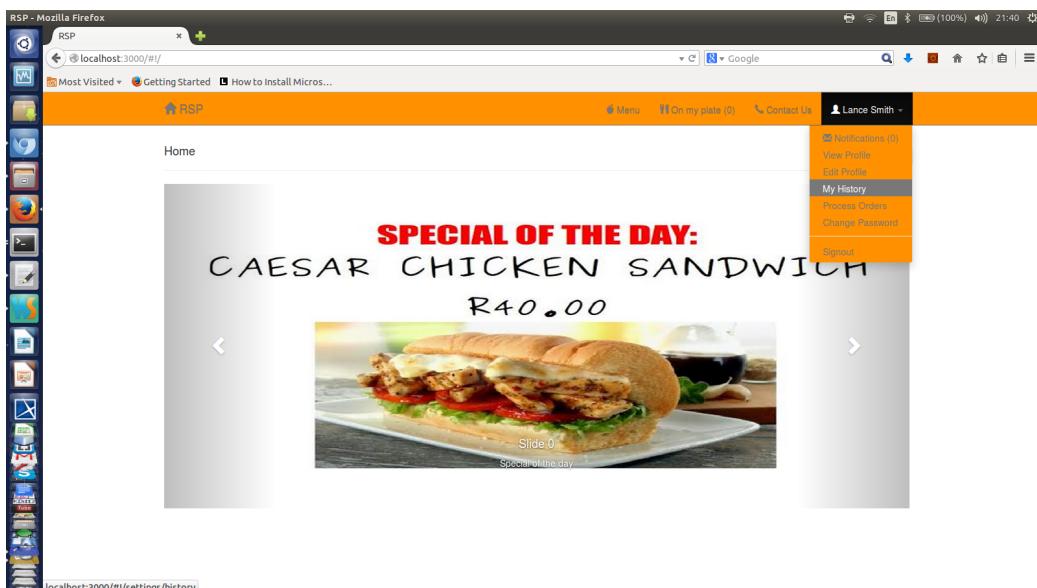


Figure 16: The dropdown menu as per the cafeteria page

## 8.2 The "Menu" Page

This is where the user will be able to view the menu items and their prices. An item can be added to the user's plate by simply clicking the 'Add to Plate' button alongside each item. These can then be viewed on the 'On my Plate' page. If a menu item is not in stock it will be written in red on the menu item that it is "out of stock" and there will be no option to click the add to plate button since that item will not be available.

The image button displayed in each menu item field can be clicked to view images of the different menu items, as uploaded by the superuser.

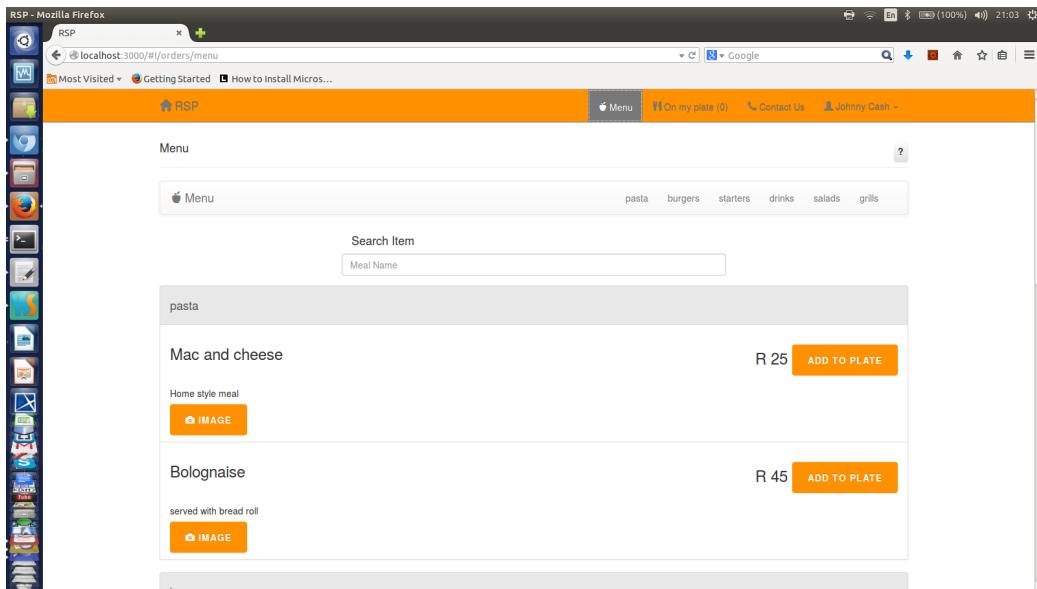


Figure 17: The menu page from which a user can order food

On the menu page there is also a breadcrumb which indicates the different meal categories to make the search more efficient. There is also a search bar on all these pages.

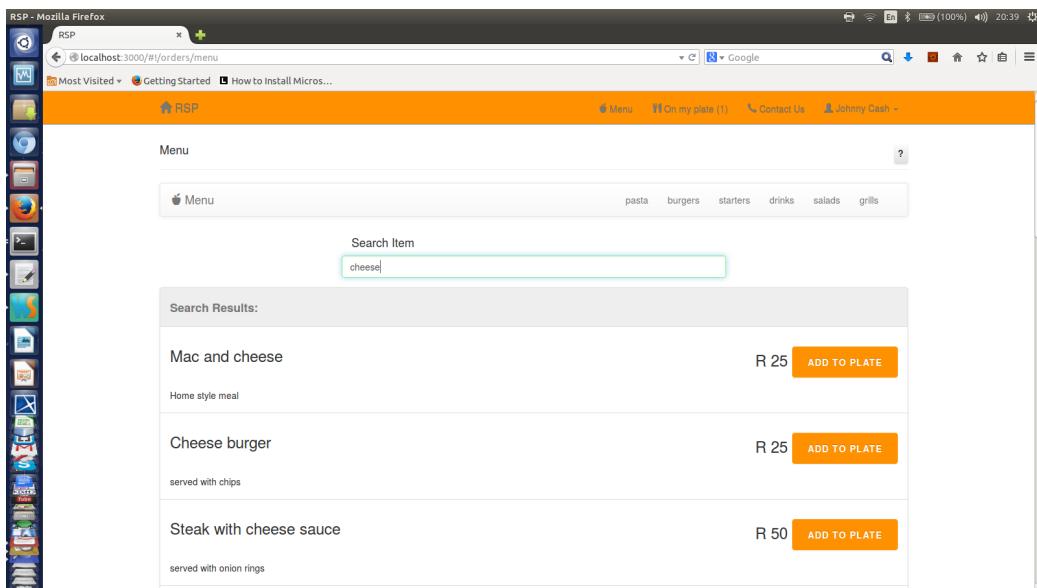


Figure 18: The menu page - Can be navigated via the search bar as illustrated

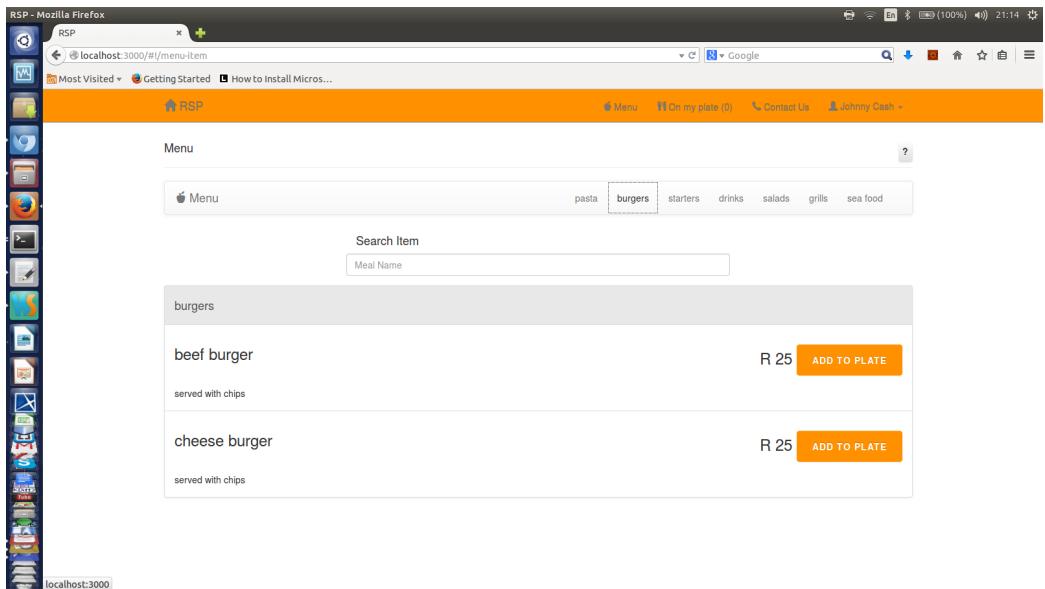


Figure 19: The menu page - Can be navigated via the category breadcrumb as indicated to view sub menus

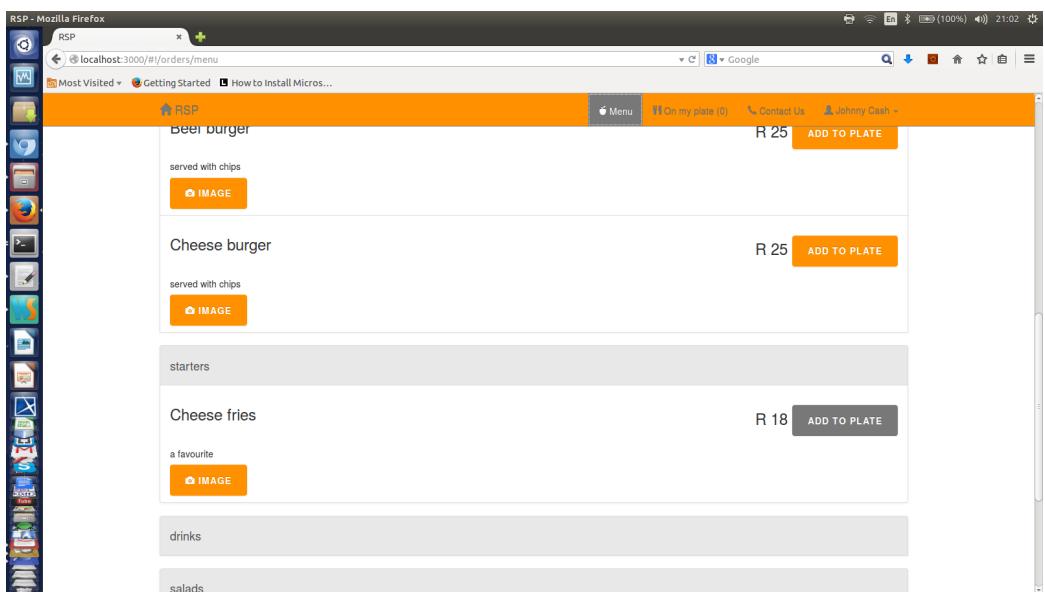


Figure 20: The menu page - order menu items by clicking the addToPlate button

### 8.3 The "On my plate" Page

This page serves to indicate the current meal items that the user has on their plate. The user can also specify any preferences, if any, for each item on their plate, as well as the quantities of each item they wish to order. The total will dynamically increase/decrease accordingly when they add/remove items or change the quantities.

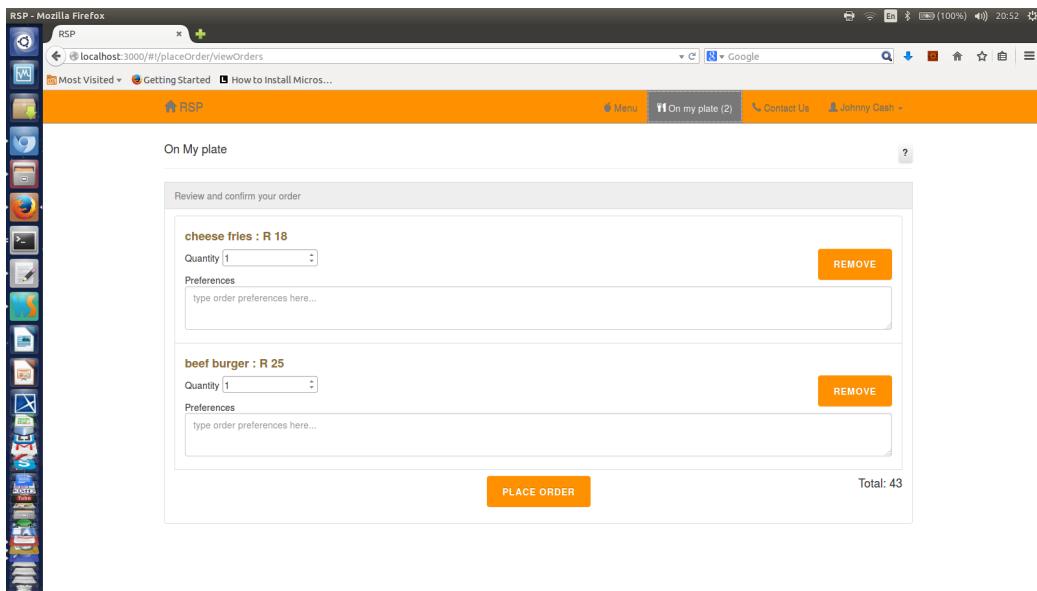


Figure 21: On my plate page - The meal you selected on the menu page is displayed here (Navigate here via the navigation bar)

