Implementation of Strategic Management Information System for Andhra Express

National College of Ireland

School of Computing

MSc Data Analytics

Team Details

|  |  |  |
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Organizational Background Information:

Andhra Express is a start-up company founded in the year 2016 by T Avinash Reddy, a graduate engineer who worked as a manager in a restaurant, based in Bangalore. From working there, he learnt about different aspects of the food industry and thought there is the improvement need to be done in the supply chain of the food industry, therefore, he started his own venture, Andhra Express. He organized campaigns from where he developed contacts and his team started visiting corporate companies in Bangalore and provided them the samples of the food they prepared. Due to mouth marketing and service relationship they developed a brand in the market which help them to have multinational corporate companies like Infosys, TCS in a testimonial in one year. After the success they adopted a different strategy of going to ground scale by adopting B2C strategy and started selling food through the there restaurant to the single consumer by taking regular orders by just clicking on their registered website or manually calling them. The service which was initiated comprising only of a basic regional south Indian meal has now evolved and spread through different items like Biryani, Tandoor and Continental Meals. Different food items like hot soups, starters and drinks like lassi and chaas is also provided now. The success of the venture in just one year shows the passion and work involved in building this venture by understanding market requirement of food industry.

Market place and Scope:

The business line of Andhra express is serving regional foods to corporate companies and to the basic consumer on their demands. At present corporate companies in the range of 5kms are being targeted as a customer by Andhra express. Centralized location to all corporate companies gives Andhra express competitive edge over other app base food delivery. Since all the meals match and follow all the health standard set by the food industry, the company has created a good brand in the market. The success in Bengaluru has an open new market horizon for a company which look to open a new venture in different states.

The main reason for choosing Andhra express for our project is to learn their smart business strategy adopted to understand the market. At present provided service to the corporate companies have been highly efficient because of transportation range of 5 km. Since the venture is being limited to certain aspects like the range of delivery as well as the service is being limited just to corporate companies there is a great scope of improvement as well as the expansion of the business. The customer acquisition cost, customer retention are important factors which will decide longevity of venture because the capital return will result into the expansion of venture in different regions. Motto of company is quite clear to provide the best service so keeping the customer satisfaction as priority business model has been developed by providing fast services to people at home by creating an online interactive website/portal with multiple food options where they can place an order from the wide range of regional foods available, whereas all the back-end work such (Customers’ orders, Initiating emails regarding offers and discounts, order confirmation updates via mail) will be managed using Salesforce. The customers will be benefited will have opportunities to avail of discounts after multiple logins. The diversified festival is add-on advantage which results in the special offer because demand might be high with respect to time so mass production of food is possible. Last second cancellation of order will be also made available for customers. From the business point of view, we can allocate a delivery team for quick food delivery services to be provided around the city of Bangalore.

Organizational Infrastructure:

For our project customer relationship management platform Salesforce is used for implementation. Since it has integrated with all features requires marketing and sales. A SWOT analysis is used to define our project because it has certain critical factors which evaluate the growth of a company.

**Strengths:** 1. Centralized access connection to large consumer database to everyone in the company due to which transparency is achieved. 2. Customer relationship is easily built because of interactive interface website. 3. Supply chain management is improved so which saves a lot of time and money. 4. Role of middlemen is eliminated so the product can be delivered at a faster, cheaper rate. 5. Fully automated service helps in reducing workforce and using workforce in areas to improve. 6. High data protection because whole data is stored in the cloud.

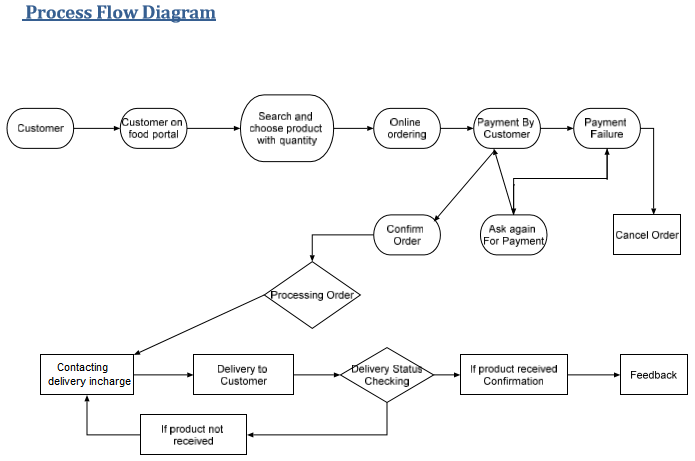
**Weaknesses:** 1. Since real-time data is obtained, the relationship can be built which enables the user to predict market requirement and change system according to nature of a market. 2. Leads can be converted to sale easily because the system has already prepared organization about customer requirement. 3. A big market can be created around this system because transportation, storage management can be done easily.

**Opportunities:** 1. Since real time data is obtained, relationship can be built which enables user to predict market requirement and change system according to nature of market. 2. Leads can be converted to sale easily because system has already prepared organization about customer requirement. 3. Big market can be created around this system because transportation, storage management can be done easily.

**Threat:** 1. Risk of losing data if the system is not managed properly by an end user.

Sales Process of Andhra Express:

At initial customer logged in to website portal created by Salesforce, automatically Customer\_ID is generated attached to that customer, then he is shown the possible list of food items prepared by vendors of Andhra Express by drop-down list. After easy search different quantity of food he selects. After the choice of food Food\_ID is generated for system use, a person is shown the payment option, according to which he selects the convenient mode of payment. After going into payment section, if payment procedure is followed properly, then its reflected in the account section of Salesforce system the Customer\_id, Food\_id, payment\_id, if the user of system approves it then the order is processed and order\_id is generated which is transferred to transportation. Until order is processed delivery department works to get ready for delivery of the order to avoid last-minute chaos. If payment has to be done on delivery which customer selects as a mode of payment, Delivery\_id is taken in the reference by Salesforce user, then the delivery person is informed about it to receive payment and it’s updated in the system. For such time delivery system status is pending and from time till it reaches customer delivery it reflects as in process in the system. And when receiver confirms the delivery the delivery\_id is matched with food\_id of customer\_id and the customer is asked about the confirmation of delivery, for which if it confirms then feedback is asked. Salesforce treats organization/owner/ manager as an Account. After the implementation of sales we will be reporting and providing the dashboard outputs to the owner of the organization Mr. Avinash Reddy. The customers who surfaced the website but not done any buying of foods products or services are considered leads by Salesforce system.



Dashboard and Reporting/Analytical Requirement:

The prime purpose of implementing this project on this platform is that it should provide a way for the higher authorities or the person on the managerial level so that it has all the summarized data in forms of reports so that crucial business-related decisions can be made so as to increase the profitability or to analyze and improve the lacking sectors of the business. Even though various reporting and visualization tools are available, we will be doing it in Salesforce all the back-end working is being managed on it.

The reports that are going to be generated will be visualized using the dashboard.

Following 5 reports were created to answer the BI queries and all these created reports were into one single dashboard:

1. Preferred payment method.
2. Most Delivery by the person in a particular month.
3. Most number of orders in a certain month.
4. Most sold meal.
5. Most orders as per location.

Entity Relationship:



For this project the following entities are selected

* Customer
* Order\_Placed
* Food\_Menus
* Payment
* Delivery
* Customer\_Rating

In customer entity all data is fed related to customer like name, location, contact, Orders entity consist of data about the quantity of product, food menu consist of price, name, Payment entity simply consist of payment section, payment method, Feedback entity consist of reviews, rating, customer name, Delivery entity consist of order number, name of person to whom product is delivered.

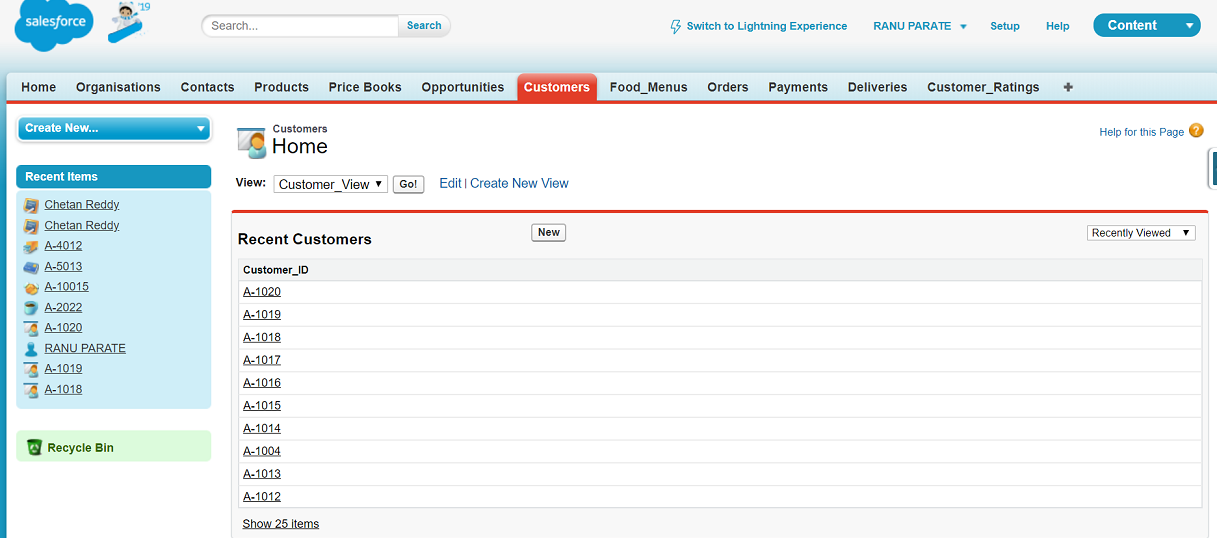
The table below clears the attributes & data types assigned to different entities.

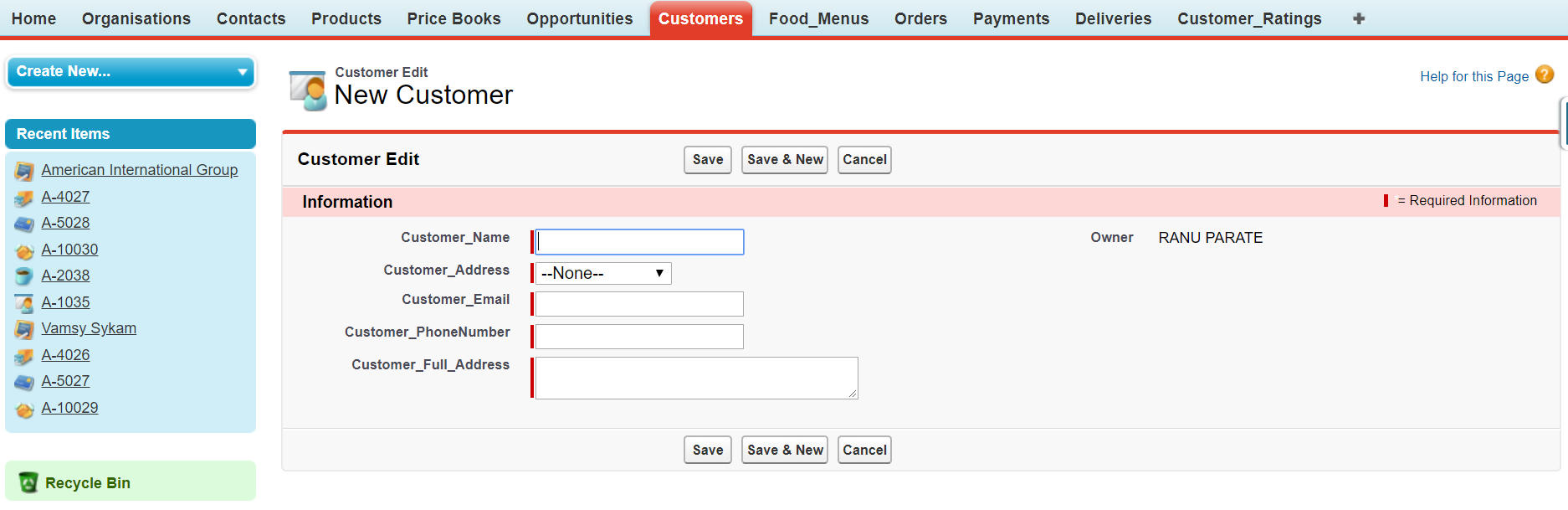
|  |  |  |
| --- | --- | --- |
| Entity | Attributes | Data Type |
| Customer | Customer\_Name | Text |
| Customer\_ID | Auto Number |
| Customer\_Full\_Address | Text |
| Customer\_Address | Text |
| Customer\_Email | Text |
| Customer\_PhoneNumber | Number |
| Order\_Placed | Order\_ID | Auto Number |
| Email\_ID | Text |
| No\_Of\_Items | Number |
| Total\_Price | Currency |
| Food\_Menus | Food\_ID | Auto Number |
| Food\_Menu | Text |
| Payment | Payment\_ID | Auto Number |
| Payment | Picklist |
| Customer\_Rating | Rating\_ID | Auto Number |
| Customer\_Ratings | Picklist |
| Delivery | DeliveryPerson\_Name | Text |
| Delivery\_Date | Date |

Implementation:

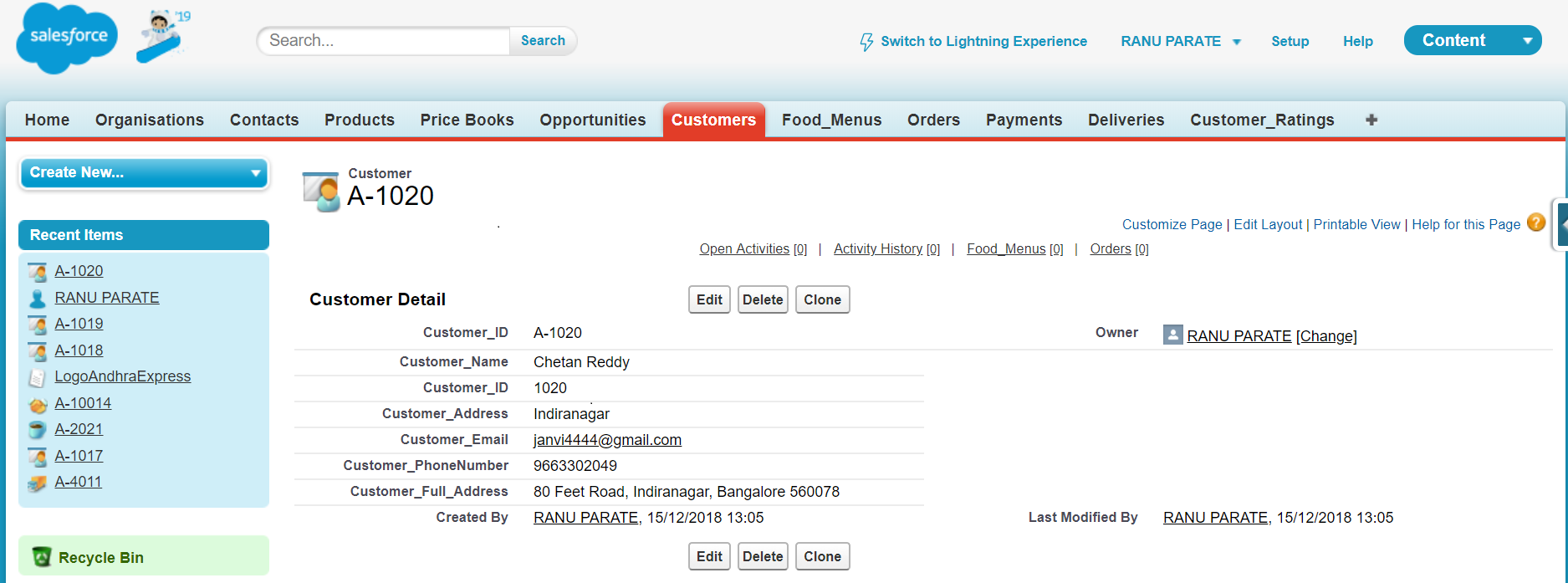
Objects: Various objects have been created to store multiple data forms to create a linear simplified database which can help the end user to provide reliable service to clients. Then later all created objects are related to each other to build a properly structured database model.

