

BSCS-F22-012 03-134191-011 MUHAMMAD BALAJ 03-134191-054 MUHAMMAD AZEEM

SWAP AND SELL

In partial fulfilment of the requirements for the degree of **Bachelor of Science in Computer Science**

Supervisor: Umar Hameed

Department of Computer Sciences Bahria University, Lahore Campus

January 2023

Certificate



We accept the work contained in the report titled

"SWAP AND SELL"

written by

MUHAMMAD BALAJ

MUHAMMAD AZEEM

as a confirmation of the required standard for the partial fulfilment of the degree of Bachelor of Science in Computer Science.

Approved by:		
Supervisor:	UMAR HAMEED	
		(Signature)

January 9, 2023

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Enrolment	Name	Signature
03-134191-011	MUHAMMAD BALAJ	
03-134191-054	MUHAMMAD AZEEM	

Date: January 9, 2023

ACKNOWLEDGEMENTS

We would like to thank everyone who had contributed to the successful completion of this project. We would like to express my/our gratitude to my research supervisor, Mr. Umar Hameed for his invaluable advice, guidance, and his enormous patience throughout the development of the research.

In addition, we would also like to express our gratitude to our loving parents and friends who had helped and given me encouragement.

MUHAMMAD BALAJ MUHAMMAD AZEEM

Project Title

SWAP AND SELL

ABSTRACT

Books play a crucial part in building an educated society, by taking that fact into account. We are going to create book swapping and imported preloved shoes crossplatform application. There is no application right now in Pakistan that provides this service so there is a high potential of growth of this application. Many kids when pass their class they don't use those books again. Similarly, same goes for the readers who once reads books and don't open them again but what if we give them a platform on which they put their books that they don't need any more, they can either sell them or swap with the ones they need. The other service that we are providing is to give platform to buy slightly used or new imported shoes.

There are many sellers who sell these kinds of shoes in market, but it is usually hard to get slightly used or new shoes from them we will contact them to separate those shoes and give us we will put those shoes on our application and we can reach those people who are willing to pay more for these preloved branded shoes.

TABLE OF CONTENTS

DECLAR	ATION			ii
ACKNOV	VLEDGE	MENTS		iii
ABSTRA	CT			iv
TABLE O	F CONT	ENTS		\mathbf{v}
LIST OF	TABLES			vii
LIST OF	FIGURES	8		viii
CHAPTE	RS			
1	INTR	RODUCT	ION	1
	1.1	Backgı	round	1
	1.2	Proble	m Statements	2
		1.2.1	Primary Scope	2
	1.3	Final D	Deliverable of the Project and Beneficiaries	2
		1.3.1	Objectives	2
	1.4	Novelt	у	3
2	LITE	RATURI	E REVIEW (and/or SRS)	4
	2.1	User cl	lasses and characteristics	4
		2.1.1	Book Buyer/ Seller:	4
		2.1.2	Shoes Buyer:	4
		2.1.3	Shoes Seller/Admin:	5
	2.2	Operat	ing environment	5
	2.3	Assum	ptions	5
	2.4	Depend	dencies	5
	2.5	System	use case Diagrams	6

				vi
3	DESI	GN AND	METHODOLOGY	9
	3.1	Metho	dology	9
	3.2	UML (Class Diagram	10
	3.3	Seque	nce Diagram	11
		3.3.1	User Account Sequence Diagram	11
		3.3.2	Login Sequence Diagram	12
		3.3.3	Shoes Display Sequence Diagram	13
		3.3.4	Shoes Purchase Sequence Diagram	14
		3.3.5 (Order Confirmation Sequence Diagram	15
4	DAT	A AND E	XPERIMENTS (and/or IMPLMENTATION)	23
	4.1	Langua	age:	23
	4.2	Softwa	ares:	23
	4.3	Fireba	Firebase:	
	4.4	Visual	Visual Studio:	
	4.5	GitHul	b:	24
	4.6	Individ	lual testing:	24
	4.7	Test fo	or integration:	26
	4.8	Systen	n Evaluation:	26
	4.9	Test fo	or Acceptance:	27
5	RESU	ULTS AN	D DISCUSSIONS (or USER MANUAL)	28
6	CON	CLUSIO	N AND RECOMMENDATIONS	43
	6.1	Recom	mendation:	43
	6.2	Conclu	asion:	43
REF	ERENCE	S		44

LIST OF TABLES

TABLE	TITLE	PAGES
Table 3.1: User	Registration (U1)	18
Table 3.2: User	Log in (U2)	19
Table 3. 3 Produ	uct view (U3)	20
Table 3.4: Prod	uct Purchasing (U4)	21
Table 3.5: Orde	er Confirmation (U5)	22
Table 4.1: Login	n form	25
Table 4.2: Sign	Up form	25
Table 4.3: Logo	ut	25
Table 4.4: Add	to cart product	25
Table 4.5: Delet	e from cart product	25
Table 4.6: Calcu	ulate total bill	25
Table 4.7: Enter	r Order details	26
Table 4.8: Confi	irm order	26
Table 4.9: Add	to favourites	26
Table 4.10: Dele	ete from favourites	26

