

Project Document

Easy Shopping

Team No – BCA6_11

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for fulfillment of the requirements
for the Degree of Bachelor of Computer Applications
B.V. Patel Institute of Computer Science,
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April, 2022.

DECLARATION

We hereby declare that the project titled **“Easy Shopping”** is fully implemented by us. It is neither paid nor copied. Even though, later on, in case of any infringement found for this project work, we are solely responsible for the same and understand that as per UGC norms, the University can revoke the degree conferred to us.

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Declaration:

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Work Sufficiency Certificate

As a guide, I assure you that the project work presented by the team is sufficient according to the specified time duration and team size.

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Mr. Amish Patel	

Acknowledgment

This project has been conducted as a part of the 6th Semester of Bachelor of Computer Application which covers the idea of System Analysis and Designing. We take this opportunity to express our sincere thanks and deep sense of gratitude to our guide **Mr. Amish Patel** for imparting us valuable guidance in starting the preparation of this project. They helped us by solving many doubts and suggesting many references. We would also like to offer gratitude towards the faculty of B.V. Patel Institute of Computer Science, who helped us give valuable suggestions and encouragement which not only helped us in preparing this project document but a better insight in this field. Lastly, we express a deep sense of gratitude towards our colleagues and those who directly or indirectly helped us while preparing this project document. For providing us the necessary information guidelines for our project without your support this project would have been a distant dream.

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1. Proposed System

1.1. Definition

Easy Shopping is a mobile application use for buying products over the Internet. In this application user can search products category wise and “Easy Shopping” gives virtual trial of watch to the user.

1.2. Purpose

“Easy Shopping” automate and facilitate the whole process of shopping and fixes the problems of paper work processes.

1.3. Scope

This system is only for android user and sells only watches only.

1.4. Tools & Technologies

Front end	Back end
Android Studio	Firebase (Realtime Database)

- We have developed our project using JAVA and Firebase database technology.

1.5. Functional Requirements

- **Stock Management:**

The seller can manage the details of the entire product, the categories of the product and the brand of the product and seller can update the details of the product if there are any changes in price of the product then seller can update that fields, seller can delete the product.

- **Advance search:**

It allows users to find/search the product based on the particular characteristics and category wise.

- **Virtual watch trial:**

User gets provision that he/she can try the watch virtually on his/her wrist.

- **Barcode:**

Users have facility to add product in cart with help of scanning barcode of the product.

- **Add to cart:**

It allows customers to choose items to purchase without actually completing the payment. This means you will add the selected product to the list of items that you plan to purchase. Everything that you add to the shopping cart will be shown to you at the checkout page. During checkout, you will finalize which of the items from the cart you want to buy right now, and those are the items you will be charged for.

- **Payment:**

User can do payment online and can choose cash on delivery option also.

1.6. Non – Functional Requirement

- **Security:**

Firebase Security Rules provide strong, completely customizable protection for data in cloud fire store, Realtime database, and cloud storage.

2. System Design

2.1. Use Case Design

2.1.1. Use Case of Registered User

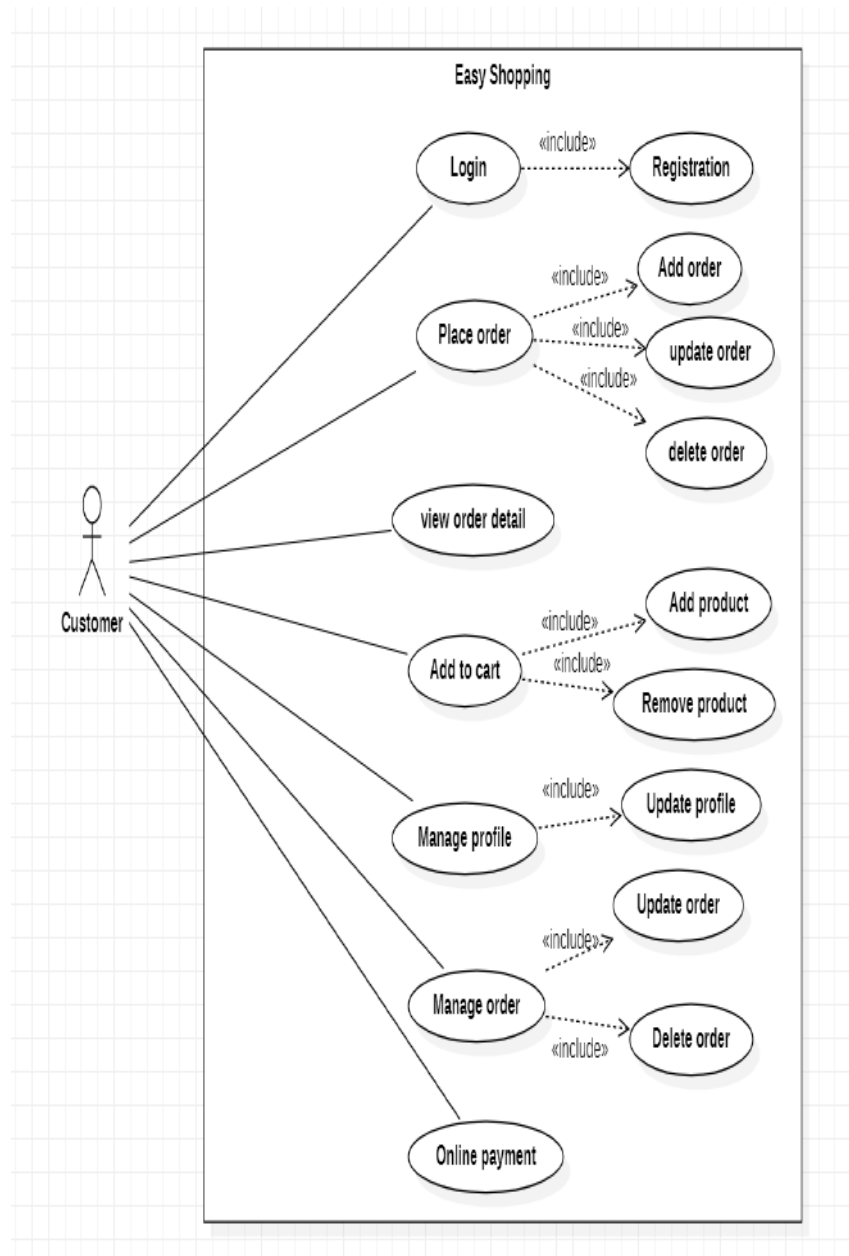


Figure 2.1.1 Use Case of Registered User (Customer)

