

Full Stack Web Development Project

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Introduction

Good home cooked food is the best a person can have after a long and tiring day. With our busy lives it is difficult at times to manage home and work. Cooking everyday has become a luxury for some people. What if someone could cook a good meal for you? Or if you have the passion for cooking, would you like your busy (and hungry) neighbours try some of your signature dishes?

Dinner does just that - want to cook food for your neighbours or want to order food from your neighbours... look no more. **Dinner** is a platform for enthusiastic chefs to showcase their culinary skills. Dinner can be used by everyone to search for home cooked food in their local area.

It's food that brings people together. Use Dinner to meet your neighbours & try a new dish from your neighbour today!!

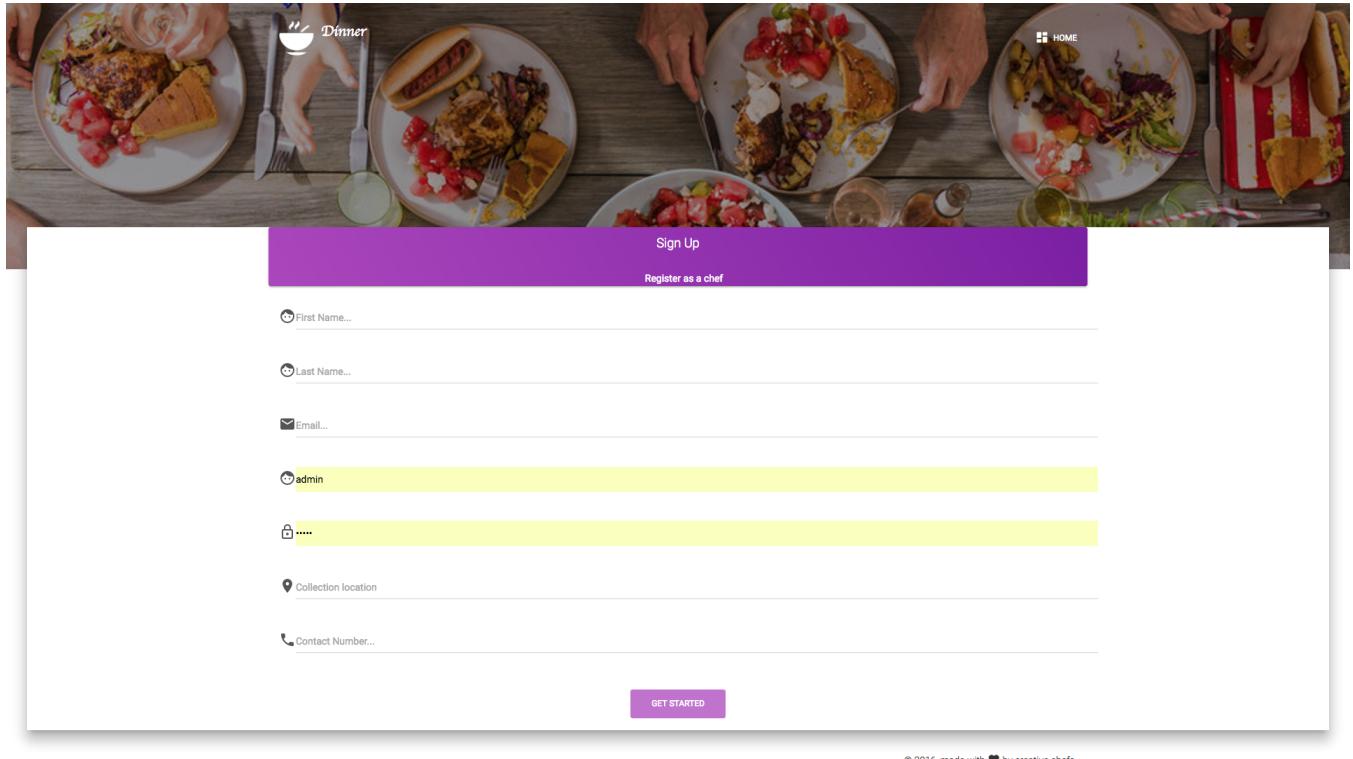
Dinner Web Application – Workflow

Dinner is a platform for chefs to register and manage their dishes and orders. Customers can also register and view the menu and manage their orders. For the capstone project, only the chef profile has been handled. Hence this document will focus only on the chef profile.

Following are the functionalities provided for a chef in Dinner

- Register
- Login to Dinner
- Manage dishes
- Add a dish
- Edit a dish
- View dish details
- Add a dish to a menu
- Remove a dish from a menu
- Manage customer orders

Register a user in Dinner



Navigation

Home Page > Signup

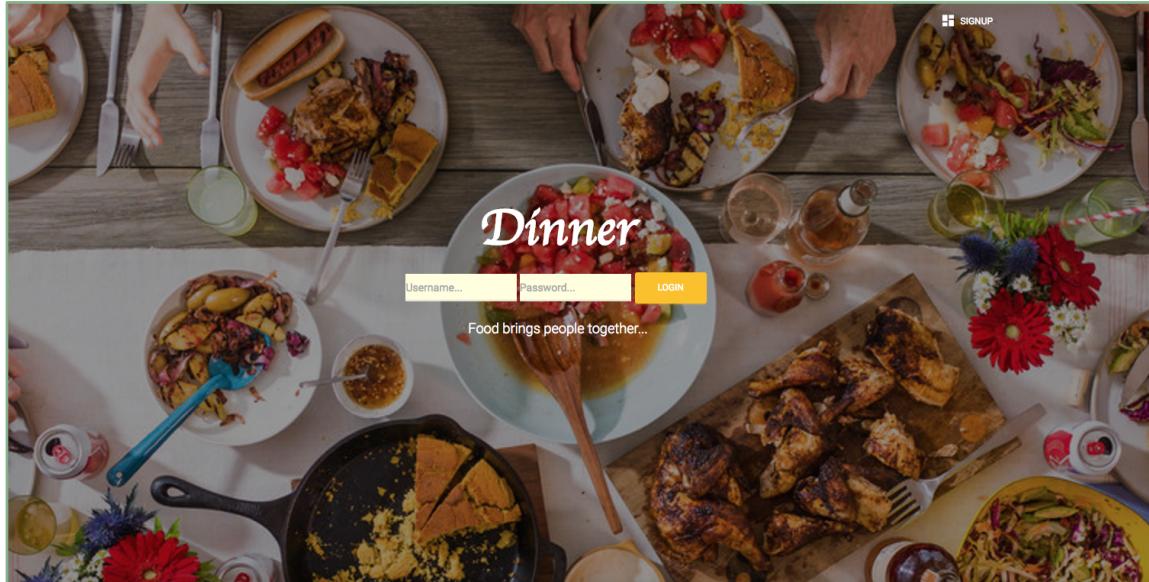
Process

User Registration process is by clicking the signup button on the home-screen and entering all the fields.

The capstone project is aimed only at the chef profile. However, there is provision in the code to register a customer as well. This has been disabled for now.

The idea is to include a geo location API to enable food collection points – this is however beyond the scope of the capstone project.

Login to Dinner



Let's talk product

Good home cooked food is the best a person can have after a long and tiring day. With our busy lives it is difficult at times to manage home and work. Cooking everyday has become a luxury for some people. What if someone could cook a good meal for you? Or if you have the passion for cooking, would you like your busy (and hungry) neighbours try some of your signature dishes?

Dinner does just that - want to cook food for your neighbours or want to order food from your neighbours... look no more. **Dinner** is a platform for enthusiastic chefs to showcase their culinary skills. Dinner can be used by everyone to search for home cooked food in their local area.

It's food that brings people together. Use Dinner to meet your neighbours & try a new dish from your neighbour today !!



Register

Register as a chef or a customer. As of now (for the capstone project) only the chef profile is handled. So users get registered only as chef



Manage your dishes

Create, modify and view your dishes



Manage your orders

Accept a new order and notify customer when order is ready to be picked up.

Navigation

<https://dinner.eu-gb.mybluemix.net>

Process

User can login from the home page. Details on the product and few screenshots are also provided on the home page.