LIST OF FIGURES

FIGURE	TITLE	PAGE
Figure 2.1: Bool	k seller/Buyer use case diagram	6
Figure 2.2: Shoe	es Buyer use case diagram	7
Figure 2.3: Shoe	es Seller/Admin use case diagram	8
Figure 3. 1 UMI	L Class Diagram	10
Figure 3. 2 Sequ	ence User Account Creation	11
Figure 3.3: Sequ	ience Login Account Diagram	12
Figure 3.4: Sequ	ience Shoes Display Diagram	13
Figure 3.5: Sequ	ience Shoes Purchase Diagram	14
Figure 3.6: Sequ	ience Confirm Order Diagram	15
Figure 3.7: Coll	aboration Account Creation	16
Figure 3.8: Coll	aboration Login	16
Figure 3.9: Coll	aboration product View	17
Figure 3.10: Col	llaboration Add to Cart	17
Figure 5.1: Sign	In Screen	28
Figure 5.2: Sign	Up Screen	28
Figure 5.3: Forg	get Password Screen	29
Figure 5.4: Ema	nil Verification Screen	29
Figure 5.5: Prod	lucts Screen	30
Figure 5.6: Men	's Shoes Screen	30

Figure 5.7: Women Shoes Screen	31
Figure 5.8: Kids Shoes Screen	31
Figure 5.9: Product View Screen	32
Figure 5. 10: Product Review Screen	32
Figure 5.11: Add To Cart Screen	33
Figure 5. 12: Total Bill Screen	33
Figure 5.13: Delete From Cart Screen	34
Figure 5.14: Continue Order Screen	34
Figure 5.15: Add Order Details Screen	35
Figure 5.16: Books View Screen	35
Figure 5.17: Single Product View Screen	36
Figure 5.18: Write Review Screen	36
Figure 5.19: Review Screen	37
Figure 5.20: Add to Favourite Screen	37
Figure 5.21: User Profile Screen	38
Figure 5.22: Edit Profile Screen	39
Figure 5.23: Admin Panel Screen	40
Figure 5.24: Shoes management Screen	40
Figure 5.25: Pending Order Screen	41
Figure 5.26: Cancel Order Screen	41
Figure 5.27: Delivered Order Screen	42

CHAPTER 1

INTRODUCTION

1.1 Background

SWAP AND SELL is a mobile application where we offer community a platform on which they can swap their books with each other and sell them. Other service that we are providing is selling imported used and new shoes. There is huge offline market of used books in Pakistan but there is no online platform where people can swap, sell, or buy used books same is for imported used shoes there are few platforms for that also. We believe that tapping right market at right time can generate huge revenues right now this a huge market gap and a problem that we can solve by creating this platform. Generally, when kids pass their class, they don't open those books again what if we give them a platform where they can put their books for selling or exchange them with each other it will save them a lot of money.

The next market gap that we observed was there no online platforms to sell used imported shoes there are markets in Lahore where people sell used shoes but it is hard to find slightly used shoes. We will contact them to separate shoes that are in good condition. We will put those shoes on our platform with complete product description like company, product code, shoe condition from 1 to 10.

1.2 Problem Statements

1.2.1 Primary Scope

The primary scope of this application is to provide users a platform where they can sell and swap their books and buy slightly used imported shoes. Currently there is no mobile application in the market that provide this facility there is a huge market of selling and buying of used books, but we are giving people a platform where they can put their old books online for selling and swapping purposes. There is also a huge offline market of selling used imported shoes we are also creating a platform where people can buy slightly used imported shoes the condition of the shoes will also be mentioned out of ten, their international product code will also be mentioned.

This mobile application will be developed react native framework and Google firebase will be used as database. People can post book ads, add to favourite, delete from favourite, contact seller as well add to cart shoes, delete from cart, generate total bill, add their order details. On the other hand admin can add shoes products, delete products, view list of pending orders, cancel order.

1.3 Final Deliverable of the Project and Beneficiaries

- A cross platform mobile application for book swapping, selling and selling slightly used imported shoes.
- The beneficiaries of this mobile application will be the people who want to sell or swap their books with other people and people who want to buy slightly used imported shoes.

1.3.1 Objectives

Following are the Objectives

- To provide people a platform where they can swap and sell their books.
- To provide people a platform where they can buy imported slightly used shoes.

- Providing people quality products that are 100% authentic.
- To provide people ease to order their favorite shoes from home.

1.4 Novelty

There is no similar FYP already approved in BULC, also there is no application like that on Google play store or IOS app store so this is a completely new project.