2.1.2. Use Case of Seller

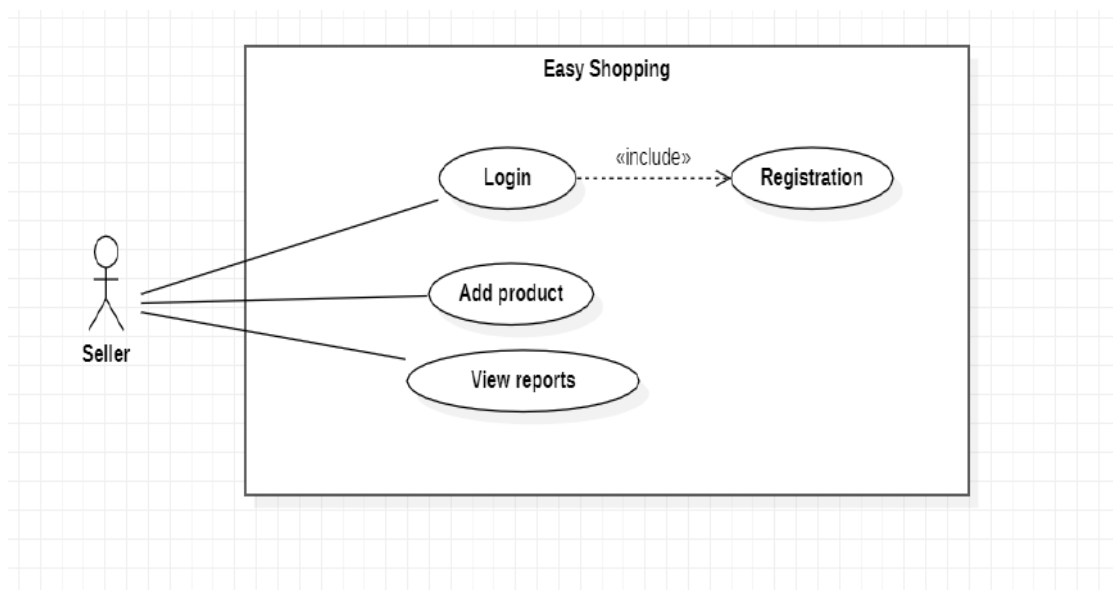


Figure 2.1.2 Use Case of Seller

2.1.3. Use Case of Guest

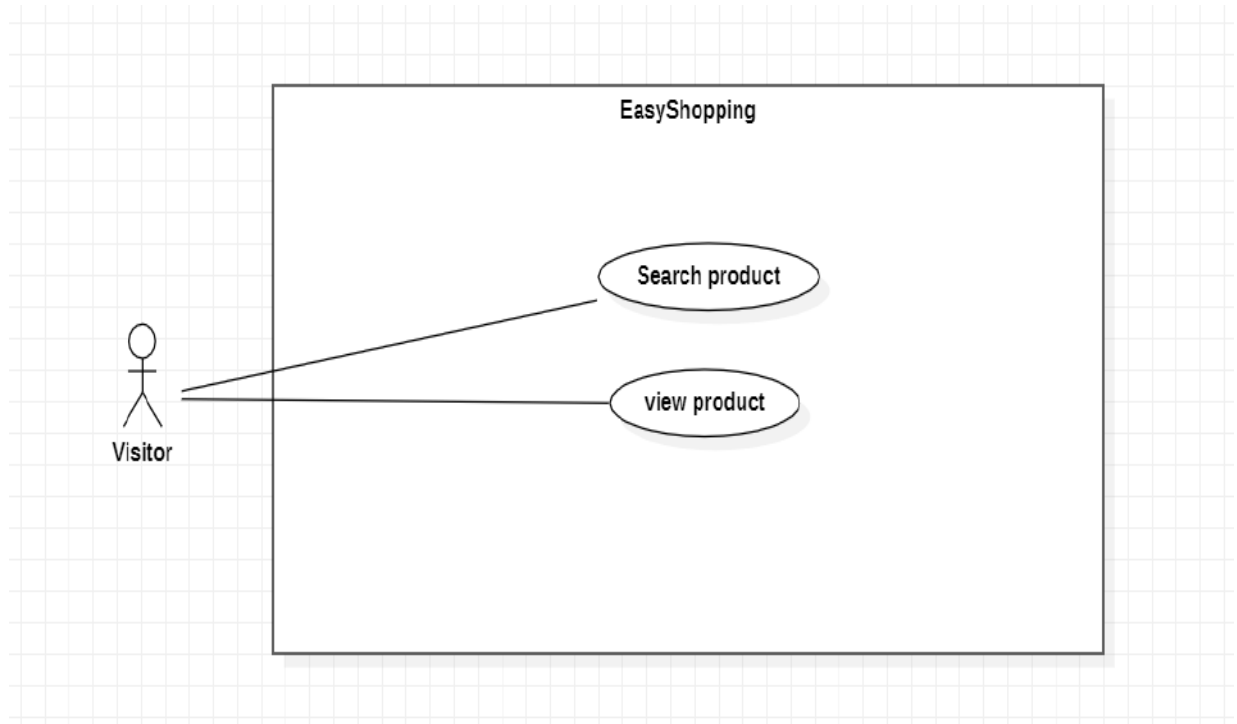


Figure 2.1.3 Use Case of Guest

2.2. Activity Diagram

2.2.1. Activity Diagram of Add Product

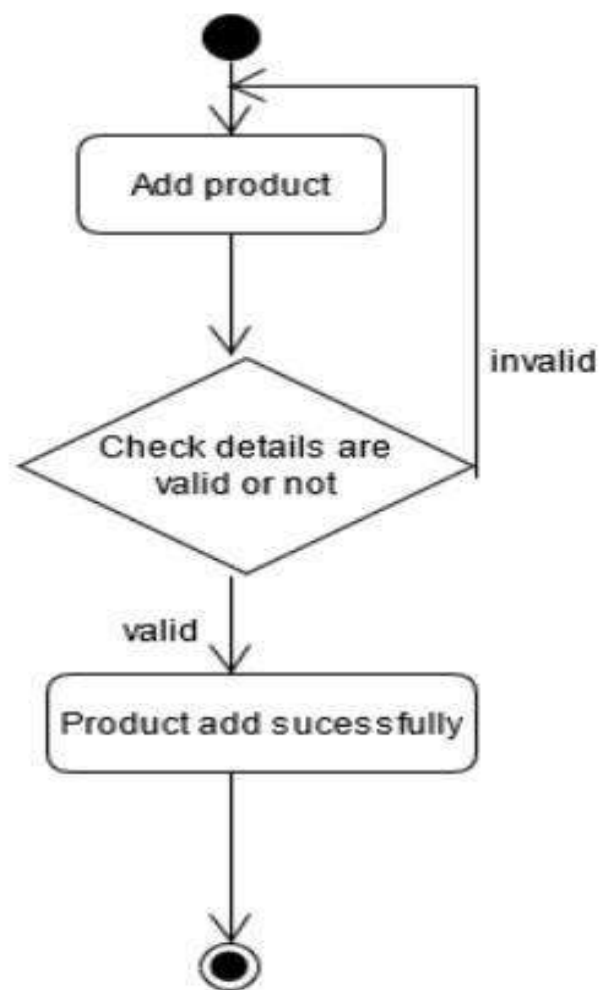


Figure 2.2.1 Activity Diagram of Add Product

2.2.2. Activity Diagram of Search Product

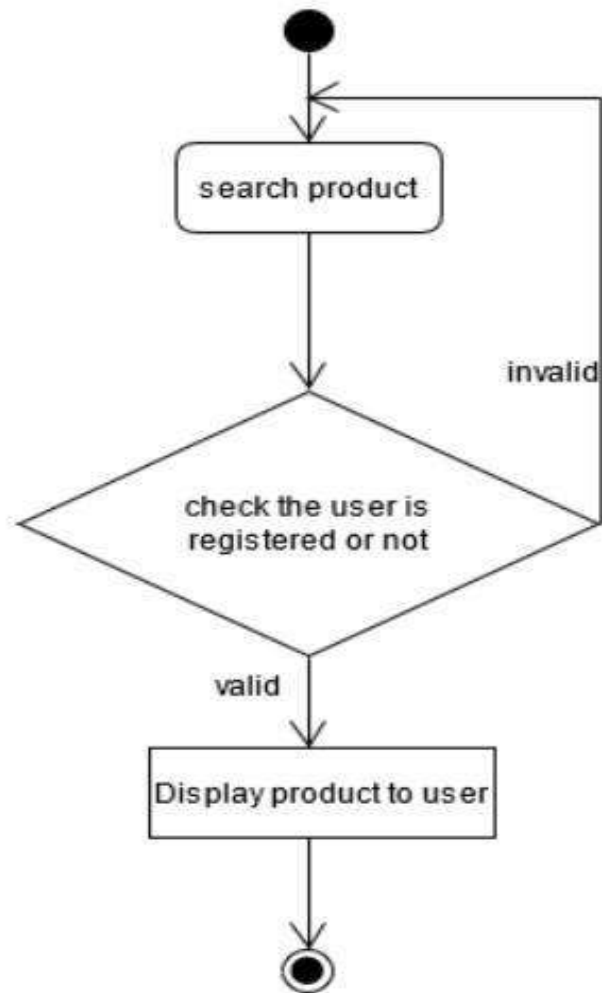


Figure 2.2.2 Activity Diagram of Search Product

2.2.3. Activity Diagram of Place an Order

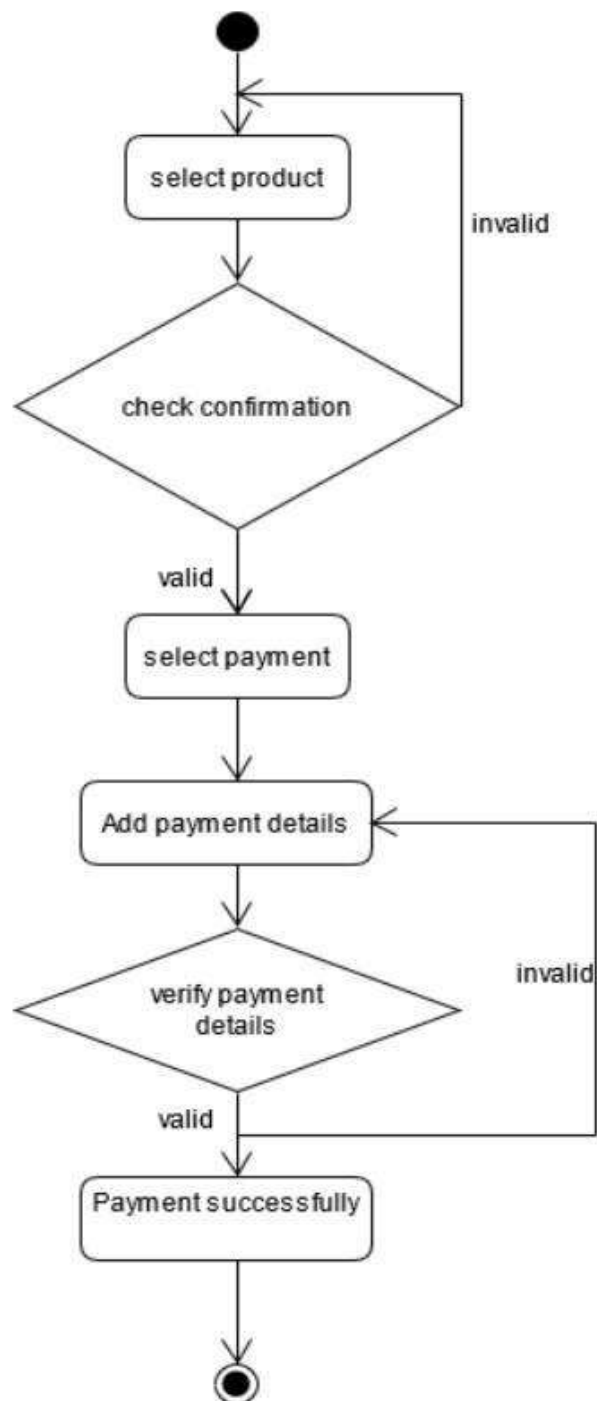


Figure 2.2.3 Activity Diagram of Place an Order

2.2.4. Activity Diagram of Barcode

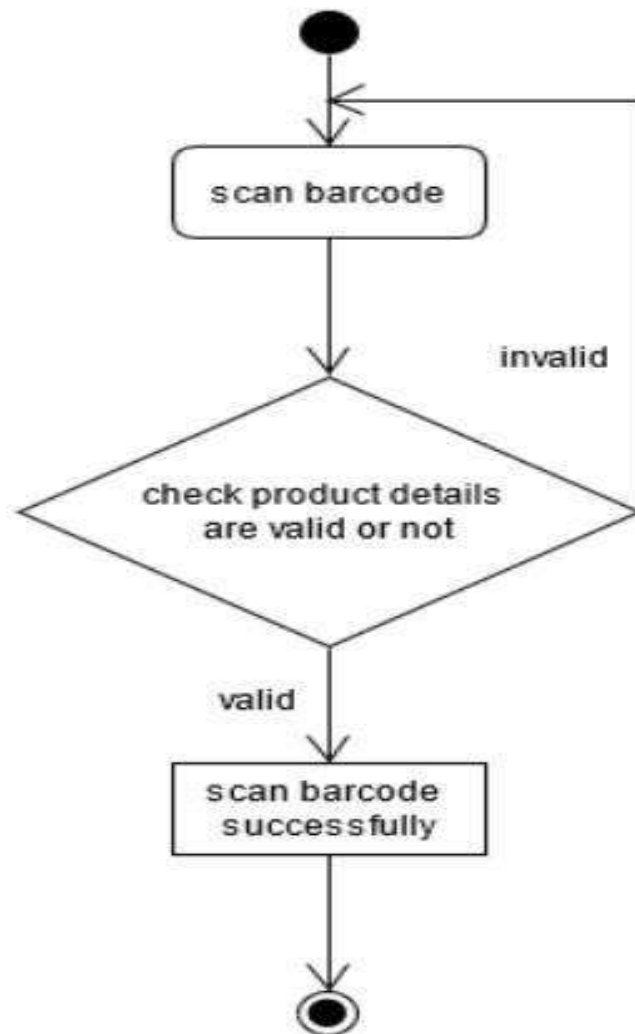


Figure 2.2.4 Activity Diagram of Barcode

2.2.5. Activity Diagram of AR Model

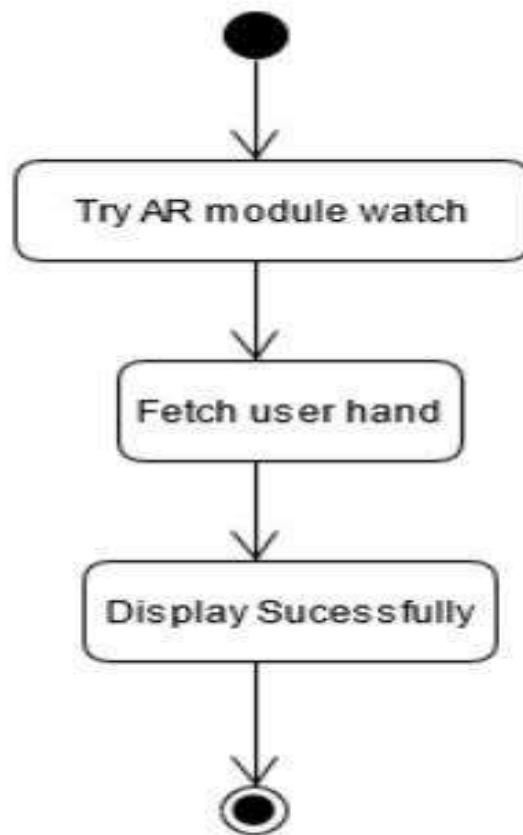


Figure 2.2.5 Activity Diagram of AR Model

3. Database Refinement

3.1. Mtbl_product

Purpose of this table: This table will store the data of product into the system.

```
"Mtbl_product": {
  "-N074mj8o47WI6sM4BHP": {
    "productID": "-N074naz7oR1tfbAAegG",
    "productImgLink": "nike.png",
    "productLongDesc": "Square dial, Brand: Apple",
    "productName": "Iwatch Series 3",
    "productPrice": 1250,
    "productQuantity": 10,
    "productShortDesc": "Smart Watch",
    "productSize": "32 mm",
    "userid": "zT5nvdvs8ROSWDqeC8acH2fKOUu2"
  }
}
```

3.2. Mtbl_customer

Purpose of this table: This table will store the data of the user in which attribute “role” will store the specialty of the user (e.g., Customer or Seller).

```
"Mtbl_customer": {
  "2uyCaJ4pEmdvRDLVjN0UWw6t3w93": {
    "email": "prathampatel184@gmail.com",
    "name": "Pratham Patel",
    "password": "Pratham123",
    "phone": "1234567891",
    "role": "Customer",
    "userid": "2uyCaJ4pEmdvRDLVjN0UWw6t3w93"
  }
}
```

3.3. Tbl_order

Purpose of this table: This table will stores all the data related to the order by customers.

```
"Tbl_order": {
  "-N074mj8o47WI6sM4BHP": {
    "orderid": "-N074mj8o47WI6sM4BHP "
    "customerid": "bcda1234@gmail.com",
    "date": "19/04/2022",
    "deliveryaddrss": "302, Divyajyot ",
    "productid": "0",
    "quantity": "1",
    "totalamount": "5000"
  }
}
```

3.4. Mtbl_payment