Manage dishes

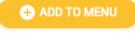


Welcome Admin! 

Manage your dish

Add your dish to today's menu or just edit your dish

Quick search for...

Dish Image	Dish Name	Cuisine	Price	Action Buttons
	Greek Salad	GREEK	\$3.99	 
	Horseradish beef bruschetta	ITALIAN	\$5.99	 
	Pasta Bake	ITALIAN	\$4.99	 
	Paneer Tikka	INDIAN	\$5.99	 

Greek Salad   

VEGGIE

Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil. [MORE >](#)

Horseradish beef bruschetta   

CONTAINS CHEESE

Roast beef and cream cheese spread make basic bruschetta more hearty and flavorful. [MORE >](#)

Pasta Bake   

CONTAINS CHEESE

This recipe is yum with loads of shredded cheese on top. [MORE >](#)

Paneer Tikka   

SPICY

Paneer tikka is an Indian dish made from chunks of paneer marinated in spices and grilled in a tandoor. It is a vegetarian alternative to chicken tikka and other meat dishes. It is a popular dish that is widely available in India and countries with an Indian diaspora. [MORE >](#)

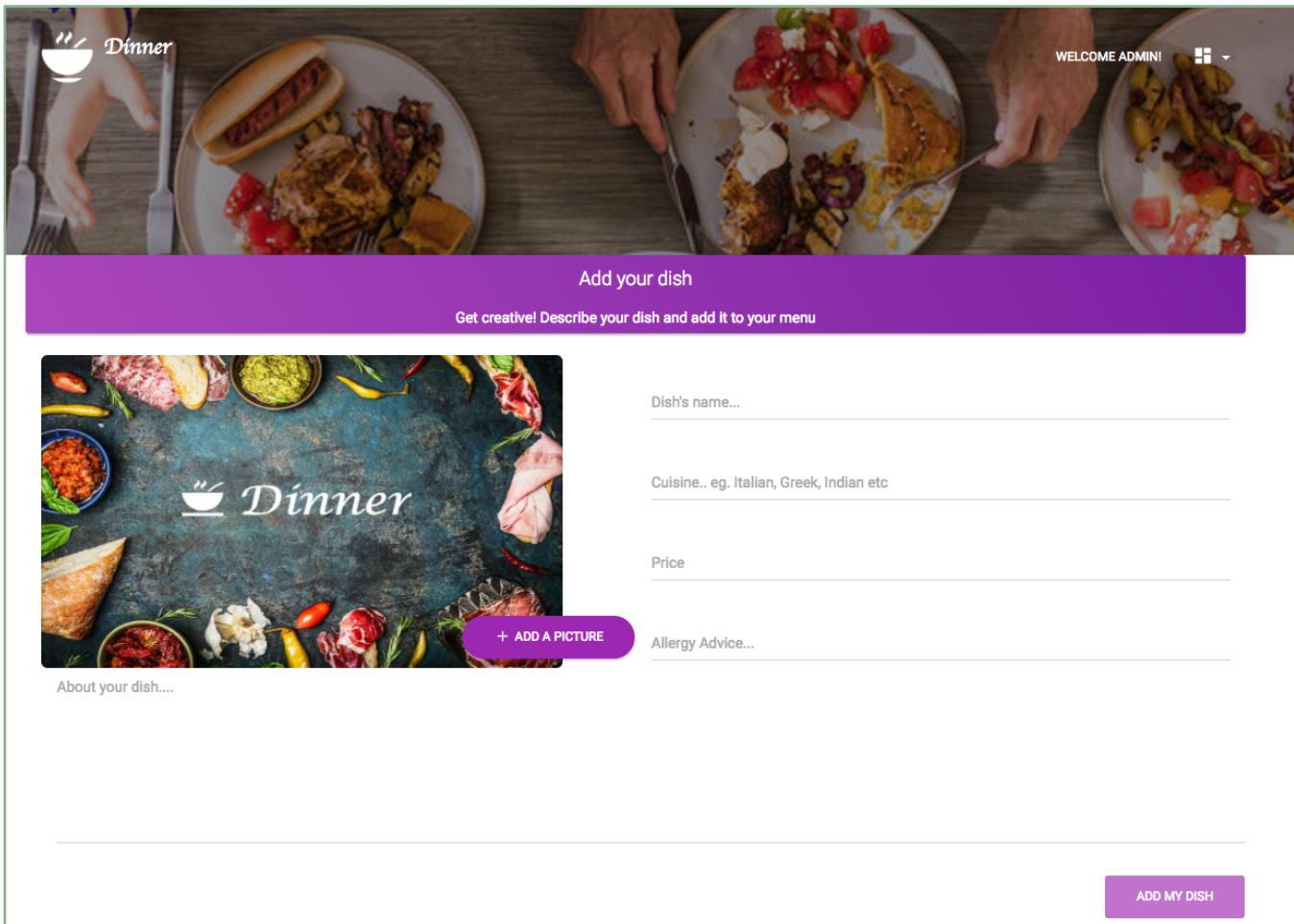
Navigation

Login > Manage Dishes (dropdown)

Process

Chefs can manage their dishes from the 'Manage your dish' page. They can add to menu, edit the dish or simply view the details of the dish.

Add a dish



Add your dish
Get creative! Describe your dish and add it to your menu



+ ADD A PICTURE

Dish's name...

Cuisine.. eg. Italian, Greek, Indian etc

Price

Allergy Advice...

About your dish....

ADD MY DISH

Navigation

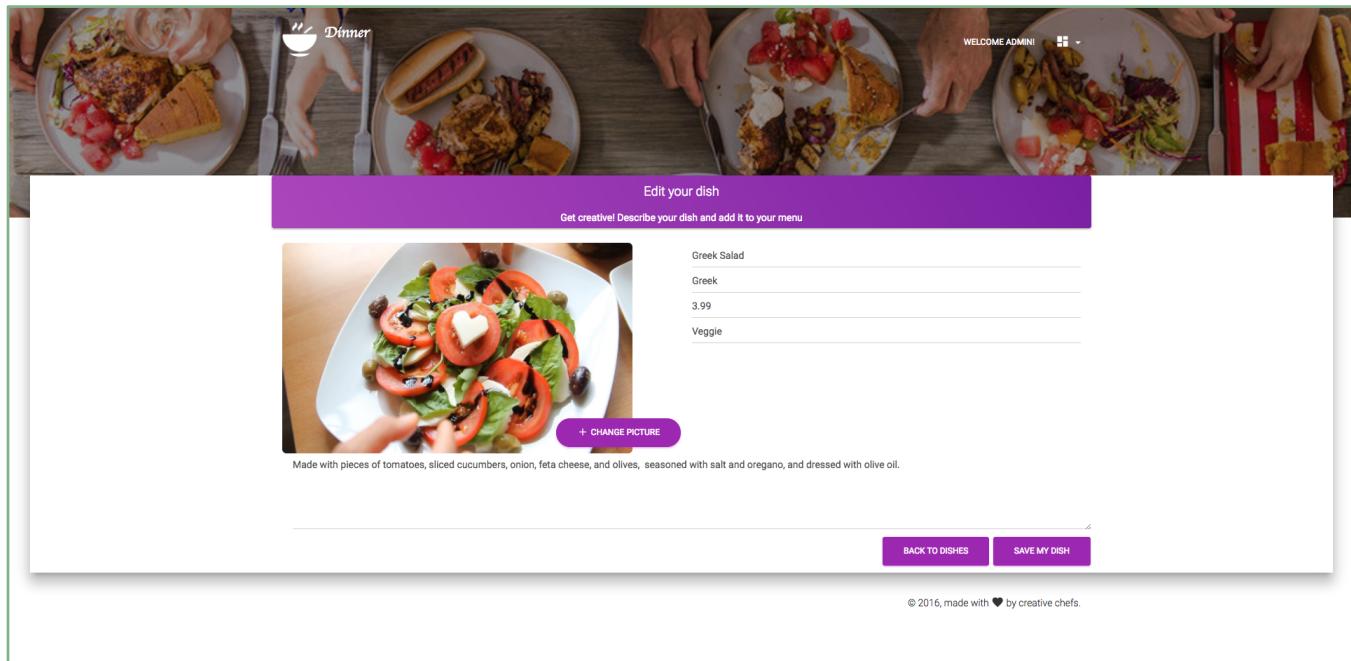
Login > Add dish (drop down)

Register > Add dish

Process

Once the user registers, he will be redirected to the 'Add a dish' page. This page can also be accessed from the drop down menu. Details on the dish's name, cuisine, price (numeric to 2 decimal places), allergy advice, brief description about the dish and a picture for the dish are the mandatory fields. User can later edit the dish details if needed.