**Customers:**



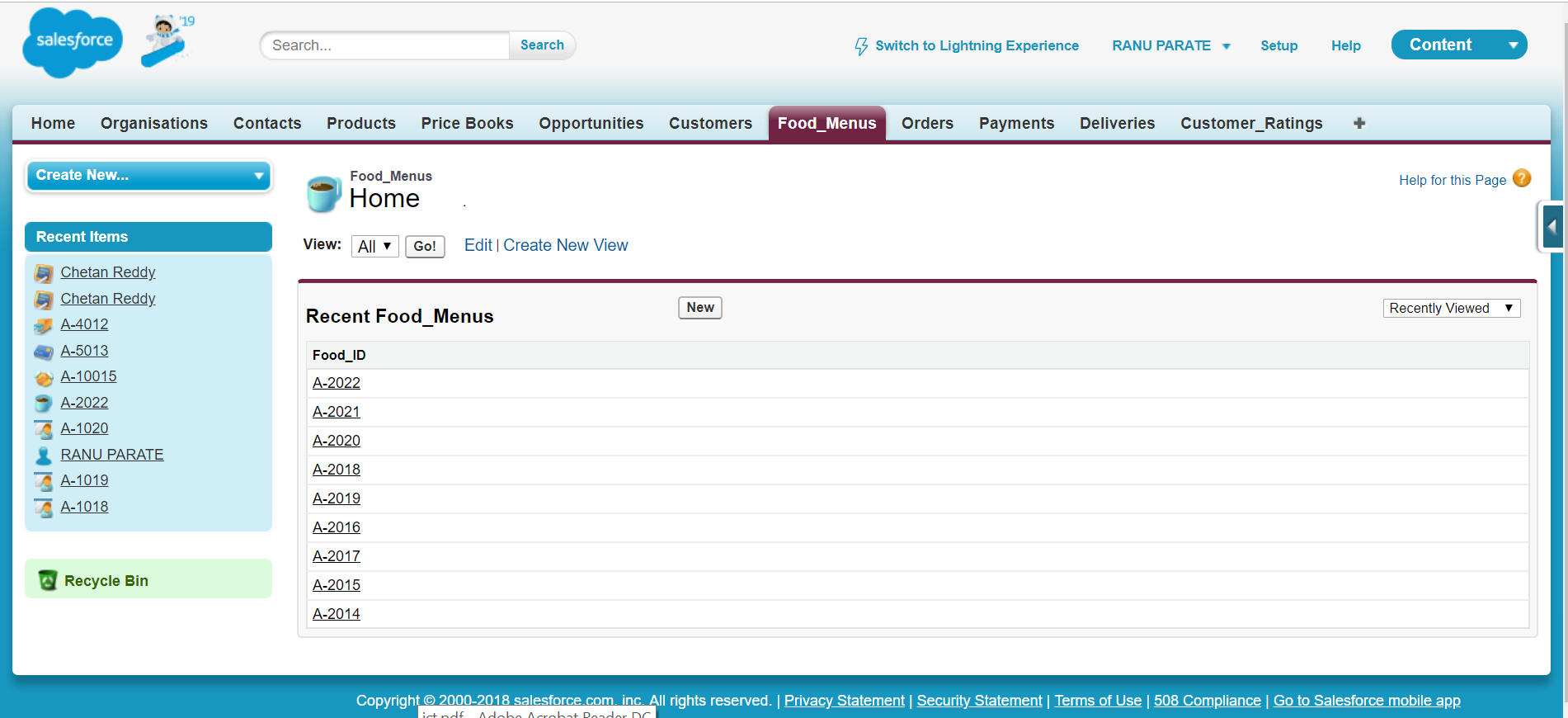
The displayed screenshot shows object customer. The object Customers stores information of a different customer who have placed orders on the registered portal under attributes Customer\_ID and data type assigned to them are auto number. The customer objects fields on portal required where customer enter his personal data which is shown below. Customer object is designed in such way that it has fields to stores all the necessary information of customer, like name, address, contact no, email id, full address.

**Customer Fields:**

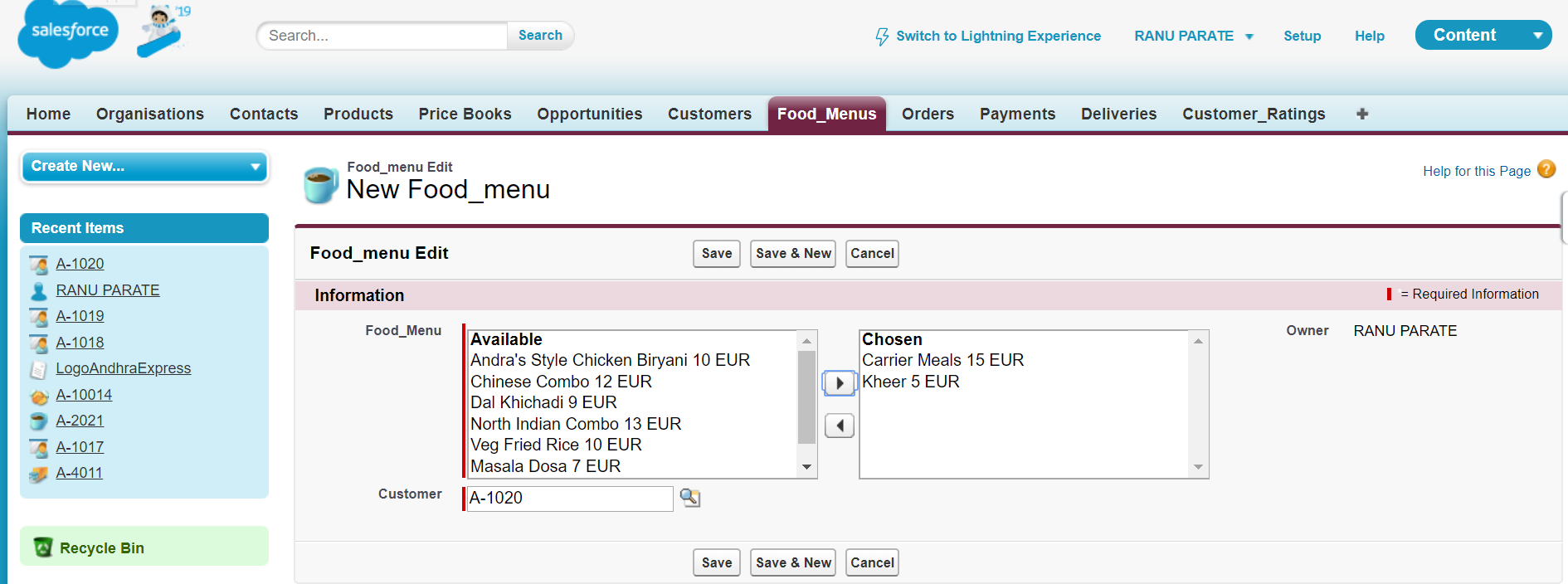
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As soon as the customer fills all his details Customer\_ID is generated and attach to the filled data by customer which reflects in our system.

**Food\_Menus:**

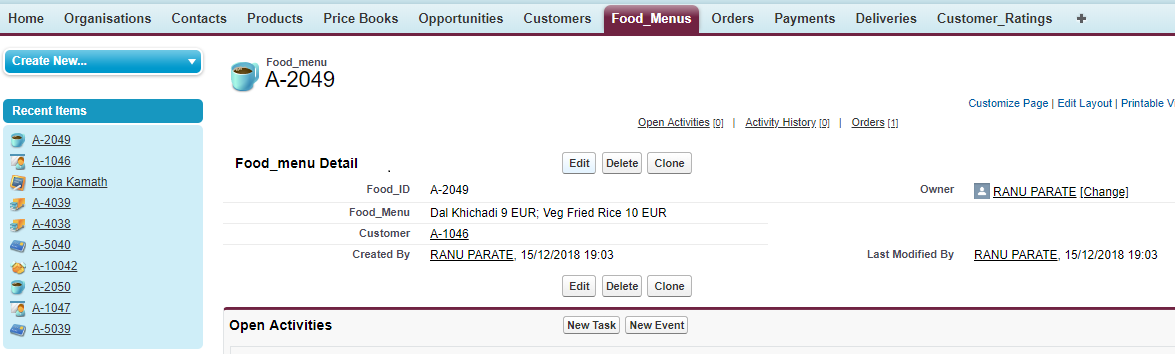


In the object of Food\_Menus, the information regarding different types of food selected by the customer is stored and auto number ID is generated which is assigned to a customer who selected food from menus. The food menu is showed in form of picklist as shown below in the food menu object field.

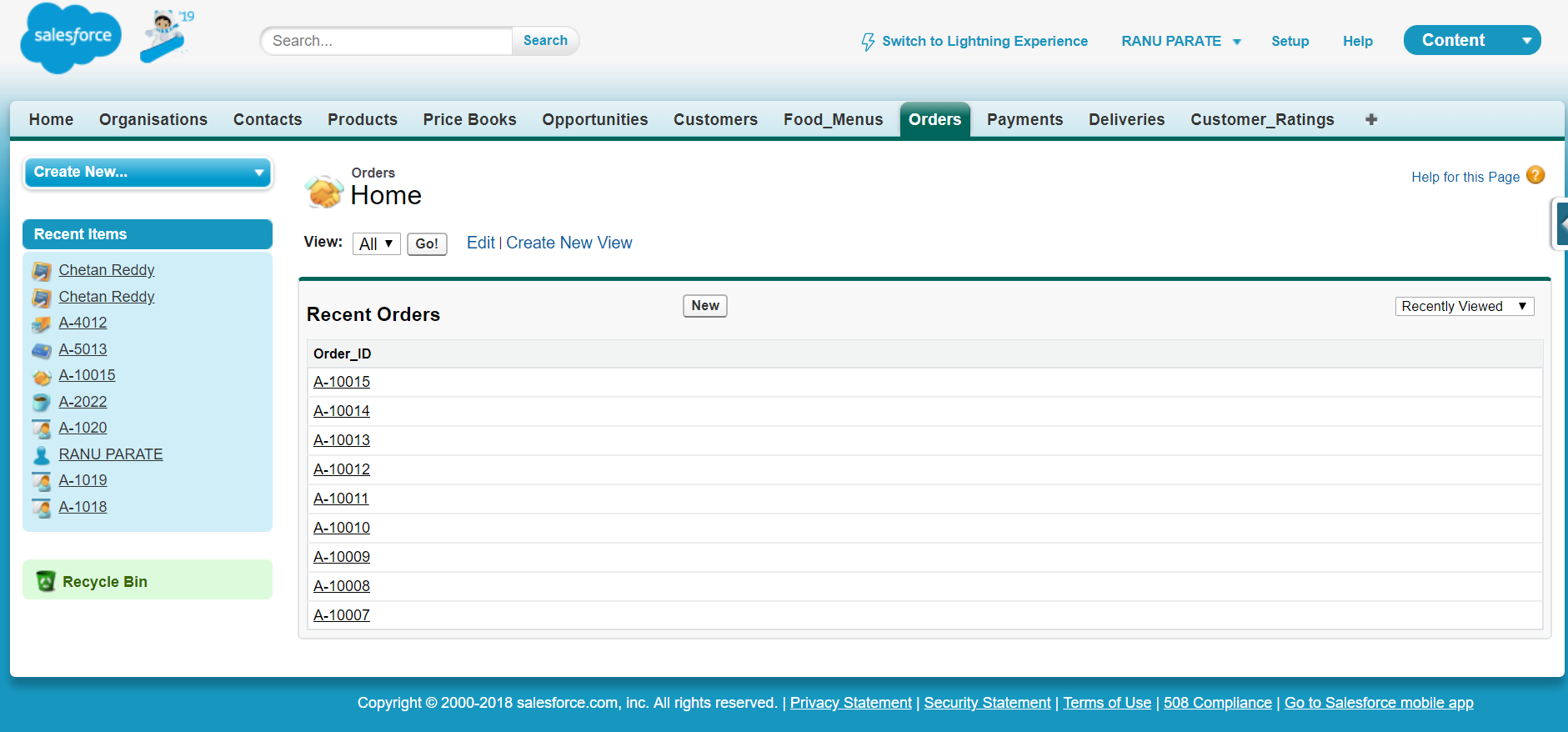


As we can see food item is selected from a drop-down list with respect to Customer\_ID shown below. After clicking save option the Food\_Menus field is created as shown. Different food item shown has a different price list which connects to the payment section. **Food\_Menus fields :**

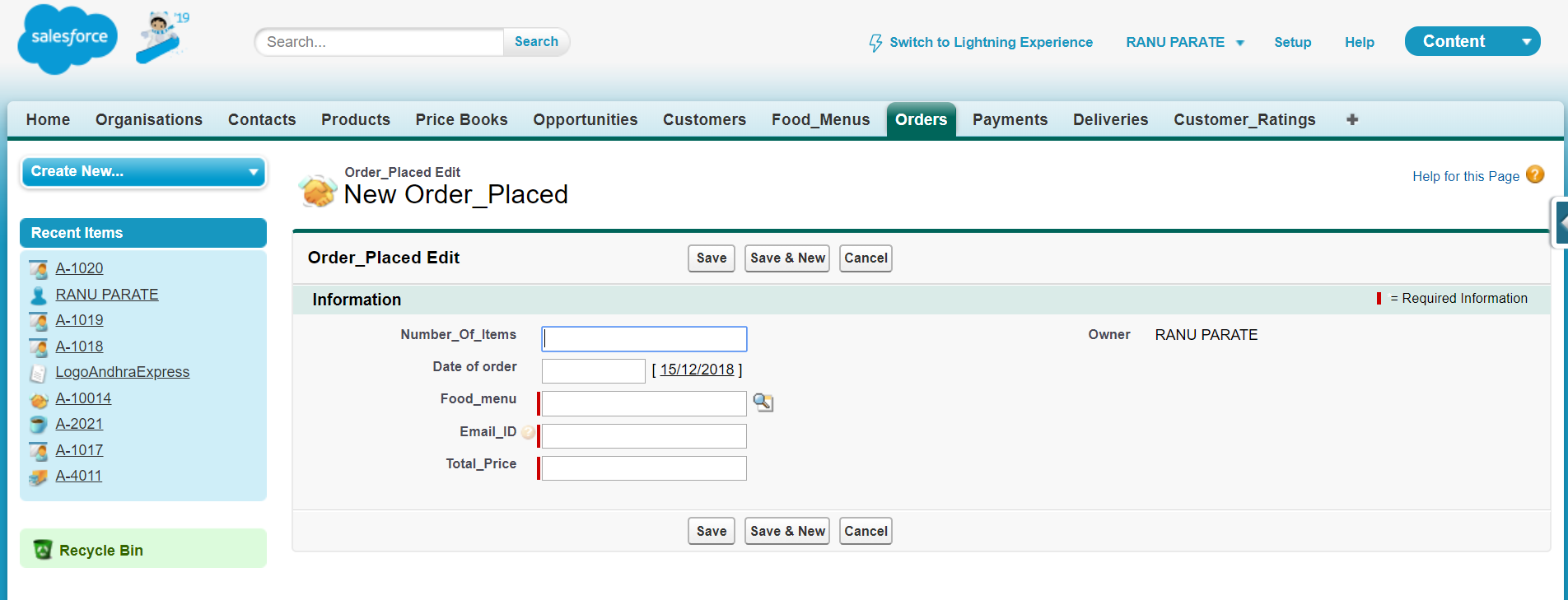
Food\_Menus object shows food selected by the customer having attributes of a food like Food\_ID which is auto Number & Food\_Menu, which is synchronised with Customer\_ID.