Purpose of this table: This database will stores all the data related to the payments of products in which “paymenttype” attribute have store value which shows user have done online or offline payment and “status” attribute shows Boolean value (Complete or Pending).

```
"Mtbl_payment": {
  "-N074mH8o47WI6sM4BHP": {
    "paymentid": "-N074mH8o47WI6sM4BHP "
    "paymenttype": "online",
    "status": "pending"
  }
}
```

3.5. Tbl_brand

Purpose of this table: This database will stores all the data about brands into the system.

```
"Tbl_brand": [
  zT5nvdvs8ROSWDqeC8acH2fKOUu2,
  {
    "BrandId": " zT5nvdvs8ROSWDqeC8acH2fKOUu2",
    "BrandName ": "Nike",
    "ProductBarcode": 1001000
  }
]
```

3.6. Tbl_cart

Purpose of this table: This database is use for store data about product that is stored in cart.

```
"Tbl_cart": [
  {
    "date": "19/04/2022",
    "image": "https://firebasestorage.googleapis.com/v0/b/easyshopping-
a275a.appspot.com/o/WhatsApp%20Image%202022-03-
13%20at%203.10.59%20PM.jpeg?alt=media&token=e8711ab4-6101-
46b5-9844-dc49a3d51a9e",
    "price": 5000,
    "productid": 0,
    "quantity": 1,
    "uid": "bcda1234@gmail.com"
  }
]
```

4. User Interface Design

4.1. Registration Activity

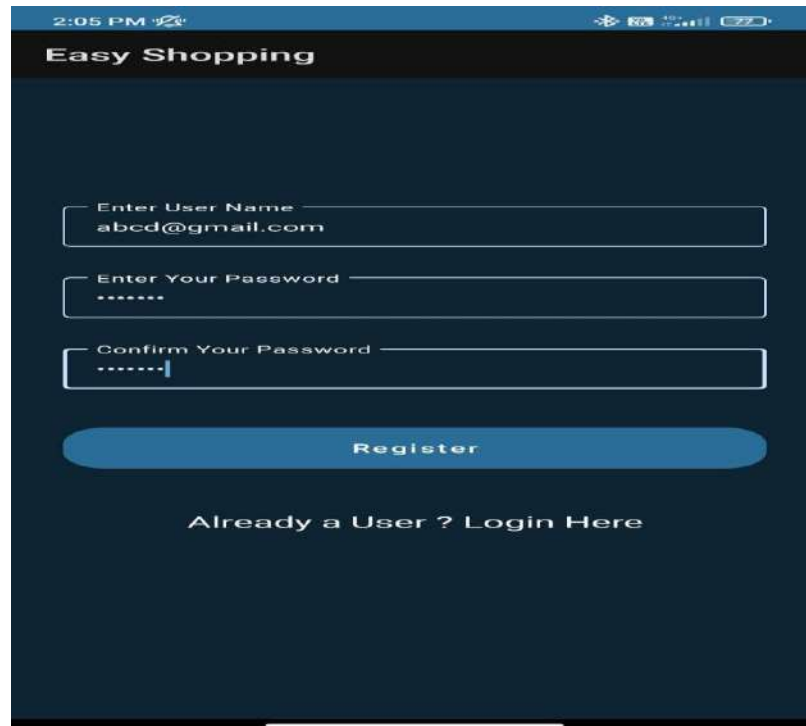


Figure 4.1 Registration Activity

Purpose	This activity is use to register user in the system.
Data In	User's email id, user's password (two times)
Data Out	User will register him/her self successfully.
Validation	Password and confirm password must be same and email id of ussr must be in proper format.

Table 4.1 Registration Activity

4.2. Home Activity



Figure 4.2 Home Activity

Purpose:	To display all the watches to the users.
Data In:	-
Data Out:	-

Table 4.2 Home Activity

4.3. Search Product Activity

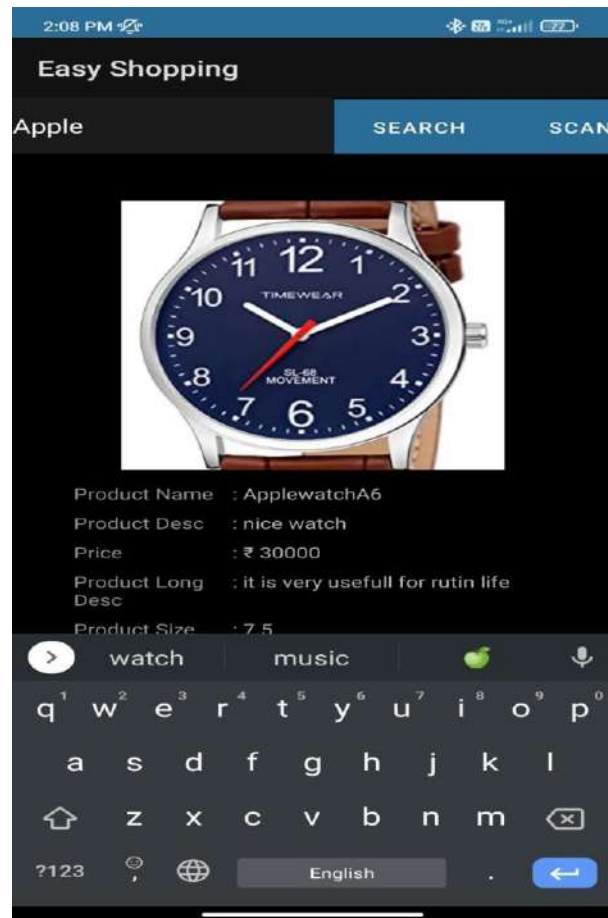


Figure 4.3 Search Product Activity

Purpose	This activity is use to search products category and name wise and show matches result.
Data In	Any part word of product name and category
Data Out	List of products which are matches with that word
Validation	-

Table 4.3 Search Product Activity

4.4. AR Watch Trial Activity



Figure 4.4 AR Watch Trial Activity

Purpose	This activity is use to take virtual trial of watch
Data In	productID
Data Out	AR with 3D model of watch
Validation	-