Edit a dish



WELCOME ADMIN

Edit your dish
Get creative! Describe your dish and add it to your menu

Greek Salad

Greek

3.99

Veggie

+ CHANGE PICTURE

Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil.

BACK TO DISHES SAVE MY DISH

© 2016, made with ❤ by creative chefs.

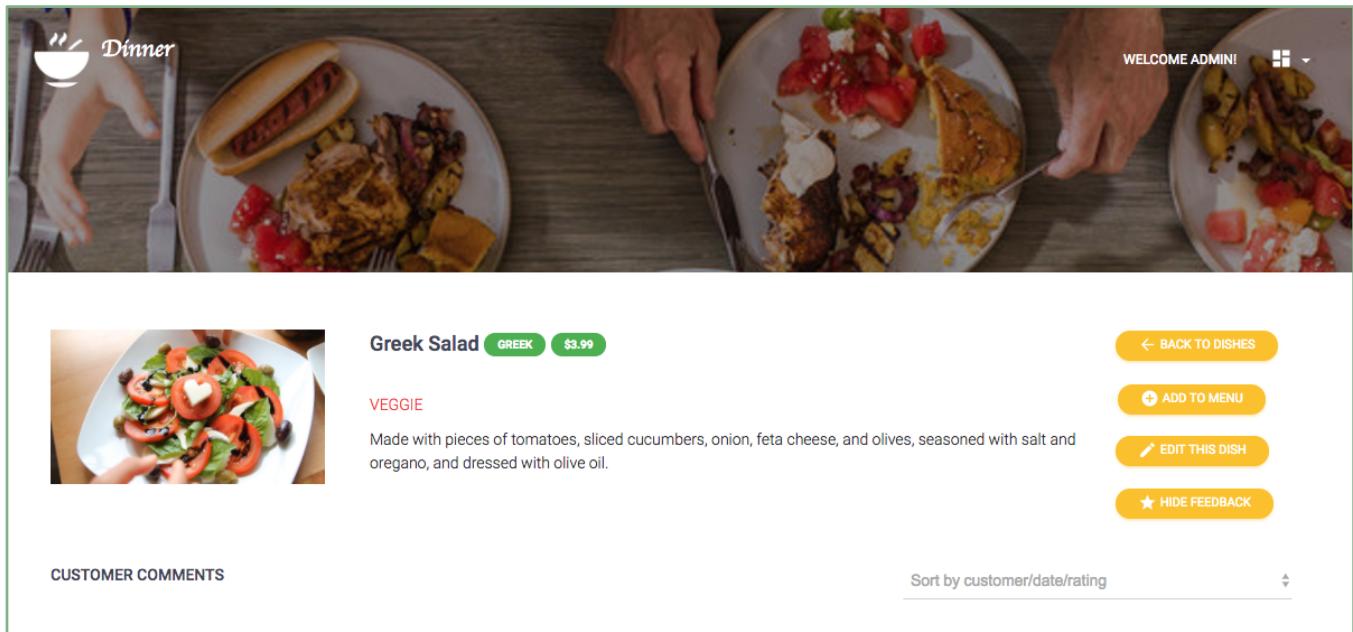
Navigation

- Login > Manage dish > Edit dish (button)
- Login > Manage dish > Click on a dish > Edit dish (button)
- Login > Manage dish > More (button) > Edit dish (button)

Process

Once the user registers, he will be redirected to the 'Add a dish' page. This page can also be accessed from the drop down menu. Details on the dish's name, cuisine, price (numeric to 2 decimal places), allergy advice, brief description about the dish and a picture for the dish are the mandatory fields. User can later edit the dish details if needed.

View dish details



The screenshot shows a user interface for managing dishes. At the top, there's a banner with a bowl icon and the word "Dinner". On the right, it says "WELCOME ADMIN!" and has a user profile icon. Below the banner, there's a collage of various dishes: a hot dog, a sandwich, a salad, and a dessert. The main content area features a large image of a Greek Salad with tomatoes, cucumbers, olives, and feta cheese. To the left of the image is a smaller thumbnail of the same salad. The dish is labeled "Greek Salad" with "GREEK" and "\$3.99" tags. Below the image, the word "VEGGIE" is written in red. A description follows: "Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil." To the right of the description are four buttons: "BACK TO DISHES", "ADD TO MENU", "EDIT THIS DISH", and "HIDE FEEDBACK". At the bottom left, it says "CUSTOMER COMMENTS". At the bottom right, there's a sorting option: "Sort by customer/date/rating" with an up and down arrow.

Navigation

Login > Manage dish > Click on a dish

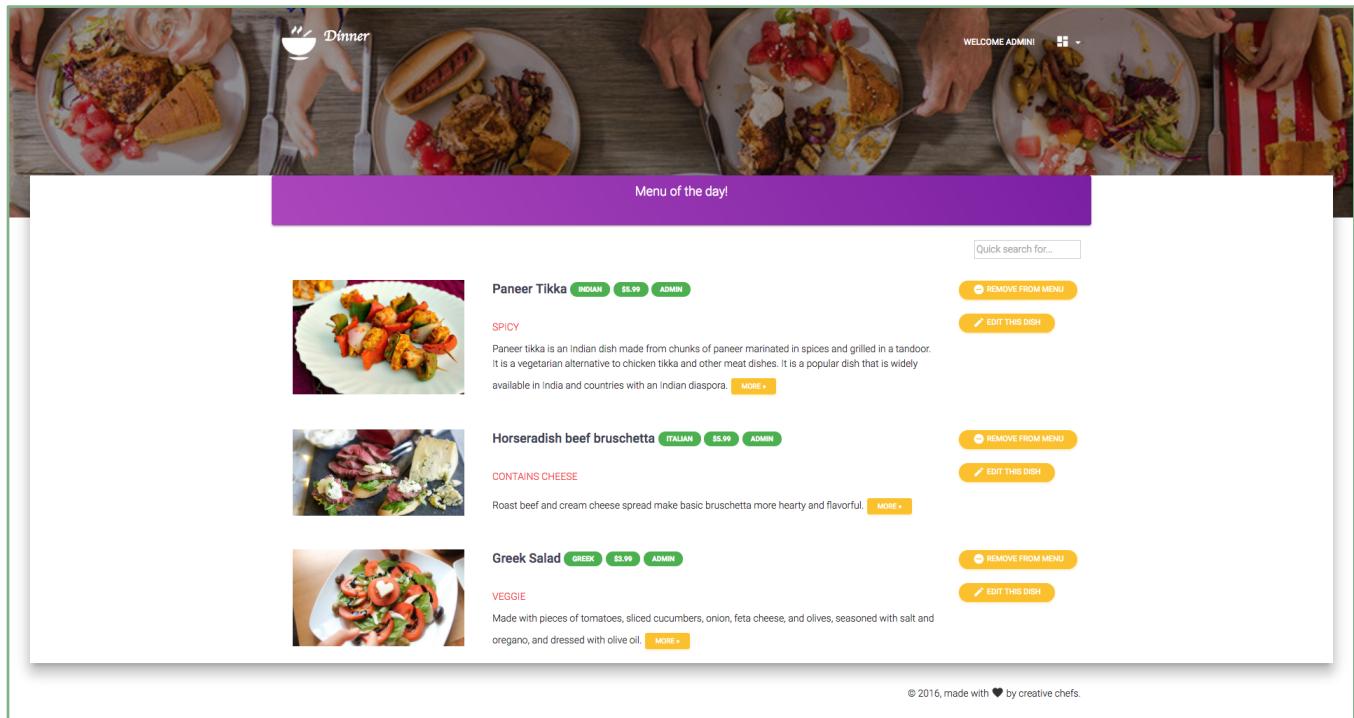
Login > Manage dish > More (button)

Process

When a user logs in, he will be redirected to the manage dishes page. On clicking the image, user will get redirected to the View dish page. User can also click on the 'More' button on the manage dishes page to view details of the dish.