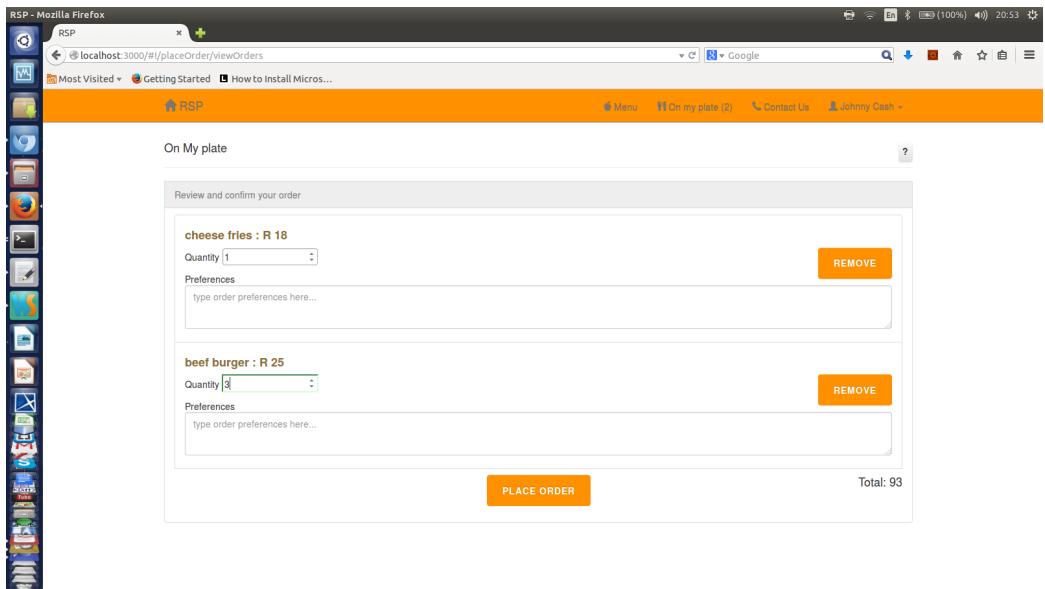


Figure 22: One can increase the quantity of items ordered by editing the quantity field indicated

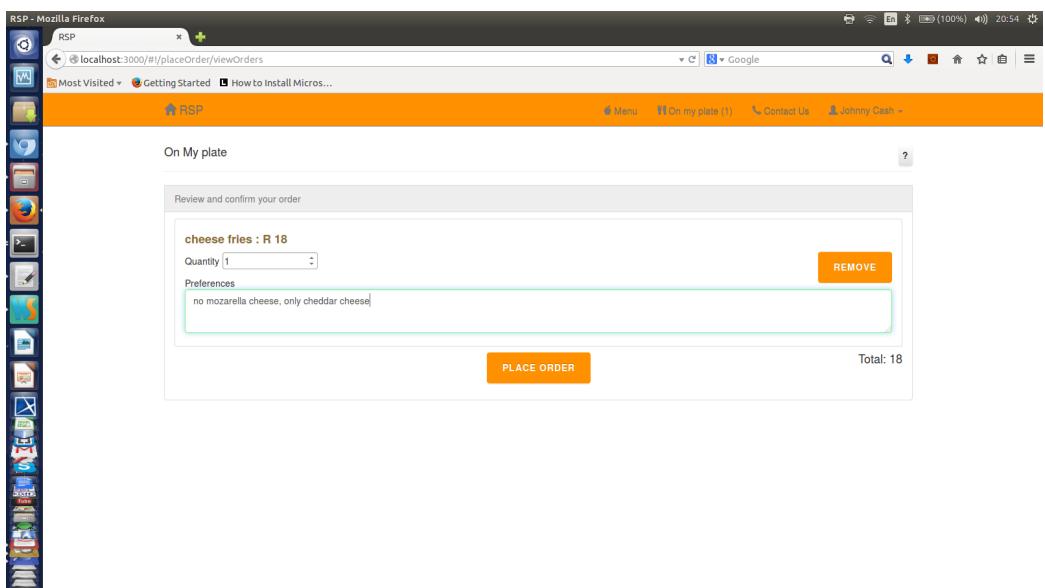


Figure 23: One can remove orders as well as specify preferences by clicking in the indicated areas

## 8.4 The "Notifications" Page

When the user places an order, the user will receive a notification informing the user that their order has indeed been placed. In addition, when a user places an order, the order is sent through to the cashier's page at the cafeteria. When the cashier is notified at the canteen that an order is ready for collection, the cashier will mark this order as ready and this will send a notification to the notification page.

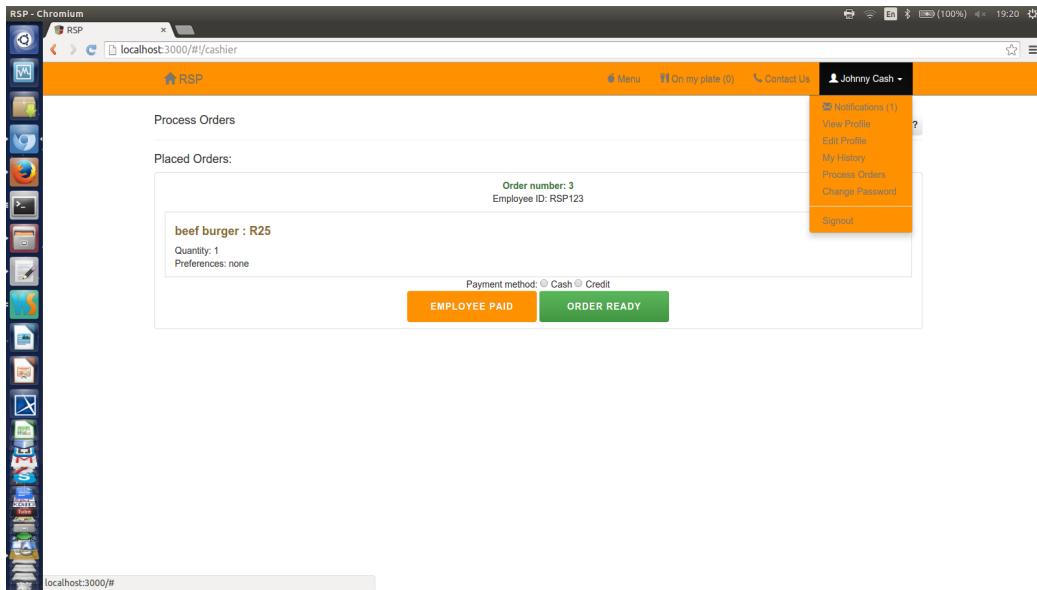


Figure 24: The notifications page - once an order has been placed, a new notification will arrive confirming that the order has been placed

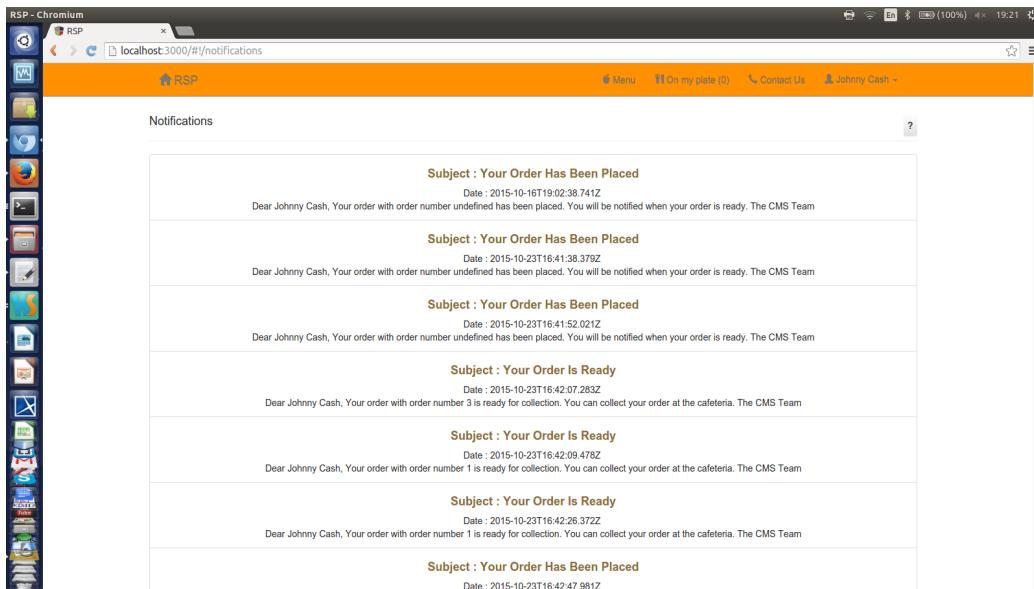


Figure 25: The notifications page - The new notification is displayed on the notifications page, accessible via the dropdown menu on the navigation bar

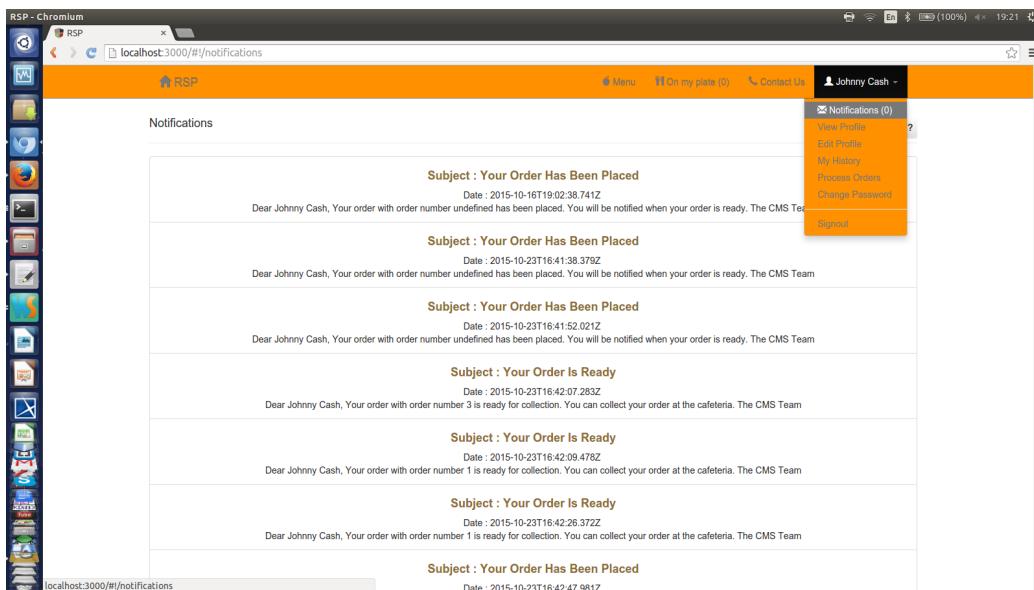


Figure 26: The dropdown menu - once a notification has been read the number of notifications will decrease as seen by the (0) on the drop down menu

## 8.5 The "Edit Profile" Page

The user will be presented with a similar form to that which they signed up with, however, the details that the user entered in the signup form will be present in these textboxes. The user can proceed to edit these here. Clicking the submit button will indicate whether changes have been saved or if errors have been made and how the user can correct these.

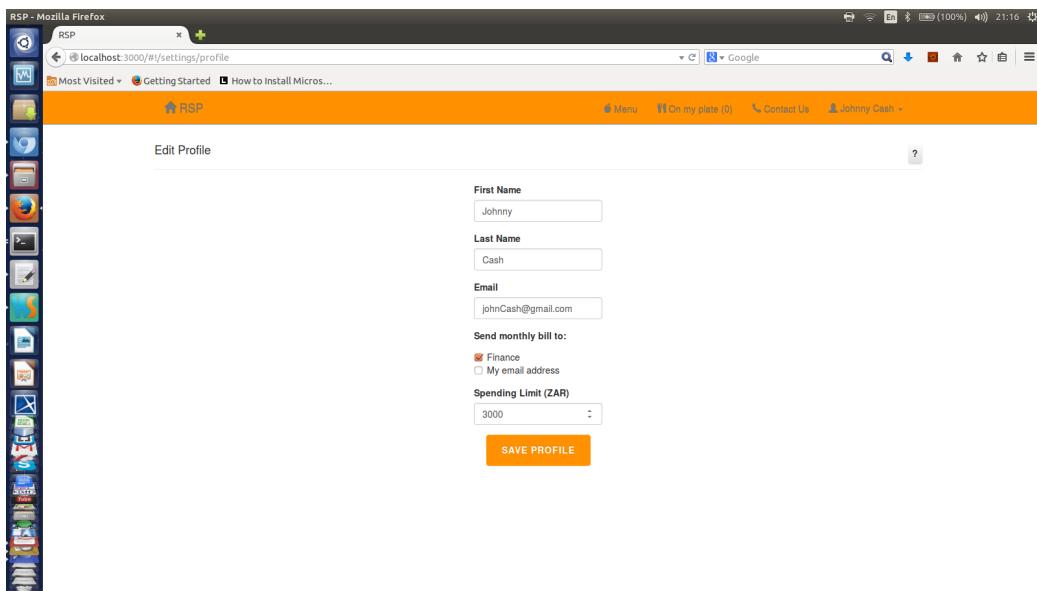


Figure 27: Edit profile page - Edit profile by typing into the text boxes and submitting for validation message and to save new information

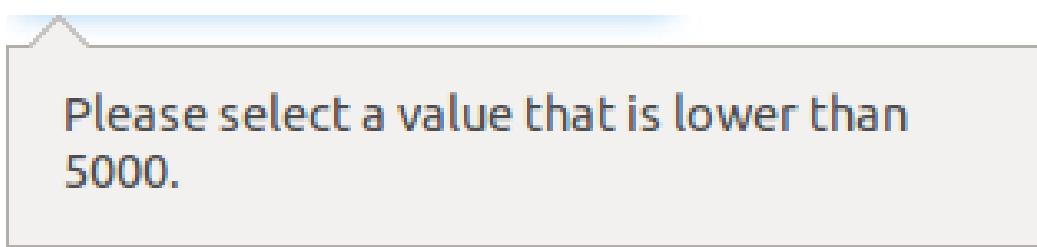


Figure 28: You must ensure your monthly spending limit is within the bounds of the maximum spending limit of the system, set by the super user

## 8.6 The "Profile" Page

This is where the user will be able to view their profile i.e. the details they entered when they signed up/ edited their profile.