Figure 4.4 AR Watch Trial Activity

4.5. Barcode Scanner Activity

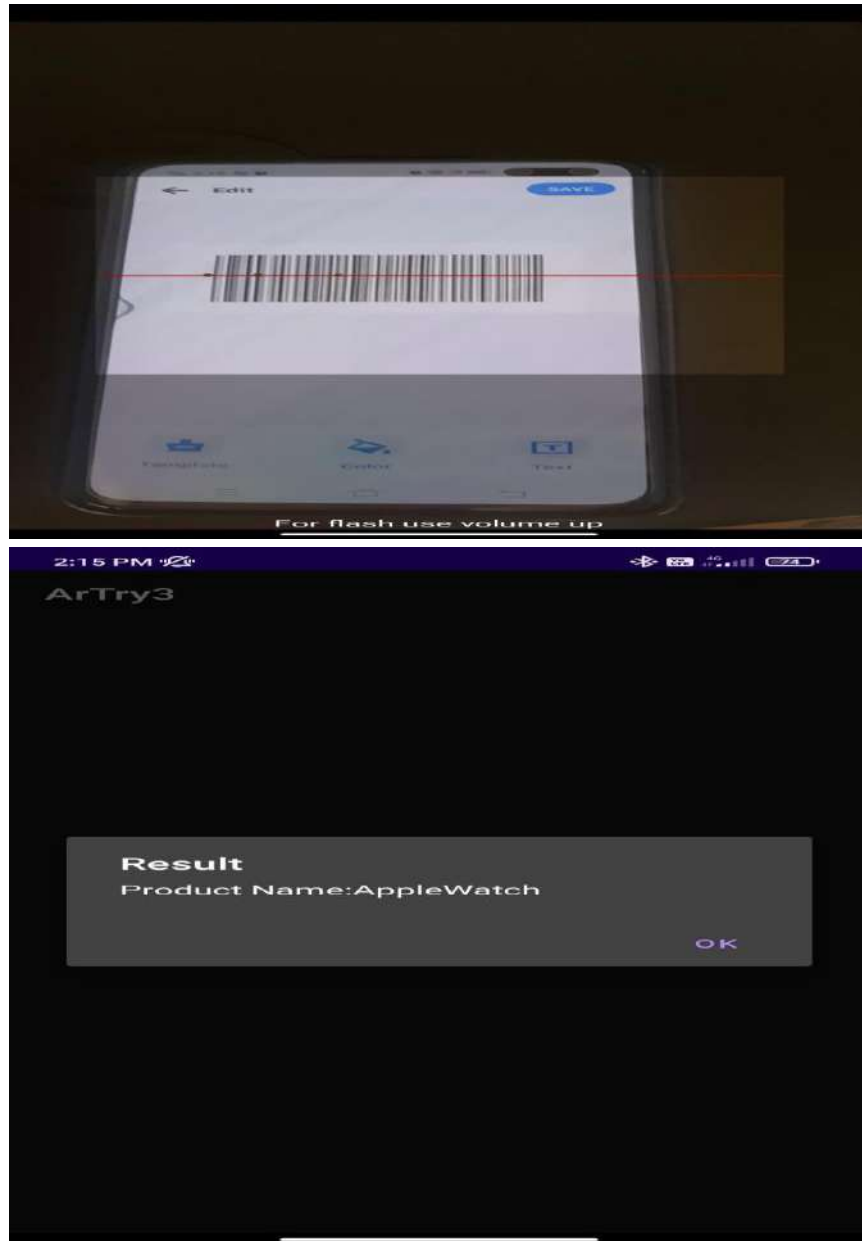
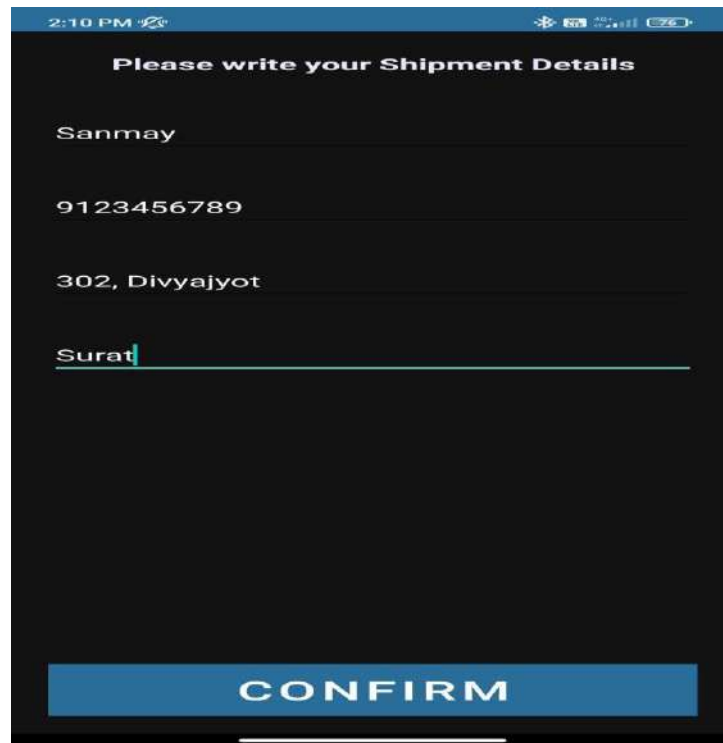


Figure 4.5 Barcode Scanner Activity

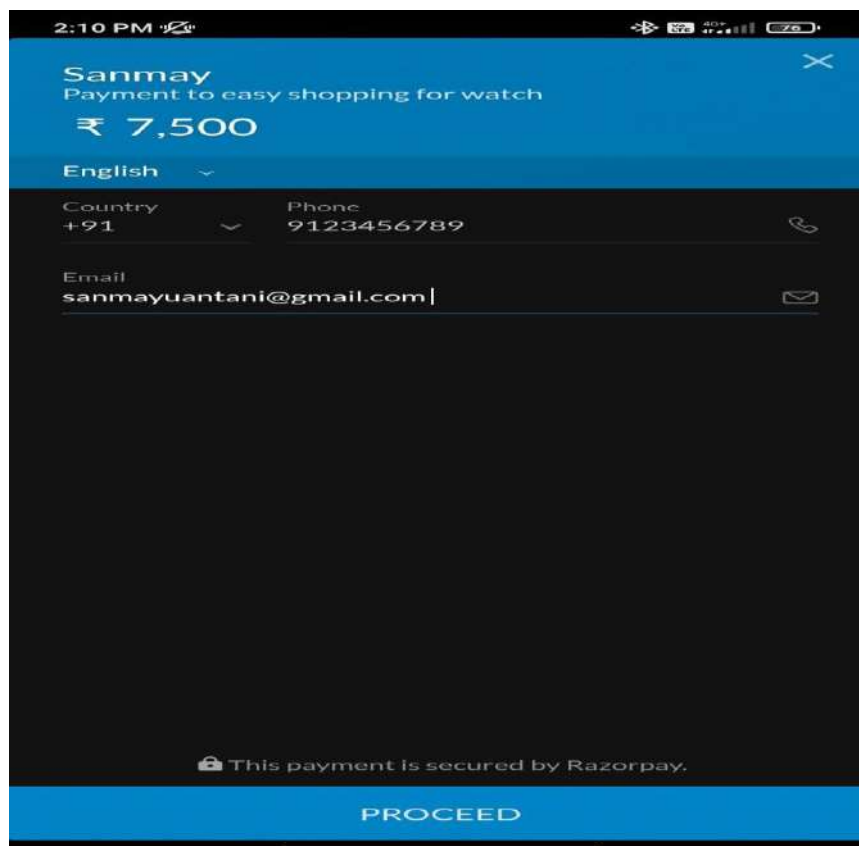
Purpose	This activity is use to add product in cart by scanning barcode
Data In	barcode image
Data Out	product name
Validation	-

Table 4.5 Barcode Scanner Activity

4.6. Payment Activity



A screenshot of a mobile application interface. At the top, the status bar shows the time as 2:10 PM and various connectivity icons. The app's header is dark blue with the text "Please write your Shipment Details" in white. Below the header, there are four text input fields. The first field contains "Sanmay", the second contains "9123456789", the third contains "302, Divyajyot", and the fourth contains "Surat" with a green cursor at the end. At the bottom of the form is a large blue button with the word "CONFIRM" in white capital letters.



A screenshot of a mobile application interface for a payment confirmation screen. The status bar at the top shows 2:10 PM and connectivity icons. The app's header is blue with a close button (X) in the top right corner. The header text includes "Sanmay", "Payment to easy shopping for watch", and "₹ 7,500". Below the header, there is a language selector set to "English". The form contains two rows of input fields: "Country" with "+91" and "Phone" with "9123456789", followed by an "Email" field with "sanmayuantani@gmail.com". At the bottom, there is a security notice: "This payment is secured by Razorpay." and a large blue button labeled "PROCEED".