CHAPTER 2

LITERATURE REVIEW (and/or SRS)

2.1 User classes and characteristics

Swap and sell is a mobile based application which is divided into three user classes i.e. Book Seller/ buyer, Shoes buyer, Shoes Seller. The characteristics of these user classes are

2.1.1 Book Buyer/ Seller:

- Create profile
- View profile
- Edit profile
- View ads
- Post ad
- Delete ad
- Add to favorite
- Swap book
- Contact Seller

2.1.2 Shoes Buyer:

- Create profile
- View profile
- Edit profile
- View Homepage
- Add multiple products to cart
- Delete products from cart
- View cart
- Review of buyer
- Add to favorite
- Generate total bill
- Order

2.1.3 Shoes Seller/Admin:

- Add products
- Delete products
- Manage database
- Shoes condition details
- Users Information

2.2 Operating environment

The hardware requirements for development of this application are laptop with windows 10 operating system and an android phone for application testing

2.3 Assumptions

Swap and sell application need internet connectivity so this is the assumption that both user and admin will need internet connection in order to perform different task while using the application

2.4 Dependencies

Swap and sell will be depending upon firebase firestore as all the data will be fetched from firestore because this is going to be the database of app with I application cannot work properly

2.5 System use case Diagrams

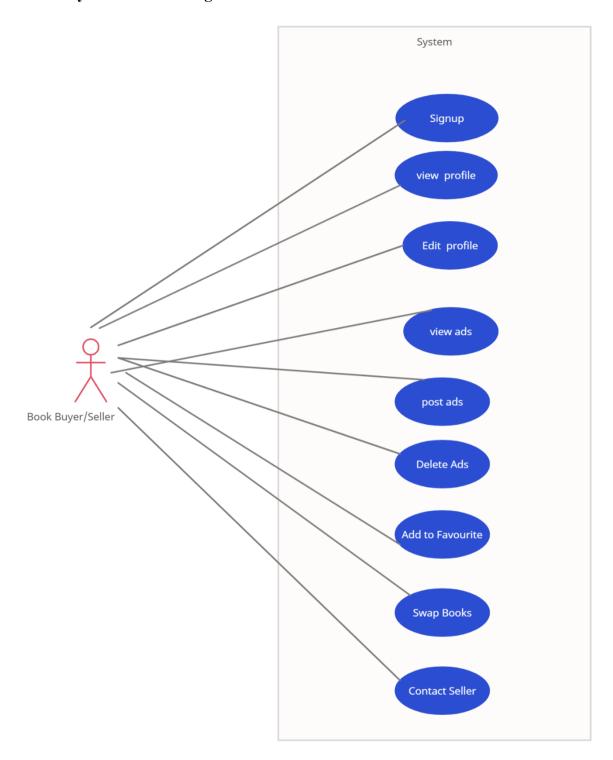


Figure 2.1: Book seller/Buyer use case diagram

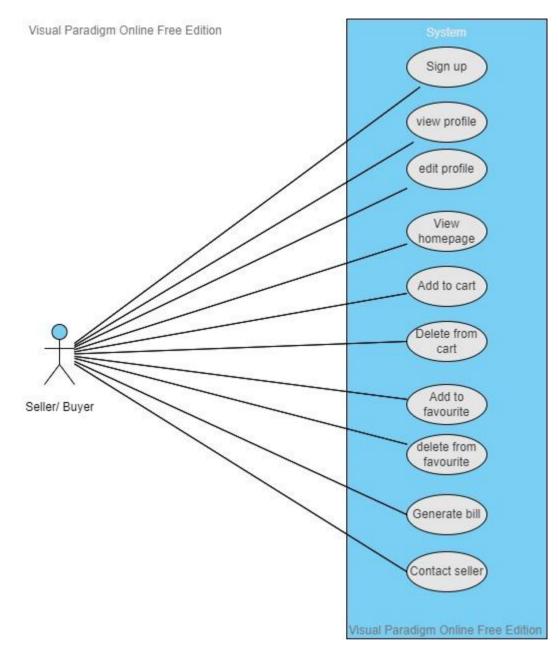


Figure 2.2: Shoes Buyer use case diagram

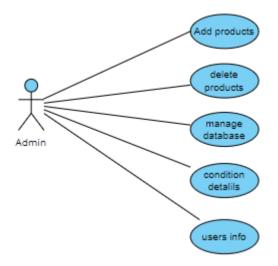


Figure 2.3: Shoes Seller/Admin use case diagram

CHAPTER 3

DESIGN AND METHODOLOGY

3.1 Methodology

Project is developed using agile methodology. In Agile methodology developer can implement code as he develops the project and also, he can do changes even after the development of project. We can divide project into different modules and each module can be developed separately. That is why most of organizations use agile methodology these days. In this project there were total three modules and all of them were developed separately first one was shoes module in which there were three categories' men, women and kids. Second module was books swapping in which users can sell and swap their books and last module was web admin panel [1].

3.2 UML Class Diagram

UML diagram presents the set of requirements that are same to system in a product line.

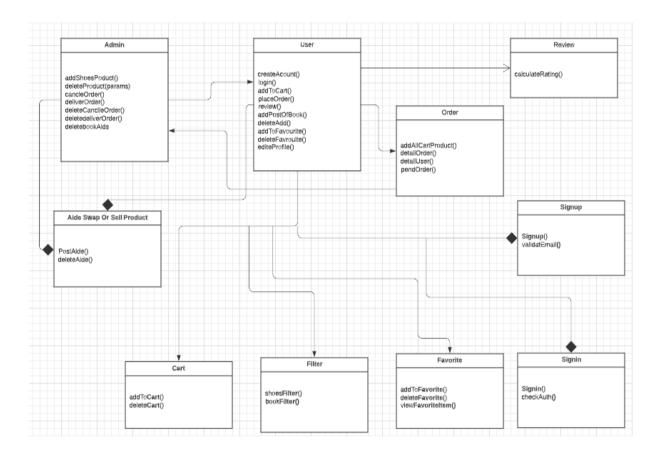


Figure 3. 1 UML Class Diagram

3.3 Sequence Diagram

Sequence diagram shows the sequence that occurs in system.