There is a 'Show feedback/ Hide feedback' button. The user comments will be shown or hidden accordingly. Since the system does not support the customer profile yet, the comments will be empty. Comments can be sorted by customer, date and rating.

Add a dish to a menu



The screenshot shows a mobile application interface for managing a restaurant menu. At the top, there is a banner with the text "Menu of the day!" and a search bar labeled "Quick search for...". Below the banner, there are three dish cards:

- Paneer Tikka**: INDIAN | \$5.99 | ADMIN. It is described as a spicy Indian dish made from paneer marinated in spices and grilled in a tandoor. It is a vegetarian alternative to chicken tikka and other meat dishes. It is a popular dish that is widely available in India and countries with an Indian diaspora. Buttons for "REMOVE FROM MENU" and "EDIT THIS DISH" are shown.
- Horseradish beef bruschetta**: ITALIAN | \$5.99 | ADMIN. It is described as containing cheese, made with roast beef and cream cheese spread. Buttons for "REMOVE FROM MENU" and "EDIT THIS DISH" are shown.
- Greek Salad**: GREEK | \$3.99 | ADMIN. It is described as a veggie dish made with tomatoes, cucumbers, onion, feta cheese, and olives. Buttons for "REMOVE FROM MENU" and "EDIT THIS DISH" are shown.

At the bottom of the screen, there is a footer note: "© 2016, made with ❤ by creative chefs."

Navigation

Login > Manage dish > Click on a dish > Add to menu (button)

Login > Manage dish > More (button) > Add to menu (button)

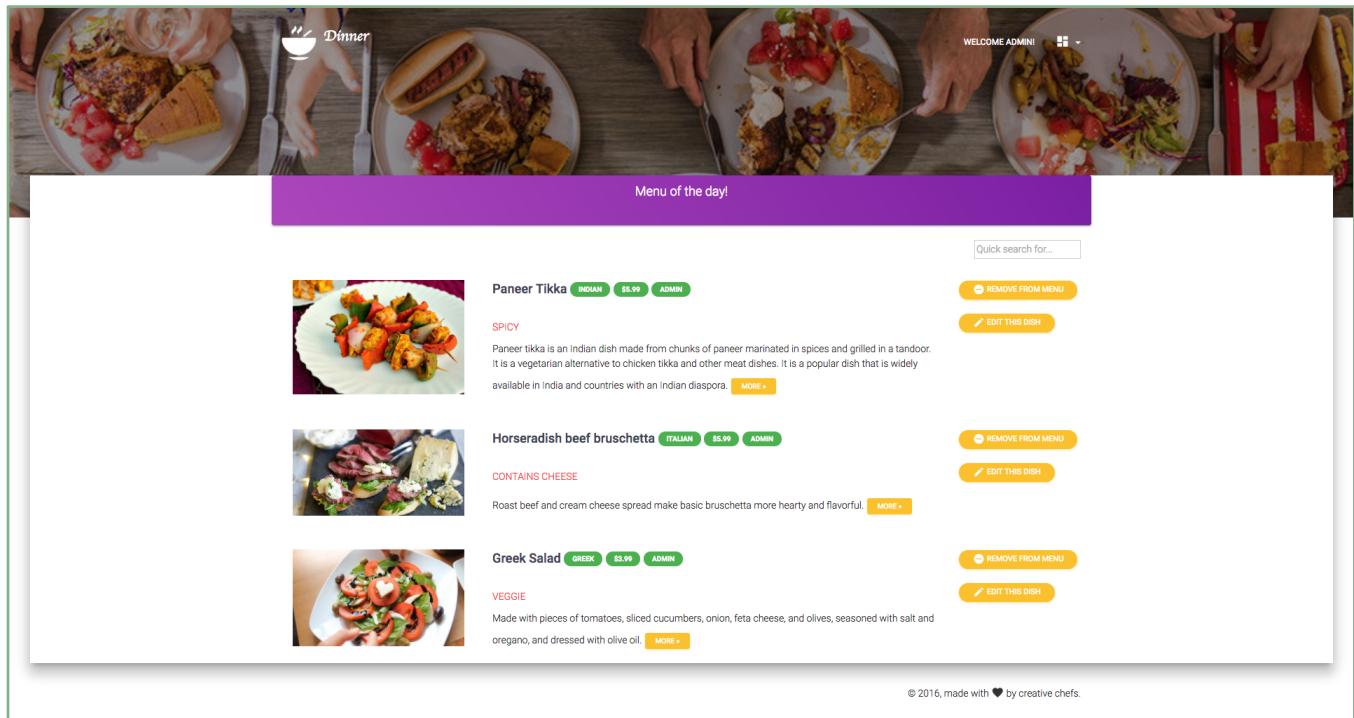
Login > Manage dish > Add to Menu (button)

Process

When a user logs in, he will be redirected to the manage dishes page. On clicking the image, user will get redirected to the View dish page. User can also click on the 'More' button on the manage dishes page to view details of the dish. From the dish details page, user can add the dish to the menu.

He can also directly add the dish to the menu from the manage dishes page.

Remove a dish from a menu



Menu of the day!

Quick search for...

Paneer Tikka INDIAN \$5.99 ADMIN

SPICY

Paneer tikka is an Indian dish made from chunks of paneer marinated in spices and grilled in a tandoor. It is a vegetarian alternative to chicken tikka and other meat dishes. It is a popular dish that is widely available in India and countries with an Indian diaspora. [MORE >](#)

Horseradish beef bruschetta ITALIAN \$5.99 ADMIN

CONTAINS CHEESE

Roast beef and cream cheese spread make basic bruschetta more hearty and flavorful. [MORE >](#)

Greek Salad GREEK \$3.99 ADMIN

VEGGIE

Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil. [MORE >](#)

© 2016, made with ❤ by creative chefs.

Navigation

Login > Manage dish > Menu (drop down)