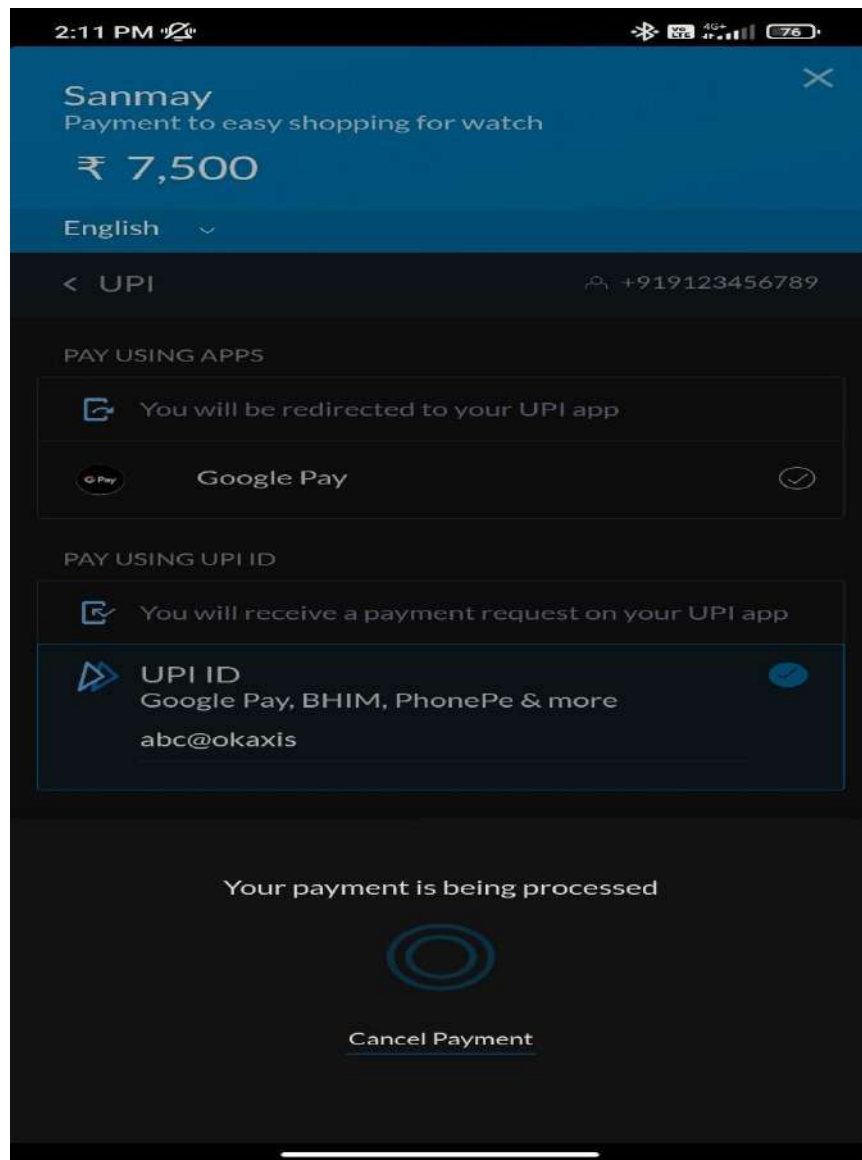


Figure 4.6 Payment Activity

Purpose	This activity is use to do payment online
Data In	Customer Name , Contact Number , Delivery Address, City Name
Data Out	Payment Successful order is placed
Validation	email id and upi id must be proper

Table 4.6 Payment Activity

4.7. Report Activity

2:43 PM | 51.4KB/s | 65%

report

ProductName ApplewatchA6Month 04

SUBMIT

2:43 PM | 27.3KB/s | 65%

report

Product Name	Month	Number of sales
ApplewatchA6	04	11

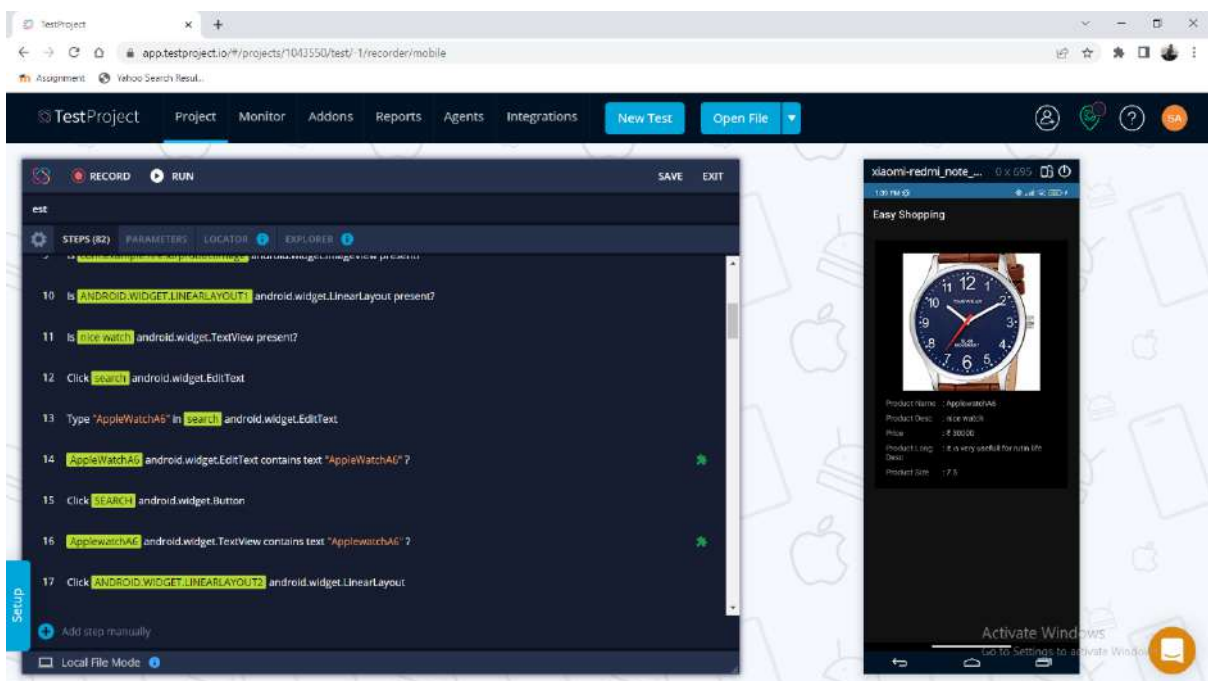
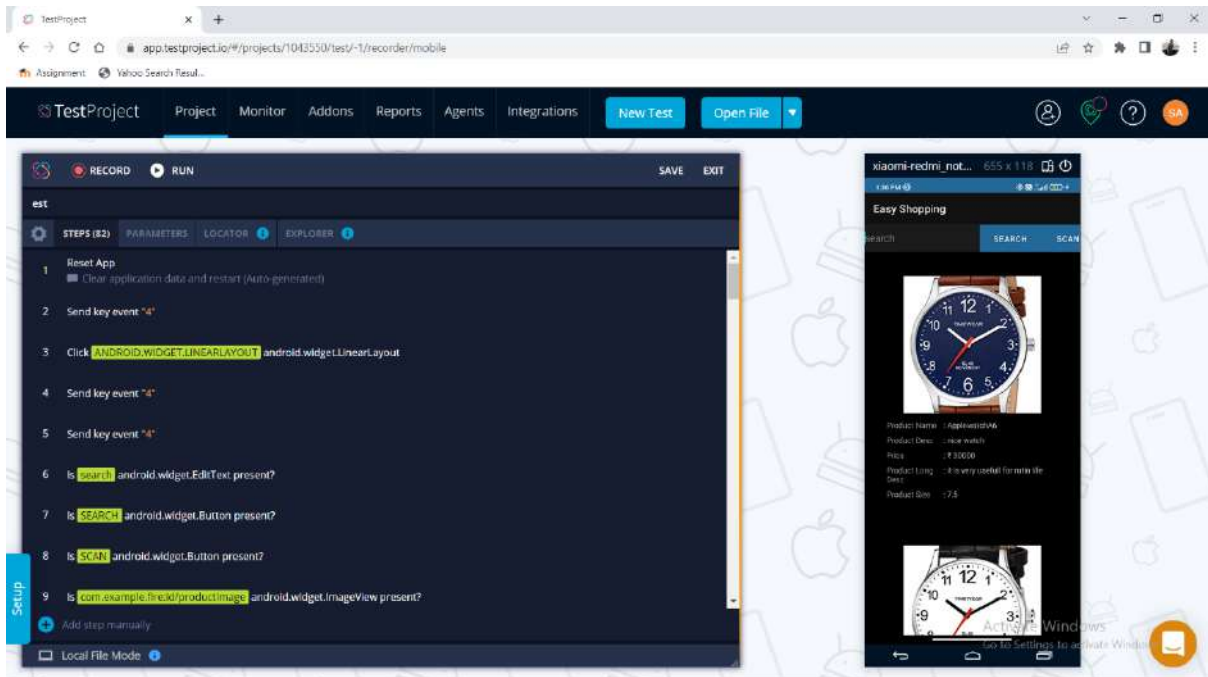
Figure 4.7 Report Activity

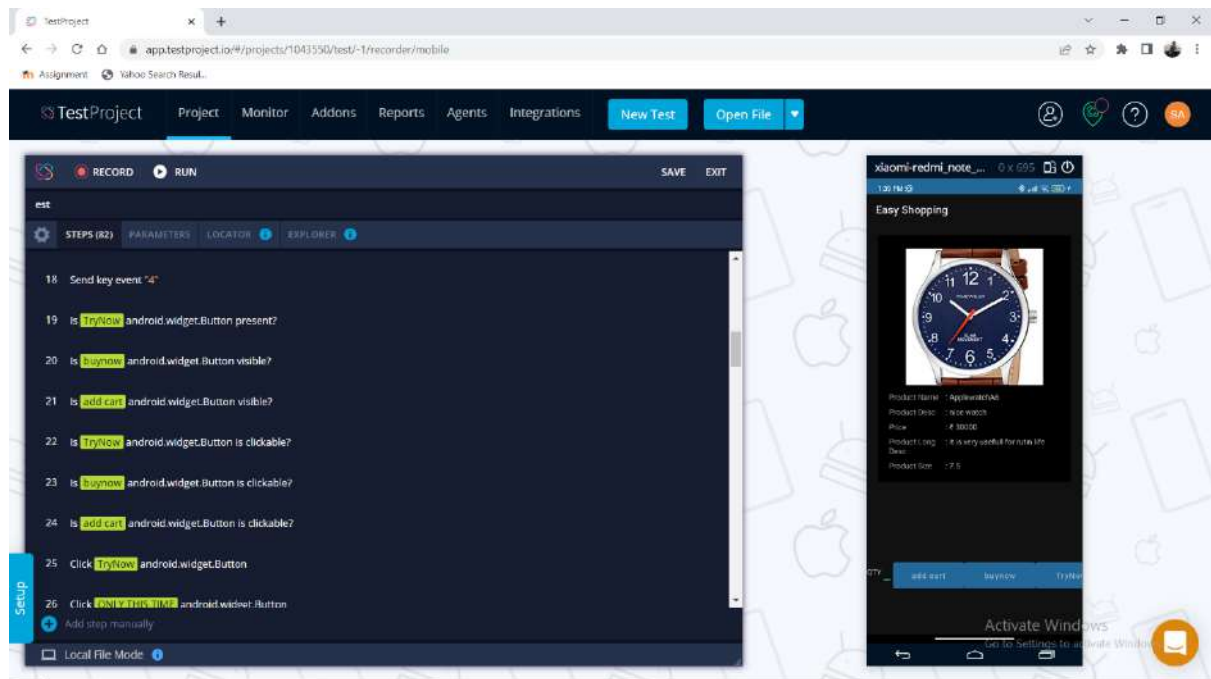
Purpose	This activity is use to see reports
Data In	Product Name, Month
Data Out	Sales of the total product in particular month
Validation	-