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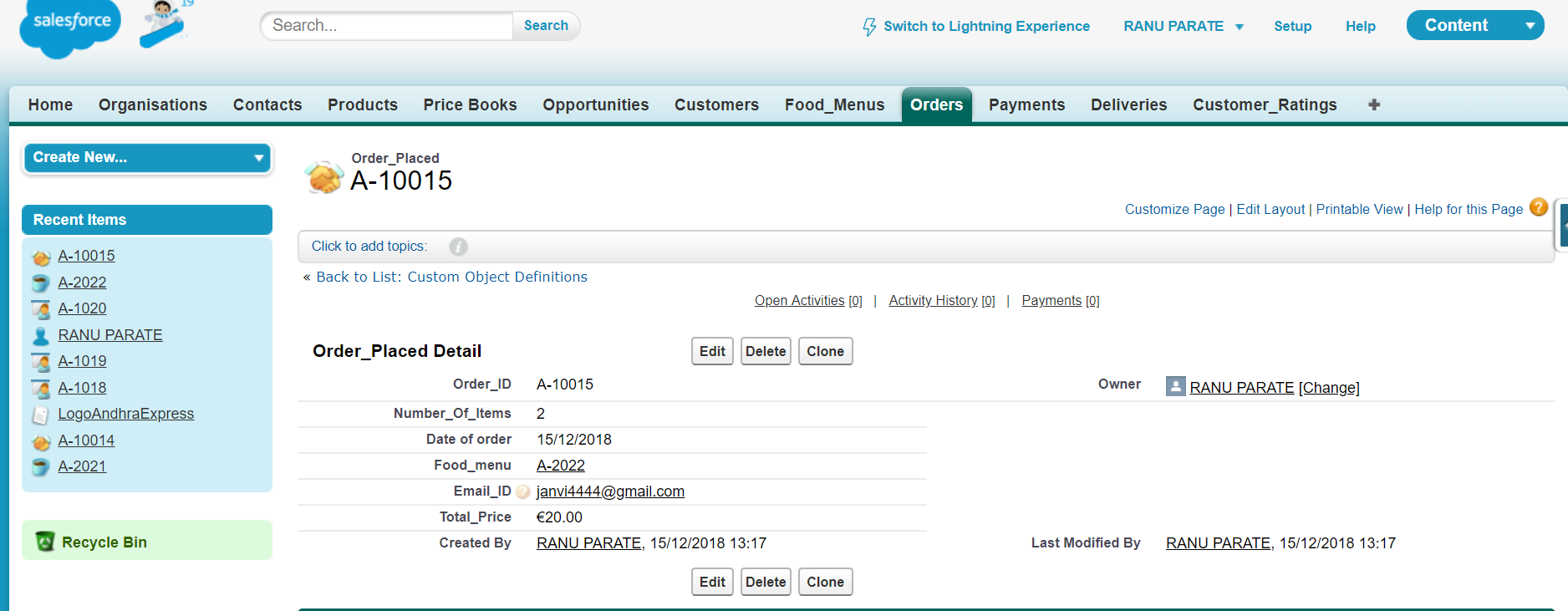
**Orders:**

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The displayed screenshot shows object Orders under the classification of Order\_ID which is generated automatically having datatype auto number when details like a number of items having data type number, Total\_Price by default calculates the price of all foods selected by the customer.

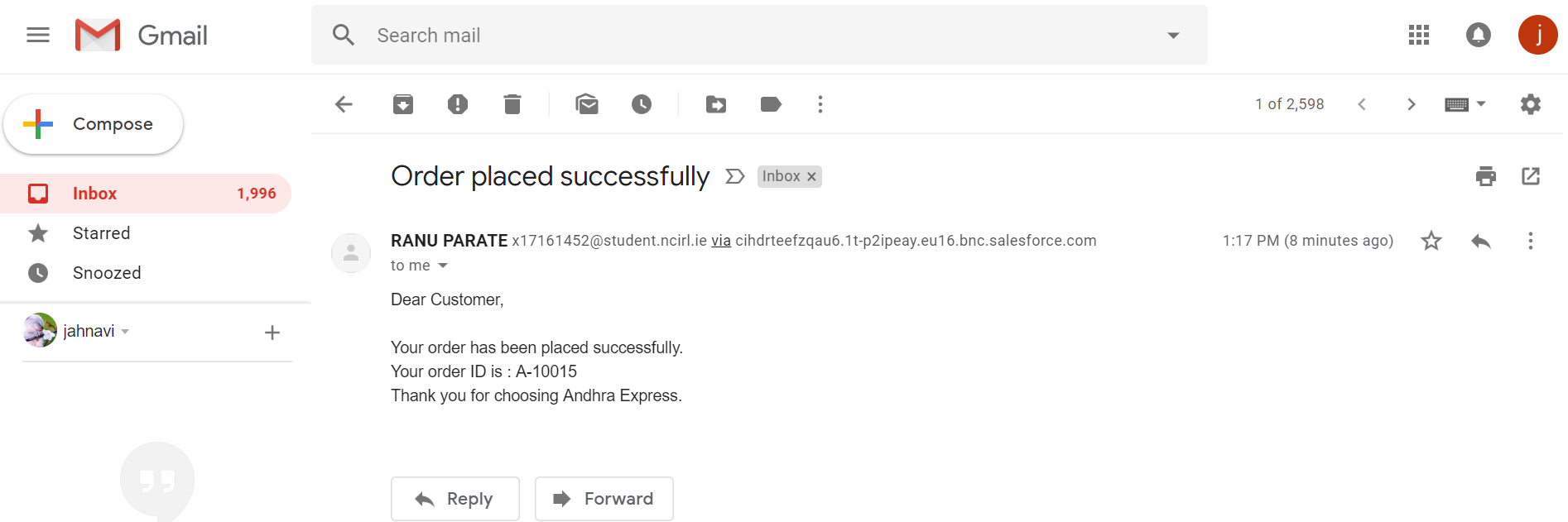


**Orders\_Placed Fields:**

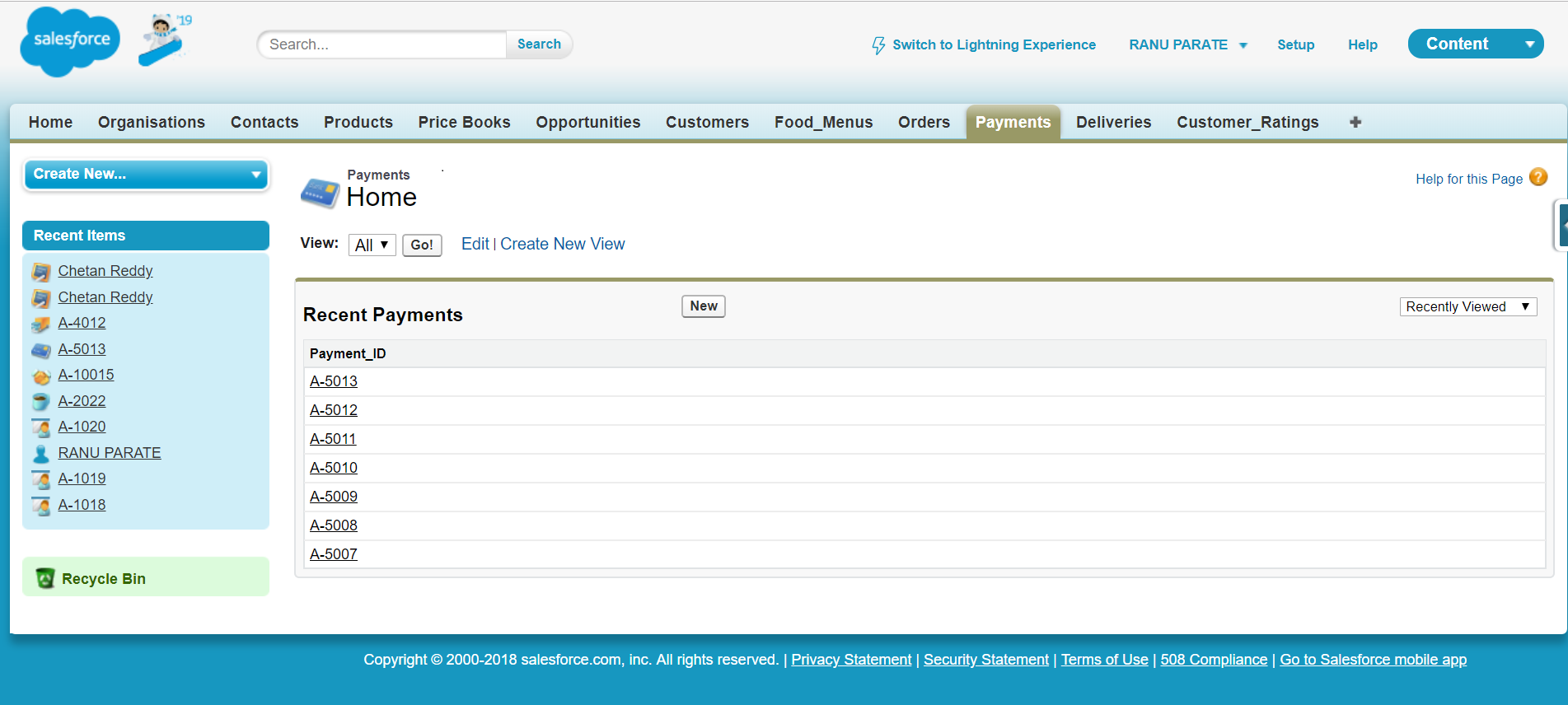


The order objects fields generated is shown below show all attributes of the customer with Order\_ID attached to it. Various fields like Number\_of\_Items Email\_ID, Date of order by default datatype is Date, of the customer is shown after entering all data and saving data in the object. Order\_Placed fields are created as per diagram above under section of the object of Orders. It shows all related data of customer with attributes of Food\_menu, Email\_ID from different entity this helps user for cross-checking and maintaining the database.

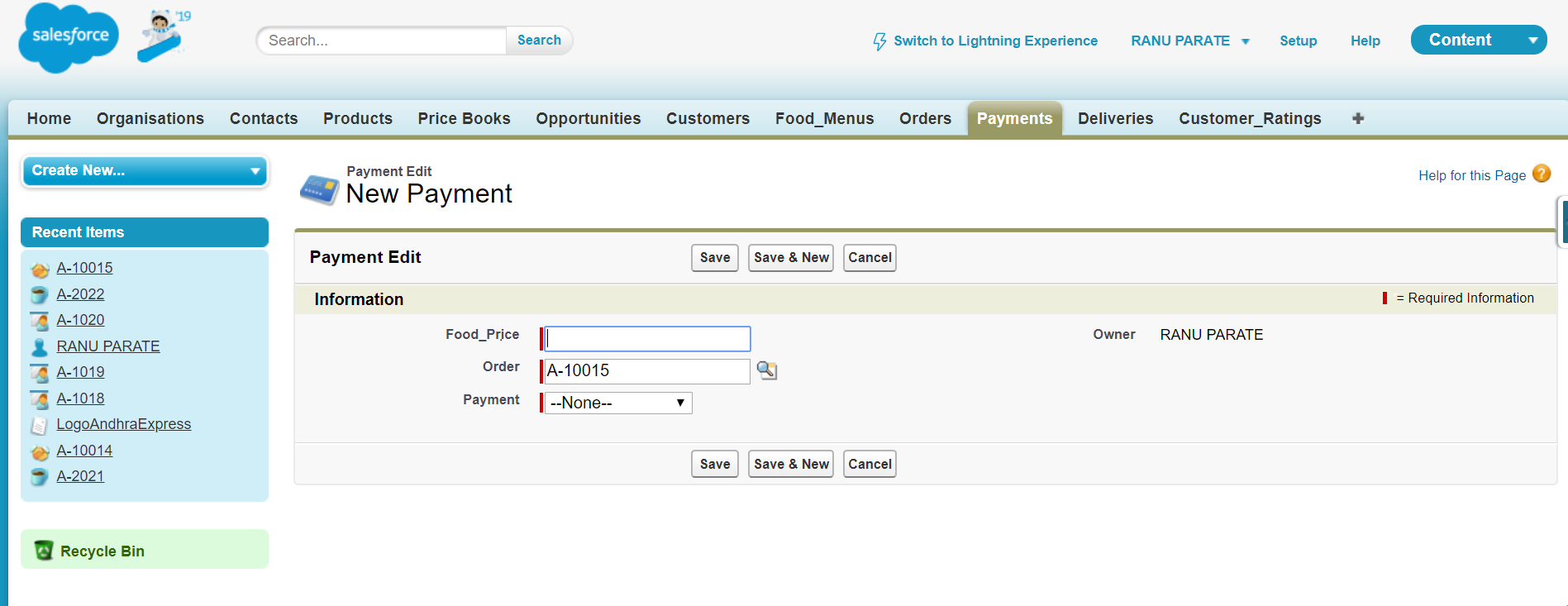
On Email\_ID the concerned person is contacted through email as shown below that required order is placed successfully with the same Order\_ID generated through the system. The mail is successfully triggered by the system.



**Payments:**

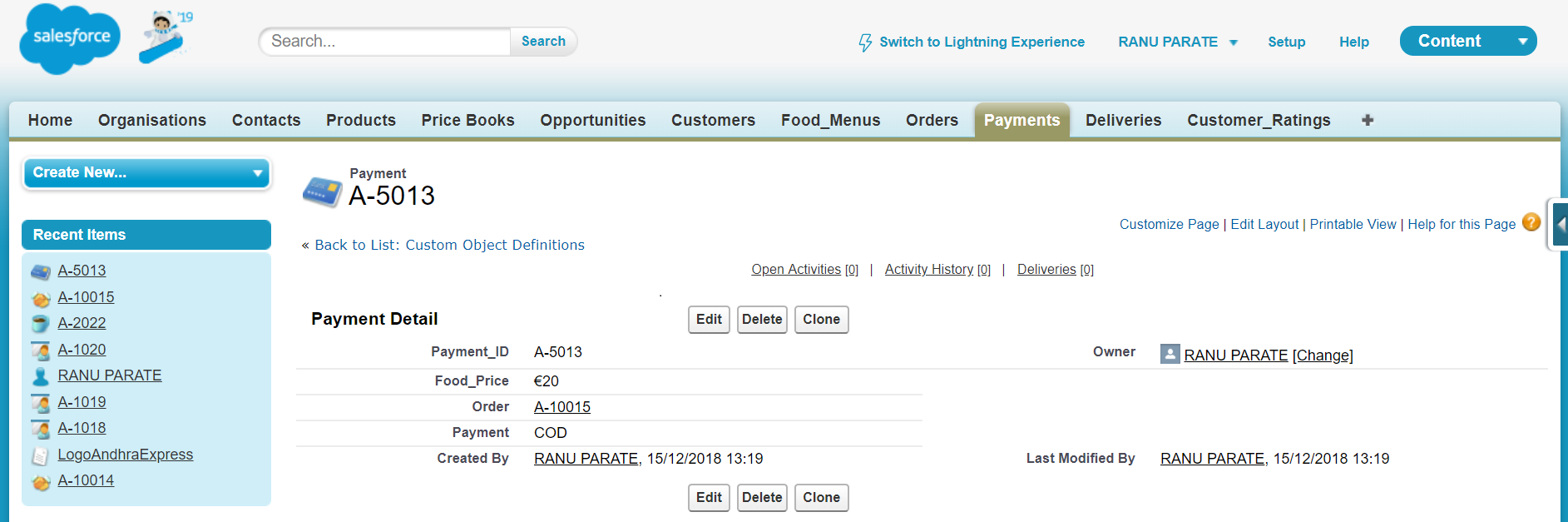
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The payment object is created which has payment details of customer ordering the products from the food menu. The payment details are classified under attribute Payment\_ID which is auto number and generated after choosing the mode of payment and doing payment.