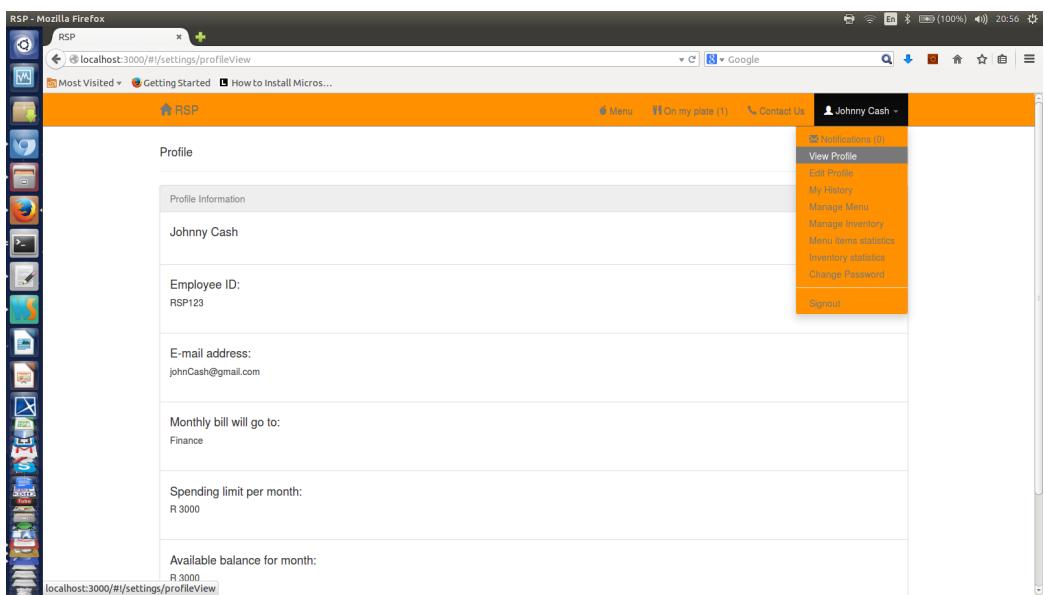


Figure 29: The profile page - where you view your profile (via the orange navigation tab menu indicated)

## 8.7 The "Change Password" Page

The user is presented with a form where the user will be asked to enter their old and new passwords to change their password.

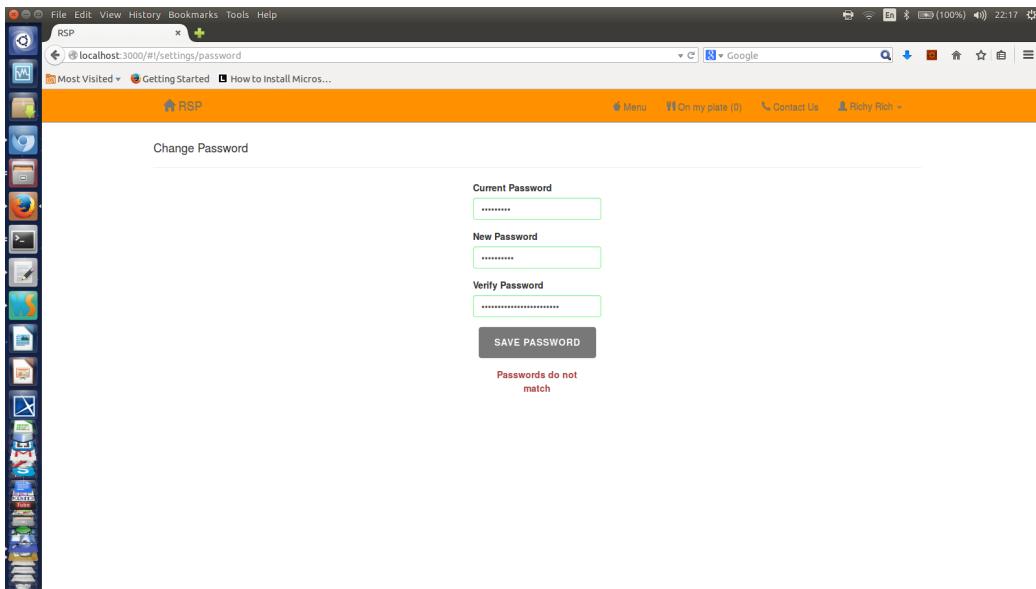


Figure 30: Can change password on this page - validation message will be displayed indicating if change was successful or not

## 8.8 Superuser: The "Administrative Settings" Page

At the top of the page there is a section labelled assign roles, where different admin roles will be assigned to different users. The super user simply has to type in an employee ID and select a role from the dropdown menu below. There is a section underneath that where the superuser can change the user ID of an employee. Self explanatory text boxes are provided for the superuser to fill in and the submit button will save the changes, unless an error occurs. This page also consists of a section labelled "Change system limit" and it is here where the superuser can alter the limit of the system, i.e. the maximum value that a user can set their daily spending limits to. Hence a textbox is provided for the super user to type the new limit and save it. The superuser can also remove an employee from the system.

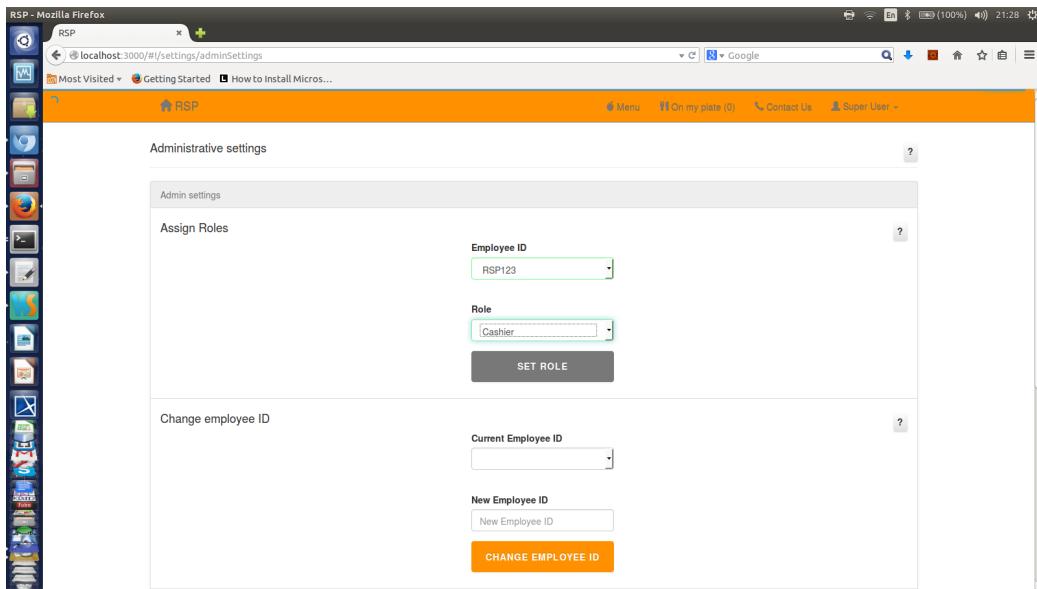


Figure 31: The admin page - superuser can assign roles such as cashier to users

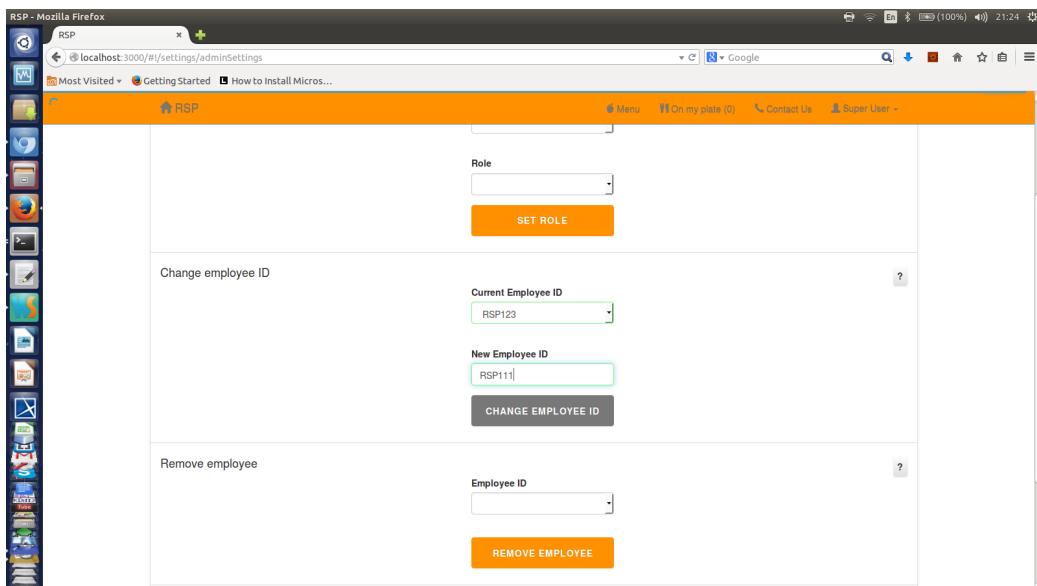


Figure 32: The admin page - superuser can change the users' employee IDs

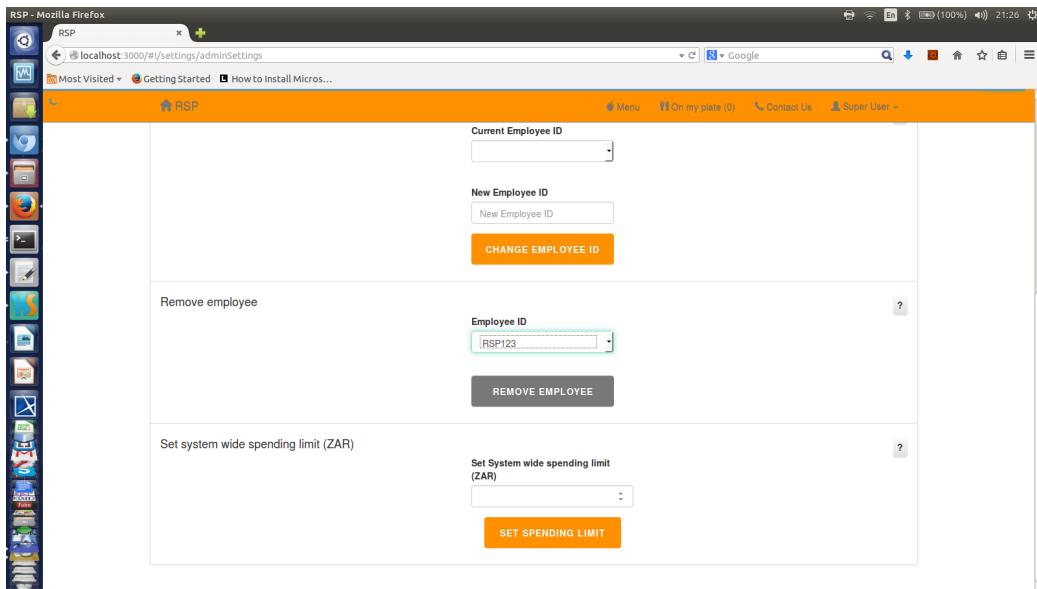


Figure 33: The admin page - superuser can remove users from the system

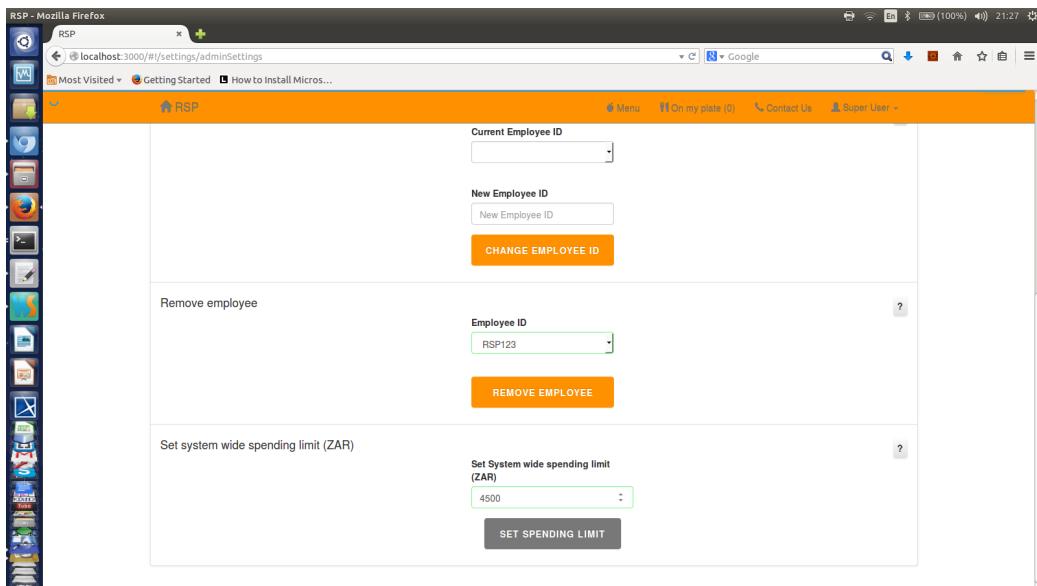


Figure 34: The admin page - superuser can set the monthly spending limit for the users

## 8.9 Superuser: The "Audits" Page

On this page, the superuser will be able to generate a thorough audit trail to trace all actions performed in the system for a specified period. There is a dropdown menu where the superuser can customize the search results to only view an audit for a particular type of action performed in the system.

The screenshot shows the RSP application interface in Mozilla Firefox. The URL is `localhost:3000/#/settings/audits`. The main content area is titled "Audits" and contains a table of audit logs. The table has columns for "Date", "Event", and "Details". The "Event" column includes entries like "Branding settings change", "EmployeeID change", and "Menu update". The "Details" column provides more context for each event. On the right side, there is a vertical sidebar with a "Super User" dropdown menu open. The menu items are: Notifications (0), View Profile, Edit Profile, My History, Administrative settings, **Audits**, Change Password, and Logout.