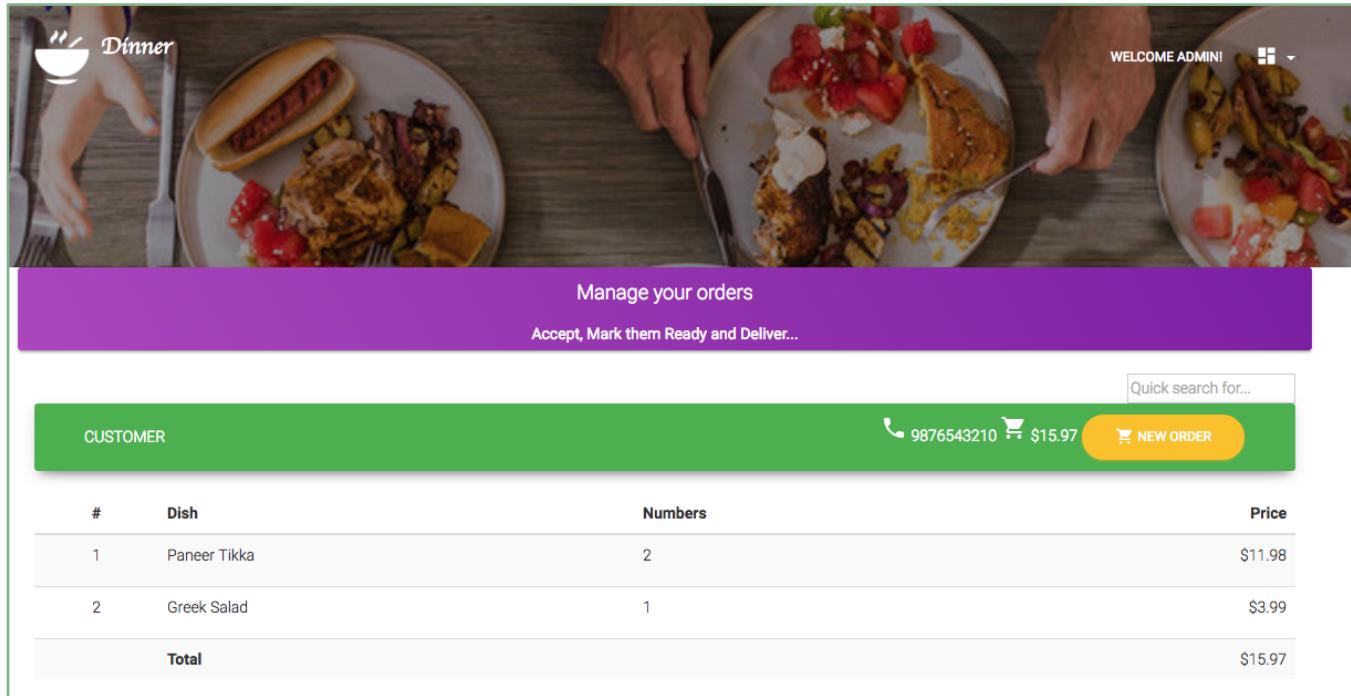
Process

When a user logs in, he will be redirected to the manage dishes page. He can navigate to the 'Menu' page by clicking the 'Menu' button from the drop down menu.

All the menu items are displayed on this page. By clicking the 'Remove from menu' the item is removed from the menu.

When a customer logs in, he sees these items grouped by the chefs.

Manage customer orders



The screenshot shows a web-based ordering system. At the top, there's a banner with a background image of people eating at a table. The banner contains the text "Manage your orders" and "Accept, Mark them Ready and Deliver...". Below the banner, the word "WELCOME ADMIN!" is visible along with a user icon and a dropdown menu. A purple header bar says "CUSTOMER". On the right, there's a phone number (9876543210), a shopping cart icon with "\$15.97", and a yellow button labeled "NEW ORDER". The main content area is a table showing the following data:

#	Dish	Numbers	Price
1	Paneer Tikka	2	\$11.98
2	Greek Salad	1	\$3.99
Total			\$15.97

Navigation

Login > Manage dish > Orders (drop down)

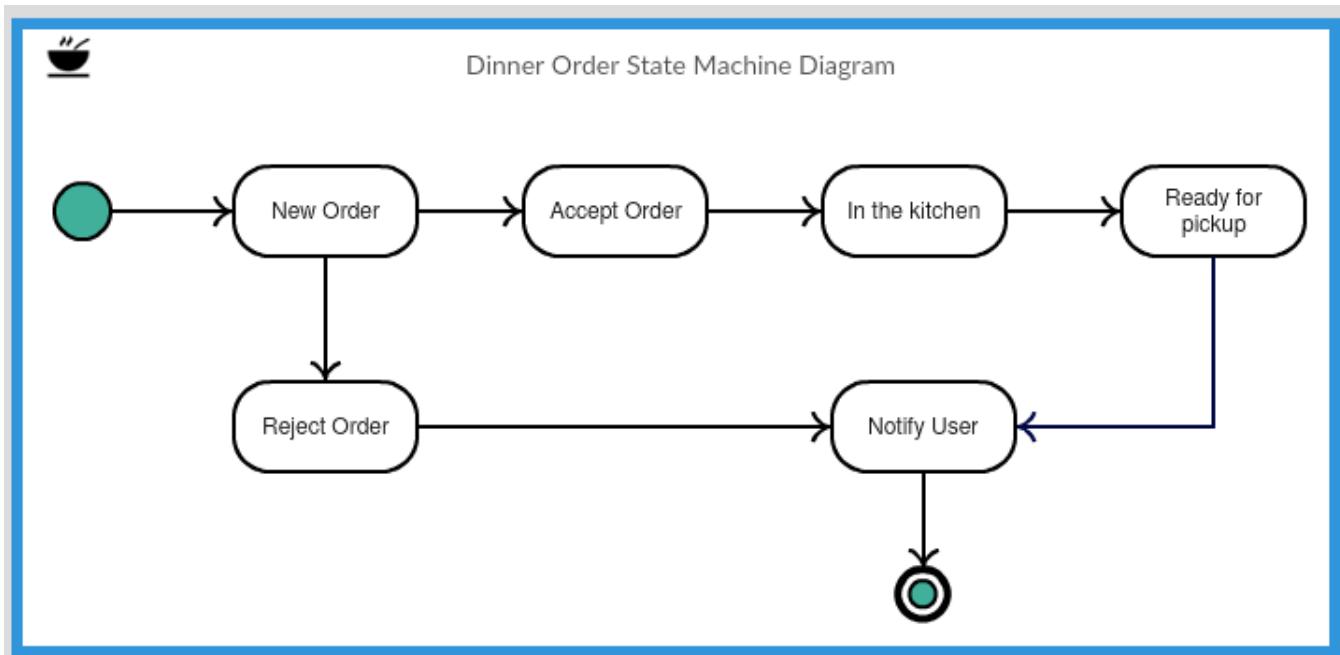
Process

When a user logs in, he will be redirected to the manage dishes page. He can navigate to the 'Order' page by clicking the 'Order' button from the drop down menu.

The orders will be grouped by customer.

To view a sample order, login as admin (username: admin and password: admin). Data has been set up for this user to view orders.

The workflow for order is as below



Once the customer creates the order, chefs will be able to view the customer's order from the 'Order' page. The status will now be 'New Order'. Chef can then accept the order and the status corresponding to this will be 'In the Kitchen' when viewed by the customer. Once the dish is ready, chef can mark it as completed the order status corresponding to this would be 'Ready for pickup'. Once the order is delivered, status will be 'Delivered'.

The flow stops once the order status is marked as 'Delivered'. However to understand the full flow of the process, the order status resets to 'New Order' in the capstone project.

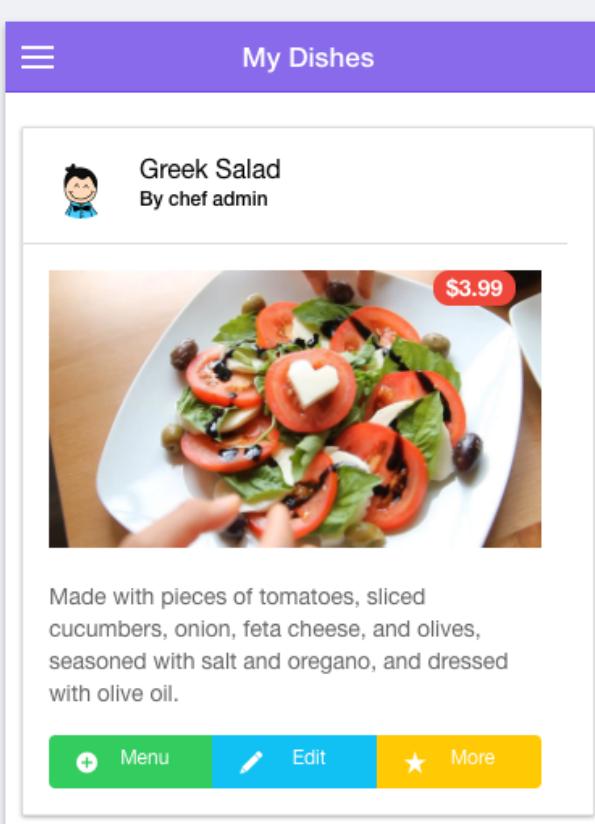
Dinner Mobile Application – Workflow

Dinner Mobile Application is based on the web application. Functionalities available on mobile app