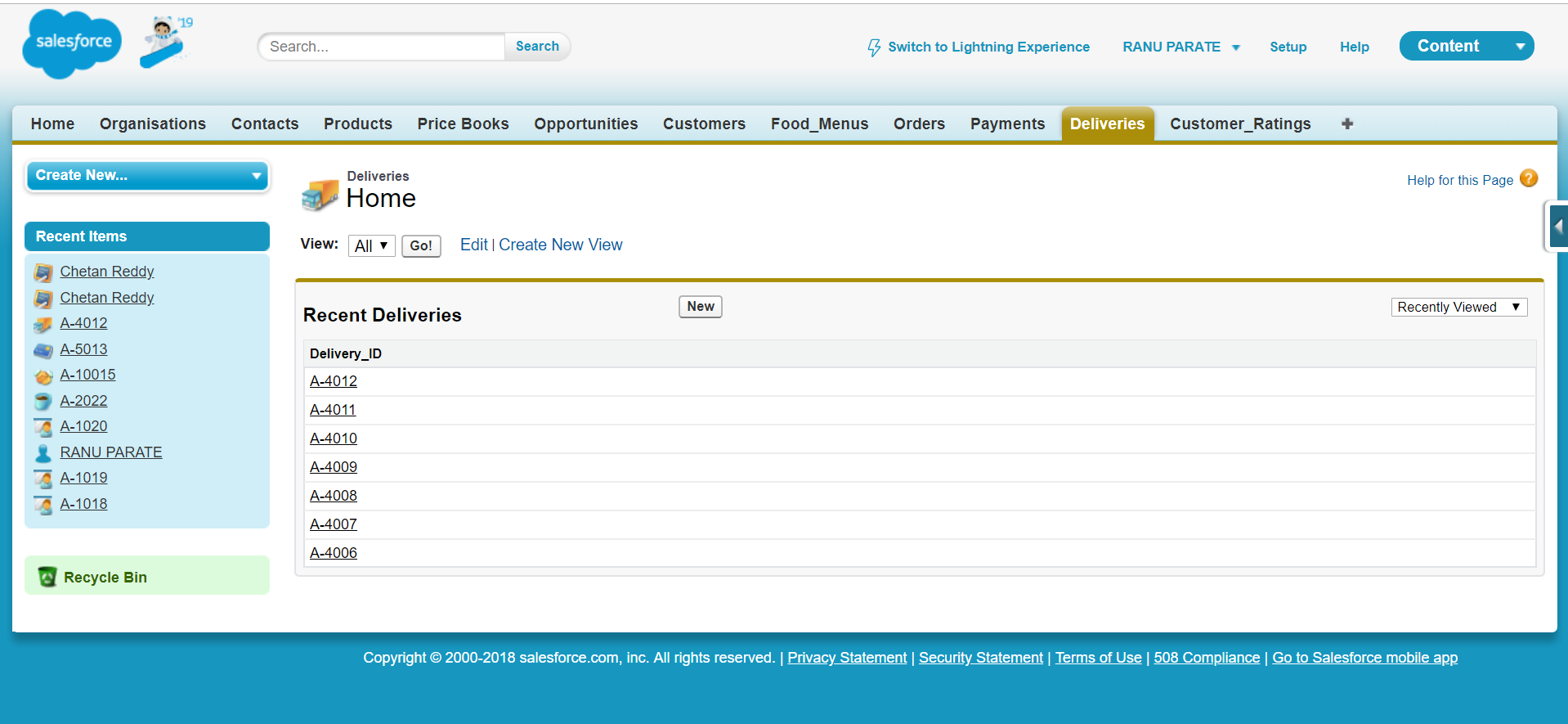
The above screenshot shows payment fields Food\_Price datatype as a number, Payment fields is picklist type where the mode of payment is selected it is directly is connected to Order\_ID after saving the entered data the payment field object created as shown below.

**Payment Object Fields:**

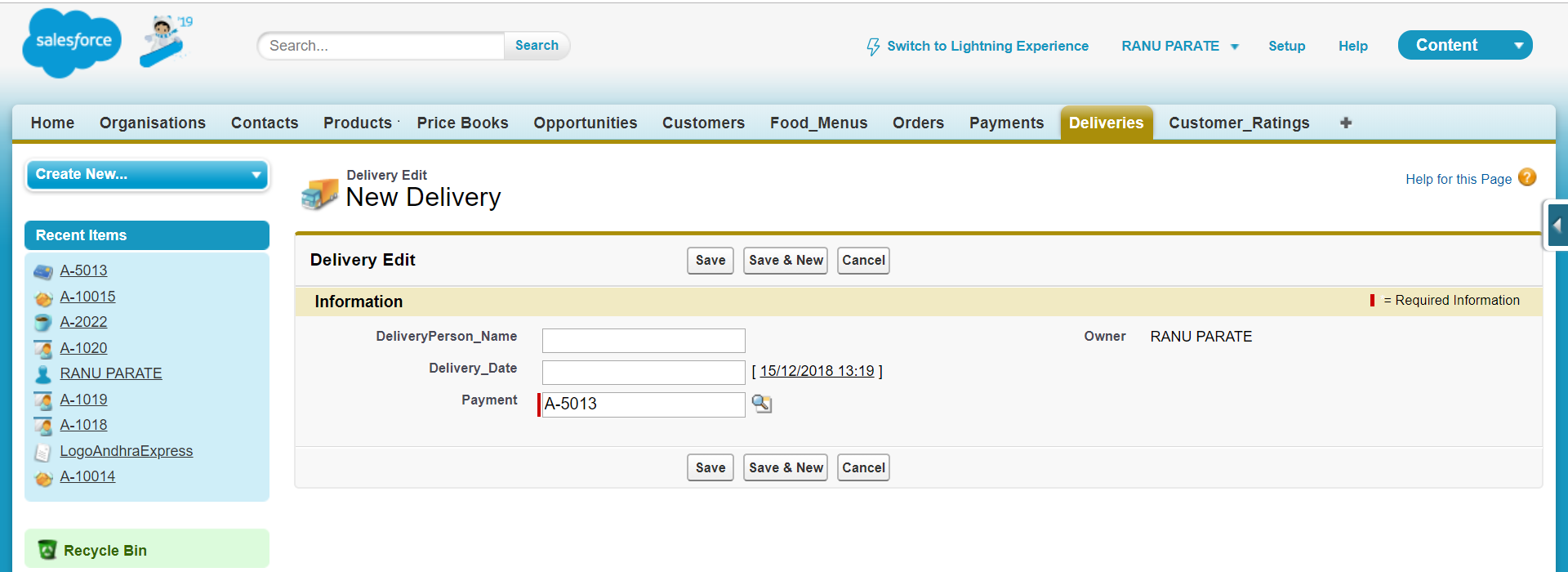


The payment field object created generates Payment\_ID which gets attached to Order\_ID to maintain linear flow. The Food\_Price is the sum of all price of food ordered of different quantity. As above example show mode of payment cash on delivery (COD) which is passed on to delivery department.

**Delivery:**

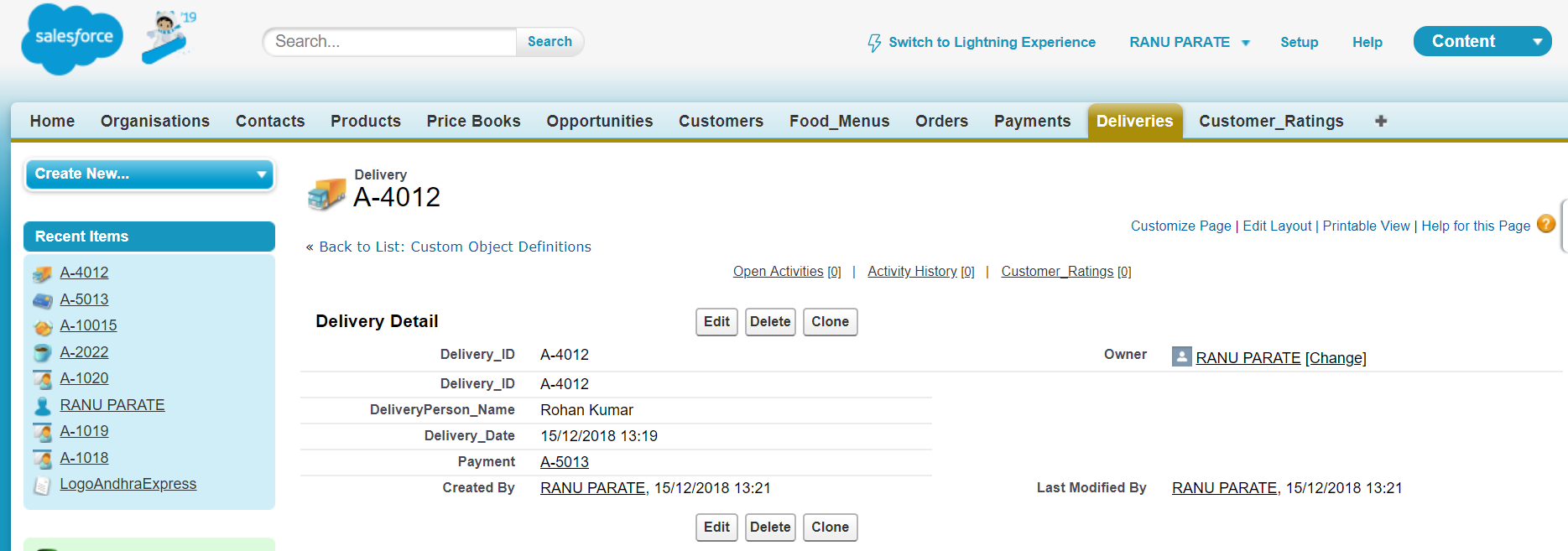
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Deliveries object is created where delivery details to the receiver are stored under attributes of Delivery\_ID. The Delivery\_ID is auto-generated with data type auto number depends upon the mode of payment sometimes it’s created before delivery if payment is done online and if payment is done COD then data fed. The deliveries field is shown below where appropriate data is put.



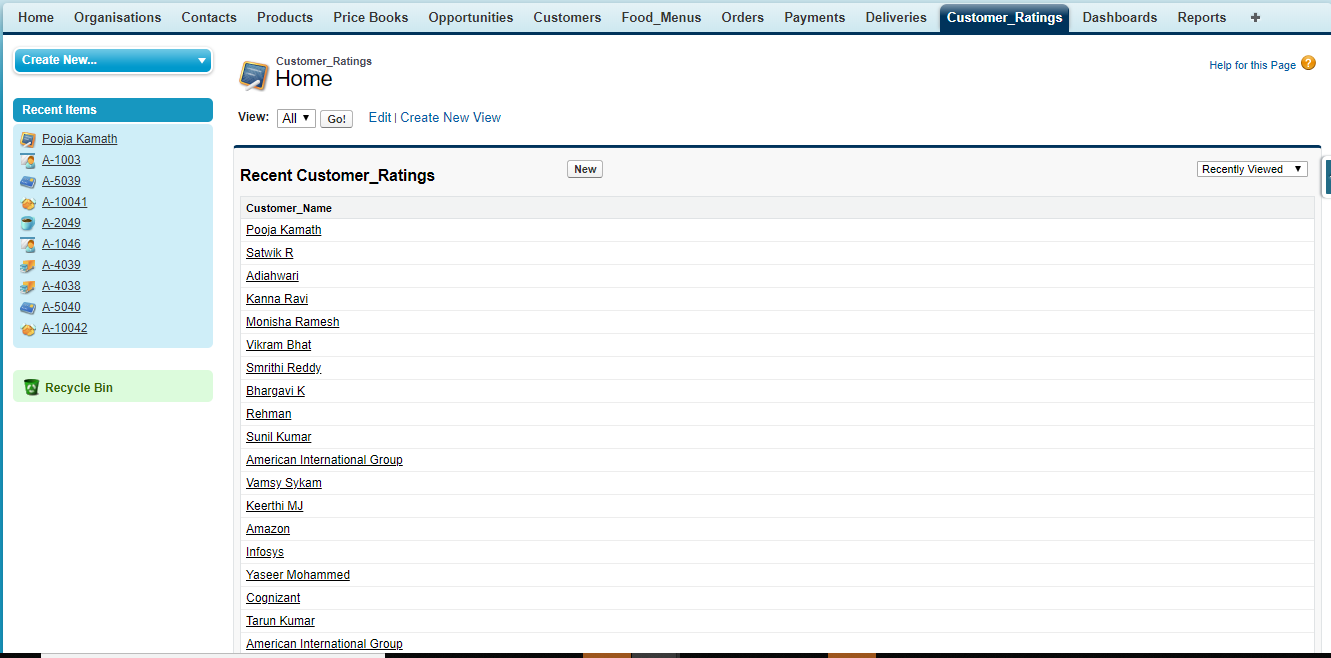
Deliveries objects consist DeliveryPerson\_Name fields where person delivering product name is fed and on the date which product is delivered is put in Delivery\_Date field as seen Payment\_ID is reflected by default, which means Payment object is connected to Deliveries object. After saving with entered data in related field Deliveries object is created with the following the information in the image shown below.