Date	Event	Details
Mon Oct 1, 2015 17:49:47	Branding settings change	"The canteen name has been changed to orange"
Mon Oct 1, 2015 19:59:42	Branding settings change	"The canteen name has been changed to Byte Me"
Tue Oct 2, 2015 17:44:57	EmployeeID change	"EmployeeID changed from 12345 to 12456"
Wed Oct 3, 2015 11:26:52	EmployeeID change	"EmployeeID changed from 12456 to 12345"
Wed Oct 3, 2015 14:52:47	Menu update	[{"v":0,"user":"559a3264a7b3cd150eae9e8e","itemName":"cheeses burger","price":25,"id":"5615159f88985f0d11551508","ImagePath":"","ingredients":[{"quantities":1, "unit":1, "name": "beef (units)", "description": "beef (units)"}, {"quantities":1, "unit":1, "name": "lettuce (mg)", "description": "lettuce (mg)"}, {"quantities":1, "unit":1, "name": "Tomatoes (grams)", "description": "Tomatoes (grams)"}, {"quantities":1, "unit":1, "name": "sdf (mg)", "description": "sdf (mg)"}, {"category": "burgers"}, {"created": "2015-10-07T12:52:47.345Z"}] has been added"
Wed Oct 3, 2015 14:53:18	Create order	[{"itemName":"cheeses burger","price":25,"ingredients":["beef (units)","lettuce (mg)","Tomatoes (grams)","sdf (mg)"],"quantities":1, "unit":1, "name": "cheeses burger"}, {"username": "12345", "orderNumber": 2}]

Figure 35: The audit page - superuser can view the audit trail for all actions performed in the system for a specified period.

**all**

**Branding settings change**

**EmployeeID change**

**Menu update**

**Create order**

**Inventory update**

**Cashier action**

**Role change**

Figure 36: The audit page - the dropdown menu for the field to select audit details contains the following actions, more specifically all the main actions a user can perform in the system

The screenshot shows the RSP application's audit page. At the top, there is a search bar with fields for 'Audit details for:' (set to 'Role change'), 'From:' (set to '06/08/2015'), and 'To:' (set to '16/10/2015'). Below the search bar is a large table titled 'Results' with three columns: 'Date', 'Event', and 'Details'. The table contains 12 rows of audit logs, all of which are 'Role change' events. The details column provides a brief description of each event, such as 'cafeteriaManager role has been assigned to 12345 by Superuser' or 'cashier role has been assigned to undefined by Superuser'.

Date	Event	Details
Thu Oct 4, 2015 10:28:6	Role change	"cafeteriaManager role has been assigned to 12345 by Superuser"
Thu Oct 4, 2015 11:27:25	Role change	"cashier role has been assigned to RSP321 by Superuser"
Thu Oct 4, 2015 12:56:6	Role change	"cashier role has been assigned to tonia by Superuser"
Thu Oct 4, 2015 15:23:13	Role change	"cashier role has been assigned to tonia by Superuser"
Thu Oct 4, 2015 15:25:26	Role change	"cafeteriaManager role has been assigned to cafeteria by Superuser"
Thu Oct 4, 2015 15:25:53	Role change	"finance role has been assigned to finance by Superuser"
Thu Oct 4, 2015 15:27:10	Role change	"cafeteriaManager role has been assigned to cafeteria by Superuser"
Fri Oct 5, 2015 14:1:23	Role change	"finance role has been assigned to undefined by Superuser"
Fri Oct 5, 2015 14:2:42	Role change	"finance role has been assigned to cafeteria by Superuser"
Fri Oct 5, 2015 14:32:29	Role change	"cafeteriaManager role has been assigned to cafeteria by Superuser"
Wed Oct 3, 2015 16:23:44	Role change	"cashier role has been assigned to tonia by Superuser"

Figure 37: The audit page - if the superuser selects one of the options, the audit trail is limited to that option

## 8.10 Superuser: The "Branding Settings" Page

There are two sections on this page. One where the user can change the canteen name, by merely typing in a new name over the old name in the allocated textbox, and another where the superuser can add and remove carousel images for the cover image slides on the home page. The superuser can also configure the colour scheme for the system. The superuser can also add the contact details for the canteen that will be displayed on the contacts page

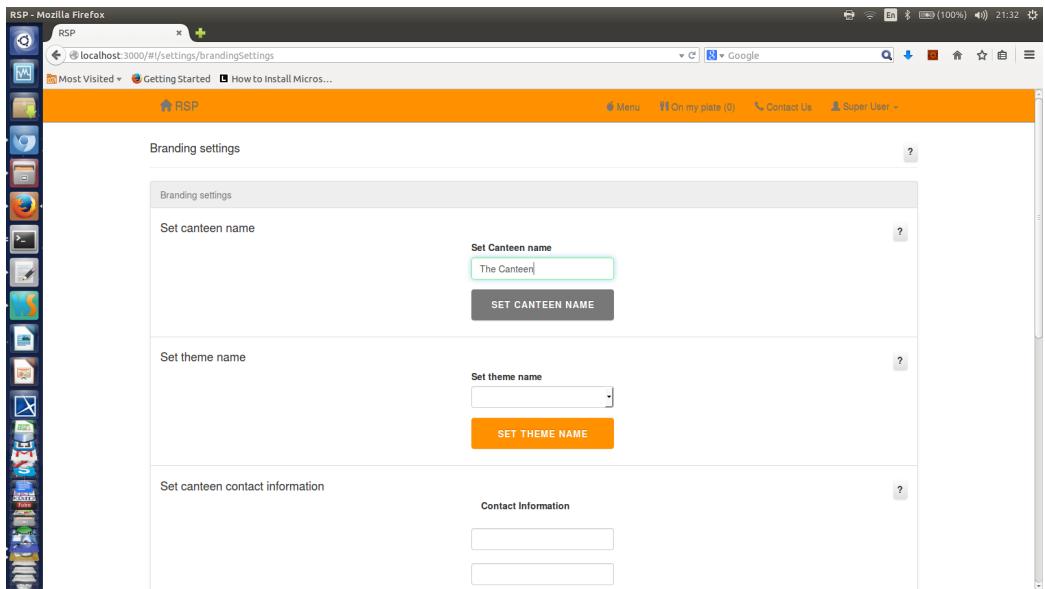


Figure 38: The branding settings page - superuser can change the canteen name

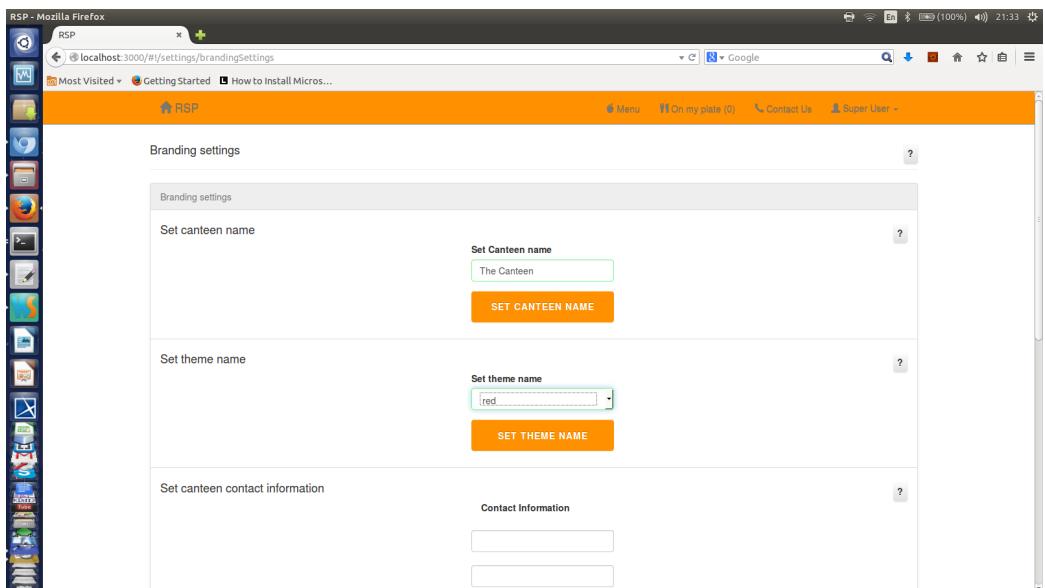


Figure 39: The branding settings page - superuser can change the canteen name

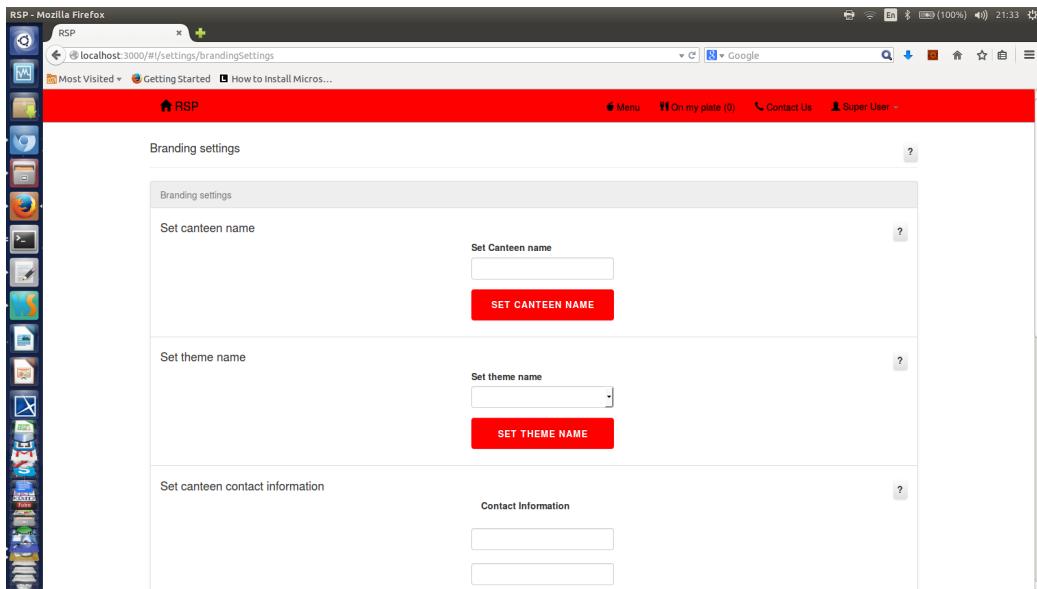


Figure 40: The branding settings page - the colour scheme of the system has now changed

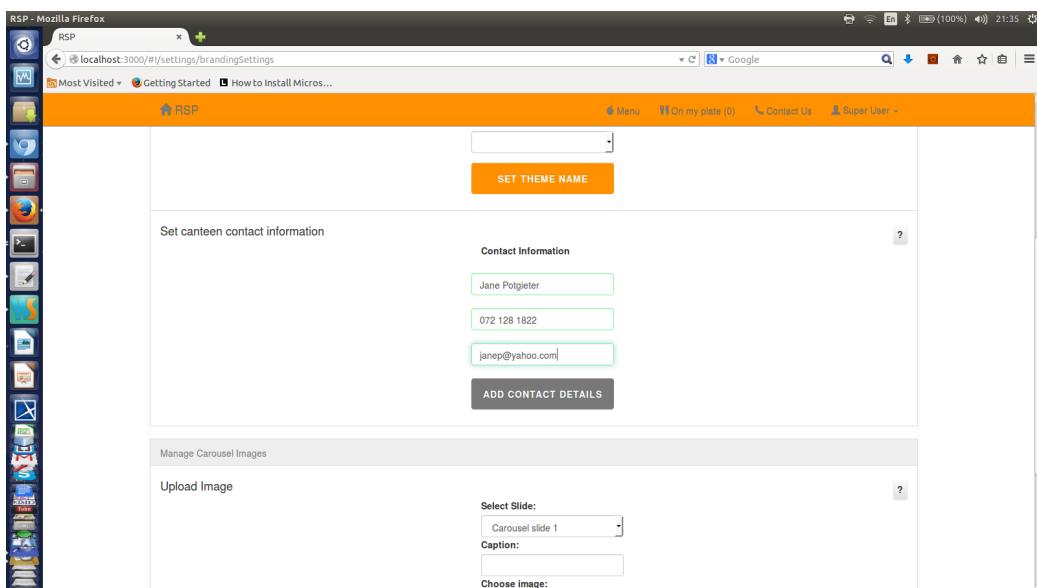


Figure 41: The branding settings page - the contact information can be added in the appropriate boxes

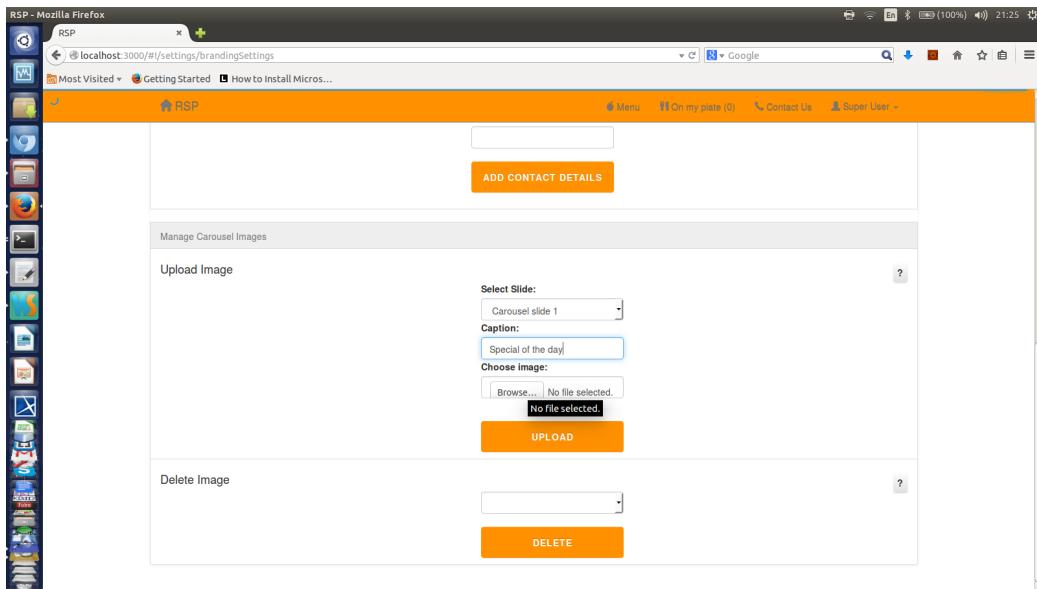


Figure 42: The branding settings page - superuser can add/remove the images in the carousel