- Manage dishes
- Manage menu
- Add a dish

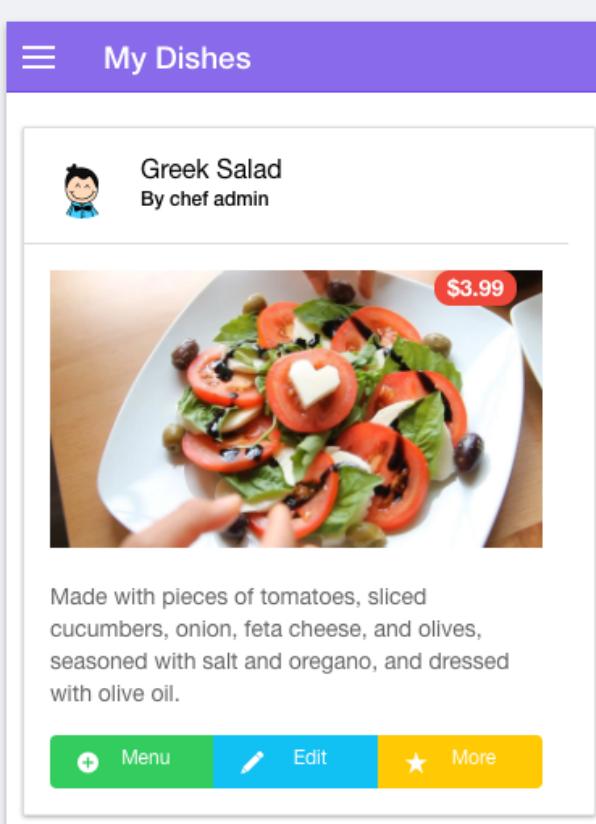
Manage dishes

iOS



The iOS screenshot shows the 'My Dishes' screen with a dish detail card for 'Greek Salad' by 'chef admin'. The card includes a photo of the salad, a price of '\$3.99', and a description: 'Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil.' At the bottom are three buttons: 'Menu' (green), 'Edit' (blue), and 'More' (yellow).

Android



The Android screenshot shows the 'My Dishes' screen with a dish detail card for 'Greek Salad' by 'chef admin'. The card includes a photo of the salad, a price of '\$3.99', and a description: 'Made with pieces of tomatoes, sliced cucumbers, onion, feta cheese, and olives, seasoned with salt and oregano, and dressed with olive oil.' At the bottom are three buttons: 'Menu' (green), 'Edit' (blue), and 'More' (yellow).

User can add a dish to a menu, or view details of the dish or edit a dish

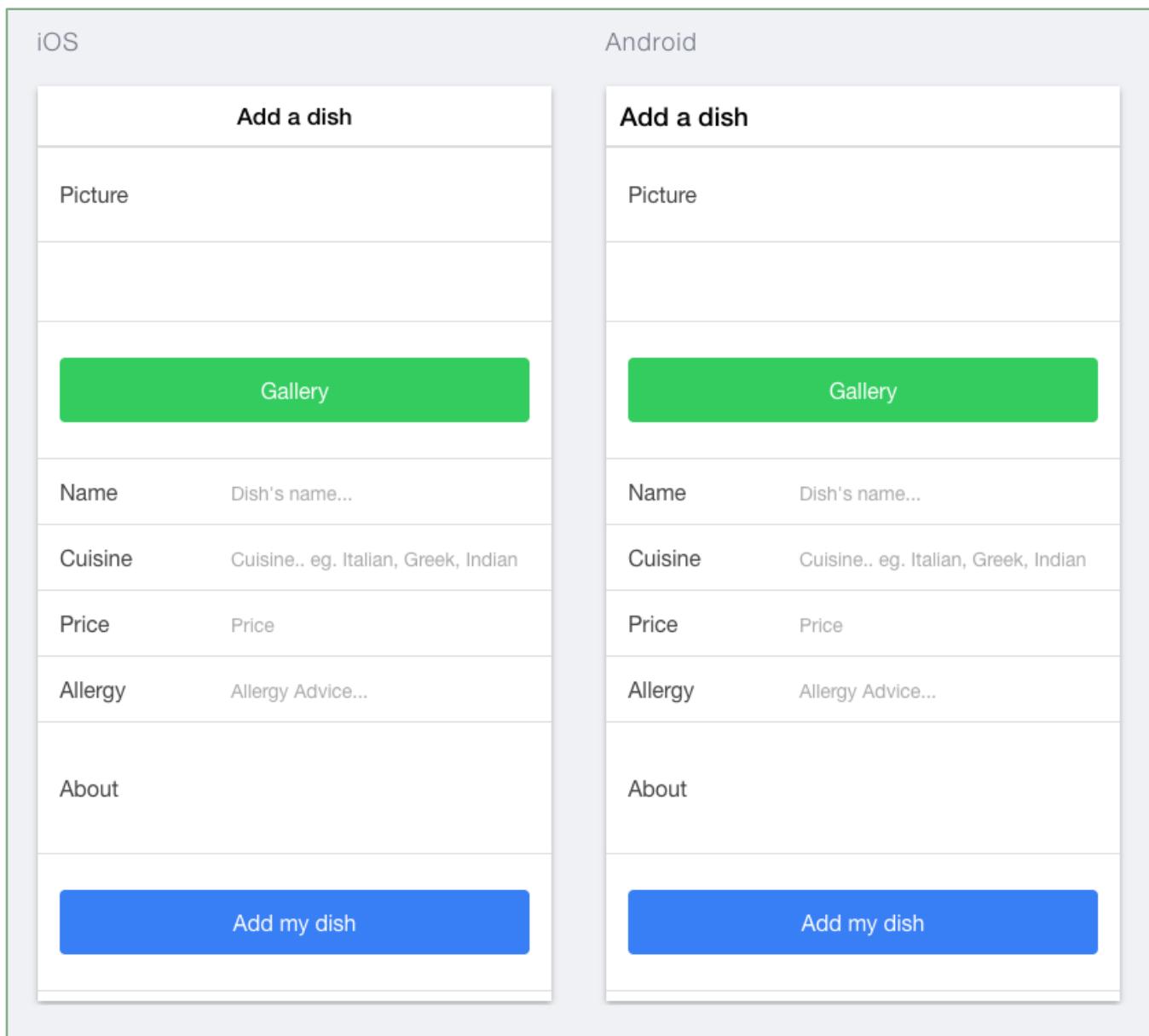
Manage menu

iOS

Android

User can remove a dish from a menu, or view details of the dish or edit a dish

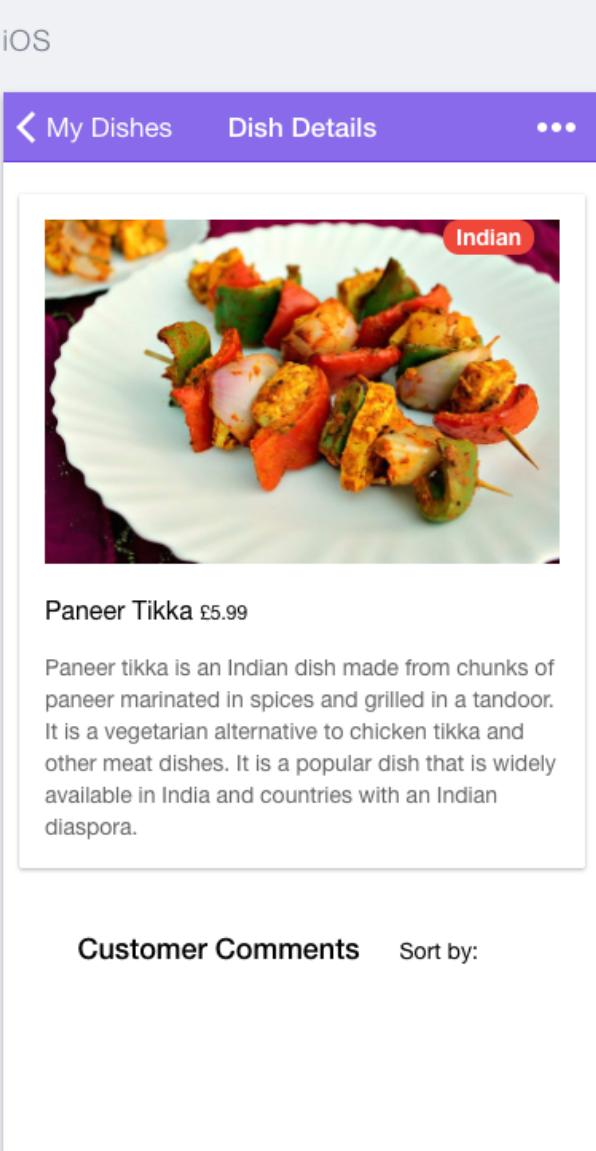
Add a dish



Dish can be added from the 'add a dish' module. Cordova plugins enable selection of images from the phone's gallery

View dish details

iOS

A screenshot of a mobile device displaying the 'Dish Details' screen for 'Paneer Tikka'. The screen has a purple header with a back arrow, the title 'Dish Details', and a three-dot menu icon. Below the header is a large image of paneer tikka skewers on a white plate. A red 'Indian' tag is visible in the top right corner of the image. The dish name 'Paneer Tikka' and price '£5.99' are displayed below the image. A detailed description of the dish follows.