3.3.1 User Account Sequence Diagram

This diagram will show the sequence if how user account is created

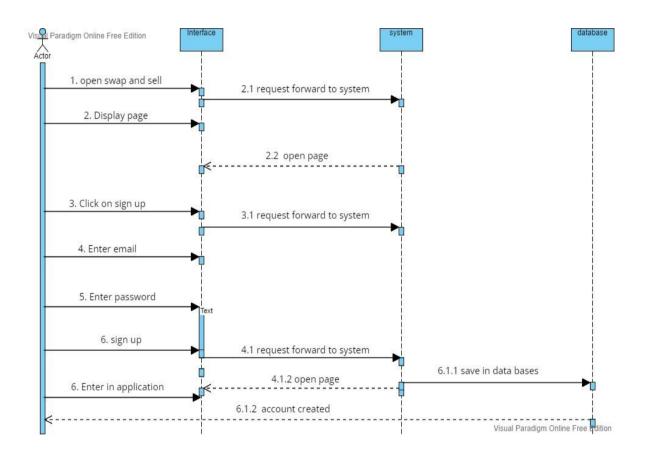


Figure 3. 2 Sequence User Account Creation

3.3.2 Login Sequence Diagram

User will login Swap & sell app in this sequence diagram

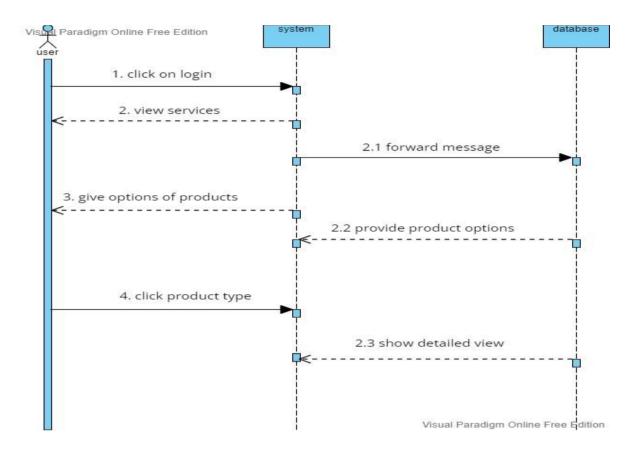


Figure 3.3: Sequence Login Account Diagram

3.3.3 Shoes Display Sequence Diagram

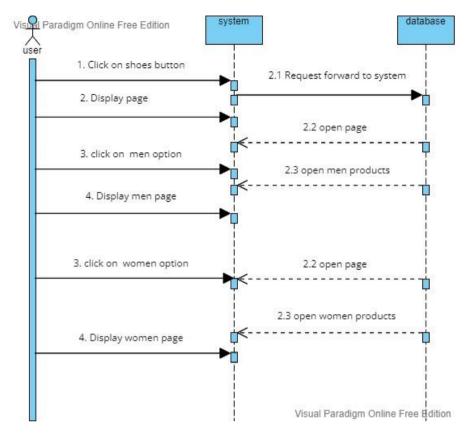


Figure 3.4: Sequence Shoes Display Diagram

3.3.4 Shoes Purchase Sequence Diagram

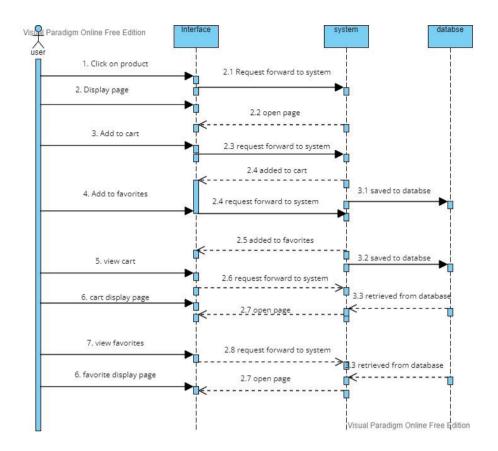


Figure 3.5: Sequence Shoes Purchase Diagram

Visual Paradigm Online Free Edition

Vis Paradigm Online Free Edition databse user 1. place order 2.1 Request forward to system 2. Display bill 2.2 total bill calculated 3. continue adding information 2.3 request forward to system 2.4 display info box 5. display Information Box 2.4 request forward to system 3.1 saved to databse 2.4 request forward to system 5. add order information 6. Confirm order 2.6 request forward to system 3.1 saved to databse

3.3.5 Order Confirmation Sequence Diagram

Figure 3.6: Sequence Confirm Order Diagram

3.4 Collaboration Diagram

Collaboration diagram describes pattern of interaction it shows the participation of objects by linking them with each other

