ICP 9: Layouts, Views, Intents

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Introduction

A pizza ordering app is created using various layouts and views in combination with intents to switch from one activity to another. The user is able to specify pizza type (size and toppings) along with quantity. The user's name and email is also used to customize the experience and send them a confirmation of the order.

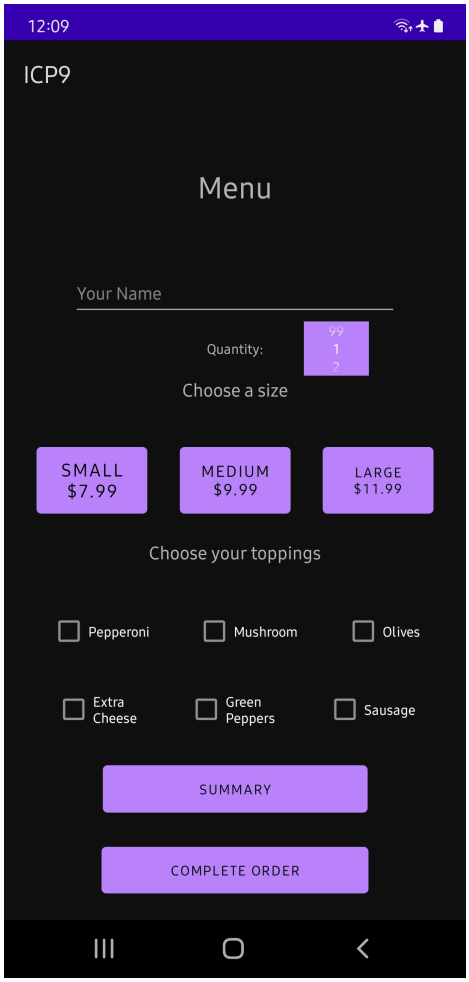
Menu Activity

The Menu activity is the default launcher that the user sees when they open the app. It uses a layout that consists of Textviews, EditText (for customer name), a NumberPicker (for quantity), Checkboxes (for toppings), and Buttons to initiate actions such as size selection and Summary/Order.

Intents are used to transfer user selected data between activities. For instance, after a user makes their topping selections, that data will be transferred to the summary activity and back again to the menu activity without the user having to re-enter that data each time. Checks are also implemented to ensure that the appropriate data is available when reading intents.

```
46          Intent intent = getIntent();
47          Bundle extras = intent.getExtras();
48          if (extras != null) {
49              // Reads existing customer options and restores UI to that state
50              customername.setText(extras.getString( key: "name"));
51              quantityPicker.setValue(extras.getInt( key: "quantity"));
52              pizza_size = extras.getString( key: "size");
53              switch (pizza_size) {
54                  case "Small":
55                      price = SMALL_PRICE;
56                      break;
57                  case "Medium":
58                      price = MEDIUM_PRICE;
59                      break;
60                  case "Large":
61                      price = LARGE_PRICE;
62                      break;
63                  default:
64                      break;
65              }
```

Menu.java



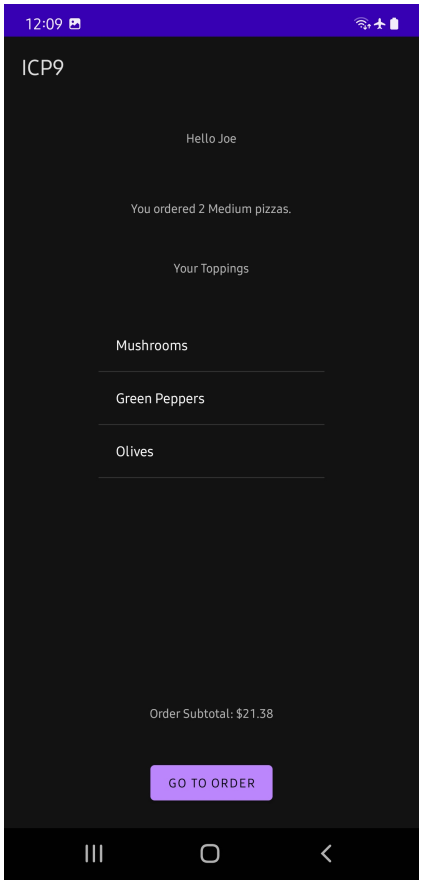
Menu Activity

Summary Activity

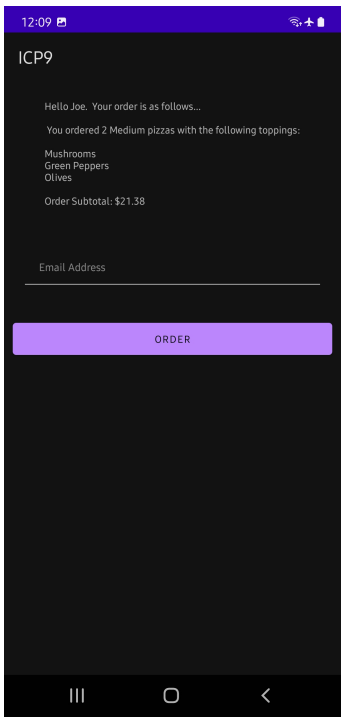
The summary activity uses a ListView to display data from an ArrayList<String> which captures data from the checkboxes used in the menu activity. An adapter is then used to display that data along with a calculation of the order subtotal which accounts from factors such as quantity of pizzas ordered and tax. (See below for Adapter usage.)

```
42          topping_display = (ListView) findViewById(R.id.toppings_list);
43          ArrayList<String> topping_array = intent.getStringArrayListExtra( name: "toppings");
44          ArrayAdapter<String> topping_adapter = new ArrayAdapter<>(
45                  context: this,
46                  android.R.layout.simple_list_item_1,
47                  topping_array
48          );
49          topping_display.setAdapter(topping_adapter);
```

Summary.java



Summary Activity



MainActivity Activity

Main Activity

The main activity finalizes the order data and prepares it for email by receiving the customer's email address. The data that is displayed is similar to the summary activity – only the email feature is added.

Intents are still used to pass data between activities and a TextUtils.join() method is used to convert the ArrayList<String> for the toppings into a String format which is used to populate the email message.

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MainActivity.java