← Dish Details ...

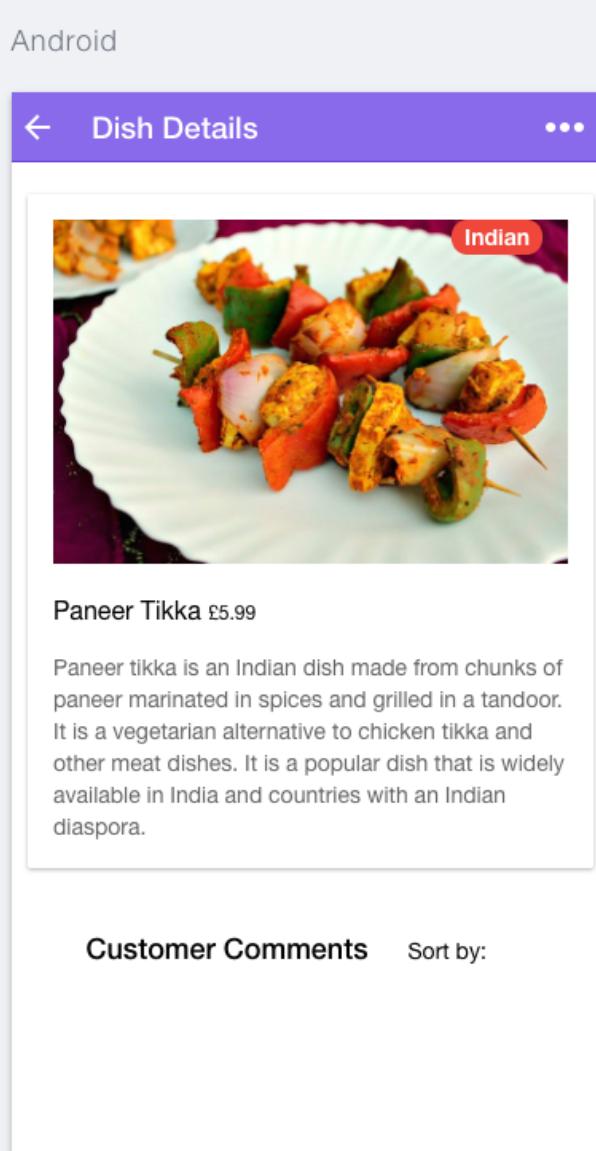


Paneer Tikka £5.99

Paneer tikka is an Indian dish made from chunks of paneer marinated in spices and grilled in a tandoor. It is a vegetarian alternative to chicken tikka and other meat dishes. It is a popular dish that is widely available in India and countries with an Indian diaspora.

Customer Comments Sort by:

Android

A screenshot of a mobile device displaying the 'Dish Details' screen for 'Paneer Tikka'. The layout is identical to the iOS version, featuring a purple header, a dish image, a title, a price, and a detailed description. The dish name 'Paneer Tikka' and price '£5.99' are displayed below the image. A detailed description of the dish follows.

← Dish Details ...



Paneer Tikka £5.99

Paneer tikka is an Indian dish made from chunks of paneer marinated in spices and grilled in a tandoor. It is a vegetarian alternative to chicken tikka and other meat dishes. It is a popular dish that is widely available in India and countries with an Indian diaspora.

Customer Comments Sort by:

User can view the details of the dish

Design – Dinner Web Application

Dinner Web Application is designed using the MEAN stack (MongoDB, Express, Angular JS and Node JS).

Mongo DB

Express

Node

Material Kit

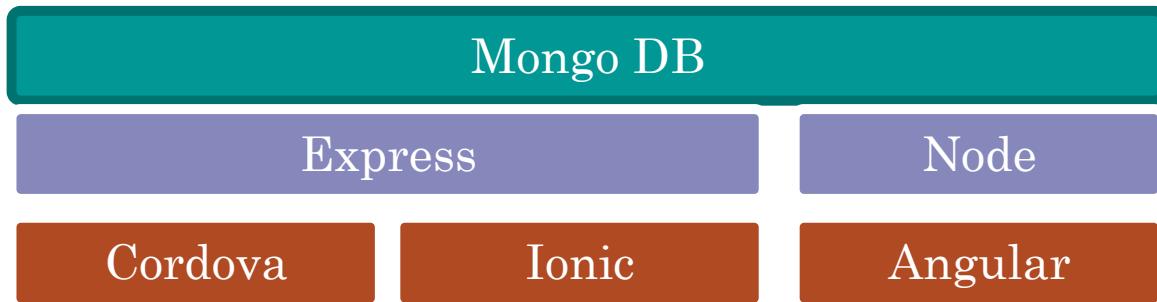
Angular JS

Bootstrap

For the presentation layer, Material Kit, a free Bootstrap UI kit has been used. Angular JS and other Bootstrap functionalities sit on top of the material kit design to provide a beautiful layout. Node JS and Express server handles server side. REST calls are used to interact between the client and the server side. Mongo DB provides the backend support.

Design – Dinner Mobile Application

Dinner Mobile Application is designed using Cordova and Ionic Frameworks.



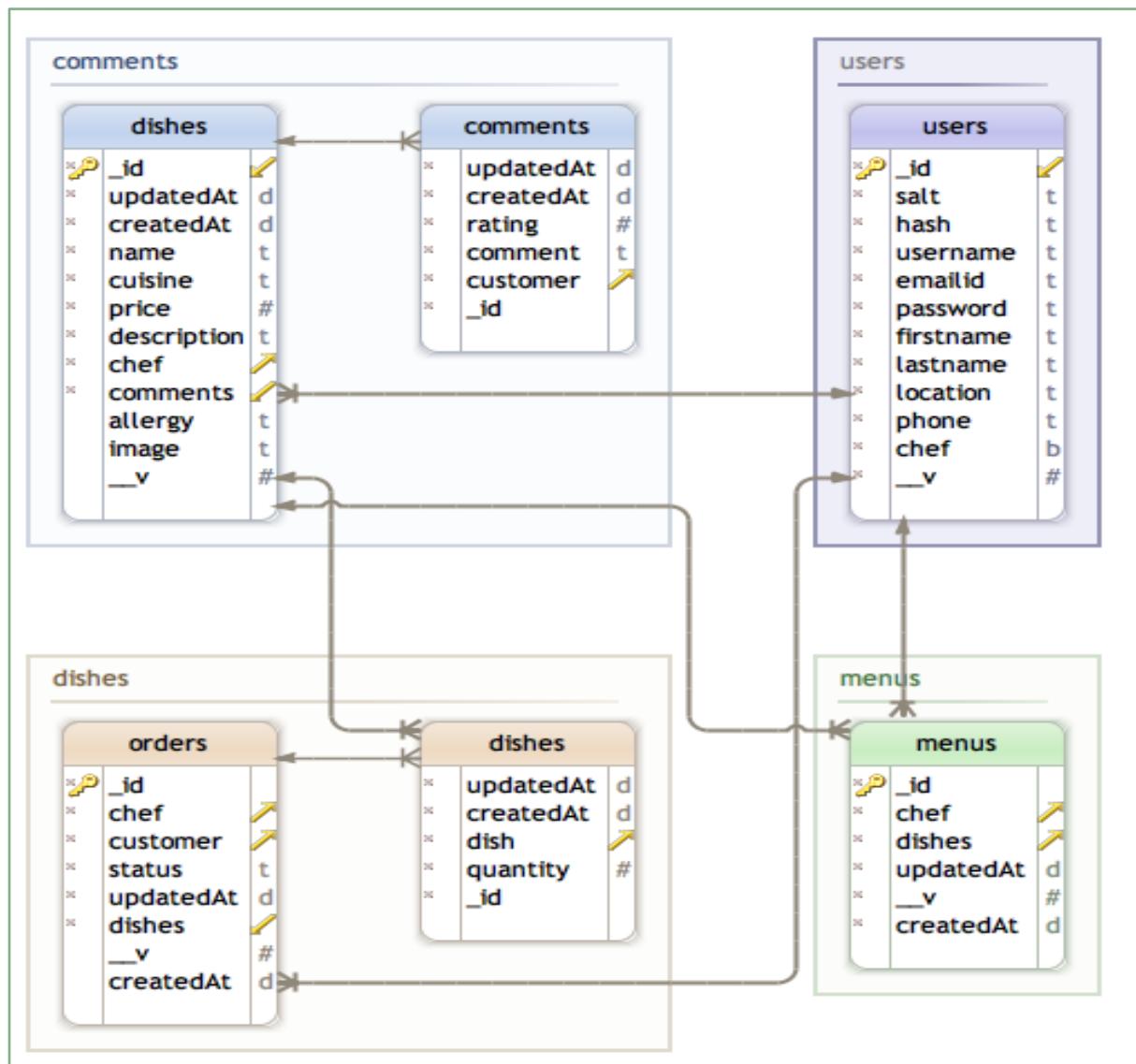
For the presentation layer, Ionic and Cordova plugins are used. Node JS and Express server handles server side. REST calls are used to interact between the client and the server side. Mongo DB provides the backend support.