Table 4.6 Report Activity

5. Test Case Report

5.1. Home Activity Test Case



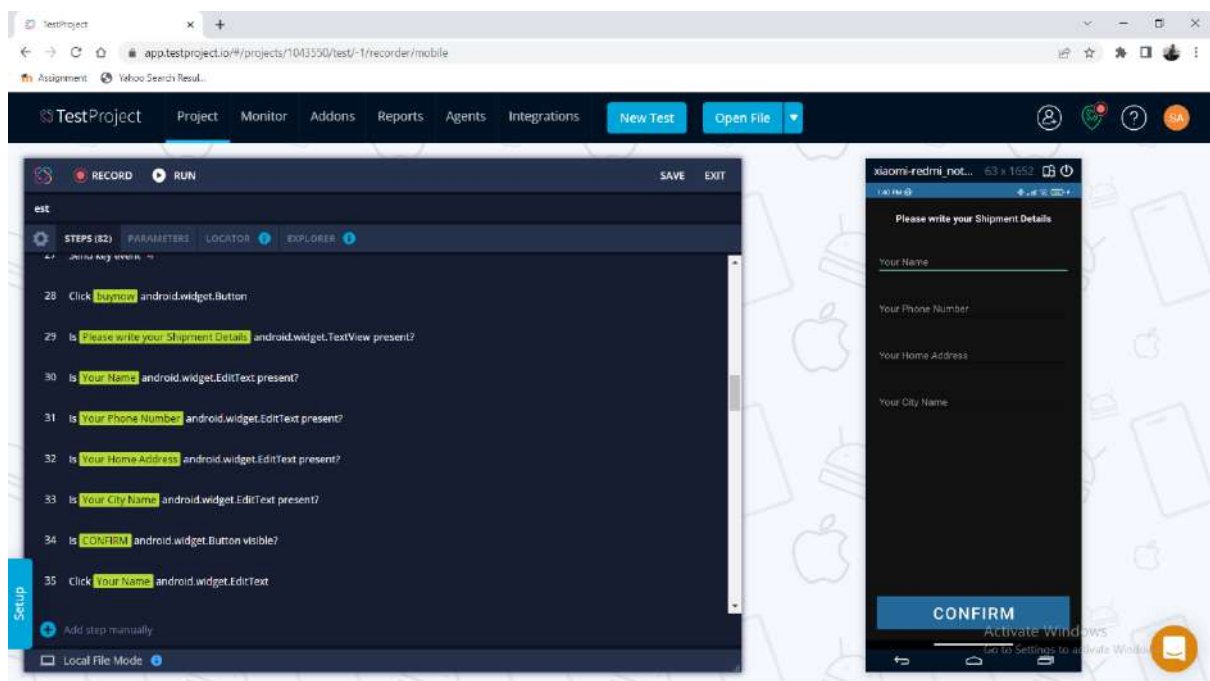


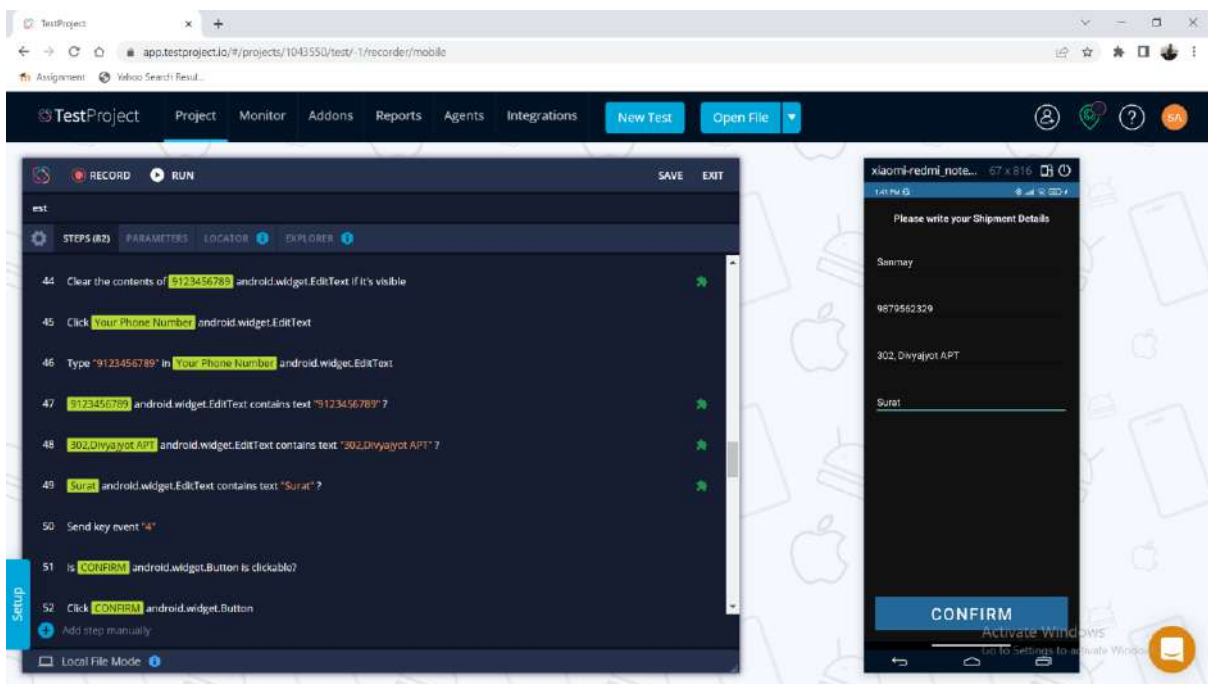
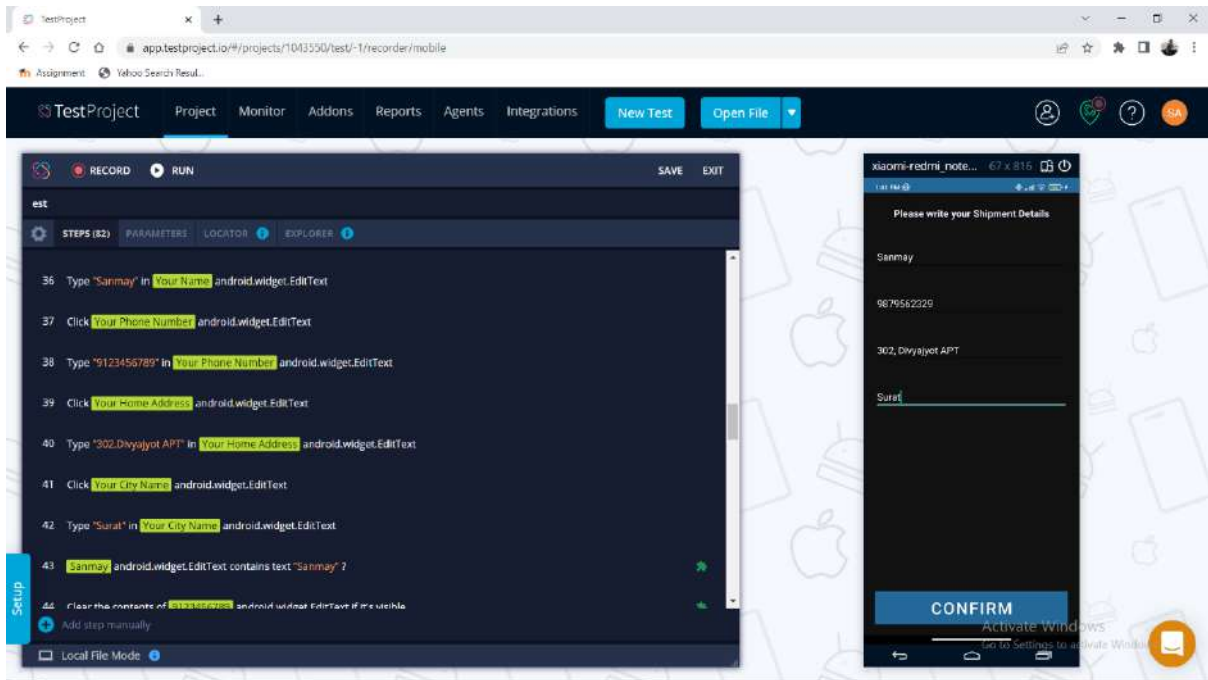
SR. NO.	Target	assertion	Result
1	search(android.widget.EditText)	is present	Pass
2	SEARCH(android.widget.Button)	is present	Pass
3	SCAN(android.widget.Button)	is present	Pass
4	com.example.fire:id/productImage	is present	Pass
5	ANDROID.WIDGET.LINEARLAYOUT1	is present	Pass
6	search(android.widget.EditText)	Type "AppleWatchA6"	Pass
7	search(android.widget.EditText)	is contains Text "AppleWatchA6"	Pass
8	SEARCH(android.widget.Button)	click	Pass
9	ApplewatchA6(android.widget.TextView)	is contains Text "ApplewatchA6"	Pass
10	TryNow(android.widget.Button)	is present	Pass
11	buynow(android.widget.Button)	is visible	Pass