**Delivery Object Field:**

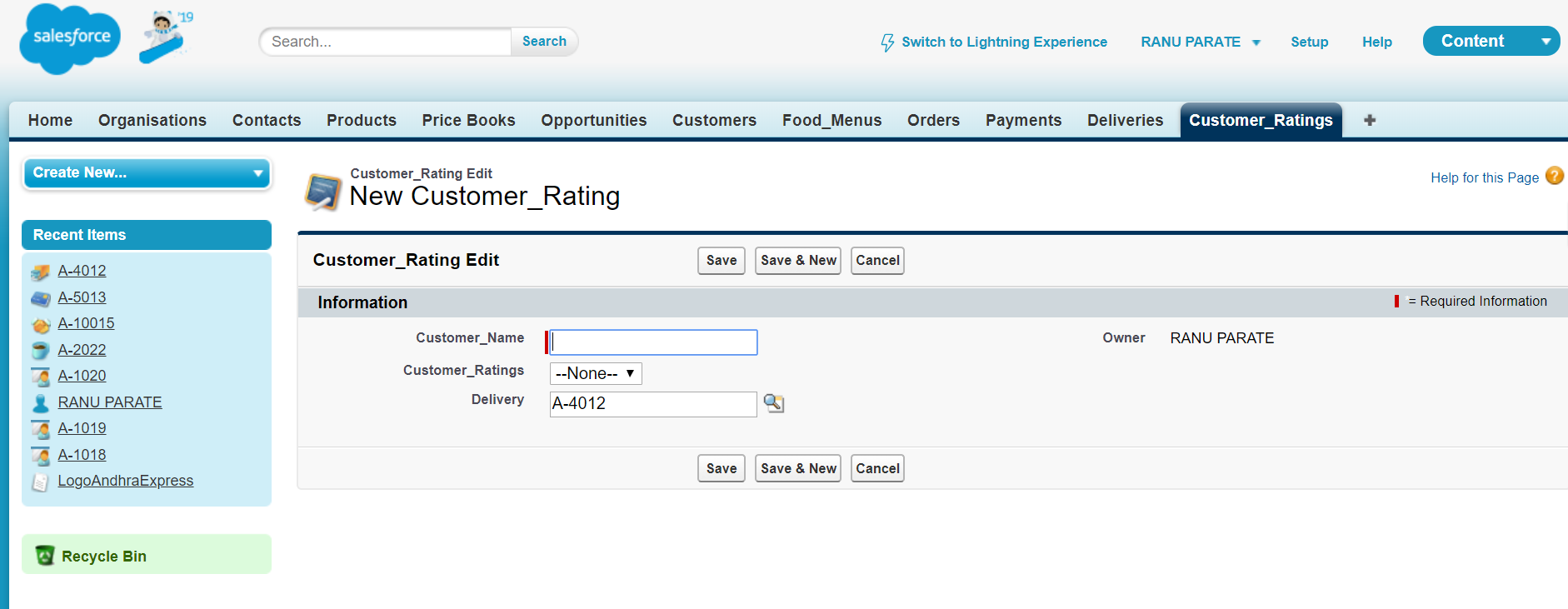


As clearly visible Deliveries field object consist of auto-generated Delivery\_ID auto number data type assigned as the code to delivery details to the customer with person name delivering product at a particular date.

**Customer\_Ratings:**

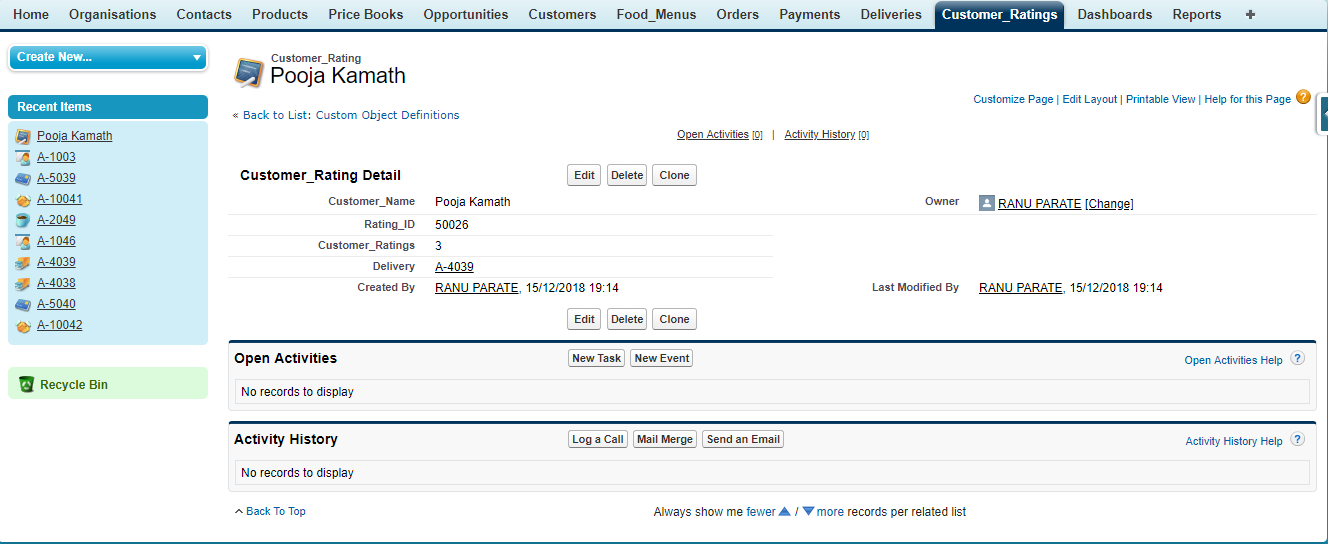
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Object Customer\_Ratings is reviewing object where customer feedback is stored regarding product delivered under section Customer\_Ratings which connects with Customer details for business use. These object of following fields shown in the diagram below.



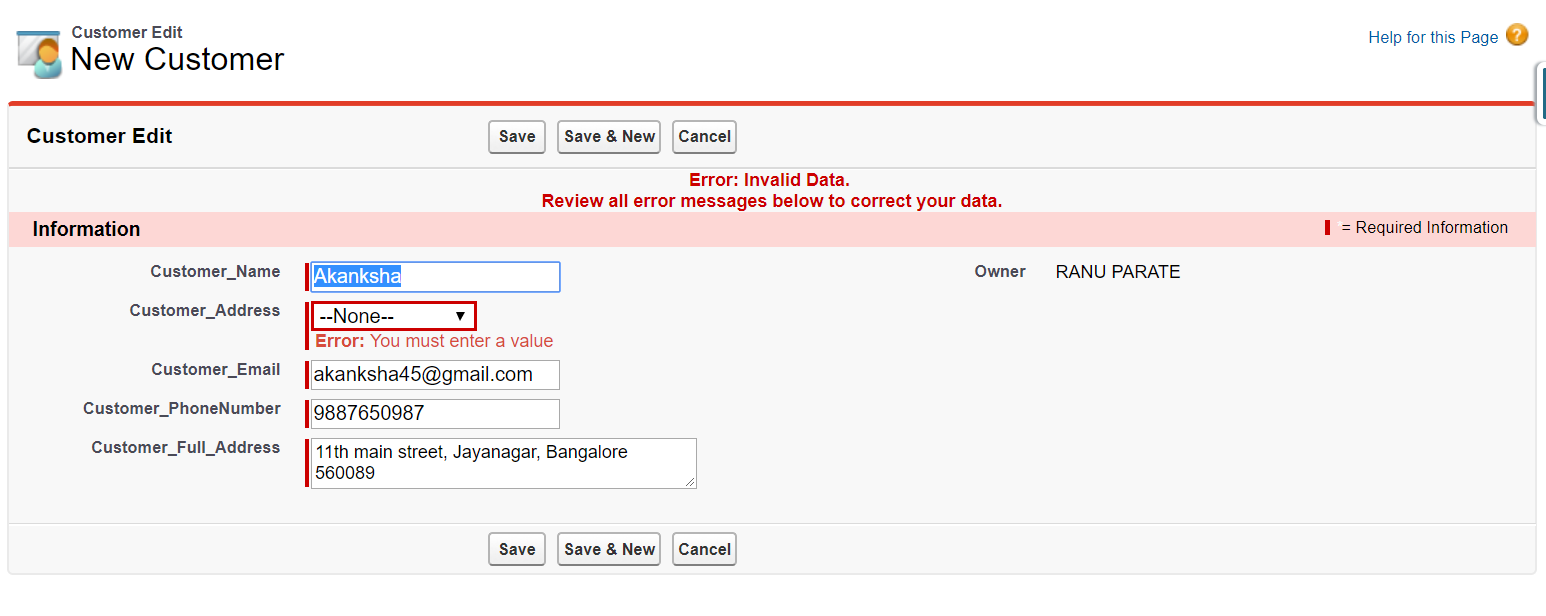
The Customer\_Rating consist of fields Customer\_Name as text data type, Customer rating as numeric data type from 1 to 5 and Delivery\_ID is automatically assigned to customer ratings. After completion of data entry in the field we get Rating\_ID.

**Customer\_Rating Object field:**

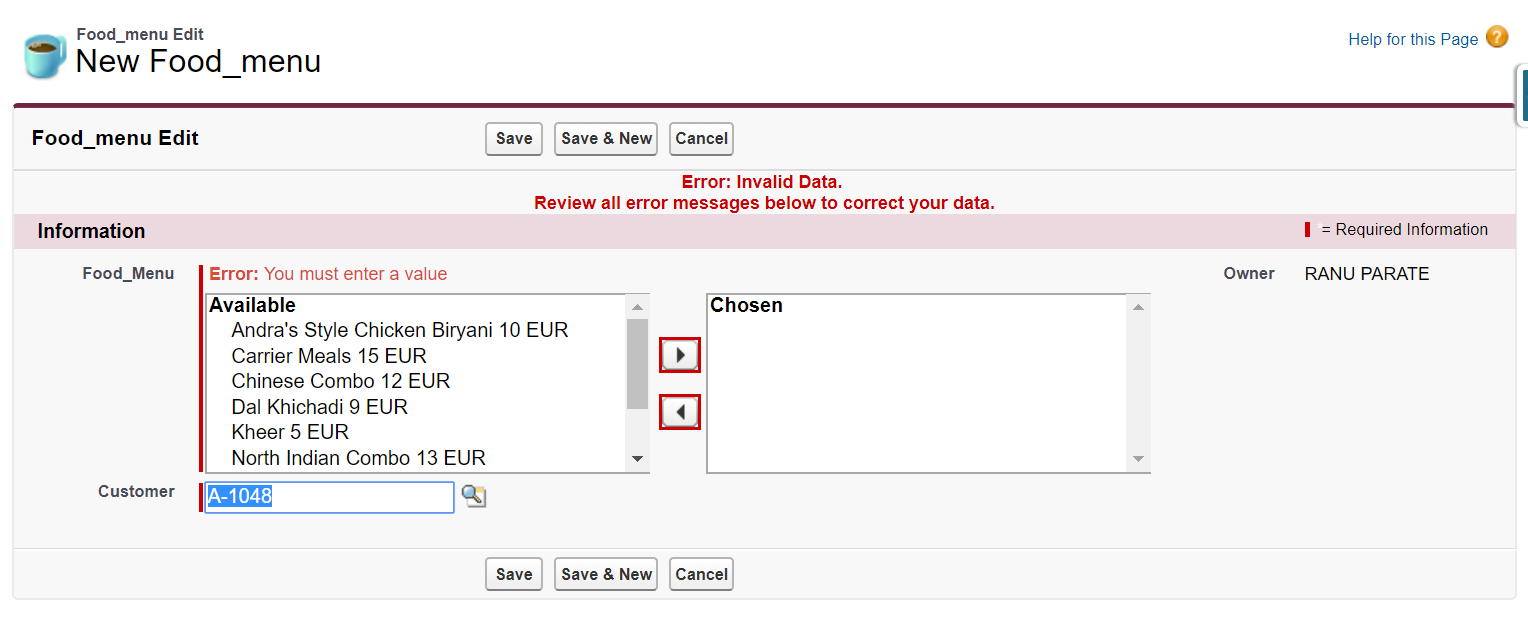


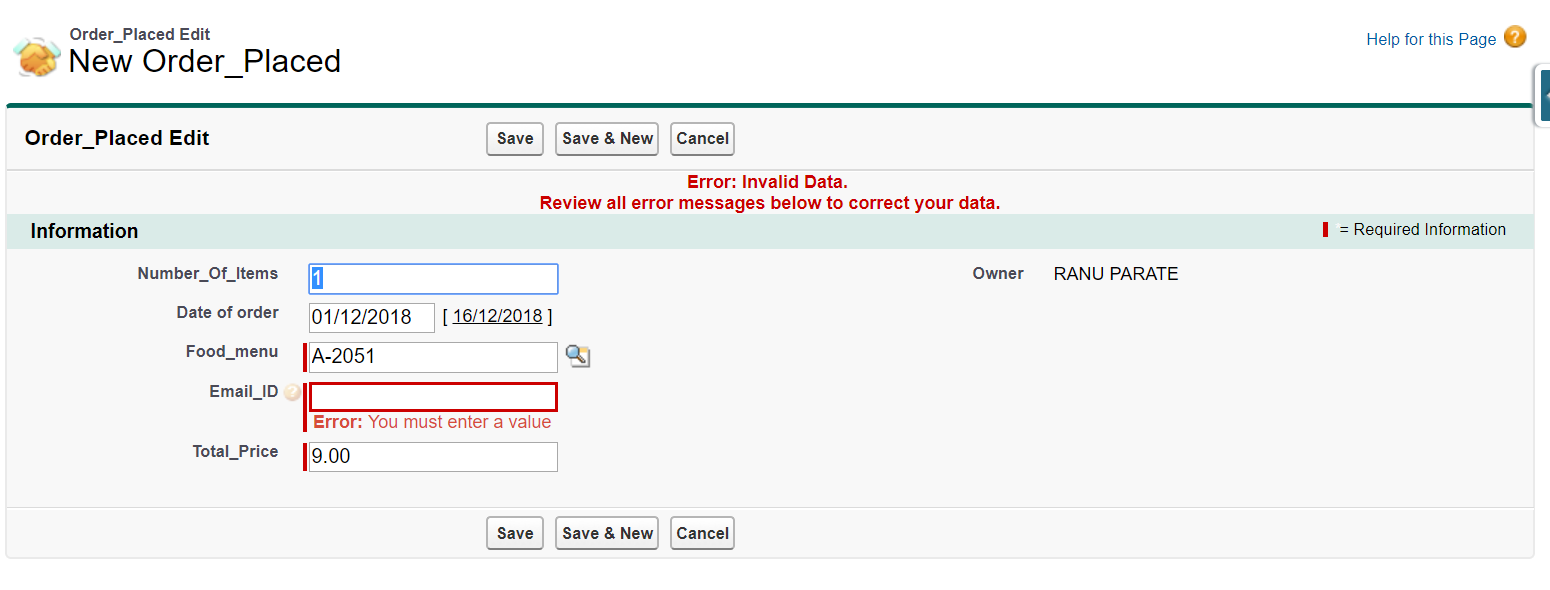
The figure clearly shows object created consist of Customer\_Name, system generated auto number Rating\_ID connected to Delivery\_ID and ratings given by customer in form of numbers.

**Validation Rule:** Its simple pre-set of defined function which is used to check the accuracy of details by entered by the user by exception error handling method which benefits user to validate the page with proper guidelines.