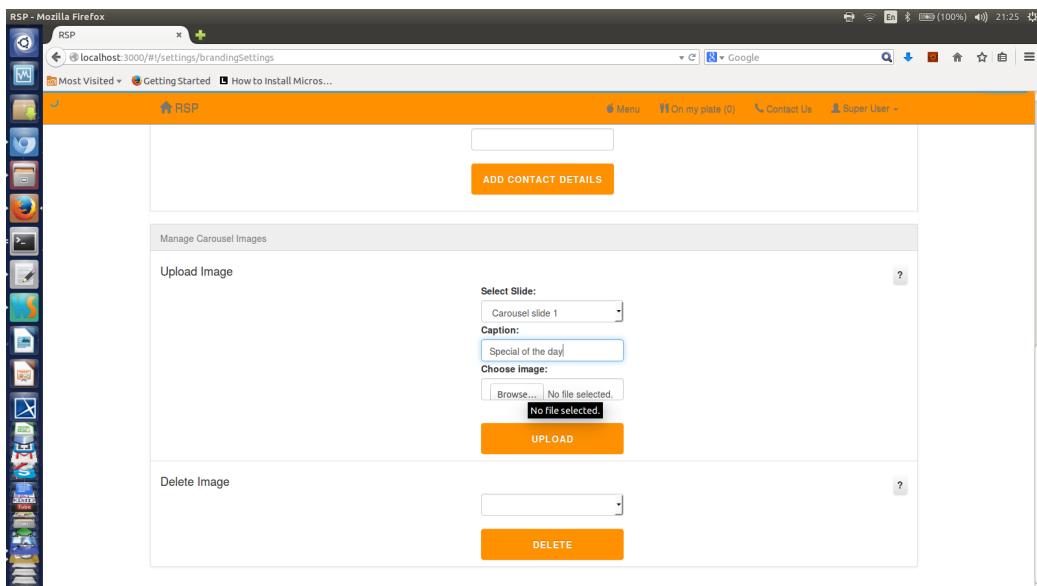


Figure 43: The page will redirect to the carousel after an image has been added to a carousel slide and the new image will be displayed as follows

## 8.11 Cafeteria Manager: The "Manage Inventory" Page

This page is available to the cafeteria manager under the dropdown menu on the navigation pane. This is where the cafeteria manager adds inventory items to be used when an actual meal is stored in the menu in order to keep track of stock to note when a specific meal item is out of stock. These inventory items can be deleted, updated and searched for.

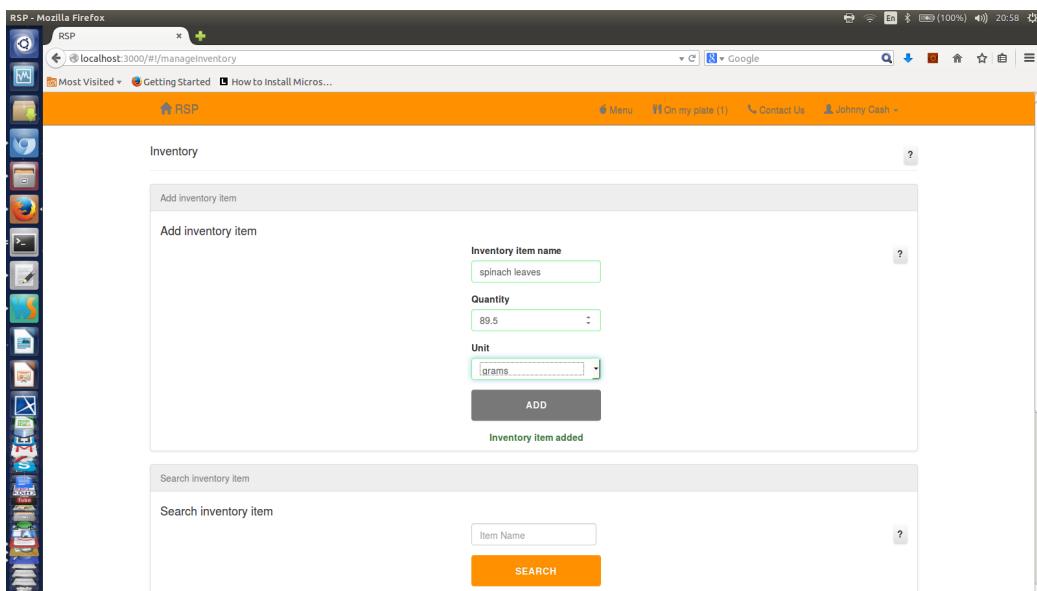


Figure 44: The manage inventory page - Cafeteria Manager can add inventory items

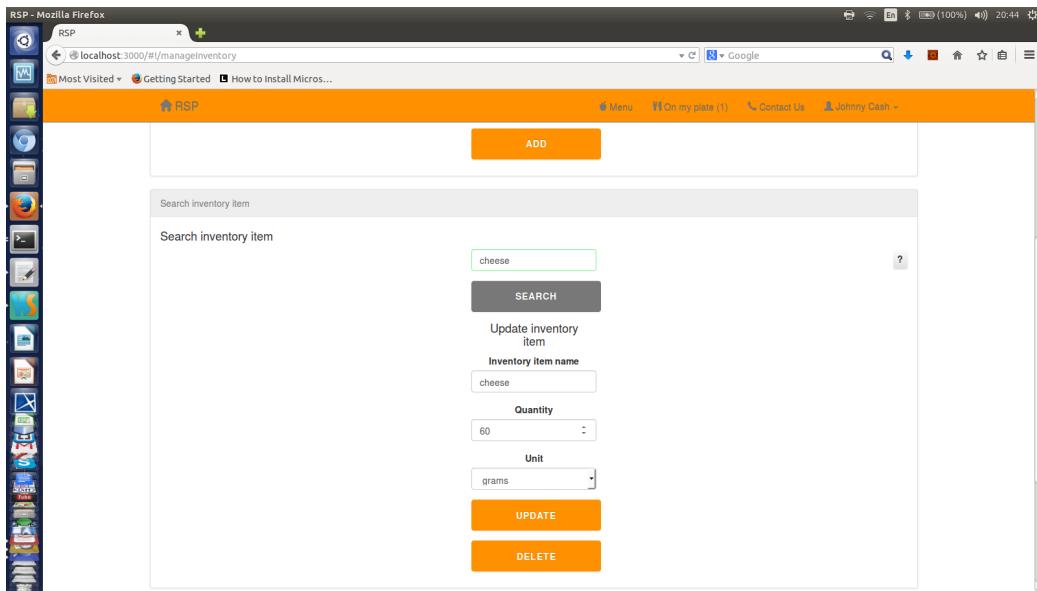


Figure 45: The manage inventory page - Cafeteria Manager can update and delete inventory items

## 8.12 Cafeteria Manager: The "Manage Menu" Page

This is the page where the cafeteria manager adds menu items so that these can be displayed on the menu page found under the menu tab. The items can also be updated, deleted and searched for. The cafeteria manager can also add categories to the dynamic menu page. The cafeteria manager can also add images for each menu item to be displayed on the menu page.

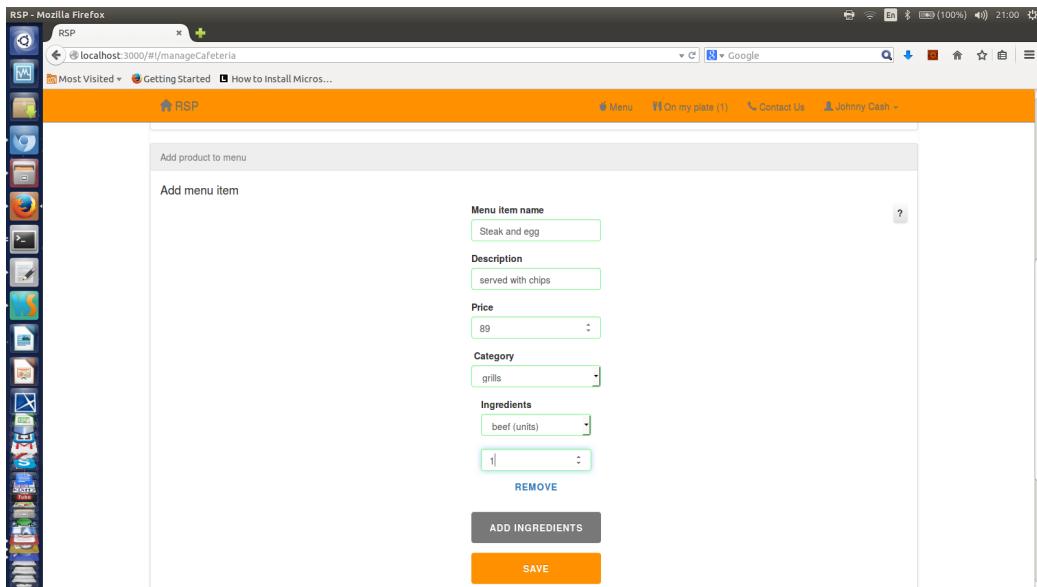


Figure 46: The manage menu page - Cafeteria Manager can add menu items

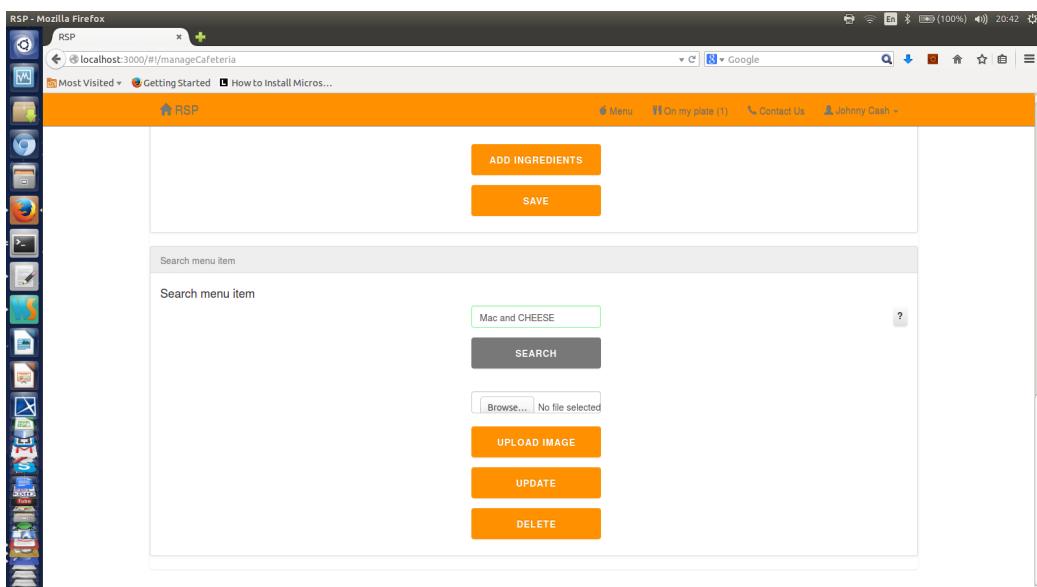


Figure 47: The manage menu page - Cafeteria Manager can search for menu items and proceed to update, delete or upload an image for the menu item to be displayed on the menu