12	add cart(android.widget.Button)	is visible	Pass
13	TryNow(android.widget.Button)	is clickable	Pass
14	buynow(android.widget.Button)	is clickable	Pass
15	add cart(android.widget.Button)	is clickable	Pass

Table 5.1 Test case for Home Activity

5.2. Add Shipping Details Test Case





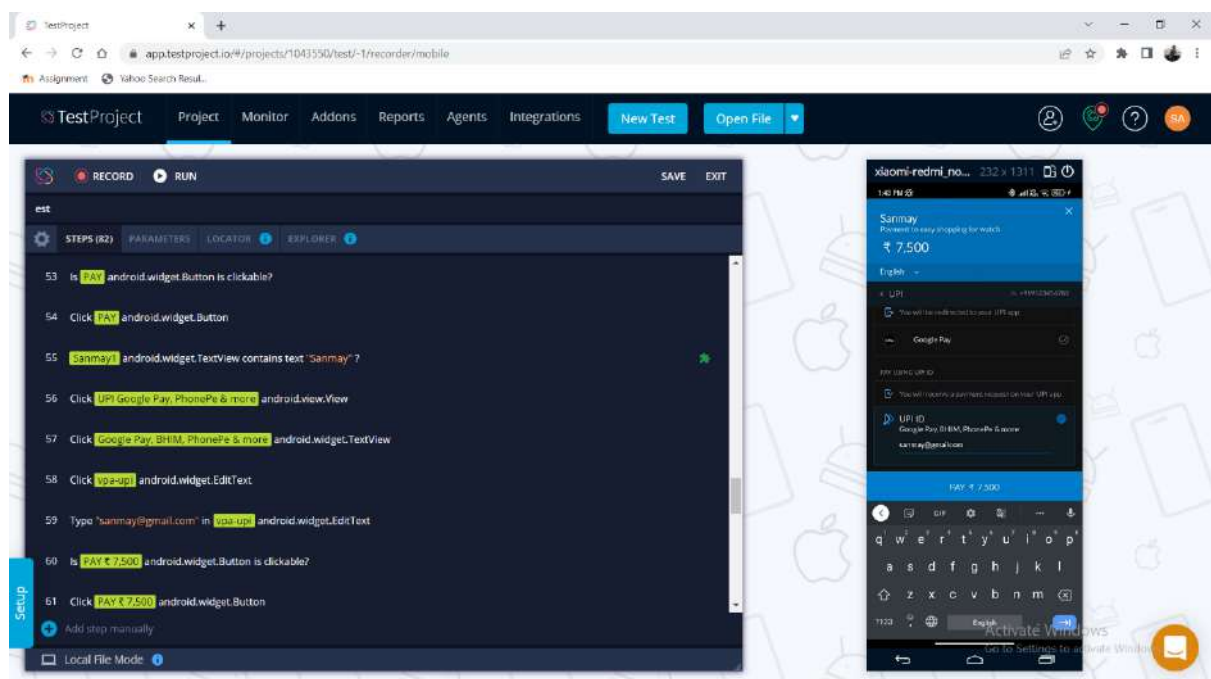
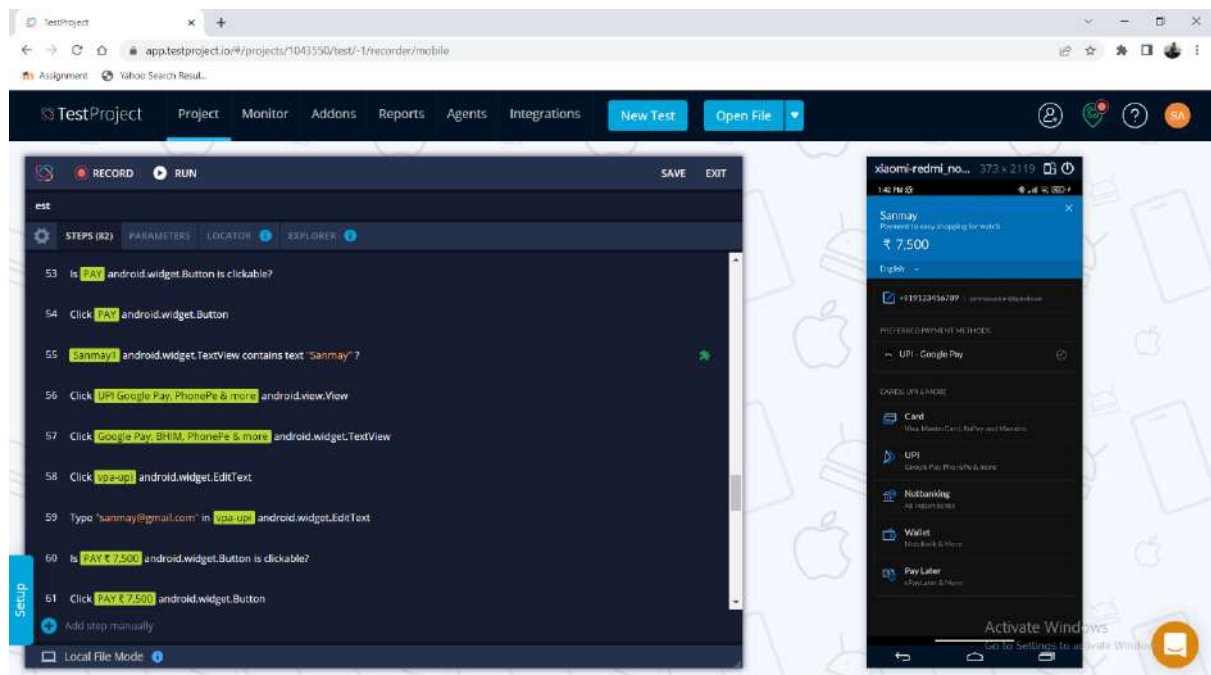
SR. NO.	Target	assertion	Result
1	Please write your Shipment Details(android.widget.TextView)	is present	Pass
2	Your Name(android.widget.EditText)	is present	Pass
3	Your Phone	is present	Pass

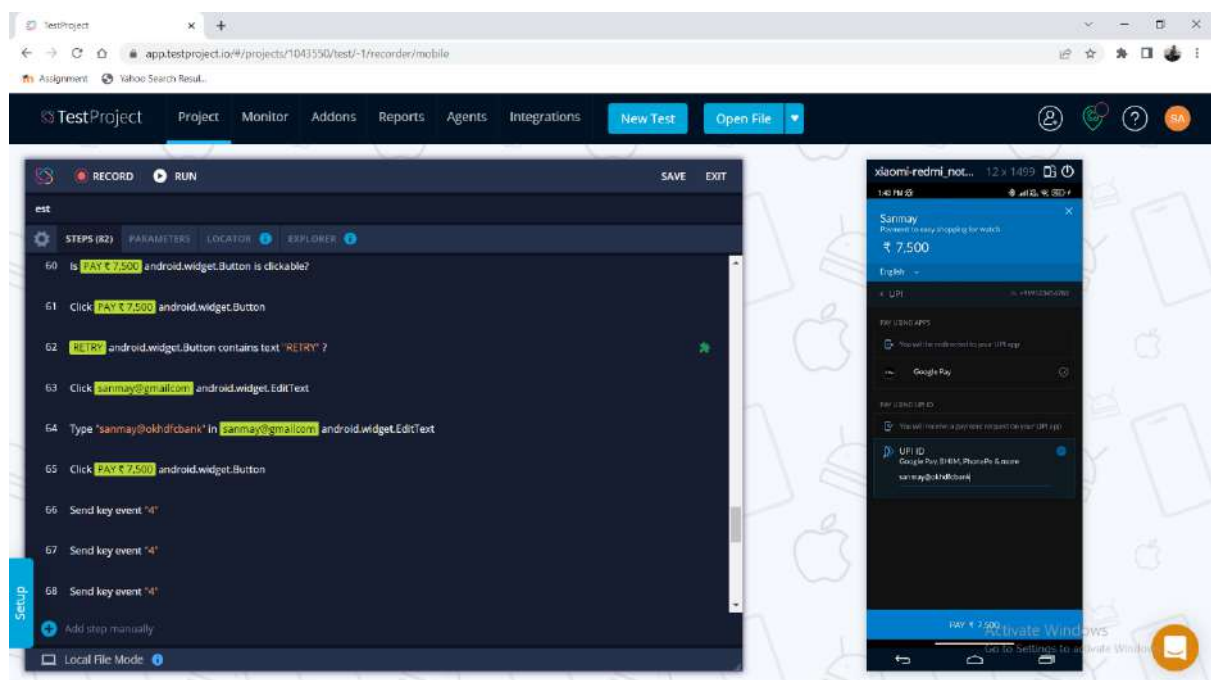
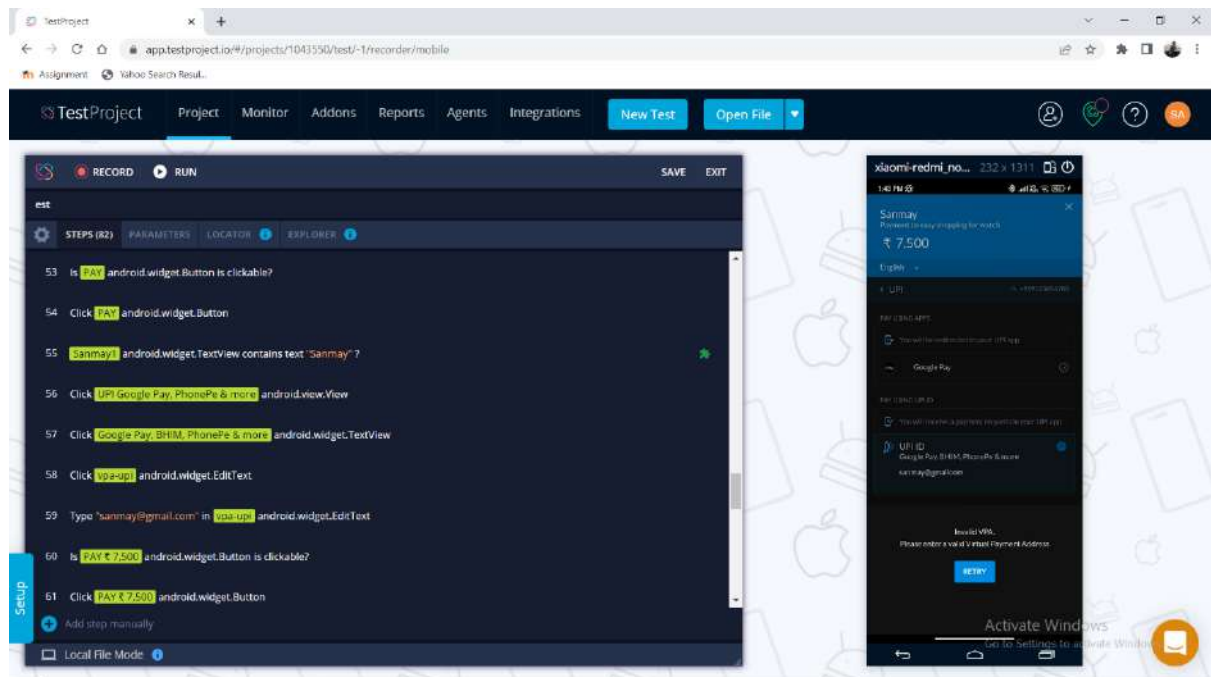
201903100110010, 201903100110012, 201903100110020, 201903100110034