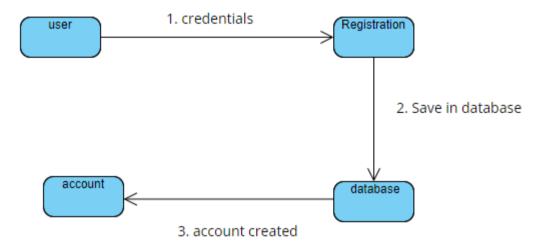


Figure 3.7: Collaboration Account Creation

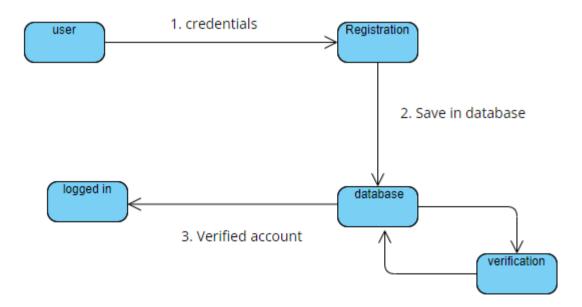


Figure 3.8: Collaboration Login

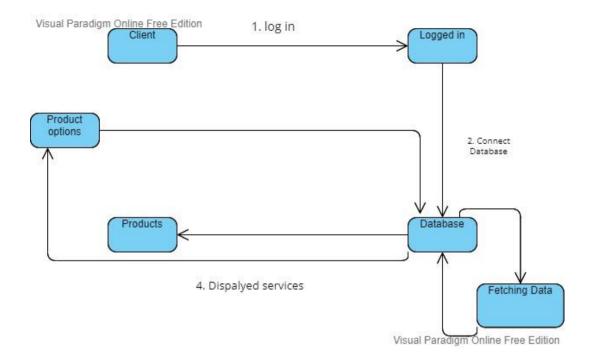


Figure 3.9: Collaboration product View

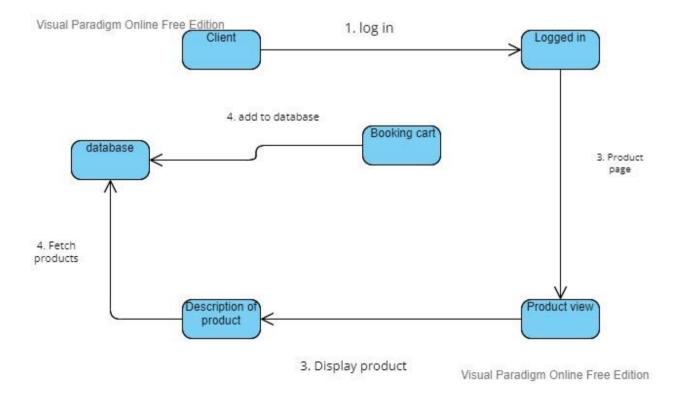


Figure 3.10: Collaboration Add to Cart

Table 3.1: User Registration (U1)

Name	Register
Use case id	U1
Objective	User needs to register
Priority	High
Source	End user
Actors	User/Buyer/Seller
Flow of Events	 Open application Click on sign in Enter user name Enter password Press button
Alternate flow	N/A
Exception flow	Server is not responding
Includes	N/A
Pre-Conditions	User not registered yet
Post-Conditions	User get registered
Notes Issues	Invalid email or password

Table 3.2: User Log in (U2)

Name	Login	
Use case id	U2	
Objective	Log in to applicationView Products	
Priority	High	
Source	End user	
Actors	User	
Flow of Events	 Open application Click on sign in Enter user name Enter password Press button View products 	
Alternate flow	Logout out of application	
Exception flow	Server is not responding	
Includes	N/A	
Pre-Conditions	User is registered	
Post-Conditions	User is successfully log in	
Notes Issues	Invalid email or password	

Table 3. 3 Product view (U3)

Name	Product view
Use case id	U3
Objective	View products
Priority	High
Source	End user
Actors	User
Flow of Events	 View products View men products View women products View kids products
Alternate flow	View productsView Books
Exception flow	Server is not responding
Includes	N/A
Pre-Conditions	User is registered
Post-Conditions	User is successfully log in
Notes Issues	Invalid email or password

Table 3.4: Product Purchasing (U4)

Name	Product Purchasing	
Use case id	U5	
Objective	 View products details Add to cart View cart Total bill Enter Order details 	
Priority	High	
Source	End user	
Actors	User	
Flow of Events	 View products details Add to cart View cart Total bill Enter Order details 	
Alternate flow	Remove product from cart	
Exception flow	Server is not responding	
Includes	N/A	
Pre-Conditions	User is successfully log in	
Post-Conditions	User is able to enter details	
Notes Issues	Invalid email or password	

Table 3.5: Order Confirmation (U5)

Name	Order Confirmation
Use case id	U5
Objective	Enter Order detailsConfirm Order
Priority	High
Source	End user
Actors	User
Flow of Events	Enter Order detailsConfirm Order
Alternate flow	Remove product from cart
Exception flow	Server is not responding
Includes	N/A
Pre-Conditions	User is successfully log in
Post-Conditions	User is able to enter details
Notes Issues	Invalid email or password

CHAPTER 4

DATA AND EXPERIMENTS (and/or IMPLMENTATION)

4.1 Language:

Java script is the language that is going to be used in the development of this application

4.2 Softwares:

Following are the software that will be used in the development of this application

- VS code
- Firebase
- Android studio
- Node is
- GitHub

4.3 Firebase:

Firebase is a no SQL database which is very user friendly and we can use it for website database as well as mobile application database it provides real time hosting of databases, authentication and notifications. It provides acceleration in development through which you can release app confidently

4.4 Visual Studio:

VS code allows us to perform different kind of operations such as write code, edit code deploy code on GitHub It is free software that is globally used by all kinds of developers

4.5 GitHub:

Git hub is another open source software that is used to commit the code online it is a widely used software by programmers because of its simplicity and effectiveness this software is also used in this project.