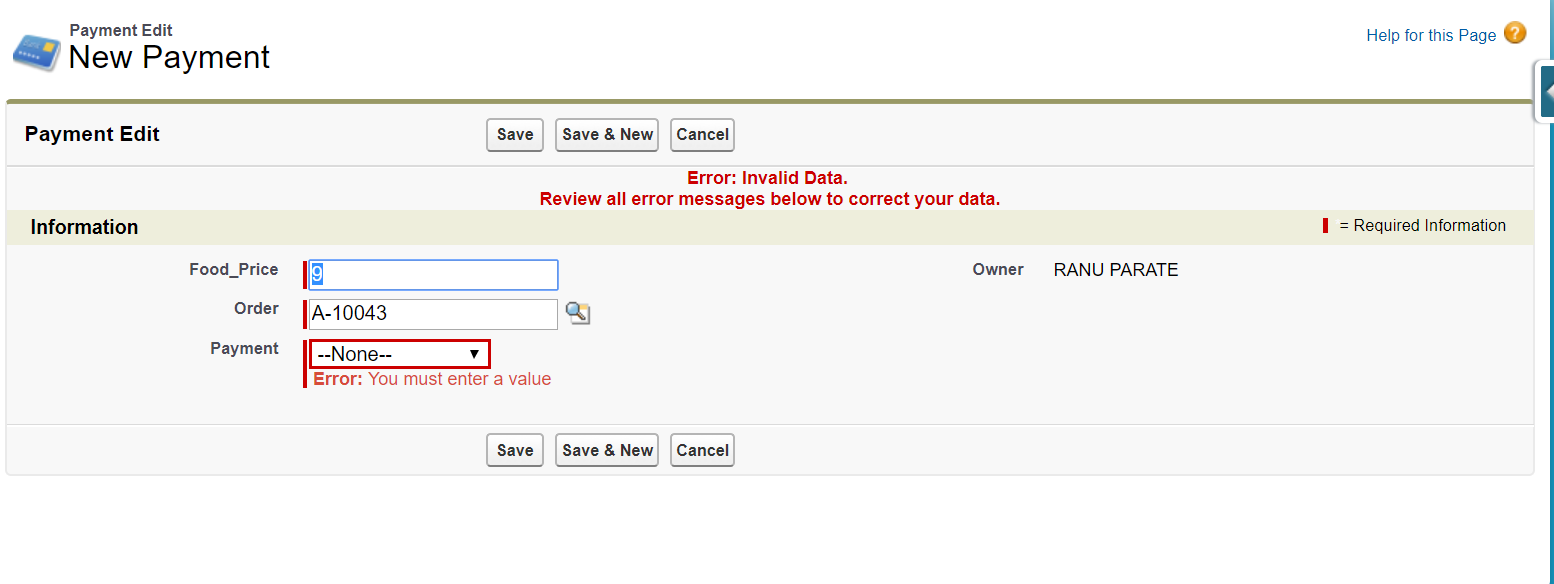
**Validation Rule for Customer:**  To detect an error in the initial phase and make accurate interactive platform we have created some function as a form of validation rule for different objects. A validation rule for Customer object is shown below in the diagram****

In the above figure, the user has purposely not filled Customer\_Address field which has thrown an error, in form of a pop-up message which refrains user to move to the next page until he fills all data. This is a process of checking validation of Customer object.

**Validation Rule for Food\_Menus:**  For Food menu object validation rule is clearly set with a function that states if the user does not select food items selected by customer error is thrown at the screen as seen from the diagram below As seen from the above-illustrated figure the error message pop up at the top which clearly states user to select one of the values from pick list to proceed to the next step.

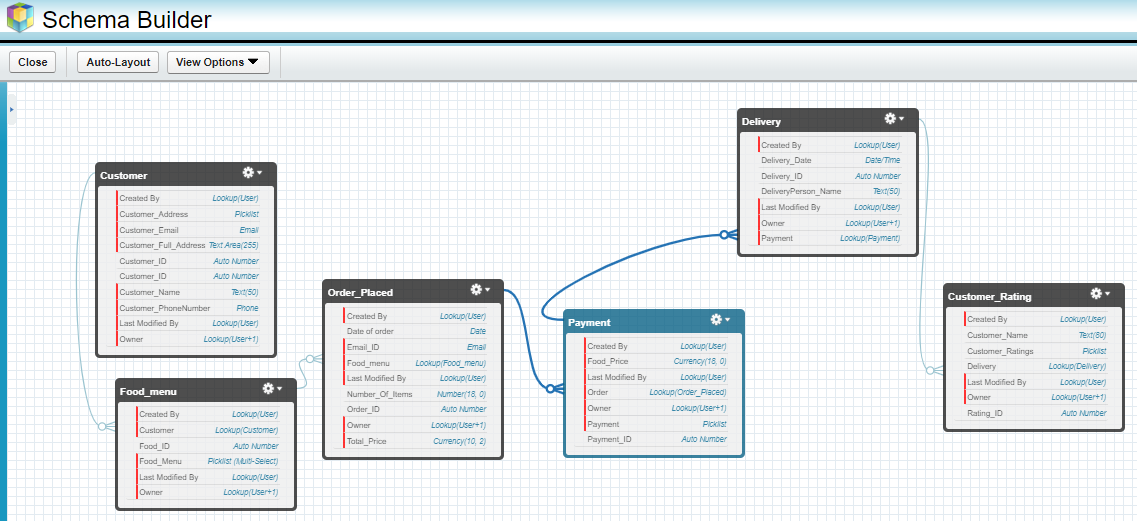
**Validation Rule for Order\_Placed:**  A validation rule for Order\_Placed has a number of fields which needs to be filled by the user operating the platform like Number\_of\_Items, Date of order, Email\_ID, the process is same as like other objects mentioned above.  From the image above user has got an error message of invalid data and asked to correct the data, because Email\_ID field is left blank.

**Validation Rule for Payment:** Only two fields required in Payment object required detail filling one Food\_Price and next Payment fields to avoid error message and ensure user the appropriate functioning of the payment page.

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The figure above shows the error message which occurred due to payment option left blank by the user. After filling the desired option the user can move to the final process.

**Schema in Schema Builder:**



The above image demonstrates the objects that are created as per the requirement of the organization functionality are linked to each other. These objects form the base of the organization and it is necessary to be managed. All the build-up and management of relationships for the various objects that are created for the organization is done with the help of Schema Builder using the keys which are present inside each object. All these tasks are handled by an expert of Salesforce in an organization.

In our CRM implementation, there was a requirement for 6 objects and are organized in a manner so that it demonstrates the business flow of our organization.**Generating Email Alerts:**

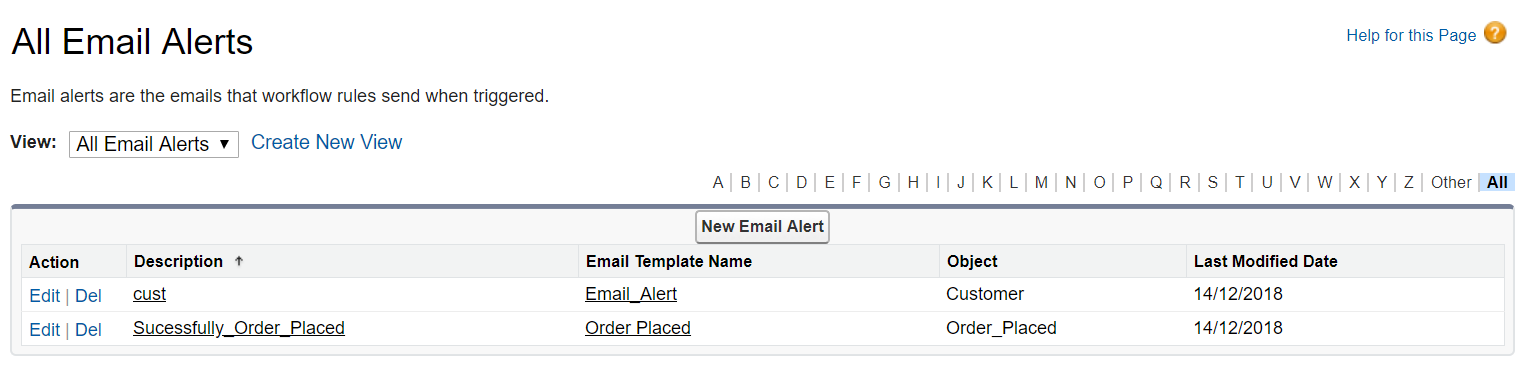
In this project implementation, we have set up a process to generate emails alerts at two crucial points of the business.

1) When a new customer registers with our company

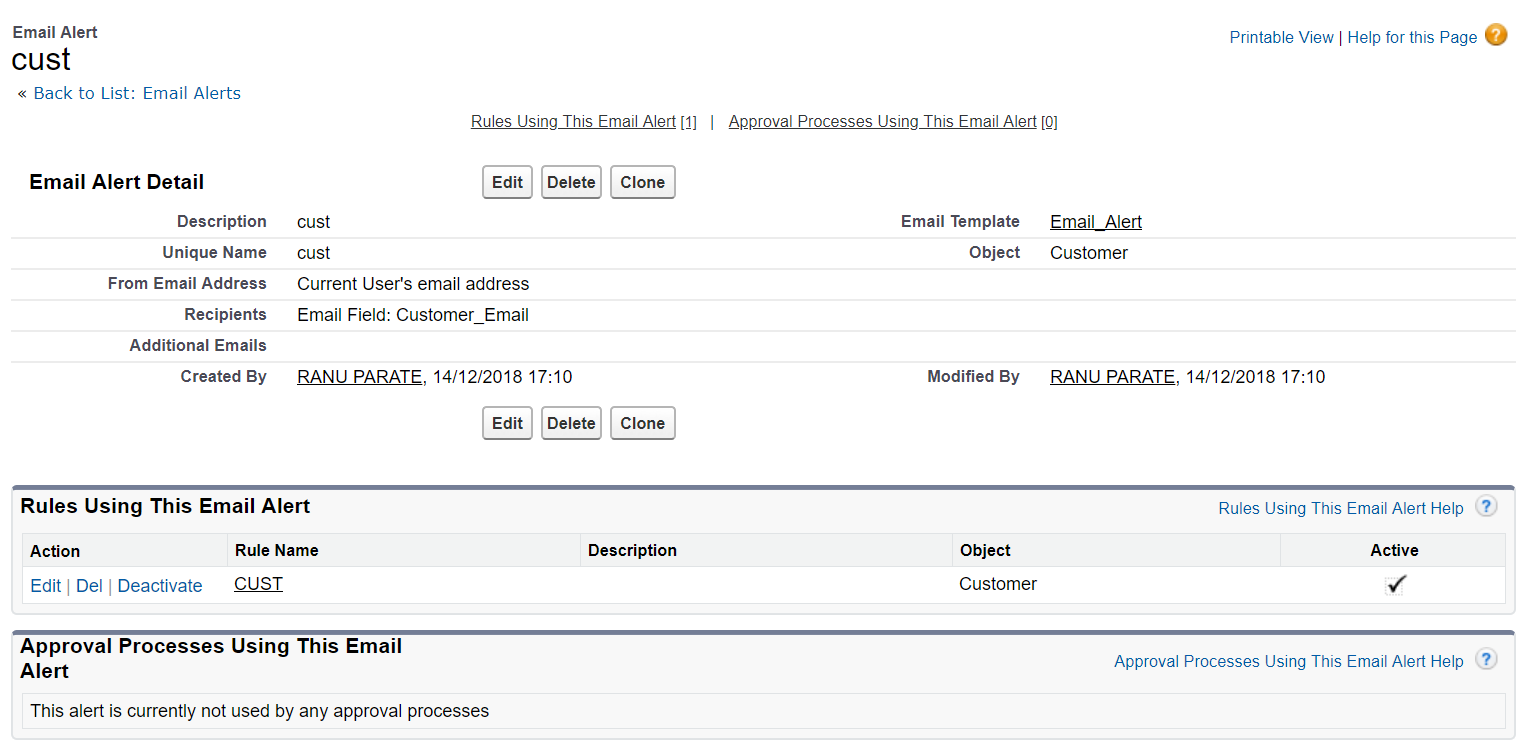
2) When the customer makes a purchase for us.

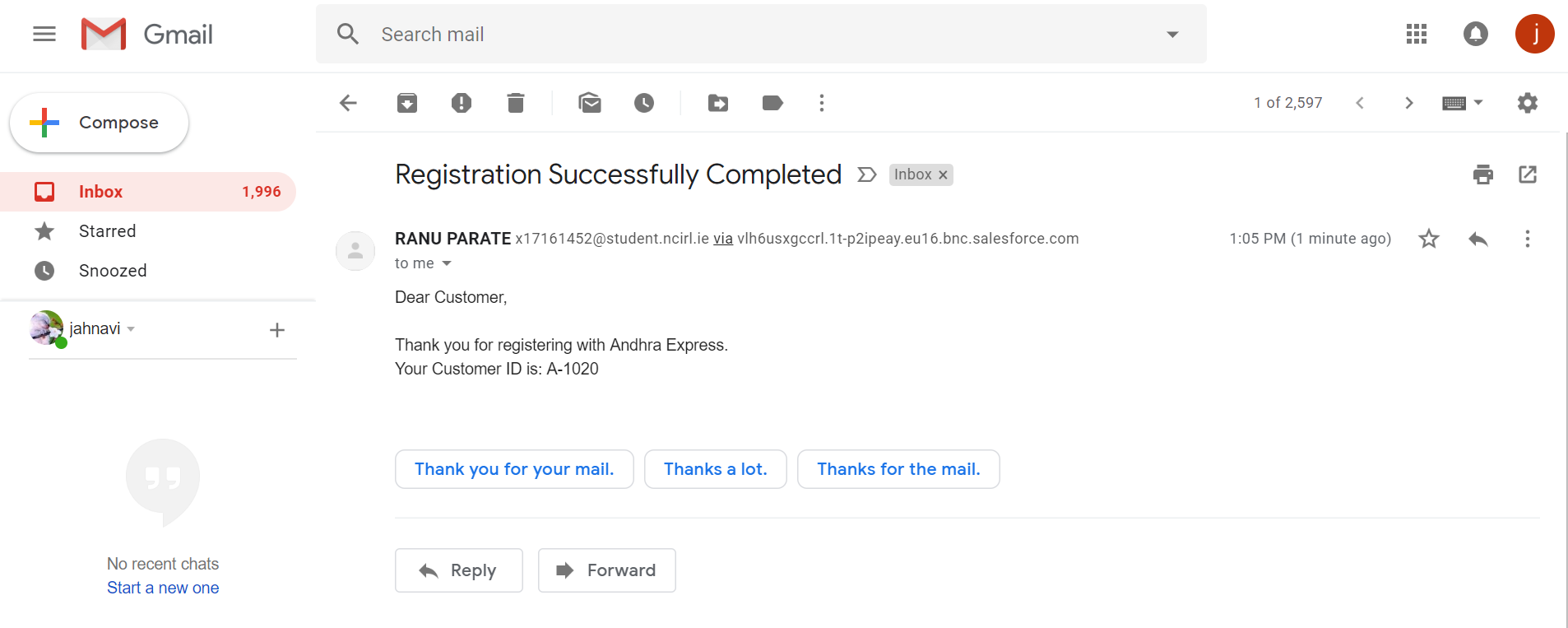
This kind of an e-mail notification signifies success at any of these points i.e successful registration or successful order placing as an Invoice.

The following are the two email alerts that are taken into use as shown in the image below.

