King Saud University College of Computer and Information Sciences Department of Information Technology

IT 320 Course Project Semester-1, 1445H





Software Product Release < SOUK OKAZ>

Prepared by

<Raghad Alboqami, 442200455>
<Rema Alsharef, 442200419>
<Alanoud Alamri, 443200043>
<Taif Alrubeaan, 442202301>
<Ruba Albnhar, 442200904>
<shouq alotaibi, 442202284>

Supervised by <Dr.Malak bagais>

Table of Contents

1	\mathbf{C}	hapter	1: Introduction	∠
	1.1	•	Problem	
	1.2		Solution	
	1.	2.1	The Product	5
	1.	2.2	Product Vision	
	1.	2.3	Product Roadmap	
	1.	2.4	Objectives	
	1.	2.5	Scope	
	1.	2.6	The Scrum Team	
2	C	hapter	2: Domain Analysis	
	2.1	_	ninology	
	2.2		eral Domain Knowledge	
	2.3		tomers and Users	
	2.4		Environment	
	2.5		ks and Procedures	
	2.6	Con	peting Software	9
	2.7	Sim	ilarities Across Domains and Organizations	.10
3	C		3: Requirements Engineering	
	3.1		em Users	
	3.2	Use (Case Diagram	.12
	3.3	Produ	uct Backlog	.13
	3.4	Defir	nition of Done	.13
4	Chaj	pter 4:	System Design	.16
	4.1	System	m Architecture	.16
	4.2	Class	Diagram	.17
	4.3	Data	Design	.18
	4.4	Comp	onent Design	.21
	4.5	Interf	ace Design	.23
5	Chaj	pter 5:	Implementation	.35
6	Chaj	pter 6:	Testing	.36
	6.1	User	Story Acceptance Testing	.36
	6.2	Integra	ation Testing	.40
	6.3	User	Acceptance Testing	.41
	6.	3.1	Demographics of participants	.42
	6.	3.2	Questionnaire	.43
7	Cha	pter 7:	Conclusion and Future Work	.44

7.1 Conclusion	44
7.2 Future Work	45
References	46

1 Chapter 1: Introduction

The season of Souk Okaz requested an application to share the Saudi culture and trade in the Okaz market, since the market exists only for 20 days a year.

Our application aims to make users, who are traders in Souk Okaz, publish posts of their traditional goods, and other users see the posts and share their own experience and write comments on the posts, and for who are interested to Find the best traditional restaurants Souk Okaz application will lead them to the perfect spot, our domain is everyone who are interested in Saudi culture.

We are releasing this document because we are utilizing an agile approach to manage the development of Souk Okaz. The next stage is to assess the requirements engineering and domain, which form the main part of this document.

First, we examined the domain of our project, which is divided into several sections. In the terminology section, we defined key terms that will be used in our software and documentation. In the general domain knowledge section, we mentioned key facts and rules that helped us better understand the data we needed to collect and process. Finally, in the customers and users of the domain section, we described in detail the potential users and clients of our software as well as the people who work in the domain.

To make our software competitive in the market, we first analyzed the strengths and weaknesses of similar existing software and their key features to compare it with. In addition to the environment section, where we mentioned the tools and system, we used to develop our software, we also provided a list of the actions that people typically do when looking for traditional goods to have a better look at the procedures and possible shortcuts.

1.1 The Problem

In recent years, with the advancement of technology, social media platforms have become a way to document any ongoing event. Among these platforms, we have found that souq okaz is one of the oldest and most important events that represents a part of our culture and religion. However, due to its short season people are unaware of its existence due to the lack of historical documentation, photos, and information about it. Also, people who visit the event from all over the world might need a tour guide who can tell them more about the place and culture and show them everything in souq okaz.

1.2 The Solution

SOUK OKAZ social app will facilitate people's lives and save their time and effort through finding exactly what they are looking for, faster. You will join a community of people that share the same interests and want to know more about our culture, you can see different posts of the event and make a list of places you intend to visit according to people's reviews and without needing a tour guide. SOUK OKAZ app has a full registration function starting with creating an account. Then all the users' information will be saved in their accounts, safe and reachable anytime.

1.2.1 The Product

1.2.2 Product Vision

For a people who Likes to reach to okaz history, or share their experiences about souk okaz with other people, who need to know more about Souk Okaz, The souk okaz is an Android mobile application social that provides Social Recommendations: Souk Okaz social application for users to share their favorite products and recommend them to their friends, It helps users make decisions Unlike Foursquare Application Our product provides a customized experience using a dedicated themed social app, to exchanging experiences and recommendation in the field of Saudi culture, our have clear interface.