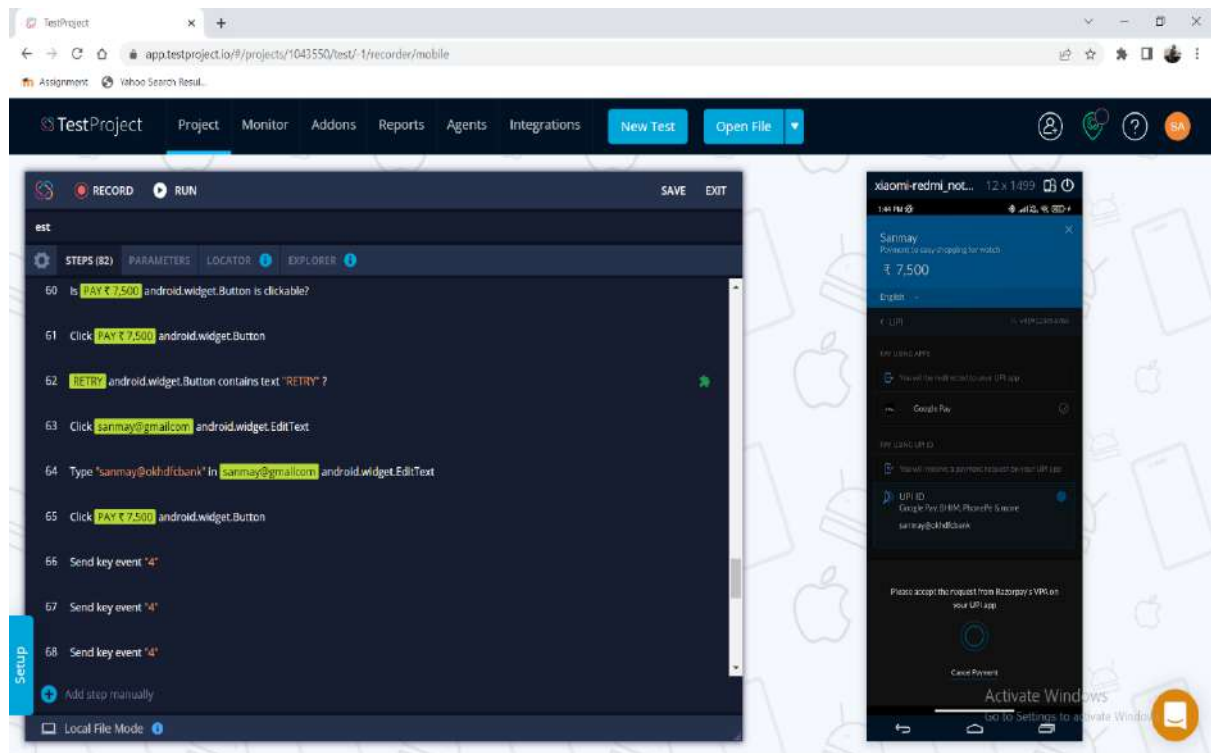
	Number(android.widget.EditText)		
4	Your Home Address(android.widget.EditText)	is present	Pass
5	Your City Name(android.widget.EditText)	is present	Pass
6	CONFIRM(android.widget.Button)	is present	Pass
7	Your Name(android.widget.EditText)	Type "Sanmay"	Pass
8	Your Phone Number(android.widget.EditText)	Type "9123456789"	Pass
9	Your Home Address(android.widget.EditText)	Type "302,Divyajyoat APT"	Pass
10	Your City Name(android.widget.EditText)	Type "Surat"	Pass
11	Sanmay(android.widget.EditText)	is contains Text "Sanmay"	Pass
12	9123456789(android.widget.EditText)	is contains Text "9123456789"	Pass
13	302,Divyajyoat APT(android.widget.EditText)	is contains Text "Divyajyoat APT"	Pass
14	Surat(android.widget.EditText)	is contains Text "Surat"	Pass
15	CONFIRM(android.widget.Button)	is clickable	Pass

Table 5.2 Test case of Shipping Activity

5.3. Payment Test Case



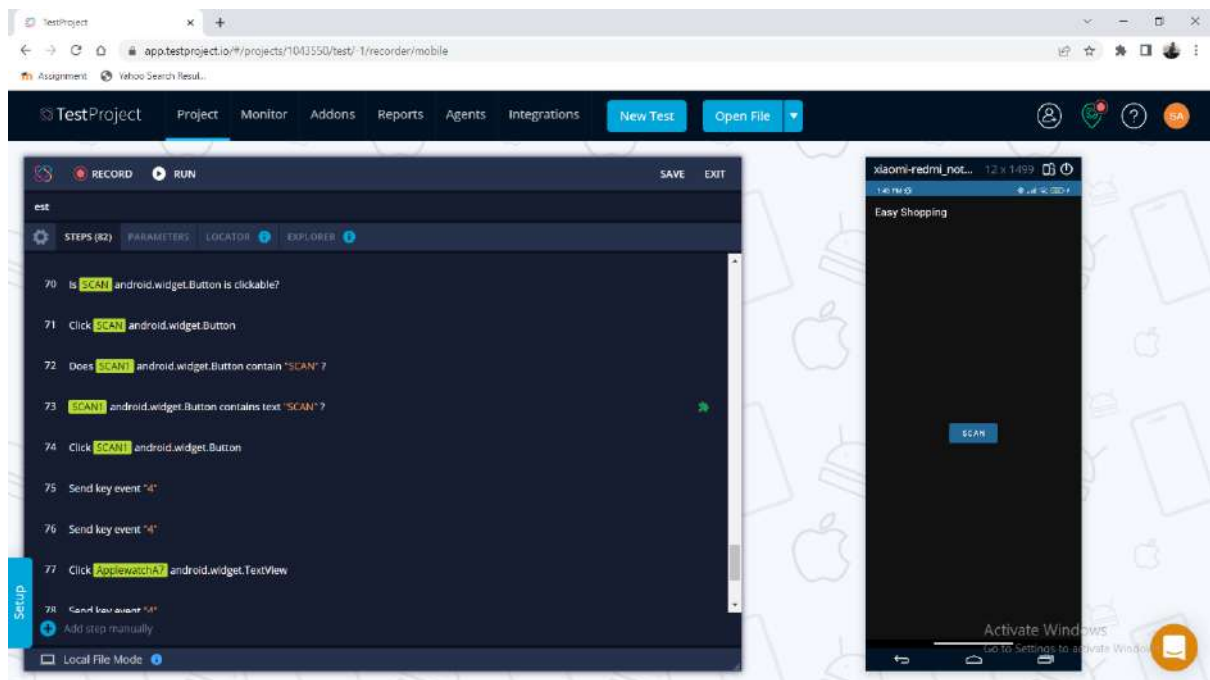




SR. NO.	Target	assertion	Result
1	PAY(android.widget.Button)	is clickable	Pass
2	Sanmay(android.widget.TextView)	is contains Text "Sanmay"	Pass
3	vpa-upi(android.widget.EditText)	Type "sanmay@gmail.com"	Pass
4	PAY 7500(android.widget.Button)	is clickable	Pass
5	PAY 7500(android.widget.Button)	click	Pass
6	RETRY(android.widget.Button)	is contains Text "RETRY"	Pass
7	sanmay@gmailcom(android.widget.EditText)	Type"sanmay@okhdfcbank"	Pass

Table 5.3 Test Case of Payment

5.4. Barcode Scanner Test Case



SR. NO.	Target	Assertion	Result
1	SCAN(android.widget.Button)	is clickable	Pass
2	SCAN(android.widget.Button)	is contains Text "scan"	Pass

Table 5.4 Test Case for Barcode Scanner

6. Coding Standard

- The field names of database relations are taken in such a way that each field can be easily identified from its name itself i.e abbreviations are taken as starting few characters for the field name & these abbreviations are based on the respective relations to which the field belongs.
- All Master tables would have to start few characters as Mtbl_RelationName i.e “Mtbl” as starting characters while transaction tables would have “Tbl” as starting few characters.
- Variable names must be meaningful and understandable.
- Avoided the use of digits in the variable name.
- The name of the function describes the reason for using the function.
- Each nested block is properly indented and spaced.

7. References

- <https://www.youtube.com/watch?v=u2pgSu9RhYo&feature=youtu.be>
- <https://firebase.google.com/>
- <https://razorpay.com/>
- <https://www.youtube.com/watch?v=gCwcP63sYxI>
- <https://www.youtube.com/watch?v=GiLra7jntsk>
- <https://youtu.be/N3DhFb3hK3s>
- https://youtu.be/0qm0_SkT5j0
- <https://stackoverflow.com/>
- <https://developer.android.com/>