All test types focusing on the operational characteristics of a piece of software are included in non-functional testing methods. Among themare:

- Performance evaluation
- Testing for security
- Testing for usability
- Testing for compatibility

4.6 Individual testing:

We test each of our components separately during unit testing. It's a great way to ensure code quality by allowing engineers to identify errors early in the development process. As a result, whenever we created a new unit, we tested it individually to ensure that it was error-free. Unit testing was done by all of the group members, and various entities tested different unit

Table 4.1: Login form

Sr. No	Test case	Expected Result	Test result
1	Enter the name and pass- Home page should dis		Successful
	Word		
2	Invalid detail	Home page will not display	Successful

Table 4.2: Sign Up form

Sr. No	Test case	Expected Result	Test result
1	Enter name, email and pass-	Sign Up Successful	Successful
	Word		
2	Invalid details	display error	Successful

Table 4.3: Logout

Sr. No	Test case	Expected Result	Test result
1	Click Logout	User should be logged out	Successful

Table 4.4: Add to cart product

Sr. No	Test case	Expected Result	Test result
1	Add to cart product	Added successfully to cart	Successful

Table 4.5: Delete from cart product

Sr. No	Test case	Expected Result	Test result
1	Delete from cart product	Deleted successfully from cart	Successful

Table 4.6: Calculate total bill

Sr. No	Test case	Expected Result	Test result
1	Calculate total bill	Total bill calculated correctly	Successful

Table 4.7: Enter Order details

Sr. No	Test case	Expected Result	Test result
1	Enter Order details	User can give order details	Successful

Table 4.8: Confirm order

Sr. No	Test case	Expected Result	Test result
1	Confirm order	User can confirm order	Successful

Table 4.9: Add to favourites

Sr. No	Test case	Expected Result	Test result
1	Add to favorites	User can add to favorite	Successful
		products	

Table 4.10: Delete from favourites

Sr. No	Test case	Expected Result	Test result
1	Delete from favorites	User can Delete from favorite products	Successful

4.7 Test for integration:

After we've thoroughly examined the units and their individual capabilities, it's time to assess how well they'll function together. In the second level of testing, integrationtesting, we test each of our individual components in combination. The group built various units, which were then integrated and tested to ensure that the system performed as planned.

4.8 System Evaluation:

System testing is a sort of testing that examines the completeness and integration of asoftware product. The end-to-end system specifications are evaluated using a system test. Software is usually simply one component of a larger computer system. This is a closed-loop evaluation. This black box

method is used to assess the entire and integrated system to verify it meets the given standards. The software is thoroughly tested from beginning to end. This testing technique is used on our project to see if it fits all of the functional requirements.

4.9 Test for Acceptance:

It is a type of formal testing that is based on user needs and function processing. Acceptance testing involves checking our system's compliance with functional and non-functional requirements as well as its overall performance. It is founded on the premise that your acceptance tests are responsible for determining experimentally whether your website functions as advertised to its users. Users are asked to evaluate websites based on a variety of characteristics.

CHAPTER 5

RESULTS AND DISCUSSIONS (or USER MANUAL)

