

## A APPENDICES

### A.1 Graphical Representation of Mobile Applications Tested.

*Banking App.* Figure 1 displays a portion of the information architecture of the UI design for mobile banking, First Mobile. The user is required to enter a PIN upon launching the app. After this, the user is directed to the main menu (Figure 1a), where they can select from various functions. More menu options are shown in Figure 1d.

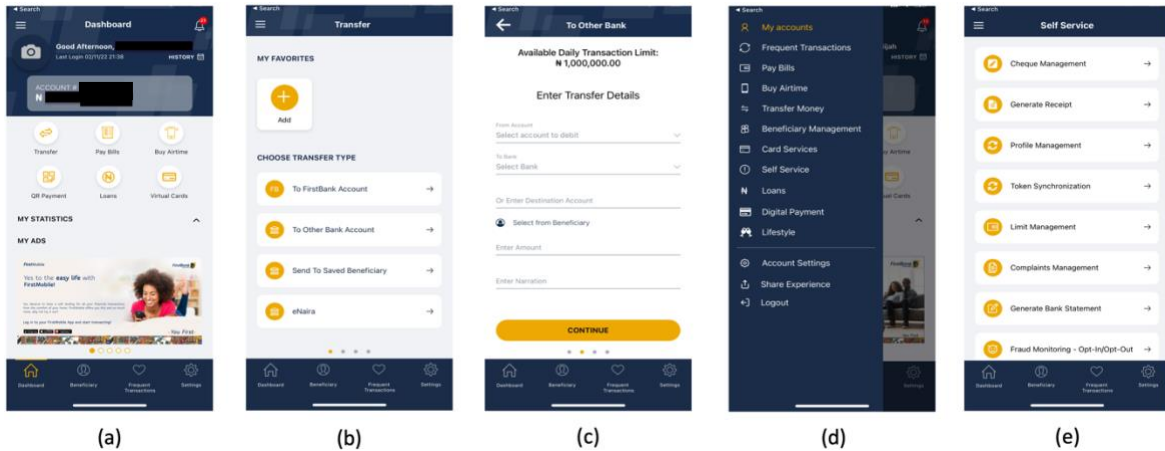


Figure 1: Screenshots of the mobile banking interface a) home page, b) transfer page tab, c) transfer detail tab, d) more menu options, e) self-service options tab.

*Shopping App Context.* Figure 2 shows screenshots of the shopping interface, Jumia. The main page is displayed in Figure 2a. Other app functionalities are the account tab (2b), search filter page (2c) etc.

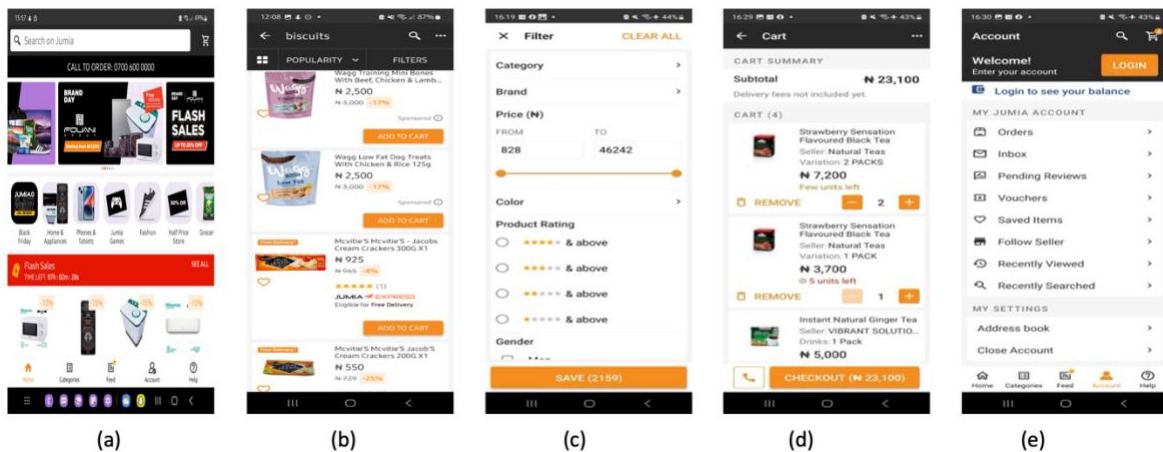


Figure 2: Screenshots of the mobile shopping interface a) home page, b) search results page, c) search filter options, d) shopping cart, e) user account tab.