Design – Entity Relationship Diagram

Following collections are used to design the ‘Chef’ profile in Dinner

- Dishes
 - Menus
 - Orders
 - Users

The schema and relationship between the collections are as per the database design shown.



The REST API calls between the collections work as below

Dishes

API End points	Methods			Action
/dishes	GET	POST	DELETE	Get, Add and Delete all dishes
/dishes/{id}	GET	PUT	DELETE	Get, Update and Delete a dish
/dishes/{id}/comments	GET	PUT	DELETE	Get, Update and Delete comments for a dish
/dishes/{id}/comments/{id}	GET	PUT	DELETE	Get, Update and Delete a comment for a dish
/dishes/upload		POST		Upload a file to server

Menu

API End points	Methods			Action
/menu	GET	POST	DELETE	Get, post and delete menu
/menu/{id}	GET	PUT	DELETE	Get, Update and Delete a menu

Orders

API End points	Methods			Action
/orders	GET	POST	DELETE	Get, Add and Delete all orders
/orders/{id}	GET	PUT	DELETE	Get, Update and Delete an order
/orders/{id}/dishes	GET	PUT	DELETE	Get, Update and Delete dishes for an order

Users

API End points	Methods		Action
/users	GET		Get users
/signup	POST		Register a user
/login	POST		Login to Dinner
/logout	GET		Logout from Dinner

Implementation – Dinner Web Application

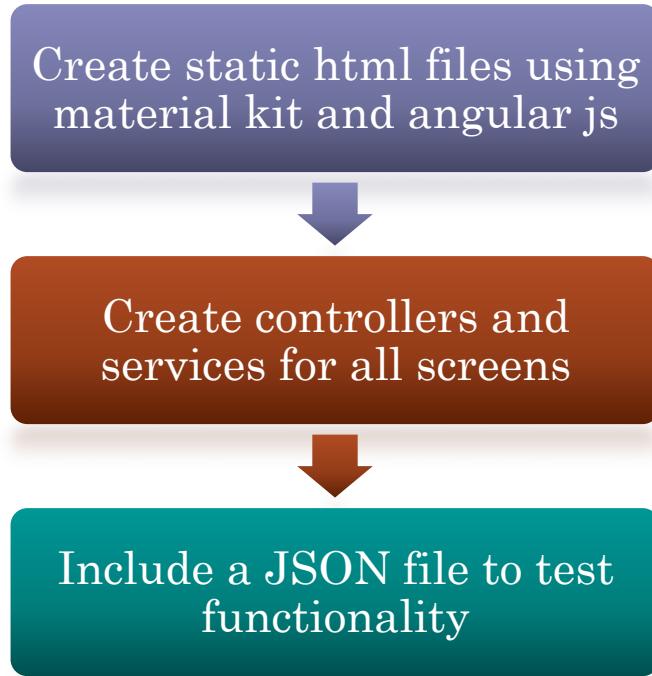
- Operating System: Mac OS X Yosemite
- Stack: MEAN (MongoDB, Express, Angular JS, Node JS) Stack, Ionic and Cordova
- Node dependencies: Cors, Morgan, Multer, ng-file-upload
- Database: MongoDB version 3.2.10
- Editors: Atom, Brackets, Visual Studio Code
- Tools: Mongodb Compass, Postman, DbSchema, Creately

Justification for choice of application stack

- MEAN stack has been used as it was easy to refer to the conFusion project developed as part of the Full Stack Web Development Course using a similar stack.
- Cors node module was used in order to avoid the external installation of the cors module for Chrome.
- Morgan, Multer and ng-file-upload were used in order to upload picture files to the server
- MongoDB was used (and not Loopback) as it was easier to develop using something that was covered as part of a working project in the Full Stack Web Development course. Since MongoDB was used, mLab had to be used to host the database server while publishing the application on Bluemix.
- Bluemix was used because of the free license and also due to the good learning material available.

Converting from Design to Code

The Client side was basically developed in 3 stages



The biggest challenge was to come up with a presentation framework that would yield a good result without much work needed on styling and scripting. Material Kit was a clean and a simple framework and it was the best fit for this model. Few changes were made to the material kit stylesheets for the Dinner app. Details can be found in material-kit-dinner.css

Once the html pages were ready, controllers were added to one screen at a time and the functionality tested using a JSON file.

Developing the server side was quicker than the client side. Express server has been used and MongoDB database was configured for all the models. The REST API calls were then tested out using Postman.

Once the Server side was complete it was just a question of integration.

Integrating Client and Server side

While integrating the client and server, few changes were needed on the client side to change the controller methods to handle proper data from MongoDB. CORS was installed to check for cross origin requests on Chrome. Ng-file-upload was used to upload the images of dishes to the server.

Deploying application on Bluemix

The final code is deployed on IBM Bluemix. Since MongoDB has been used for the backend support, the database is hosted on MongoLab (mLab). IBM Bluemix has ‘Compose for MongoDB’ but there were a lot of errors when attempting to connect to this service.

Url to access application

The application can be accessed via <https://dinner.eu-gb.mybluemix.net>

Code Base

Web Application Client, Server and Bluemix code available at
<https://github.com/archana-vish/Dinner-Angular-Web.git>

Mobile Ionic Application Client available at
<https://github.com/archana-vish/Dinner-Ionic.git>

Limitations and future enhancements

- Due to time constraint, only the chef profile has been released for the Capstone project.
- However, there is provision in the code to include the customer profile as well. This will be a future enhancement
- The aim is to include geo-location API so that when customers login, the chefs closest to their location will be listed first. This will be an enhancement
- When dishes are added to orders, deleting a dish should not be possible. This business rule will be included in the future. As of now, it is not possible to delete any dish.
- Picture for user profile to be included as an enhancement.

References and links

Reference	Link
Menu next door	https://menunextdoor.co.uk/en
Material kit	http://www.creative-tim.com/product/material-kit
Ng-file-upload	https://www.npmjs.com/package/ng-file-upload
Hosting on Bluemix	https://www.ibm.com/blogs/bluemix/2015/09/simple-mean-application-bluemix/