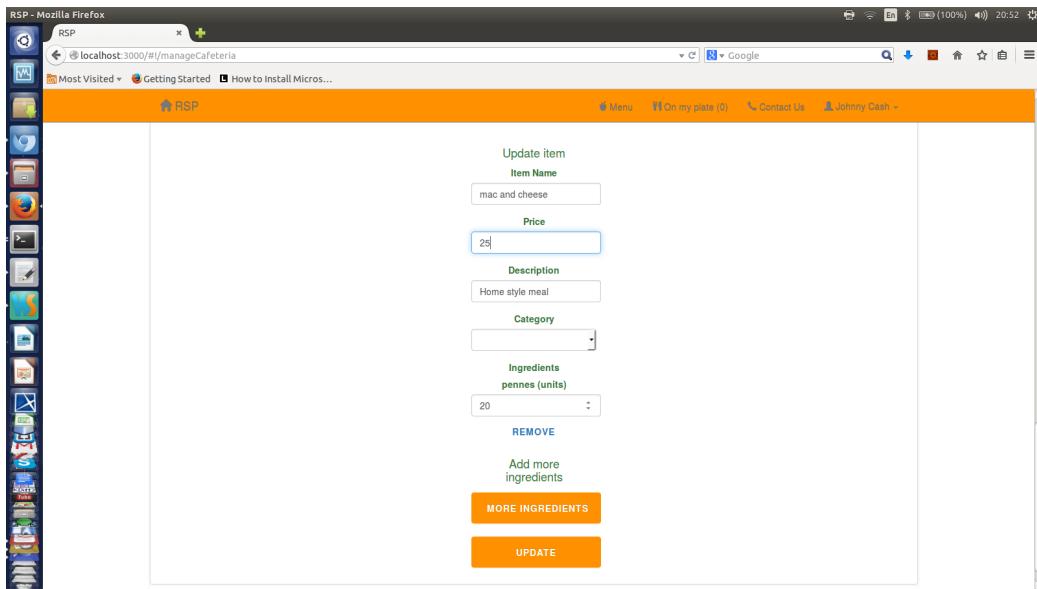


Figure 48: The manage menu page - Cafeteria Manager can update menu items

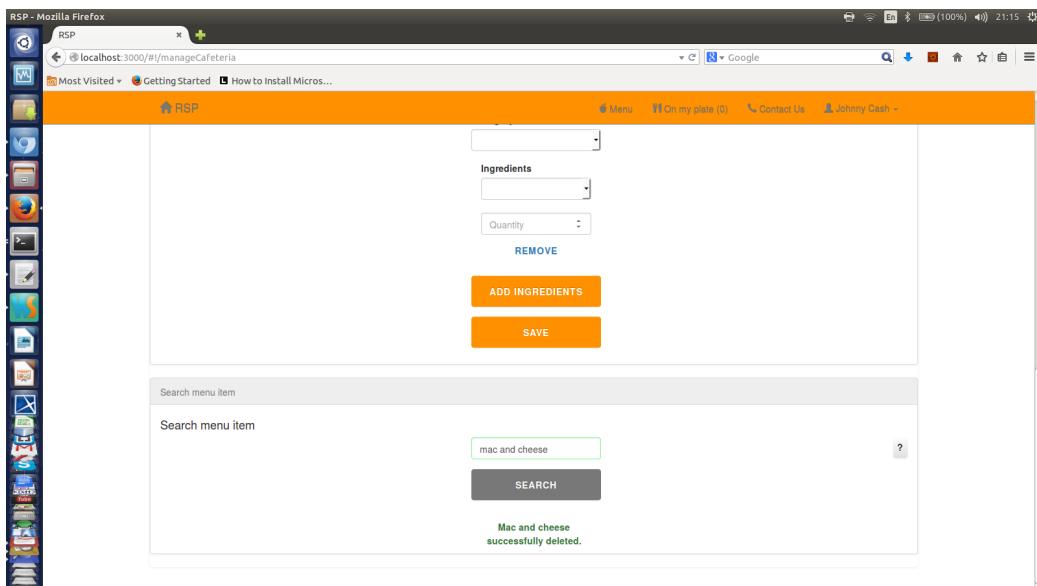


Figure 49: The manage menu page - Cafeteria Manager can delete menu items

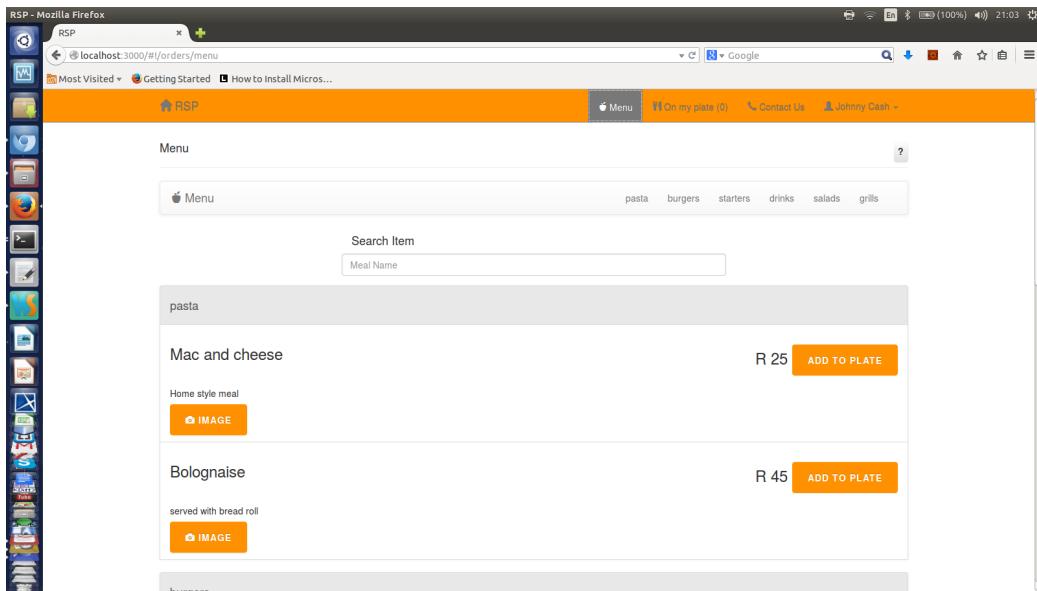


Figure 50: The menu page indicating a navigation bar of dynamically added categories. The cafeteria manager can proceed to add more categories as is shown in the successive screenshot

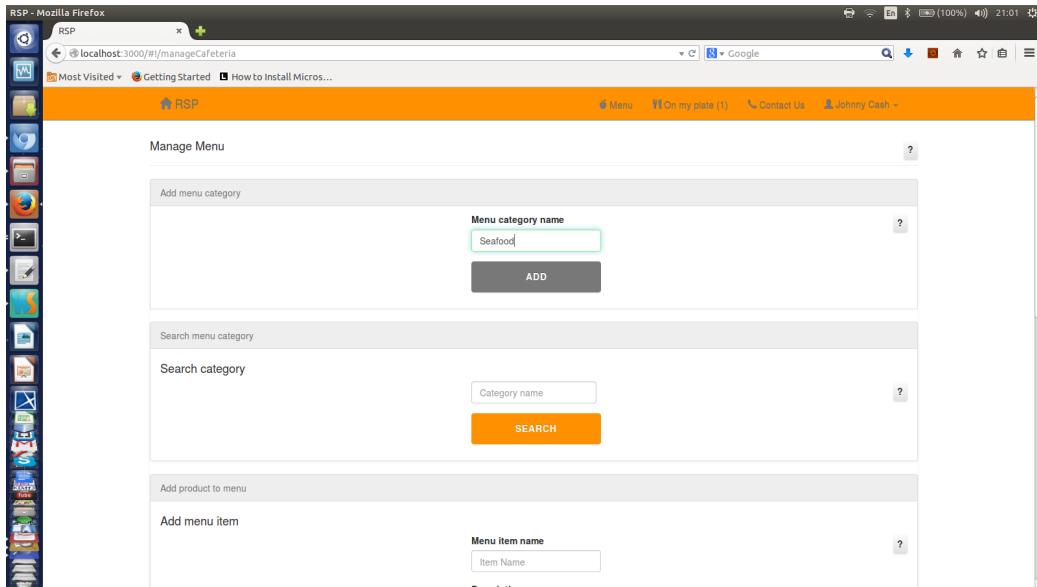


Figure 51: The manage menu page - Cafeteria Manager can add new menu categories

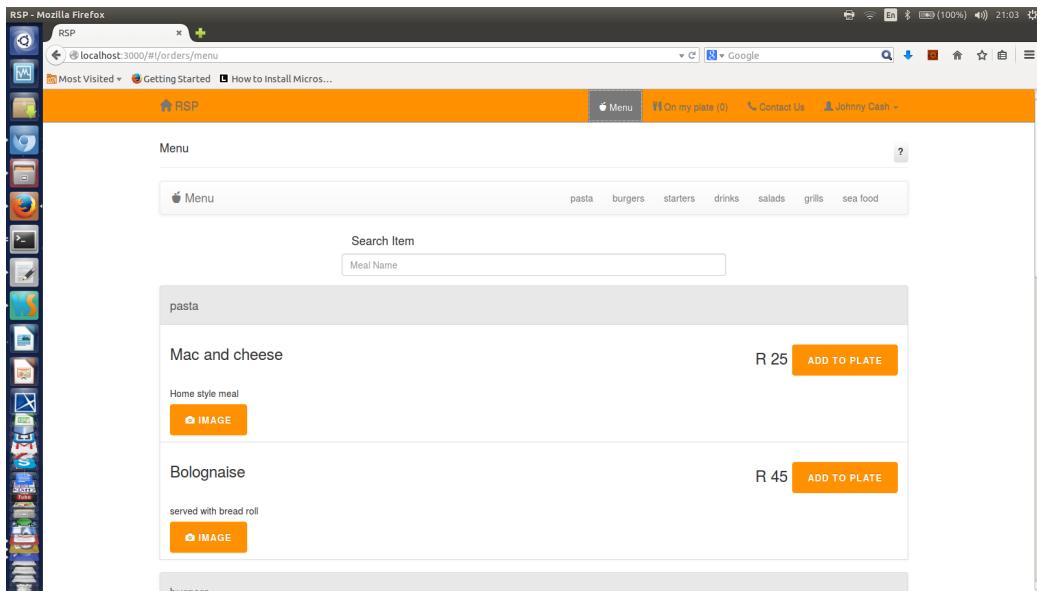


Figure 52: The menu page - the added category is now displayed on the navigation pane

### 8.13 Cafeteria Manager: The "Menu items statistics" Page

The purpose of this page is to allow the cafeteria manager to keep tabs on which menu items are most popular and to keep track of which menu items are being purchased during specific periods of time. This is to alleviate the problem of the canteen frequently running out stock.

The screenshot shows the 'Menu Statistics' section of the RSP application. It contains two forms:

- Display menu items sold:** This form has input fields for 'From' (03/09/2015) and 'To' (16/10/2015), and a 'SUBMIT' button.
- Display most popular menu items:** This form has input fields for 'Number of items' (set to 1), 'From' (dd/mm/yyyy), and 'To' (dd/mm/yyyy), followed by a 'SUBMIT' button.

Figure 53: The Menu Items Statistics page - the cafeteria manager can generate a graph to view menu items sold for a specific period of time

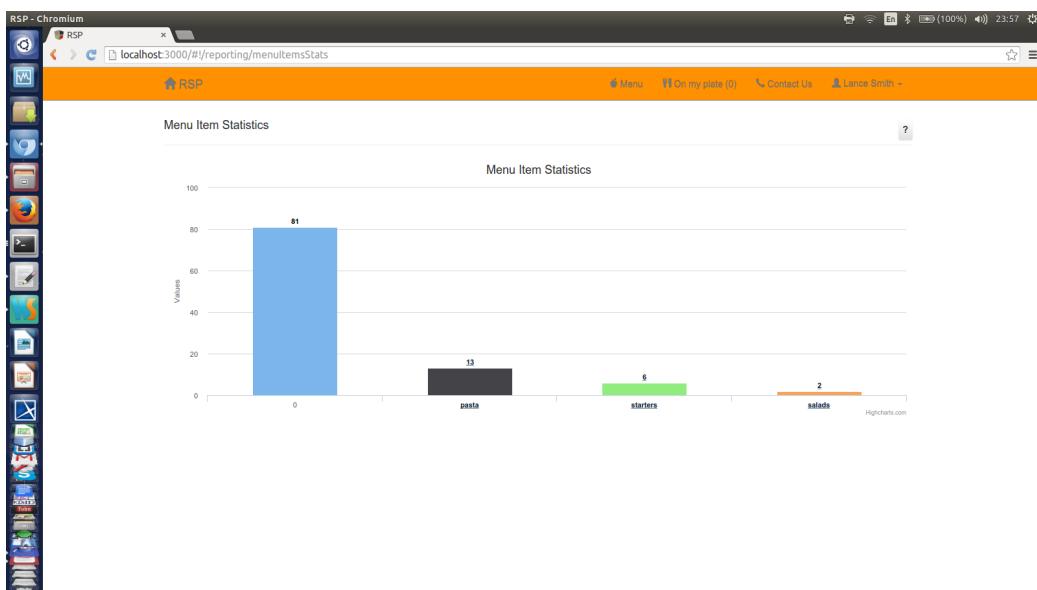


Figure 54: The Menu Items Statistics page - the generated graph will be displayed as follows, grouping menu items by the menu categories

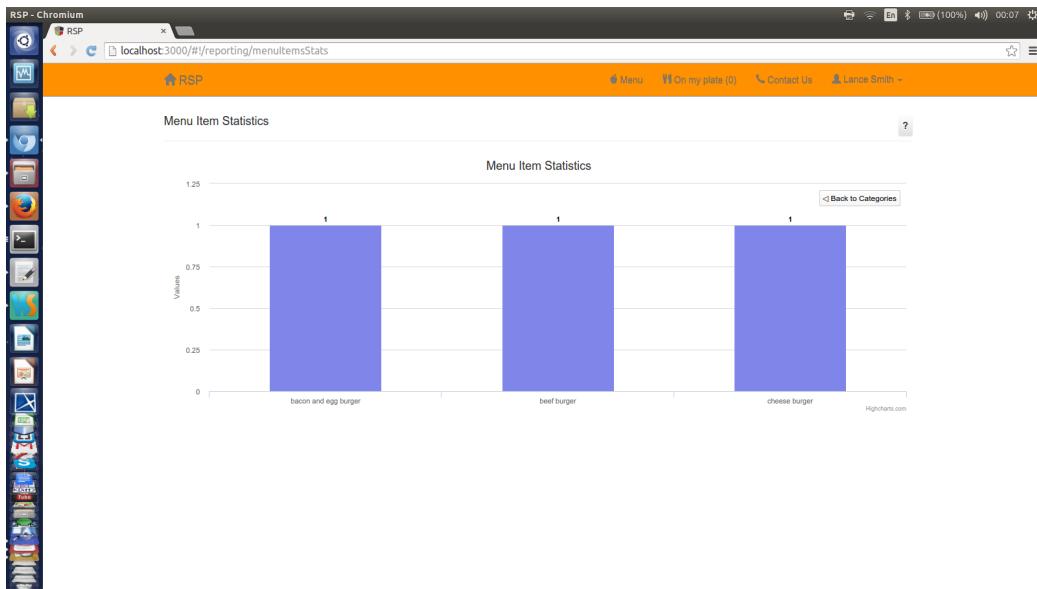


Figure 55: The Menu Items Statistics page - the generated graph will be displayed as follows, grouping menu items by the menu categories

The screenshot shows two forms under the "Menu Statistics" section:

- Display menu items sold:** This form has two date input fields ("From:" and "To:") and a "SUBMIT" button.
- Display most popular menu items:** This form has a "Number of items" input field set to 5, and date input fields for "From:" (03/09/2015) and "To:" (16/10/2015). It also has a "SUBMIT" button.