Disclaimer: This work is not intended as a criticism of the services provided by the companies but written for educational purposes with the aim of studying the characteristics of users with limited literacy.

## A.2 Digital Skills

### A.2.1 Digital Literacy Global Framework (DLGF)

Table 1: Digital Literacy Global Framework (DLGF) [11]

Digital Competence Area	Digital Competences
1. Information and Data Literacy	1.1 Browsing, Searching and Filtering Data, Information and Digital Content
	1.2 Evaluating Data, Information and Digital Content
	1.3 Managing Data, Information and Digital Content
2. Communication and Collaboration	2.1 Interacting through Digital Technologies
	2.2 Sharing through Digital Technologies
	2.6 Managing Digital Identity
3. Digital Content Creation	3.1 Developing Digital Content
4. Safety	4.2 Protecting Personal Data and Privacy
5. Problem-Solving	5.2 Identifying Needs and Technological Responses

Note: The table shows only the digital competencies relevant to this study.

### A.2.2 Tasks assigned to users, mapped out to the Digital Literacy Global Framework (DLGF)

Table 2: Tasks assigned to users, mapped out to the Digital Literacy Global Framework (DLGF)

Assigned Tasks	Digital Literacy Competences									
	1.1	1.2	1.3	2.1	2.2	2.6	3.1	4.2	5.2	
Banking Application										
B1 Transfer to another account	✓		✓				✓	✓		
B2 Buy airtime for a phone number	✓		✓					✓		✓
B3 Display transactions history	✓	✓	✓							✓
B4 Find an option to log a complaint	✓			✓						
Shopping Application										
S1 Edit the name on the account			✓			✓	✓			
S2 Add a new address			✓			✓	✓			
S3 Search for a product	✓									
S4 Filter search results	✓	✓								
S5 Add products to the cart		✓	✓							
S6 Sort search results	✓	✓								
S7 Add to wish list			✓							
S8 Locate the wish list	✓									
S9 Share products with a saved contact					✓					
S10 Locate the cart	✓									✓
S11 Checkout	✓	✓								✓

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### A.3 Rank Analysis for Banking UI

#### A.3.1 Summary of Rank Analysis for Banking UI

Difficulty Measures	Task IDs			
	B1	B2	B3	B4
Error Occurrence	2	1	3	4
Task Completion	2.5	1	4	2.5
Taps	4	1	2	3
Time Elapsed	4	1	2	3
Average [Rank]	3.1	1.0	2.8	3.1

Note that the Average [rank] column shows an average based on 4 tasks. Hence 3.1 refers to 3.1/4. The higher the rank, the higher the score for difficulty based on the difficulty measures.

#### A.3.2 Summary of Rank Analysis for Shopping UI

Difficulty Measures	Task IDs										
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Error Occurrence	7	4	3	8	2	10	11	12	6	5	8
Task Completion	6	7	3	7	2	7	13	11	5	4	10
Taps	7	5	12	9	11	4	3	1	8	13	6
Time Elapsed	7	12	4	11	3	9	1	5	6	10	13
AVERAGE [Rank]	7	7	6	9	5	8	7	7	6	8	9

Note that the Average [rank] column shows an average based on 11 tasks. Hence 9.25 refers to 9.25/11. The higher the rank, the higher the score for difficulty based on the difficulty measures.