

Anusha Nelluri – anhx2@umsystem.edu

GitHub Link - https://github.com/NelluriAnusha/Demo_Remote/tree/main/Mobilepart/ICP9

Achyuth Kumar Valeti – avgh3@umsystem.edu

GitHub Link - https://github.com/AchyuthValeti/Demo_Remote/tree/main/Mobilepart/ICP9

ICP9 (Developing Pizza ordering app for Android)

A. Introduction:

Android Studio is an open-source platform that allows us to create apps for Android OS devices such as smartphones, tablets, and televisions. In this task, we are designing and developing a mobile app using Android Studio.

In this ICP, we used **Android Studio, Java & XML** languages for mobile application development.

B. Task Description:

In this task, we were asked to design a Pizza Ordering App using Android studio with the following options:

- I. The Order Page contains the following options that a user can choose.
 - A text area for entering your name
 - Select your pizza type
 - Toppings area with checkboxes for selecting toppings
 - A quantity of pizza section with the number of pizzas that customer wishes to order.
- II. There are two buttons from which to choose. The first is ORDER, and the second is SUMMARY.
- III. When the user clicks the **ORDER** button, the user is given the option to send mail to the specified recipient, along with the order description and order details.
- IV. When the user clicks the **SUMMARY** button, it will be navigated to a next screen with the following information:
 - Summary of the Pizza order
 - Image of the Pizza
 - GOTO ORDER button
- V. When the user clicks the **GOTO ORDER** button, it will be navigated to the main screen.

C. Implementation Process:

- We have created a new project in Android studio application and selected “Empty activity”.
- Empty activity provides .java and .xml files (MainActivity.java, activity_main.xml) and it is used for “order page”.

Order Page: (activity_main.xml):

- a) **Text Field for to enter the name:** In this file, we have added an Edit Text Field with input type is “userInput” and entered the id of the textfield as “@+id/user_name”. As a result of this, the user will be able to enter their username.

Code:

```
<EditText
    android:id="@+id/user_name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="16sp"
    android:inputType="textCapWords" />
```

- b) **Checkboxes to select the type of Pizza:** We have added three checkboxes, one for Veg selection, second is for non-veg selection and third is for other options. Respective id's are also created as mentioned in the code below. By using these id's the checkbox values can be accessed in the java file (MainActivity.java).

Code for Veg CheckBox:

```
<CheckBox
    android:id="@+id/veg_checkBox"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Veg"
    android:textColor="@color/black"
    android:textSize="20dp" />
```

Code for non-Veg CheckBox:

```
<CheckBox
    android:id="@+id/nonveg_checkBox"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="40dp"
    android:text="non-Veg"
    android:textColor="@color/black"
    android:textSize="18dp" />
```

Code for others checkBox:

```
<CheckBox
    android:id="@+id/others_checkBox"
    android:layout_width="101dp"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="10dp"
    android:text="others"
    android:textColor="@color/black"
    android:textSize="18dp" />
```

c) Buttons:

Order Button: We have taken one button for order confirmation. When the order button is hit, it allows users to send the email to the recipient. When the user clicks the order button, it prompts them to share their information, and they select Gmail as an option for the order details, with the topic of the email auto populated. The order's id is @+id/buttonorder.

```
<Button
    android:id="@+id/buttonorder"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:layout_margin="8dp"
    android:layout_marginStart="100dp"
    android:layout_marginLeft="100dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="100dp"
    android:layout_marginRight="100dp"
    android:background="#009688"
    android:onClick="submitOrder"
    android:text="Order"
    android:textColor="#FFFFFF" />
```

Summary Button:

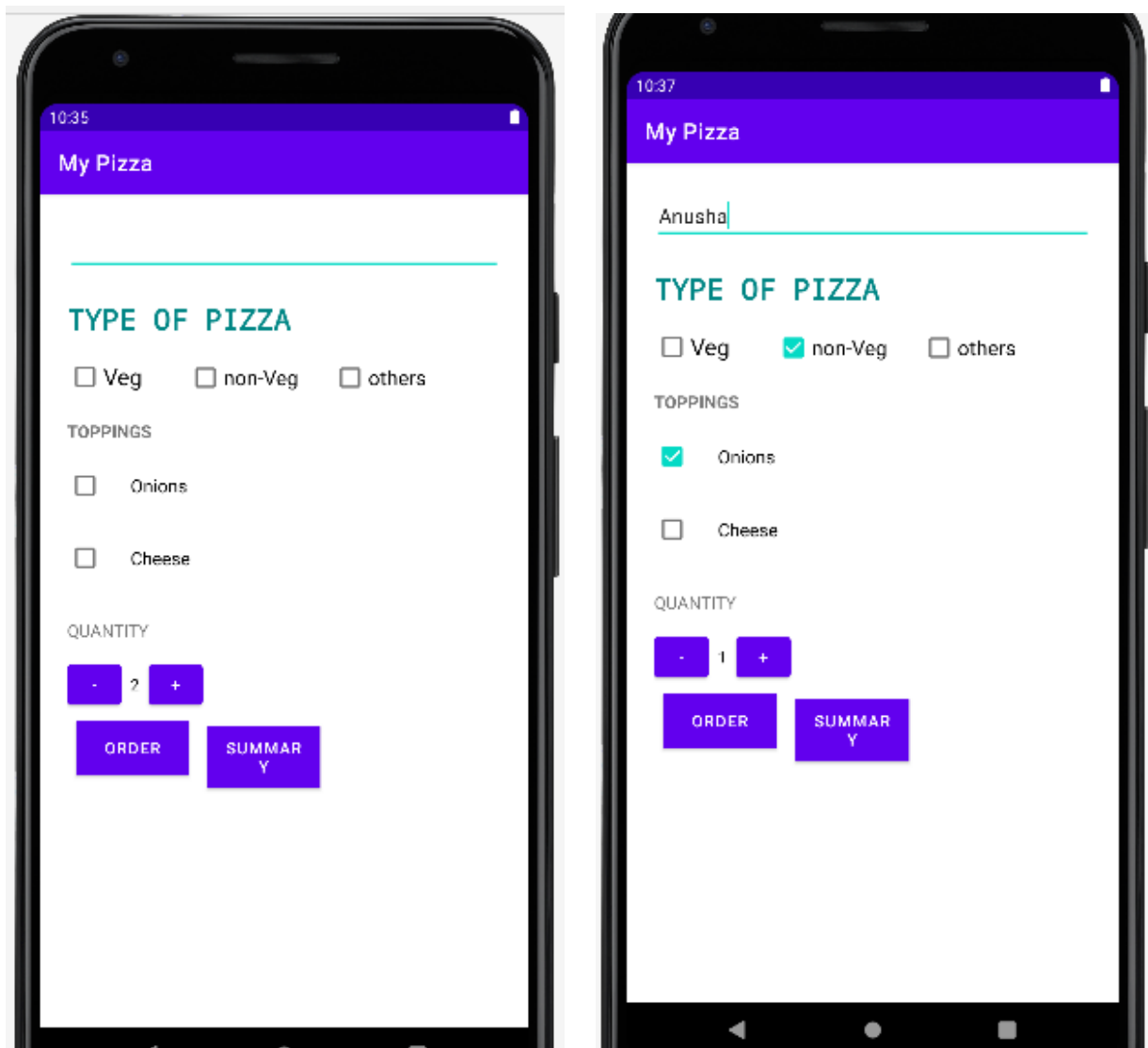
We have taken one more button for order Summary. The Summary button takes the user to a new page that includes the order summary, an image of a pizza, and a GOTO ORDER button. A Summary button's id is @+id/buttonsummary.

```

<Button
    android:id="@+id/buttonsummary"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:layout_margin="8dp"
    android:layout_marginStart="100dp"
    android:layout_marginLeft="100dp"
    android:background="#009688"
    android:onClick="submitSummary"
    android:text="Summary"
    android:textColor="#FFFFFF" />

```

d) Output for the Order page:



e) Java code for Order page: (MainActivity.java):

The main functionality for all the button has been described here.

1. When the Summary button is clicked, getOrderSummary() function will be called to get the user entered information on order page.