Figure 56: The Menu Items Statistics page - the cafeteria manager can generate a graph to view a specific number of the most popular menu items for a specific period of time

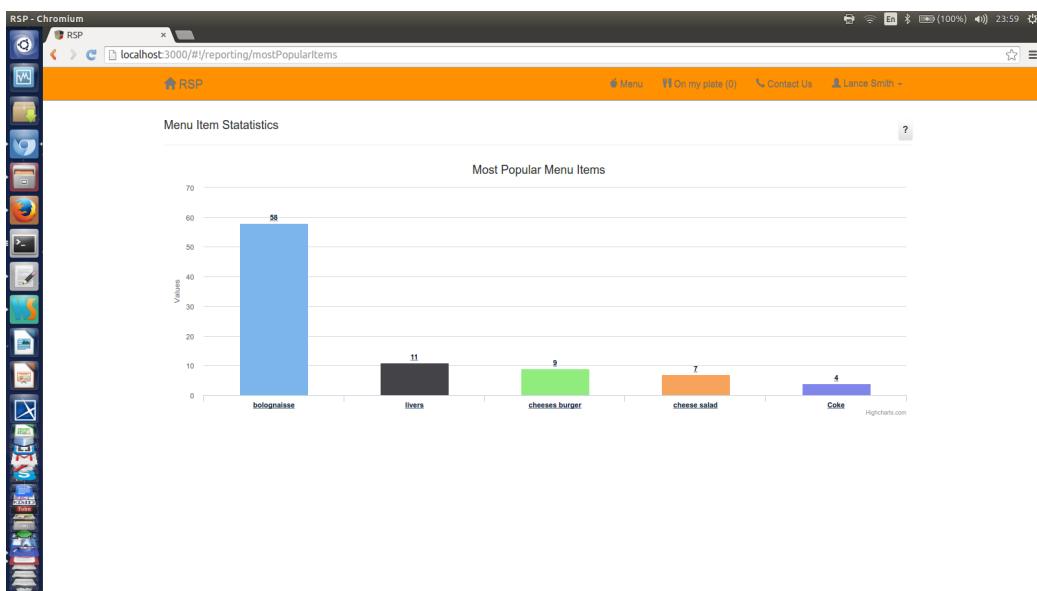


Figure 57: The Menu Items Statistics page -the generated graph will be displayed as follows, grouping the most popular items by category

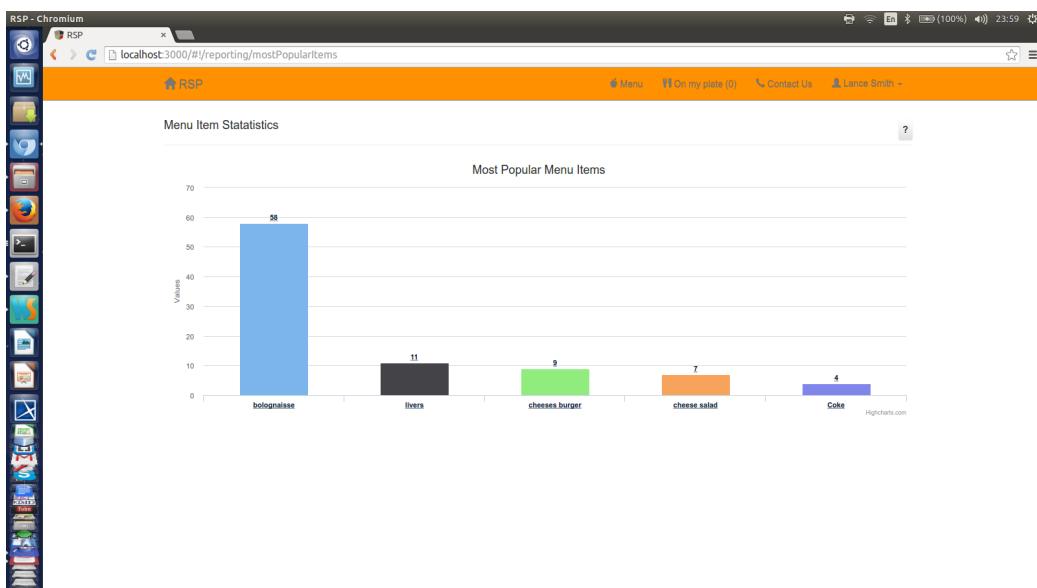


Figure 58: The Menu Items Statistics page -the generated graph will be displayed as follows, displaying the most popular items in descending order

## 8.14 Cafeteria Manager: The "Inventory statistics" Page

The purpose of this page is to allow the cafeteria manager to keep track of which inventory items are being purchased during specific periods of time. This is to alleviate the problem of the canteen frequently running out stock.

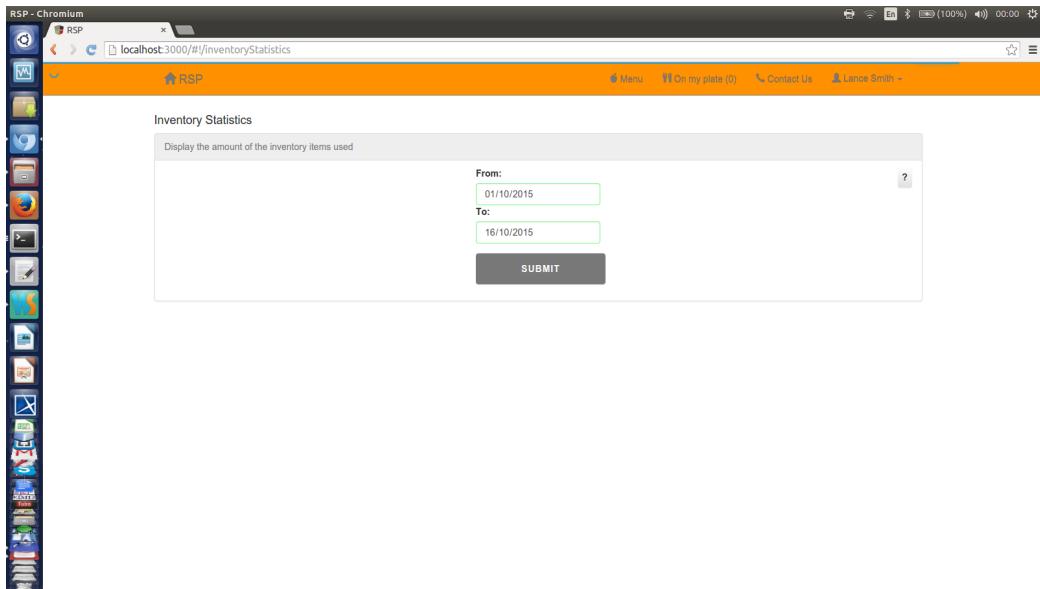


Figure 59: The Inventory Statistics page - the cafeteria manager can generate a graph to view the inventory items used for a specific period of time

## 8.15 Cashier: The "Process Orders" Page

This page is for use by the cashier. Orders that are "open" will be displayed on the page. Orders can be marked as ready, paid or collected. When the order is marked as ready, the button will disappear and the employee will be sent an email informing them to come collect their order. When the "Employee Paid" button is clicked, the cashier will choose whether it was a cash or credit purchase and the amount will be deducted accordingly from the user's account.

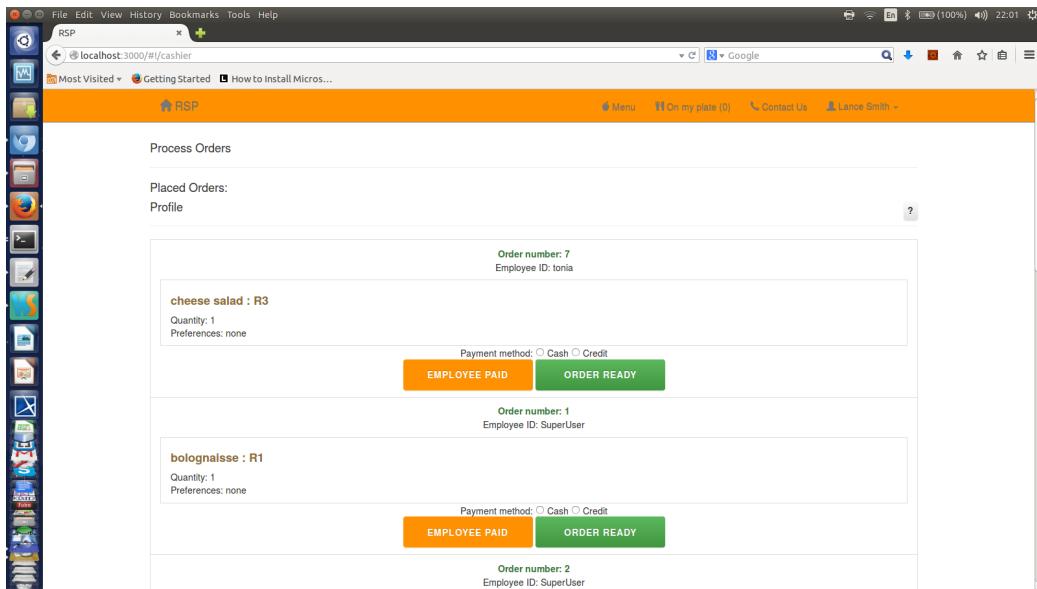


Figure 60: The process orders page - The cashier is authorized to facilitate these transactions

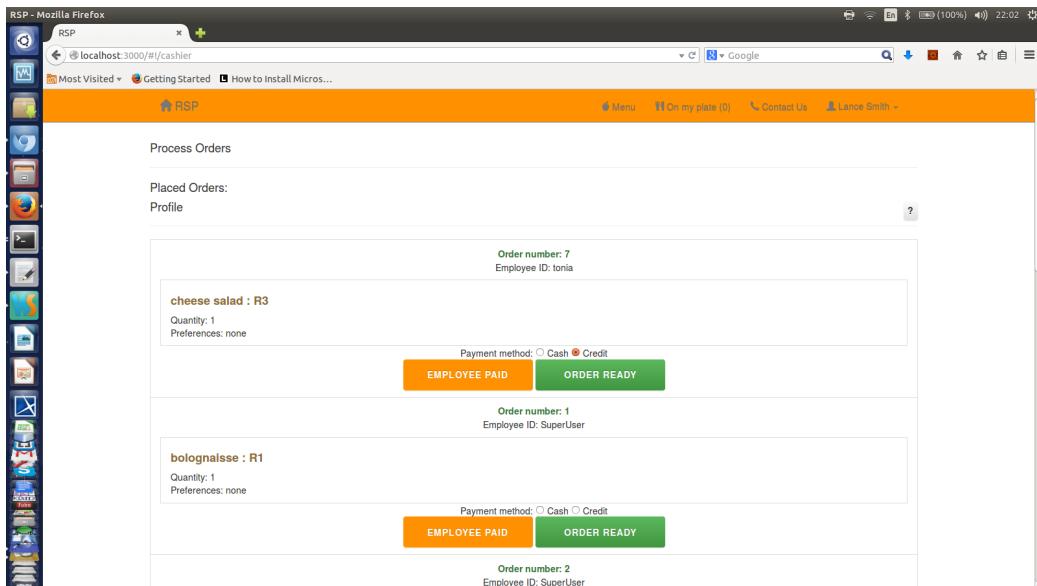


Figure 61: The process orders page - The cashier can select the appropriate radio button as to whether the employee is paying with cash or credit.

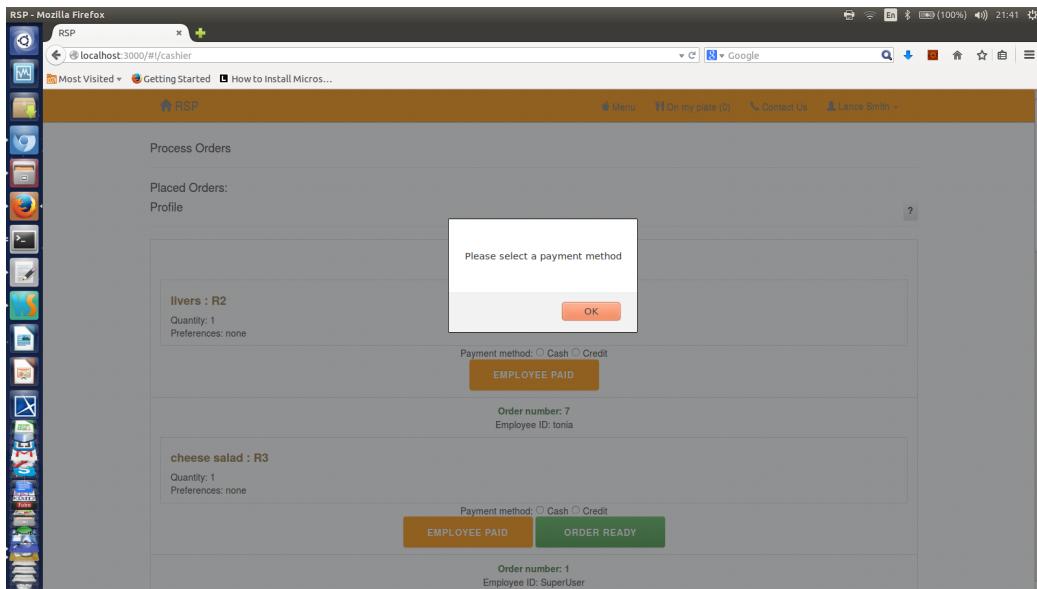


Figure 62: The process orders page - If the cashier does not select a payment method, an error message will be alerted

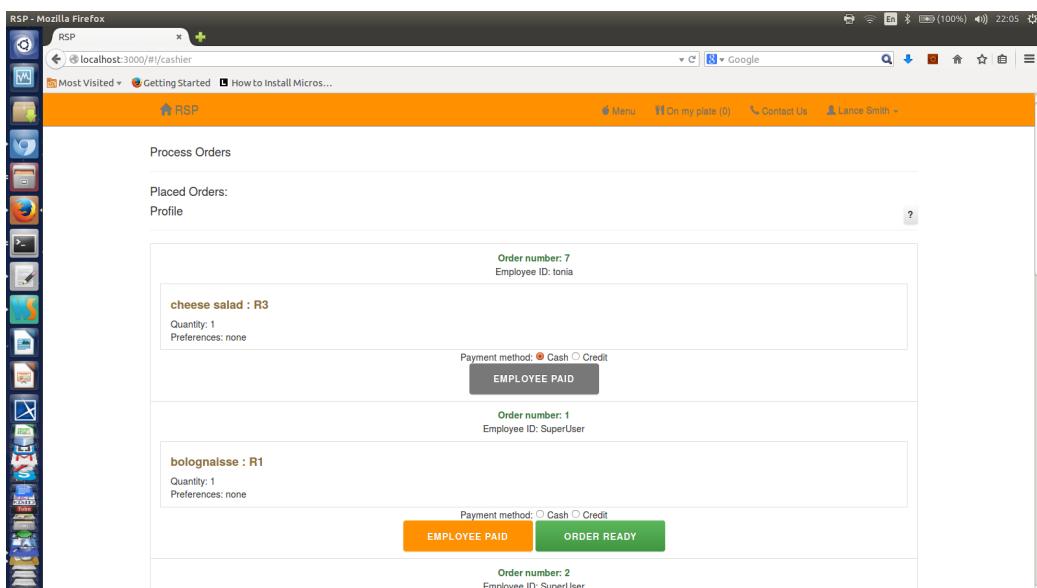


Figure 63: The process orders page - The order will be removed from the page when the cashier clicks the "Employee paid" button. Order 7 - The cheese salad is now removed from the page due to this

## 8.16 Financial Manager: The "View Employee Bills" Page

This page allows the finance manager to generate invoices for each user as well as a spending report consisting of the spending totals for all the users. To generate a user invoice, there is a field labelled "Employee Id" and it is here where a user will type in the employee ID of the employee whose bill the finance manager would like to view. The date ranges can also be selected here. To generate a spending report the finance manager must select the date ranges and select whether he/she would like the document to be generated as a pdf or a CSV file/ Excel file.