1.2.3 Product Roadmap



1.2.4 Objectives

- Product (customer focus-value): Okaz aims to give you a way that you can Join a community of people just like you who love to explore and reach Saudi culture and share it, people can read comments written by real people, they can find exactly what they are looking for faster.
- o Create an account to register in the App and log in/out whenever they like.
- o add post
- o Delete and edit post
- o Search for specific categories
- o view posts
- o like and unlike the post
- o Save post for later
- Project (solution focus-plan):
- o Domain Analysis
- o Figure out the users' requirements
- o Design the interfaces.
- o Develop the software.
- o Test the software.
- Learning (student focus):
- o Use a new IDE [Android Studio].
- o Use several tools that are completely new to us [Jira-Git GitHub].
- o Learn a new programming language [XML].
- o Use the agile methodology to develop our App.
- o Learn how to test our App.

1.2.5 Scope

Souk Okaz is a historical and cultural event in the Kingdom of Saudi Arabia. We intend to develop an Android mobile application This platform will allow people in Souk Okaz to communicate and share their experience this application will include core e-commerce features, such as visitor registration, log in and allow them to leave a comment, like, unlike and we added extra feature where we Allow visitors to save a post about a store they like for easy reach next time. Advanced features, like follow friends and the store can sale their item and visitor can pay these features may be explored in later version. The primary language of the online shop will be English, Consideration of support for additional languages in the future to accommodate a broader user base. The application was made to serve tourists and people interested in the stores inside Souk Okaz.

1.2.6 The Scrum Team

	Scrum Team					
Product Owner:	Shouq alotaibi					
Developers:	Raghad Alboqami					
	Taif Alrubeaan					
	Shoug alotaibi					
	Ruba Albnhar					
	Alanoud Alamri					
	Rema Alsharef					
Scrum Master (SM):	L. Malak Bagais					
Stakeholders:	L.Malak Bagais					

2 Chapter 2: Domain Analysis

Our project domain is for any one intend to visit Souk Okaz or interest in the Souk Okaz historical and cultural event , So we developed a useful app to facilitate people to communicate and share their experience and if you are looking for a ticket you can also book from the Souk Okaz application and if you are the owner and you are interested about what people think about your store in the event you can search using your store name.

To have a better understanding about the domain and what the users expect from our app we gathered information from similar existing software and website where you can share your experience such as Foursquare, Yelp, Google maps.

2.1 Terminology

Several terminology and concepts that may not be part of common language or have specific meanings are used in the context of the domain "Souk Okaz," which refers to a historical and cultural event celebrated in Saudi Arabia. A list of some important words is given here. These terms are important for communicating effectively with users and customers of Souk Okaz and they are:

- -Event Schedule: A feature of the app that provides a timeline and details of activities, performances, and events taking place at Souk Okaz.
- -Interactive Map: A map feature within the app that helps users navigate the Souk Okaz venue, locate specific stalls or attractions, and plan their visit effectively.
- -Poet's Corner: A section of the app dedicated to showcasing poetry and facilitating poetry recitation, allowing users to engage with traditional poetry.
- -Performer's Stage: An area within the app where users can find information about cultural performances, musical acts, and theatrical shows at Souk Okaz.
- -Artisan's Bazaar: A section of the app that features information about traditional craftspeople, their products, and where to find them within Souk Okaz.
- -Souvenir Shop: A virtual store within the app where users can browse and purchase mementos, crafts, and traditional items related to Souk Okaz.
- -Cultural Cuisine: A feature that highlights the diverse food offerings at Souk Okaz, allowing users to explore and learn about local culinary traditions. These terms are essential for users of the Souk Okaz App to navigate the app's features, engage with the Souk Okaz event effectively, and make the most of their experience. They may appear in the app's user interface, documentation, or help guides to ensure users understand how to use the app to its fullest extent.

2.2 General Domain Knowledge

A traditional market is a conventional form of commerce that has been practiced for centuries and continues to exist alongside modern digital marketplaces, for example Face-to-Face Transactions, Local and Artisanal Products. Traditional markets face competition from modern retail formats and e-commerce, but they continue to play an essential role in many communities worldwide. They offer unique experiences, support local economies, and provide a platform for cultural exchange and economic interactions that go beyond mere commercial transactions, and these cultures are supposed to be preserved even with the advancement of technology.

2.3 Customers and Users

Customers: The season of Souk Okaz & Ministry of Tourism and Antiquities. Users: traders in Souk Okaz, general users with different ages who have interest in Souk Okaz and have visited it.

2.4 The Environment

Souk Okaz is a mobile application that works on the Android platform and works on browsers, and it will be available for download on the Google play store. You can access it through the browser when connected to the Internet.