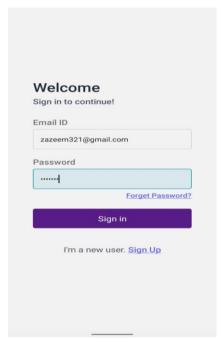


Figure 5.1: Sign In Screen

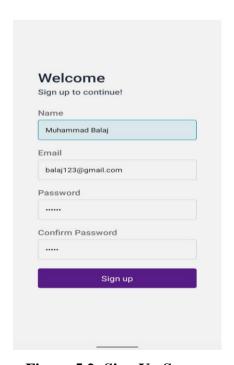


Figure 5.2: Sign Up Screen

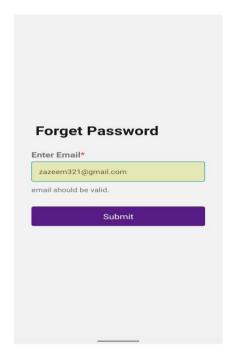


Figure 5.3: Forget Password Screen

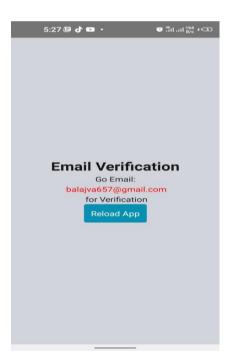


Figure 5.4: Email Verification Screen

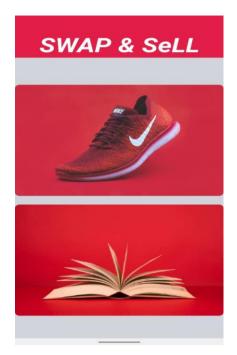


Figure 5.5: Products Screen

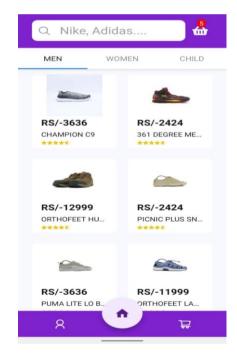


Figure 5.6: Men's Shoes Screen

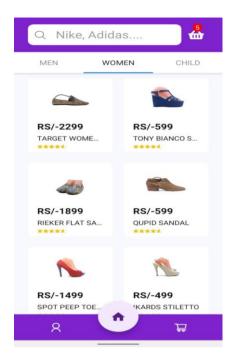


Figure 5.7: Women Shoes Screen

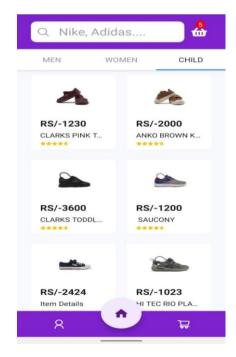


Figure 5.8: Kids Shoes Screen

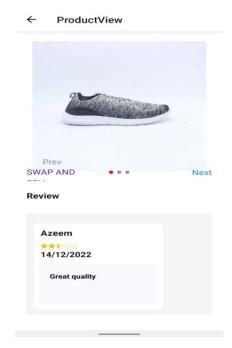


Figure 5.9: Product View Screen

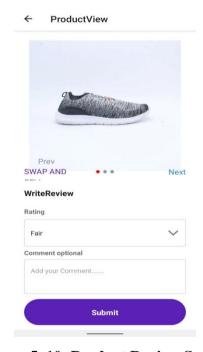


Figure 5. 10: Product Review Screen

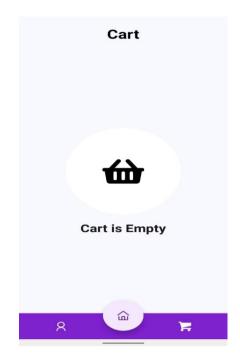


Figure 5.11: Add To Cart Screen





Figure 5. 12: Total Bill Screen





Figure 5.13: Delete From Cart Screen

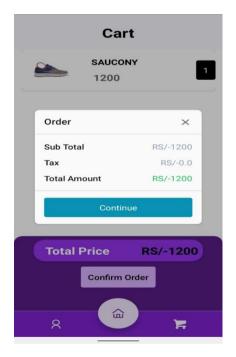


Figure 5.14: Continue Order Screen

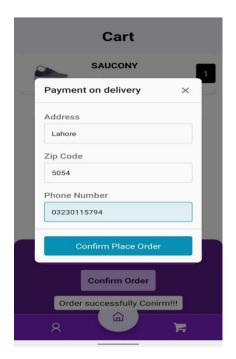


Figure 5.15: Add Order Details Screen

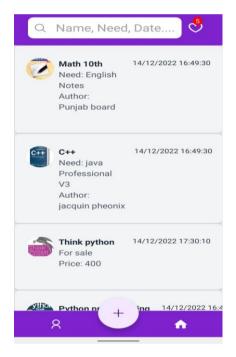


Figure 5.16: Books View Screen

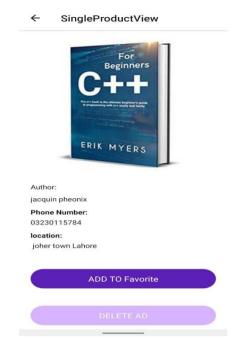


Figure 5.17: Single Product View Screen

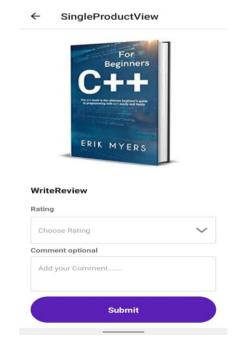


Figure 5.18: Write Review Screen

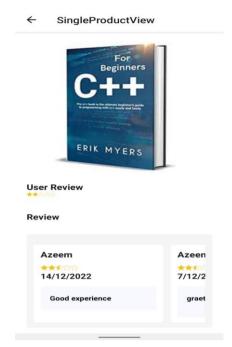


Figure 5.19: Review Screen



Figure 5.20: Add to Favourite Screen



Figure 5.19: Delete from Favourite Screen

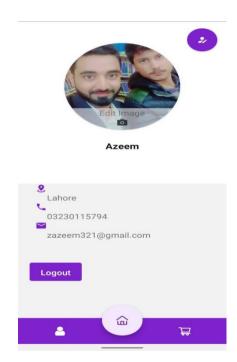


Figure 5.21: User Profile Screen

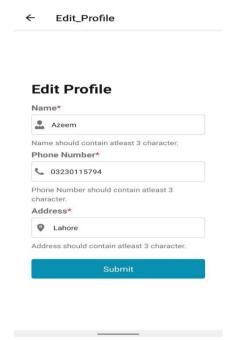


Figure 5.22: Edit Profile Screen

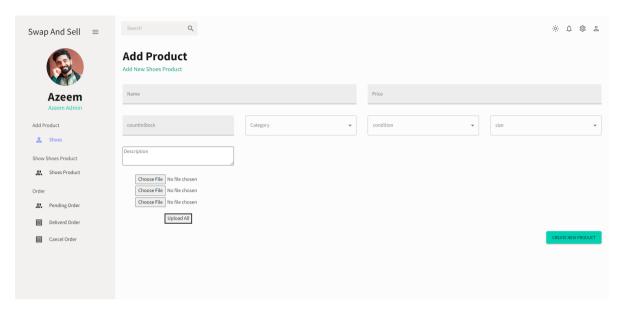


Figure 5.23: Admin Panel Screen

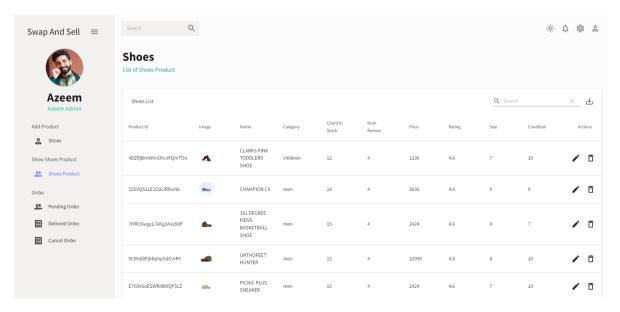


Figure 5.24: Shoes management Screen

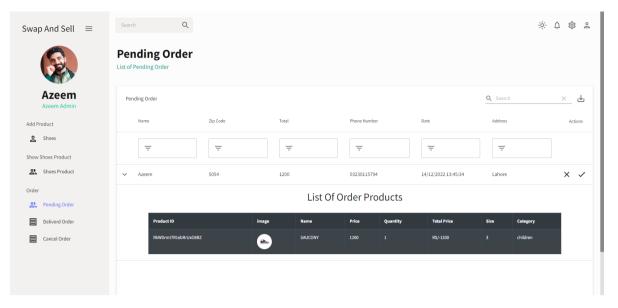


Figure 5.25: Pending Order Screen

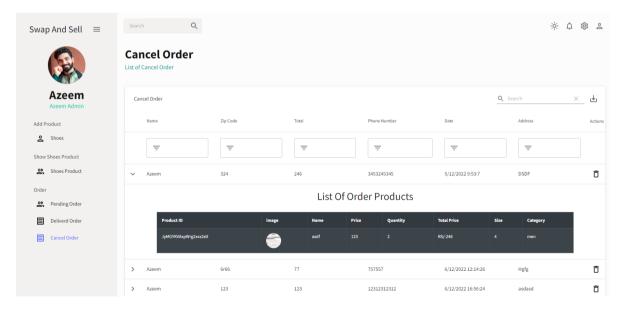


Figure 5.26: Cancel Order Screen

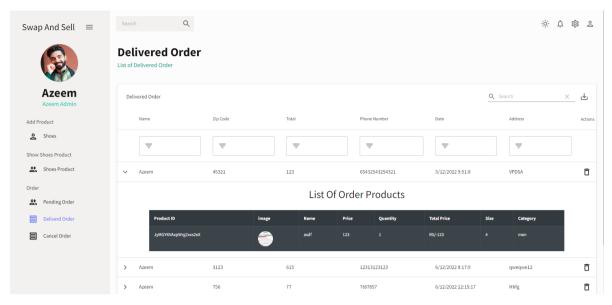


Figure 5.27: Delivered Order Screen

