Contribution report & Continuous Integration TechshopJU

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9 January 2022

1 Overview

TechshopJU is an e-commerce application inspired from TechshopBD http://www.techshopbd.com/. The purpose of this application is to provide all electronic component for developmental purpose. We create a mobile version of this app in android framework.
The features of this product are

1. Sign in
2. Sign up
3. CRUD product (Admin)
4. Read product (User)
5. Product Details
6. Order + Payment
7. Category search
8. Shopping Cart
9. Wish list
10. Product availablity Remainder
11. Order PCB

There will be two sprint running for this project. Sprint-1 backlog will have 1, 2, 3, 4, 5 ,6 features. Sprint-1 Deadline: 9-Jan-2022.

2 My Contribution

In sprint-1 I am working with Admin CRUD features. This features will only be accessable by Admin. Admin can create a product, read detail list of product, Update properties of product, and delete the product. If the authentication is admin , (admin@gmail.com), the can access this features.

Figure 1: Add Product View

2.1 Add Product

At the beginning the add product form will be displayed. The view contain 3 edit text, two button, an imageView and a progressbar. Admin input the product Name, Price, Description in the EditText. Then Admin click Choose Button to select Image from storage. This button activate an Intent with ACTION_GET_CONTENT type that invoke to open storage. After choosing prodcts image, onActivity method confirm image receive and store the imaage URI.

After getting all the product information, it will be stored in an object of Product class. Finally the object is uploaded into firebase cloud storage and real_time database. A progressbar will show the uploading progress. There is a menu at the top-right corner used to view product catalogue.

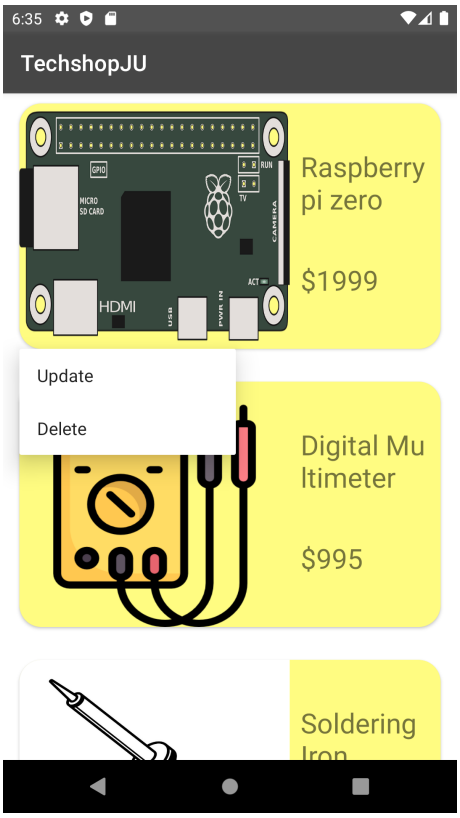

Figure 2: Product Catalogue

2.2 Product Catalogue

After clicking menu item in the add product view, it will redirect to catalogue view. All products that are stored into database are displayed here.

The view contain a recyclar view that show all the products in each of its item. Initially the list of product is fetched from firebase realtime database then stored into a list of product. Then the list is mapped with the recyclarView with recyclar adaptar class. The Recyclar adaptar class use a ViewHolder class to fit each product to a particular view item.

- By clicking a recyclar item it will redirected to Product Detail page which will be performed by other member in this project.
- By long click a recyclar item a popup menu will shown containing 2 menu item. Update and Delete.
- Clicking delete menu_item will remove the product from database then refresh the activty through IRefresh interface.

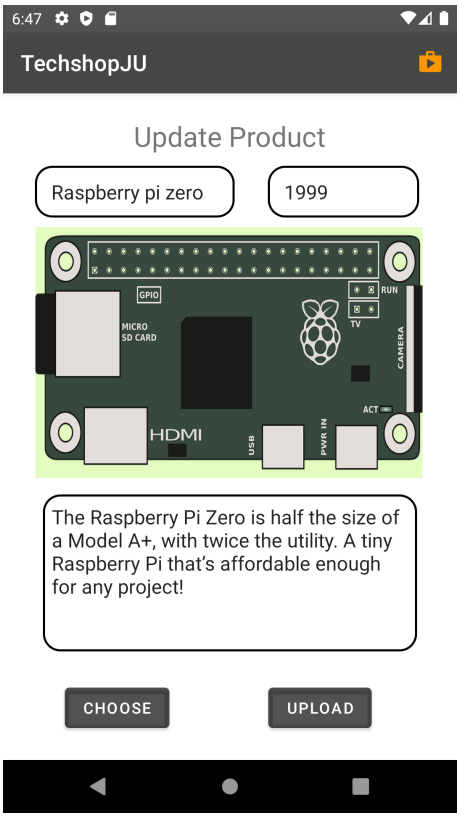

Figure 3: Update Product

- Clicking Update menu_item will Send the selected product data through an intent to UpdateActivity.

2.3 Update Activity

Update Activity hold the same functionality of main activity.