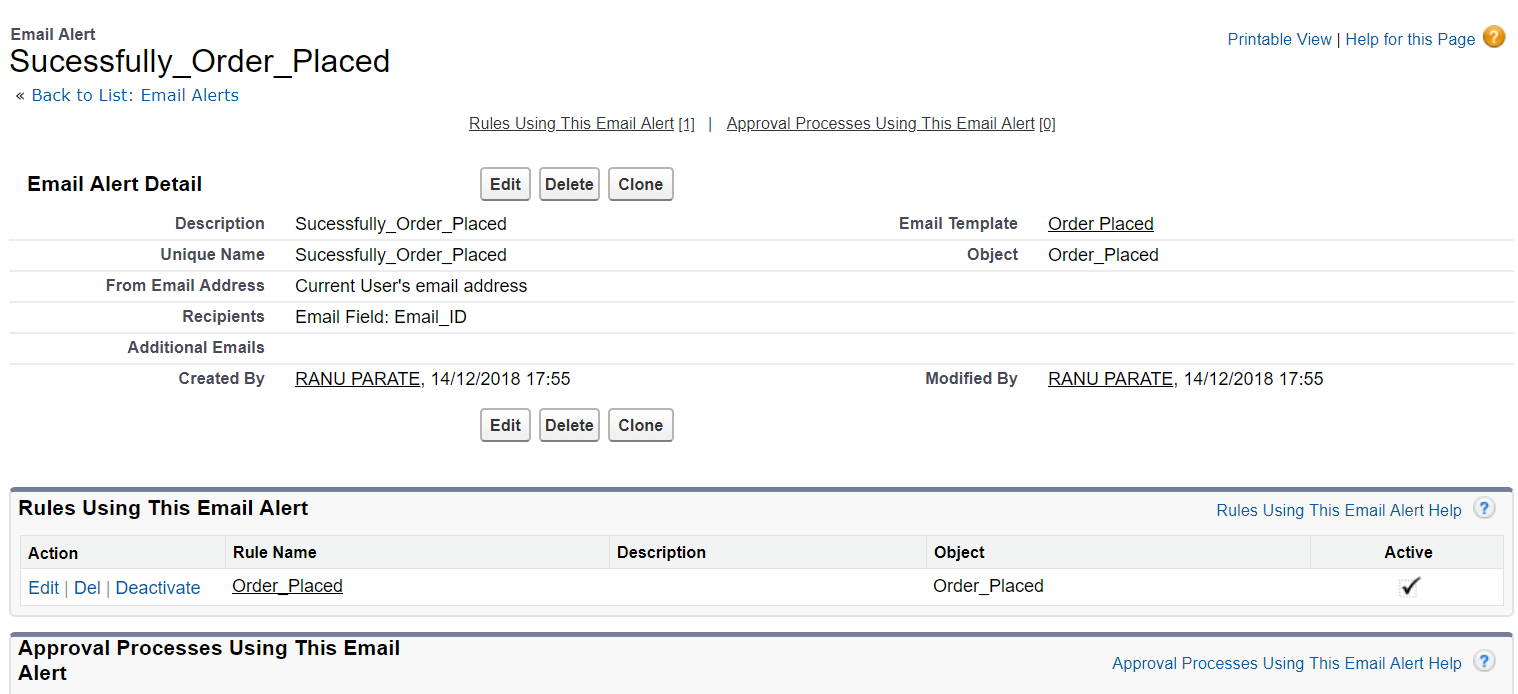


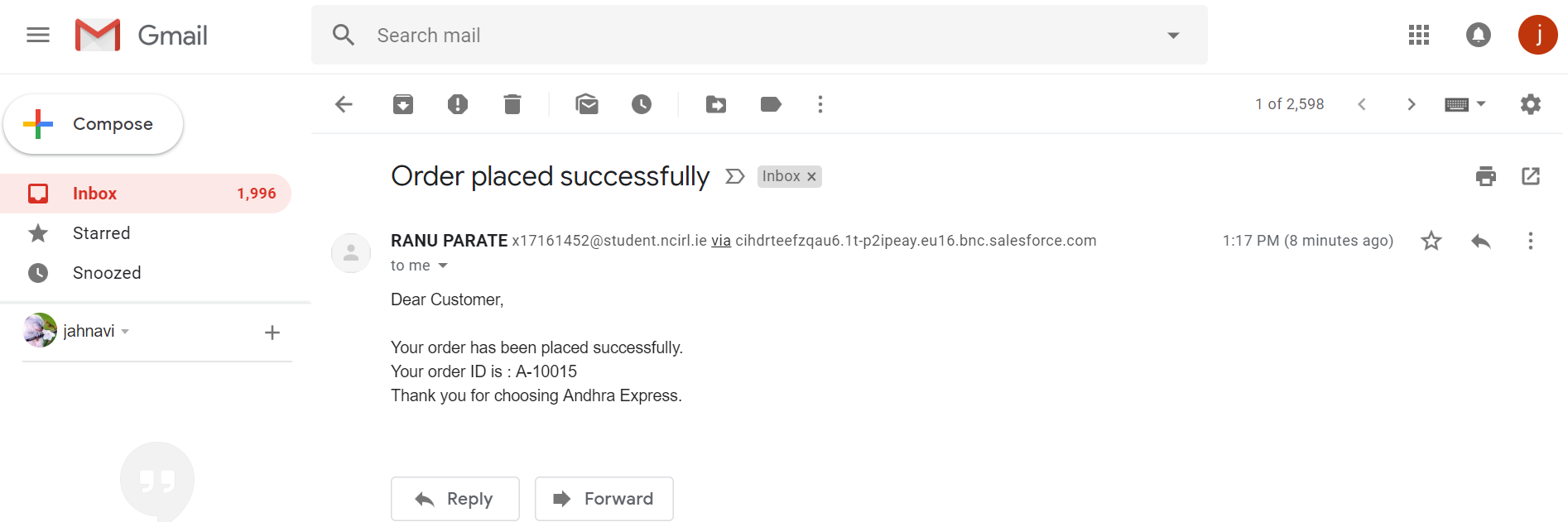
For creating email alerts, firstly we customize the email template for both the emails that are going to be used for the business. After that, a workflow rule is created in which we set workflow actions consisting of email alerts. The main step is to set it to active mode so that it could be activated for use.



This above screenshot is a more detail view of the email alert that is generated when a new customer registers with our organization. As it can be seen the alert is set to an active mode which means that it is in use. This email alert will be sent to the concerned customer. For testing purpose, we have registered with one of our personal email ID so as to check the working status of the email alerts.

As it can be understood from the above screenshot that the customer has received an email suggesting his/her successful registration with the organization and also has been allocated with a Customer ID which can be used for ordering purpose.

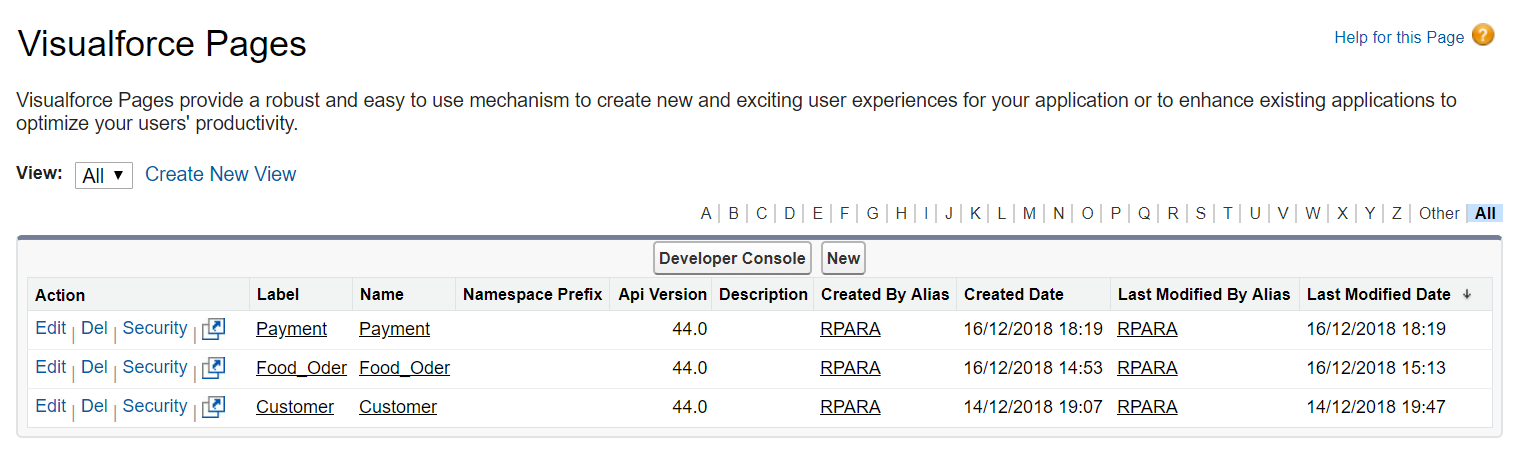


The above image gives the detailed insight into the mail generated when an order is placed by a respective customer. For a confirmation purpose, an email is sent to that customer. Even this alert is set to an active state it is in use. This mail is forwarded to the concerned customer.

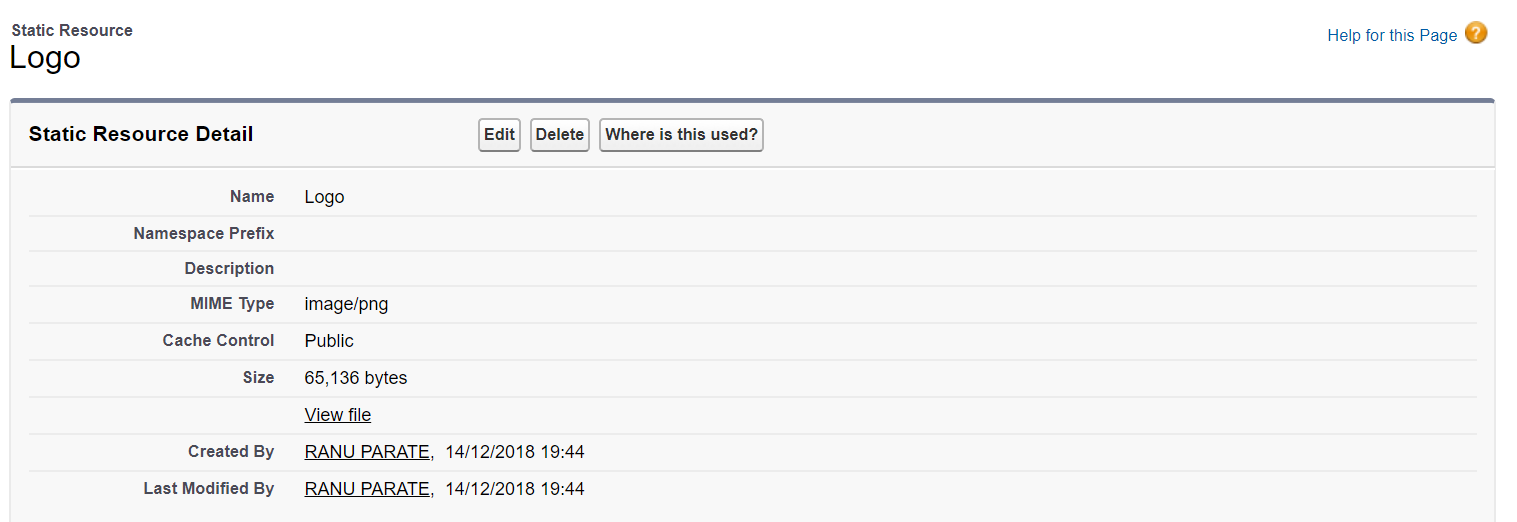
As from a customer point of view, he/she will receive such type of email when they place a food order from our organization. It also consists of the order ID that is generated for the particular invoice.

User Interface:

The organization of the organization is designed using custom features that are available in Visualforce. Apex is the programming language that is used to code the interface.

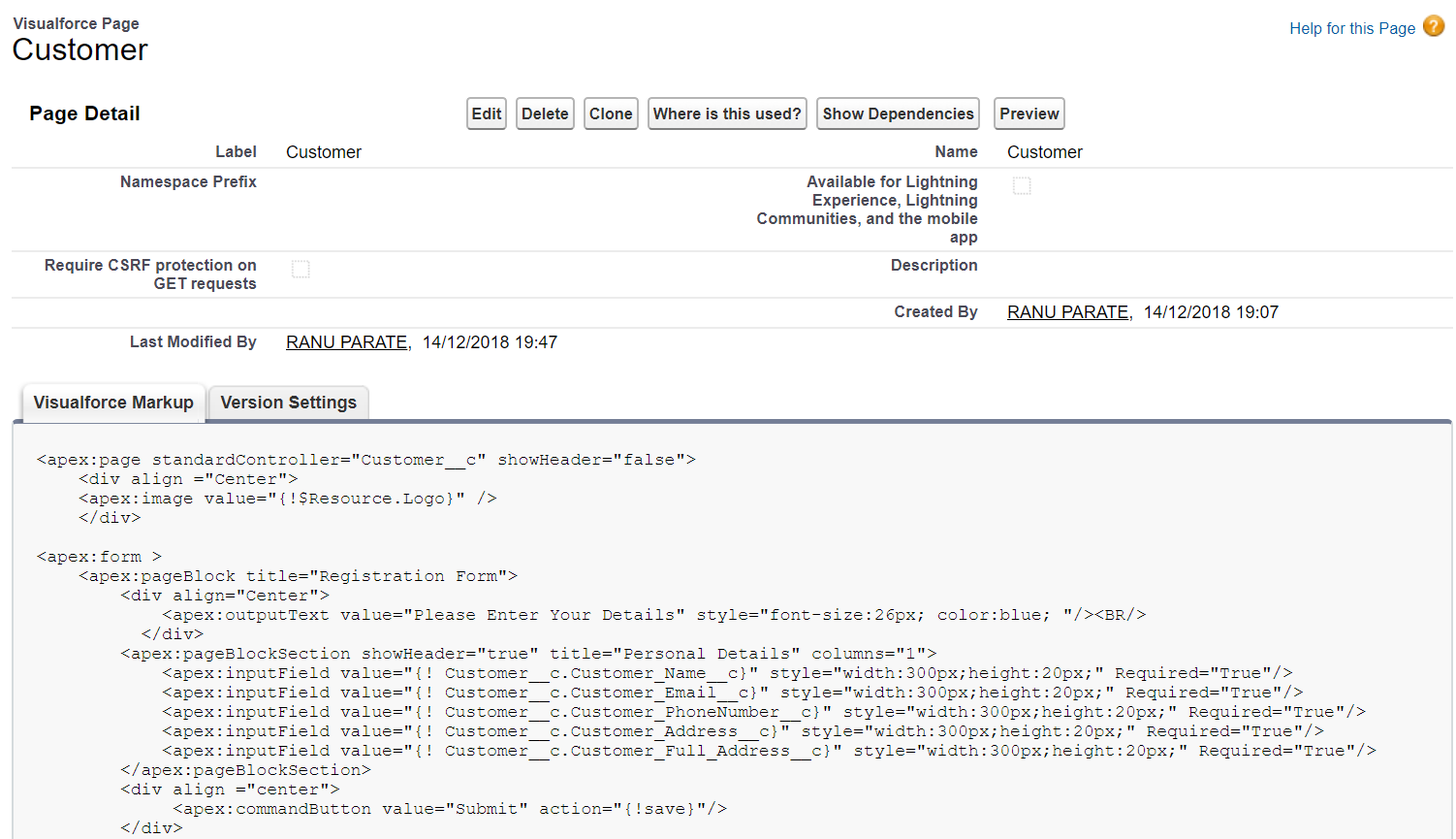


As we can see from the above illustrated image shows the customer page that is designed.



In the static resource page there is detail description about the inclusion of an image which signifies the logo of the company in form of a resource.