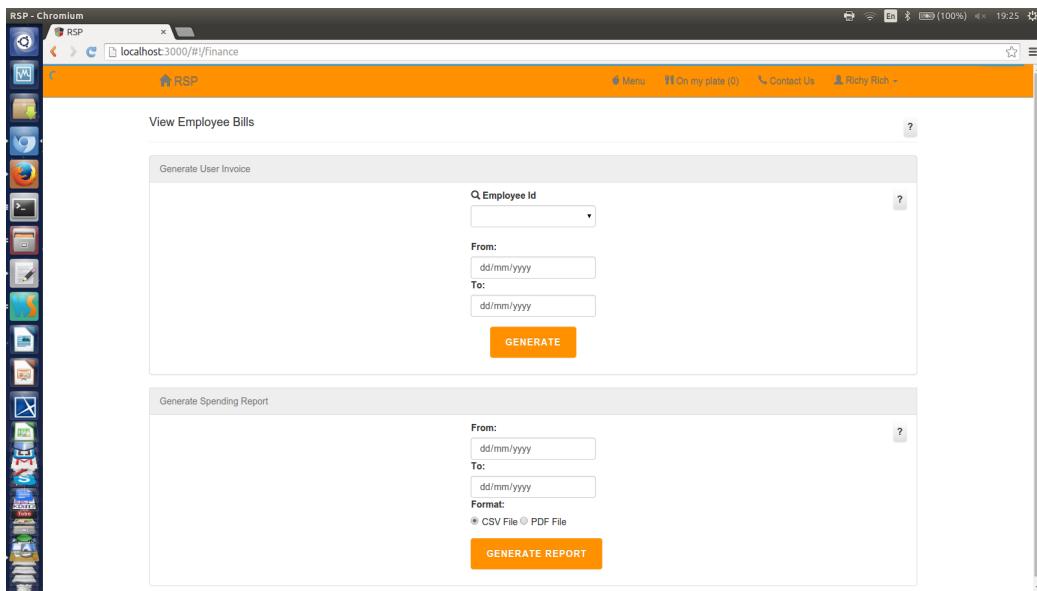


Figure 64: The View Employee Bills Page - The employee ID of the employee whose bill would like to be viewed is entered in the box as shown.

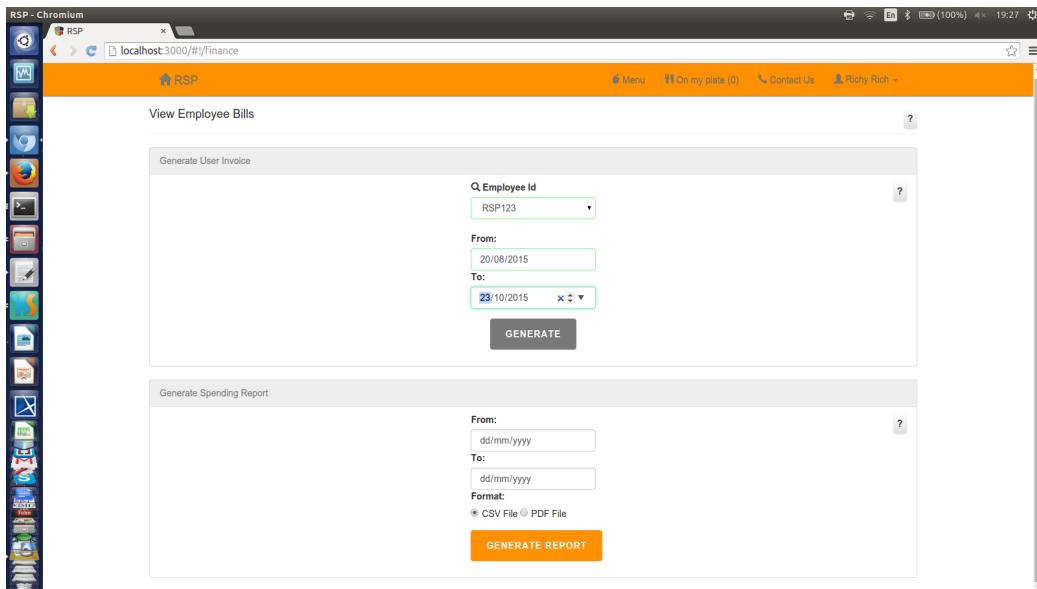


Figure 65: The View Employee Bills Page - The date ranges can be specified by using the drop down calender

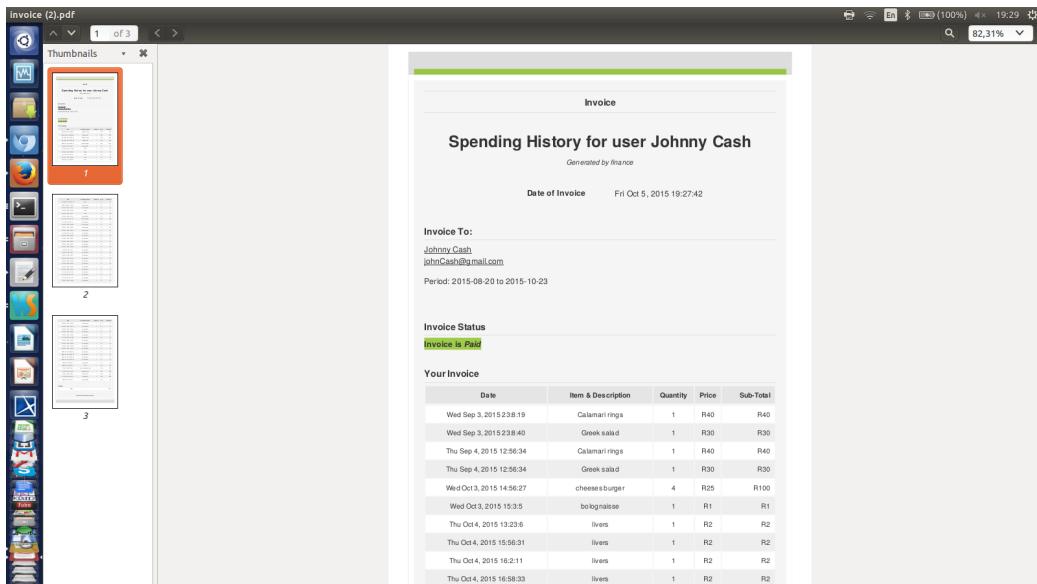


Figure 66: The View Employee Bills Page - Once the "Display Bill" button is clicked, the pdf will be dowloaded and the invoice will look as shown.

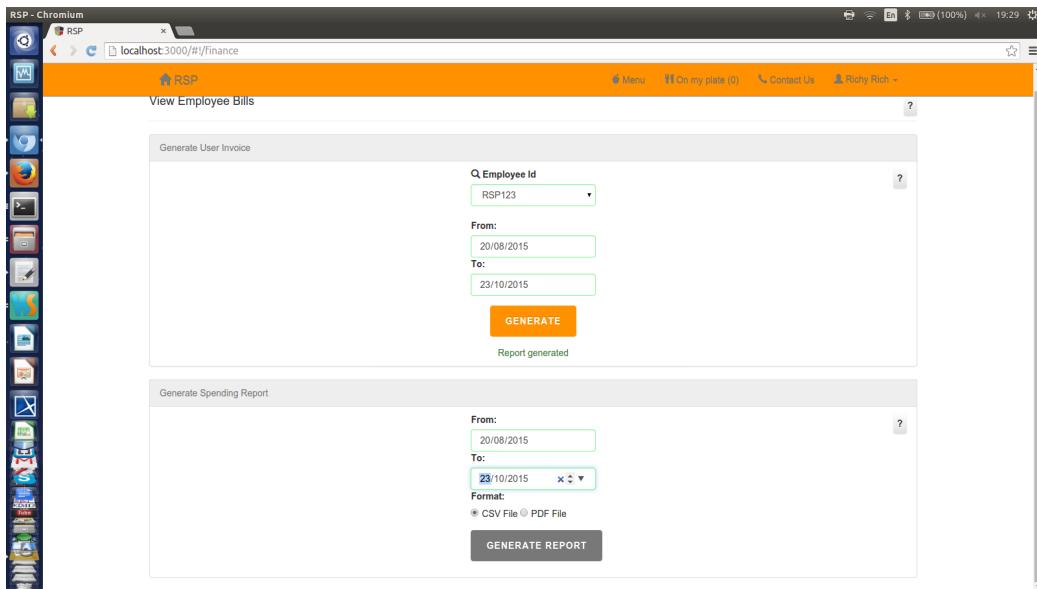


Figure 67: The View Employee Bills Page - To generate a spending report for all users of the system, the appropriate options need to be selected

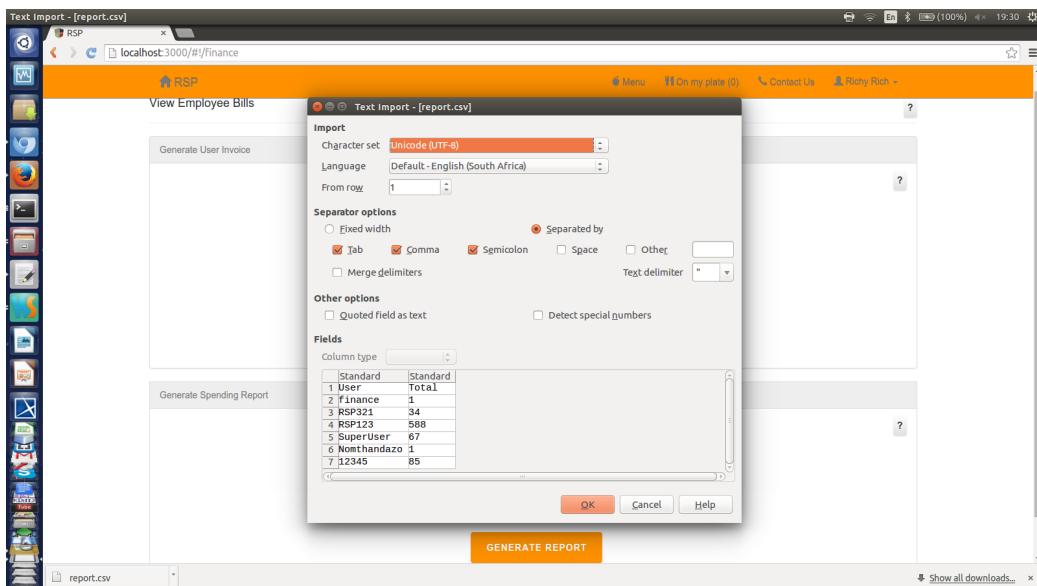


Figure 68: The View Employee Bills Page - Once the "Generate Bill" button is clicked, if the document is a CSV file, the finance manager must select the appropriate options on the pop up form and submit this to view the file

User	Total
Finance	1
RSP321	34
RSP123	588
SuperUser	67
NonthUser	1
	12345
	85

Figure 69: The View Employee Bills Page - The Excel document will be downloaded and opened as shown in this figure

## 9 Troubleshooting

### 9.1 Problems with setting up the system

If the system does not start up when you run the 'grunt' command, either of the following procedures can be followed:

- Ensure you have an active internet connection as the system requires an internet connection.
- Ensure you have MongoDB running in a separate terminal.  
The line

`Waiting for connections on port 27017`

should be displayed at the end of the Mongo terminal.

- If the above does not solve the problem, the command `npm update` should be run from inside the CMS directory:

```
~/Cafeteria Management System$ npm update
```

- If the problem persists the following commands should be run in order:

~/Cafeteria Management System\$ bower install

~/Cafeteria Management System\$ npm install

~/Cafeteria Management System\$ npm update

<b>Version</b>	<b>Date</b>	<b>Summary</b>	<b>Authors</b>
0.0.1	9 July 2015	First draft contains how to run system	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel,
0.0.2	20 July 2015	Second draft adding page assistance and explanation of how to use functionality on page	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.3	23 July 2015	Third draft containing screenshots of the of different page and their functionality	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.4	3 August 2015	Fourth draft Added Troubleshooting Section	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.5	28 August 2015	Fifth draft containing screenshots of the of different page and their functionality	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.6	22 September	Sixth draft containing edited according to feedback given and add new content	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.7	9 October	Seventh draft containing added audit, notifications, 56 statistics, and themes	Rendani Dau, Elana Kuun, Semaka Malapane, Antonia Michael Isabel Nel
0.0.8	16 October	Eighth draft containing edits and additions to the document	Rendani Dau, Elana Kuun, Semaka Malapane