Admin can re-inter updated information of the product, as

- Change name of the product
- Offer a Discount price of product of any occasion.
- Change the image of the product or keep the existing one
- Edit product description

After clicking the Upload button, all the information is stored in Product class and stored in the database in the same id the product was. A progress_bar

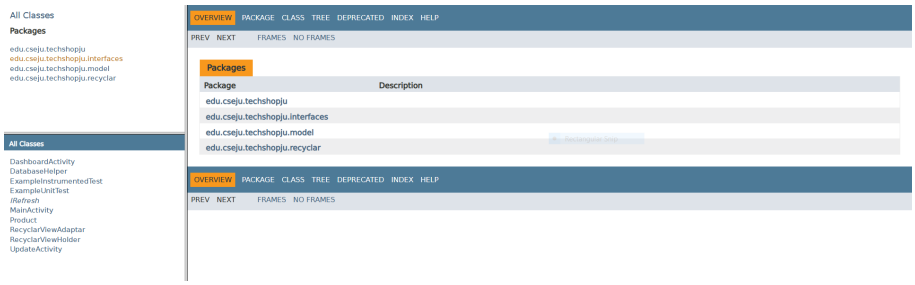

Figure 4: Documentation

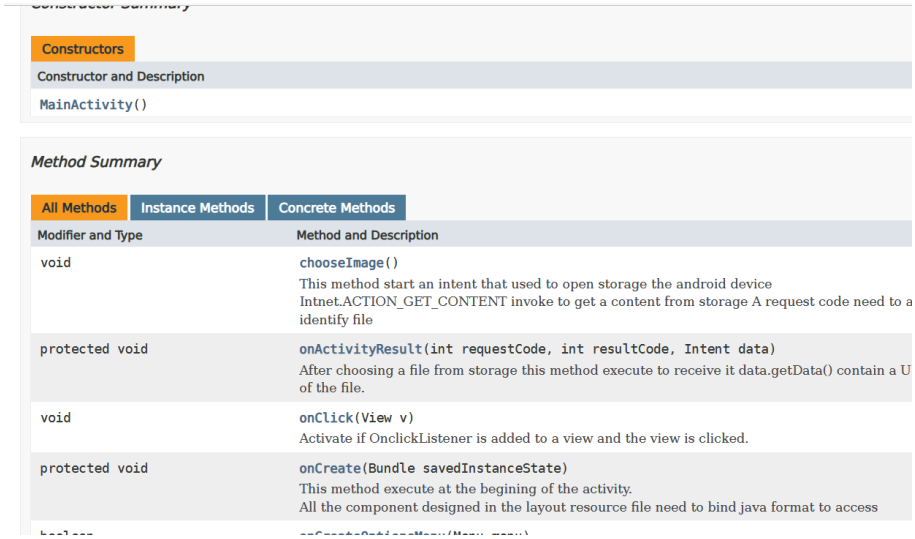

Figure 5: Documentation

show the uploading progress and a toast is shown the result of the operation (success/ failure).

This activity also contain a menu that help user to redirect to product catalogue page.

3 Documentation

This features is properly documented using JavaDoc. Through there were problem generating javaDoc in Android studio. The project was opened with Intellij platform the perform documentation. The Documentation file is uploaded in github repository https://github.com/abdulmukit98/techshopJU/tree/admin

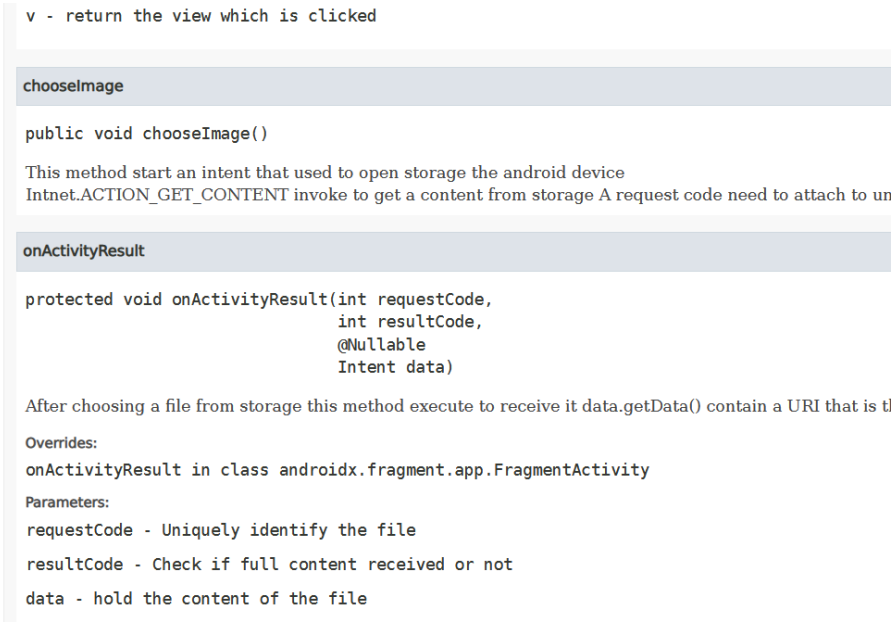

Figure 6: Documentation

4 Coding Standards

Coding standards of used in this project is listed in following site
https://github.com/abdulmukit98/techshopJU/wiki/Coding-Standards

5 Testing

We use Unit testing for this project. JUnit is used as testing tool for this purpose.

- At fist add JUnit dependency to build.gradle
  testImplementation 'junit:junit:4.+'
  testImplementation 'com.google.truth:truth:1.0.1'

- Then create class which contain method which need tobe tested.
- After that create Test class which contain different @Test method to justify different test case for a method. The Test class for Unit Testing will place in the edu.cseju.techshop(test) package
- truth library is used to map test cases with expected output.

Suppose a method is

```
public boolean checkPrice(String price)
{
    if (price.isEmpty() || Integer.parseInt(price) == 0)
    {
        return false;
    }
    return true;
}
```

This can generate three different test case criteria

- price is a null string
- price is a string of "0"
- price is a string of number ¿ 0

These @Test case are expressed in test function as

```
@Test
public void nullPrice()
{
    String price = "";
    assertEquals(false, testModel.checkPrice(price));
}

@Test
public void zeroPrice()
{
    String price = "0";
    assertEquals(false, testModel.checkPrice(price));
}

@Test
public void validPrice()
{
    String price = "55";
    assertEquals(true, testModel.checkPrice(price));
}
```