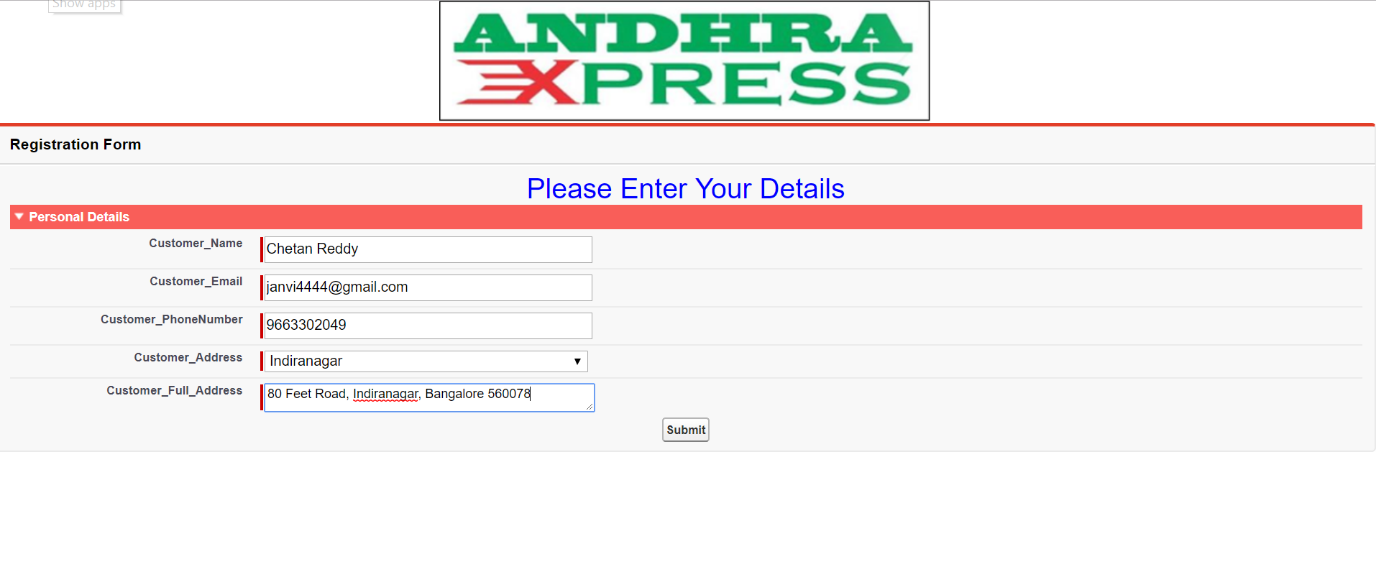
*1)Customer Registration Page*

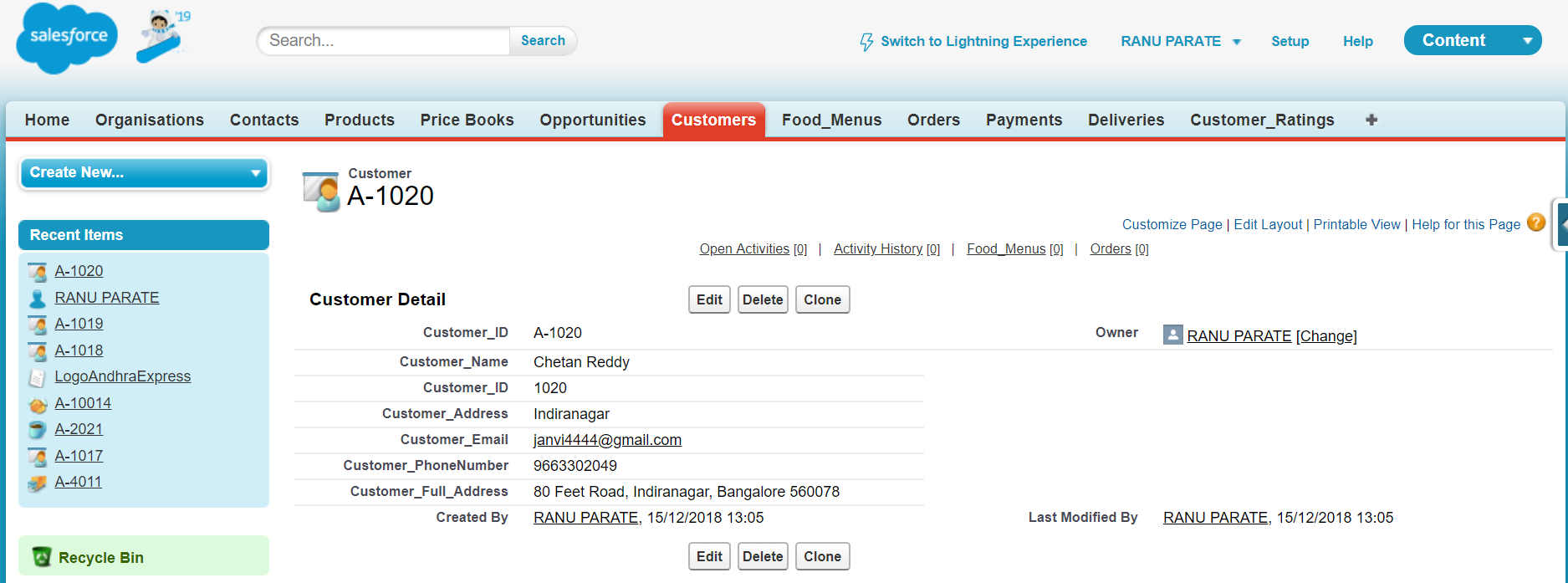


This snippet of Visual force page is where the coding for the webpage is written and executed. We have selected the theme and colour as per the logo of the company. We have created input fields as per the requirement and all the fields are kept mandatory so as to complete the registration.



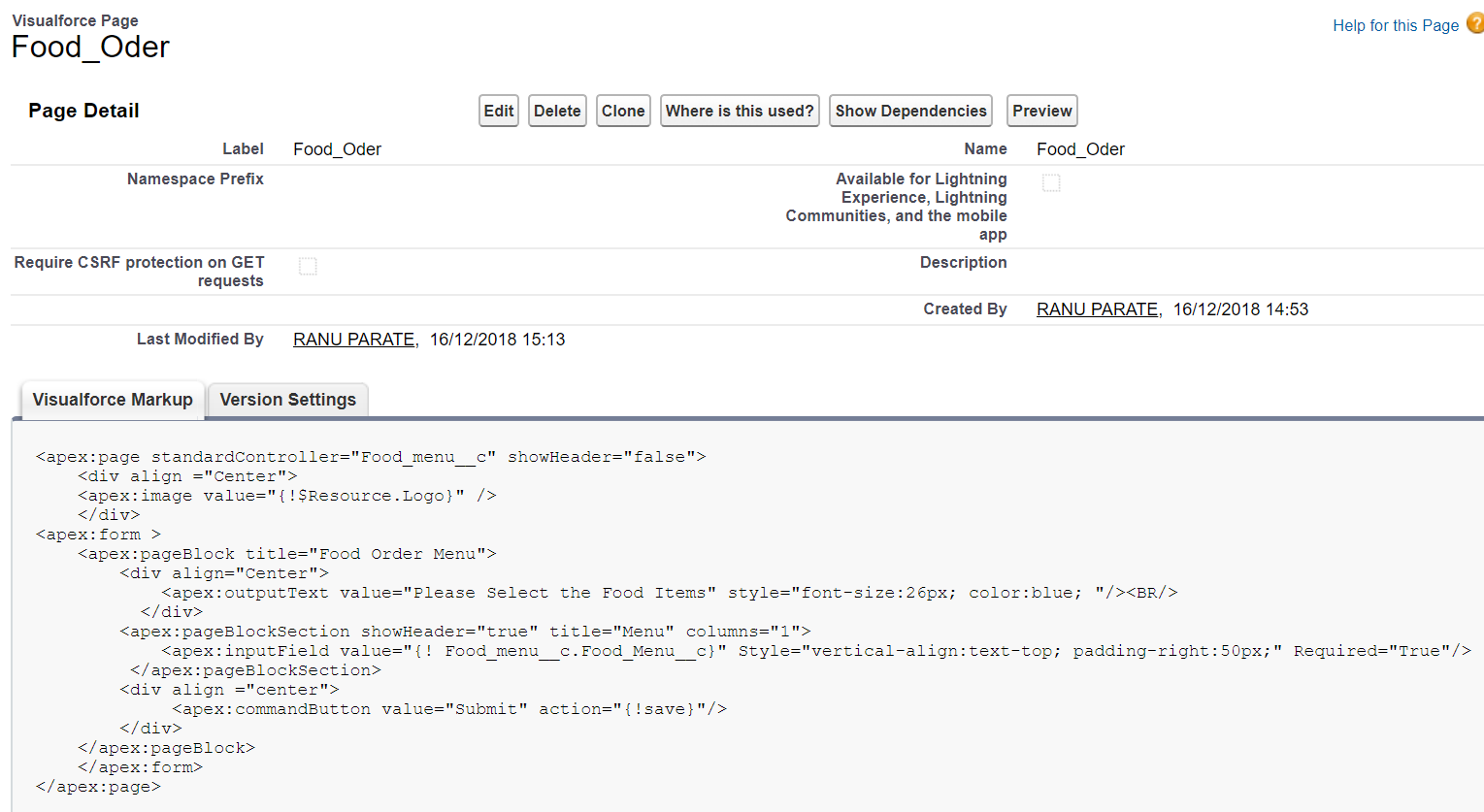
The above page shows how the default webpage looks when it is loaded and the below image shows how the page looks like when data is entered. If a person tries to enter invalid data into the input and tries to complete the registration by clicking on submit the page will pop up with a validation error requiring user to input the data as per the required pre-set validation standards.



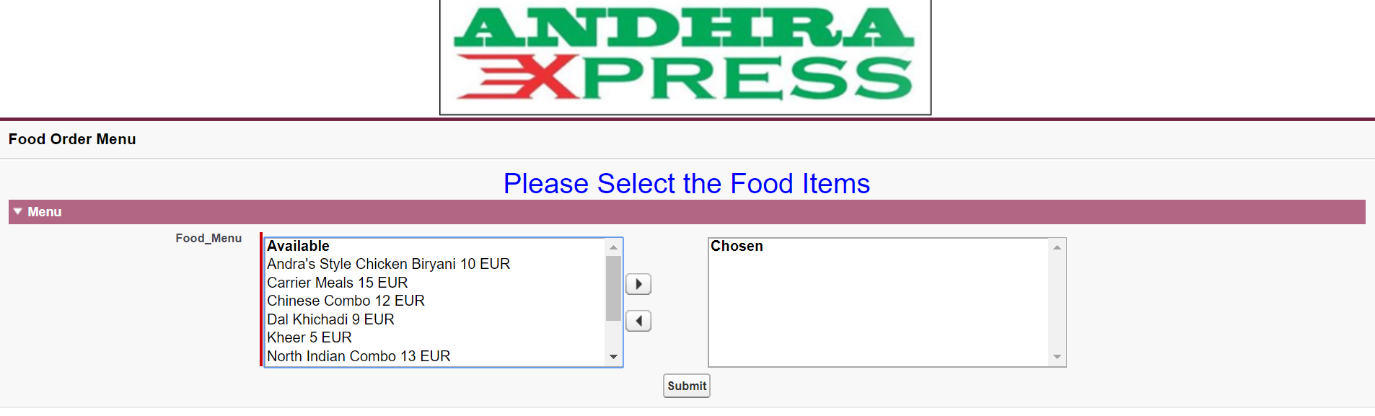


The above picture demonstrates how the newly entered data i.e. the new customer details which are entered by the customer are stored in the background whereas for the means of confirmation the user receives an email which also provided him/her with their unique Customer ID as well.

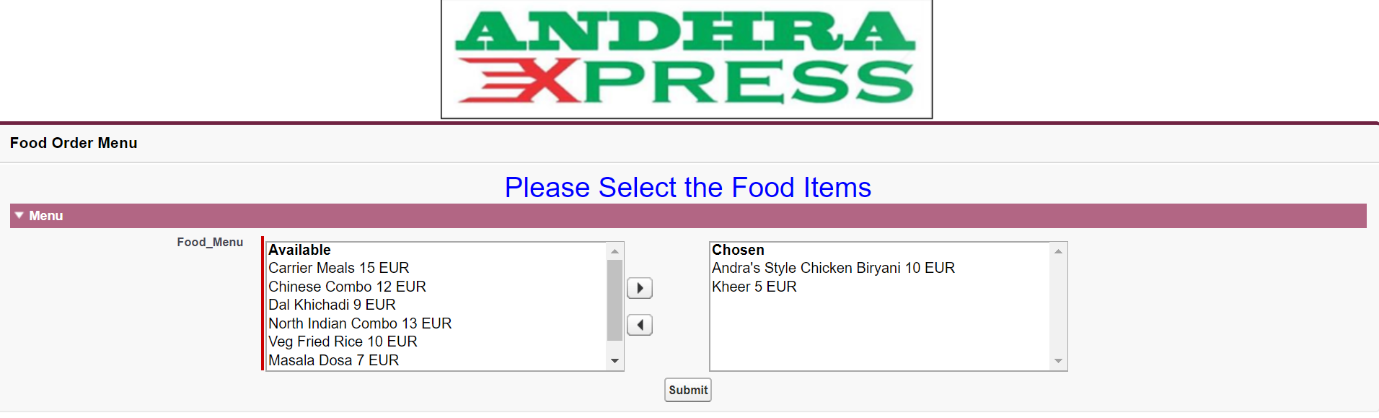
*2)Food Ordering Page*



This snippet of code is for creating the webpage for ordering the meal provided by the company.The theme of the interface is kept the same as that of the registration form.



The above image signifies the default screen that is loaded when a customer tends to order some meal .The customer can select multiple food items from the available section and add them to the chosen section.



In the above image it could be seen that two meals have been selected for demonstration purpose from the available meals.



As it could be understood from the error that has popped up in the image above that with making any selection from the available section if the respective customer tries to submit the selection there will be an error message stating that atleast one of the meal must be selected for submitting the order.

*3)Payment Page*

When the user selects the meal he will have to pay for it and this above figure the deault page that will be loaded for selecting the type of payment.



The customer can select either of the method i.e. Cash of Delivery or Online payment so as to confirm the type of payment he wants to prefer.

**Future scope** This project has quite various nodes in it which can be expanded in a systematic manner while maintaining the proper functioning of the organization.One of the major factors which affect the sales of a particular organization is the location range. This particular implementation is limited to 5 km range for the delivery of its meals as the organization is a newly developed one and it will take a certain time for it to grow and spread so that it could attract more and more customers by establishing new branches.

Secondly, an aspect that could be explored is the service time. In this case, the delivery time is an important aspect that should be managed efficiently by the organization and this should work in a structured manner. Also to improve the service i.e to cut down as much time as possible so that the product reaches to its designated customer within very less amount of time the outsourcing approach can be opted by the organization in partnership with e-tailers such as Zomato and Swiggy could assist our organization in delivering the food.

Apart from all the above-mentioned things, another important space for expansion is by opting the already-in-use Salesforce platform to manage all the staff information and by managing their salaries as well as monthly performance evaluation can be done using this platform. As the number of food items is limited as the of company is a fresh start-up it will require certain time to catch up speed after which the more meals could be added to the menu.

**Team member workload contribution**

In these project all 4 team members have contributed equally through coordination and helping each other in development, adding platforms features details in the report. The workload was initially divided equally as 2 people engaged in building platform and rest two were indulged simultaneously understanding the platform and formatting report according to it. Starting from the initial stage of understanding features of salesforce to final stage of making fully serviced CRM platform lot of changes were made by the discussion around what features can be added or modified by report preparation team. And successfully we were able to match all set guidelines for the project before the deadline. We would like to also thank our project coordinator by providing us valuable apex code details on Moodle so we can understand the basic of apex programming for building web pages. Before submitting the project every project member concern was taking and after that, we have arrived at conclusion this is our final project with no changes. Please find details of team member and their contribution in the project.

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| --- | --- | --- |
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