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Recommendation:

Swap&Sell will benefit both kinds of buyers whether it is book buyer or a shoe buyer it will benefit both kind of users. It is a first app in its kind which is providing a platform for both kinds of people. Users can sign in and buy the books and shoes. This application is based on two technologies react native and firebase. Admin can observe the traffic and control the app using different functions they can do using admin panel.

6.2 Conclusion:

Swap&sell is going to be the first app that will provide users a place where they can buy books and shoes as well as swap books. User will first sign in provide their credentials and then they will be send verification email to verify their account then they can enter in one of two modules one is shoes they can enter in that module they can check the condition of the shoes as it will be written in the description secondly they can also enter in the books module where they can perform two tasks one is to sell or buy books and the other is they can swap the books with other people. These are the two tasks that users will be doing. On the other hand, admin will be handling all the functions behind the application screen [2].

REFERENCES

Journal Paper:

[1] A. Polydoros, "A unified approach to serial search spread spectrum code acquisition-Part I: General theory", *IEEE Transactions on Communications*, vol. 32, pp. 542-549, May 1984.

Conference Paper:

[2] C. E. Shannon, "Two-Way Communication Channels", *Proceedings of the fourth Berkeley Symposium on Probability and Statistics*, pp. 611-644, Berkeley, CA, 1961

SWAP AND SELL

ORIGINA	LITY REPORT				
•	2% RRITY INDEX	2% INTERNET SOURCES	1% PUBLICATIONS	12% STUDENT PA	PERS
PRIMAR	Y SOURCES				
1	Submitte Pakistan Student Paper		ucation Comm	nission	6%
2	Submitte System Student Paper	ed to University	of London Ex	ternal	3%
3	Submitte Student Paper	ed to Heart of V	Vorcestershire	College	1%
4	forum.b	abylonjs.com			1%
5	git-srv.w Internet Source				1%
6	forums.	meteor.com			1%