Code for getOrderSummary() function:

```
chickenChecked = findViewById(R.id.nonveg_checkBox);
boolean hasChicken = chickenChecked.isChecked();

veggieChecked = findViewById(R.id.veg_checkBox);
boolean hasVeg = veggieChecked.isChecked();

opChecked = findViewById(R.id.others_checkBox);
boolean hasOther = opChecked.isChecked();

// check if whipped cream is selected
CheckBox onion = (CheckBox) findViewById(R.id.onion_checked);
boolean hasOnion = onion.isChecked();

// check if chocolate is selected
CheckBox chocolate = (CheckBox) findViewById(R.id.cheese_checked);
boolean hasExtraCheese = chocolate.isChecked();

// calculate and store the total price
float totalPrice = calculatePrice(hasChicken, hasVeg, hasOther, hasOnion, hasExtraCheese);

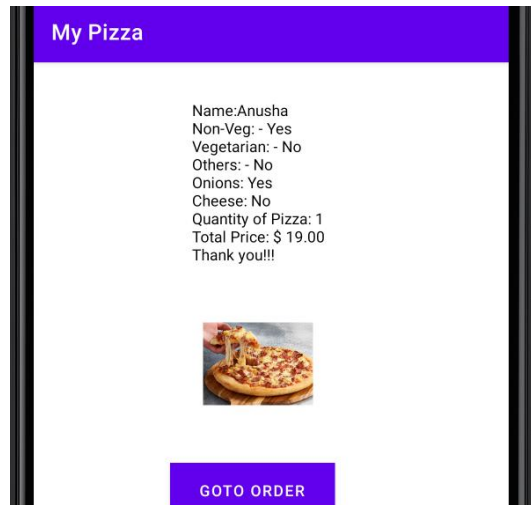
// create and store the order summary
String orderSummaryMessage = createOrderSummary(userInputName, hasChicken, hasVeg, hasOther, hasOnion, hasEx
return orderSummaryMessage;
```

2. The submitSummary() function is to navigate to a new page, the summary Screen, where the description of the pizza order will be shown.

Code for submitSummary() function:

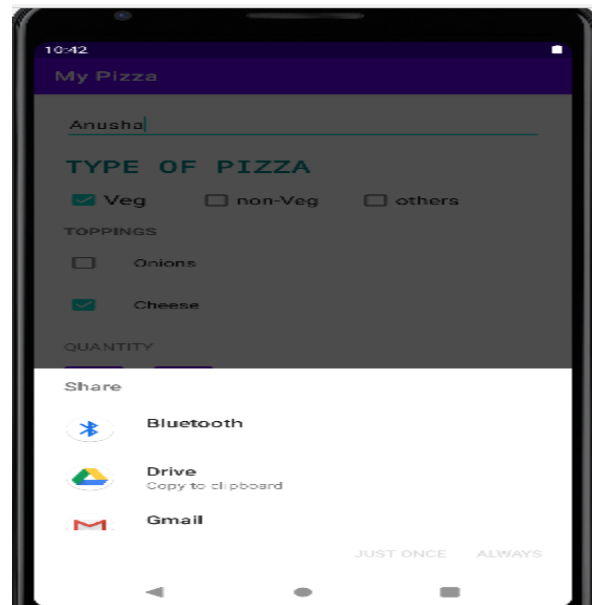
```
public void submitSummary(View view) {
    String orderSummaryMessage = getOrderSummary(view);
    // get user input
    Intent summary = new Intent( packageContext: this, Order_Summary.class)
    summary.putExtra( name: "message", orderSummaryMessage);
    startActivity(summary);
}
```

3. In this case, we created a linear layout with a textview, a pizza image, and a button "GO TO Order" on the screen.



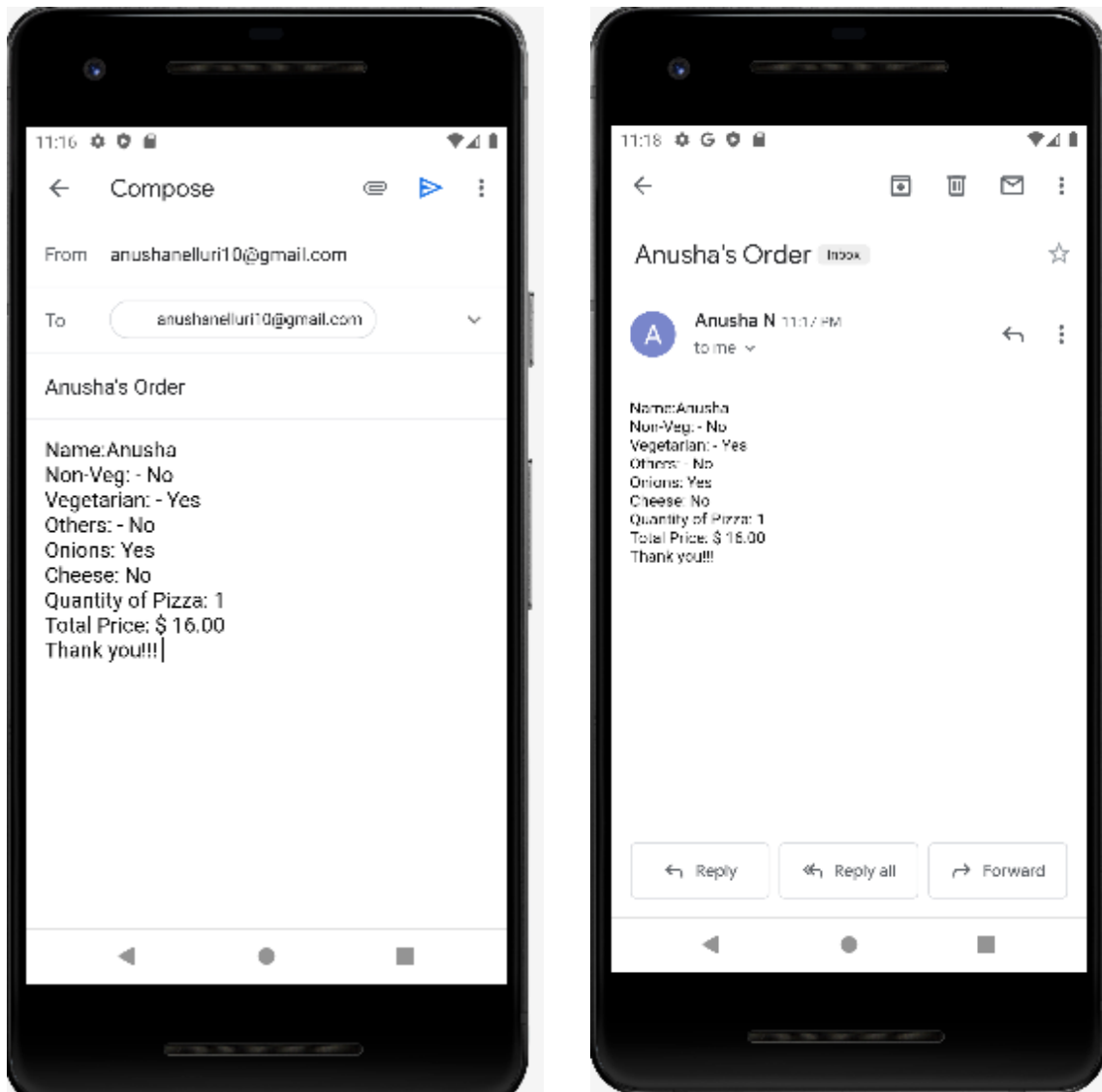
4. When we click on order button, it will us to send an email with the order information along with the subject as well.

Output:



5. We have written the functionality in sendEmail() function to get the subject and order confirmation details and then send the mail to recipient.

Output page:



6. We have implemented Goto order button. When we click on this button it will redirect to the order page and the same is implemented in Java file.

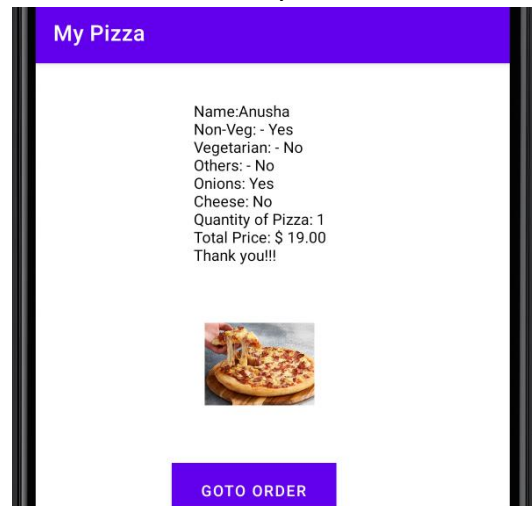
f. Order_Summary.java:

1. This java file is helpful us to get the order description and the functionality is implemented as well.
2. When we clicked on Goto order button, the homeNav() will be called. In this method, we were using intent to navigate to the MainActivity file.

Code for homeNav():

```
public void homeNav(View v){  
    Intent i = new Intent( packageContext: this, MainActivity.class);  
    startActivity(i);  
}
```

3. All the entered details by user can be seen on Summary page as below.



4. As mentioned in the image, we can see the toppings added, type of page, customer name, quantity of pizza and total price of the pizza as well.

D. Contribution:

We have contributed equally.

E. Conclusion:

In this ICP, we have learned basics of android & how to use Android studio to develop an application and developed a mobile android application using the same.

F. Challenges:

We have not faced any major challenges while doing the assignment.