2.5 Tasks and Procedures

In the past, people who enjoyed shopping for traditional items would typically visit traditional shops like Taybah and Alloway's Markets. However, with the advancement of technology, their shopping habits have evolved. Nowadays, they prefer to search for information about the items they want on websites or applications. By doing so, they can access reviews from people who have already purchased those items. This approach allows them to make informed decisions based on the experiences of others, rather than going to the physical shops without any prior knowledge.

2.6 Competing Software

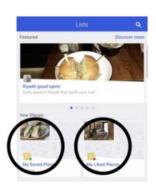
We found some softwares that is in the same field as ours, softwares that helps us to avoid or solve some mistakes such as Foursquare. It does not provide a feature for how crowded the place is. In other hand it provides other good features, for example it displays a map of your location with signs of events near to you. Also, we found a bad point in Yelp Application, it is not supported in our country, and it does not work also in Arab countries.

Feature	Google maps	FourSquare	Yelp	SOUQ OKAZ
create user	\mathcal{O}	\mathcal{O}	\odot	\mathcal{O}
account				
ticket booking				(v)
for events	_			\sim
real-time	(V)			(V)
congestion update				
bookmark	\sim	\sim	\sim	\sim
favorite places	\odot	\odot	\odot	\odot

2.7 Similarities Across Domains and Organizations

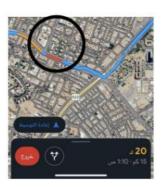
We found some features in several softwares that support same features, and what distinguishes our product from others, for example:

-In Foursquare, you can see in the left picture" My saved places" is an in-common feature which is basically a Bookmark feature that allows you to save places you intend to visit, also "My liked places "for places you already visited or liked. in the second picture "add a photo" feature and "Check-in".





-in Google Maps, it provides an important feature especially for people who hate crowded places which is "real-time congestion update" it informs you about road traffic, in a similar way our app provides the same feature whereas other apps do not. All mentioned was generic, what is specific in our domain that is all the competitive software provide information about events but do not have booking feature which may consume some time for user looking where to book for the required event.



3 Chapter 3: Requirements Engineering

To fulfill the requirements engineering process, we will undertake the following steps: documenting the requirements, identifying the system users, creating a use case diagram, and establishing a product backlog that outlines the top features along with their definition of done. By following these steps, we aim to develop a comprehensive understanding of the system's capabilities and ensure that all essential features are incorporated into the final product.

In order to ensure that our software aligns with user needs and considers the strengths and weaknesses of the market, we will conduct thorough research. This research will involve employing various methods such as interviews, questionnaires, and user stories to gather relevant information. Additionally, we will analyze the features offered by similar competitors and compare them with our own, enabling us to identify areas for improvement and differentiate our software from the competition. Through these measures, we can tailor our software to suit the market and effectively address user requirements.

Through the interviews we conducted with potential users, we discovered that many of them face problems with a lack of knowledge about Souq Okaz and its elements and facilities. They expressed the importance of sharing opinions and expressing their experiences to expand knowledge and help each other. So, we came up with the idea of a program that allows users to share their opinions and likes to help them make their own decisions.

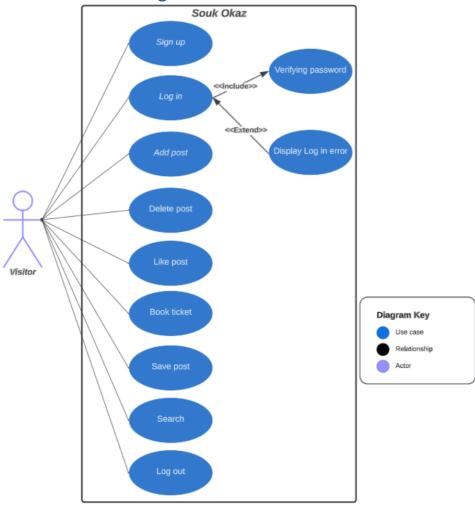
Based on the responses to our questionnaire, we intend to develop a system that satisfies the needs and preferences of users. The findings showed that 76.5% of respondents believe a SOUK OKAZ app is important, demonstrating a strong desire for this service. In addition, 76.5% of respondents are interested in the Souk Okaz app's services. Additionally, a strong demand for SOUK OKAZ services is reported by 70.6% of respondents, demonstrating the potential worth of such apps. The need for a more effective and user-friendly replacement was highlighted by the fact that more than half of respondents, 64.7%, said they had trouble navigating Souk Okaz or finding traditional goods. 47.1% of respondents said it was difficult to find a suitable traditional good, whereas it was easy for 52.9% of respondents.

In conclusion, the requirements engineering section can be divided into several key sections. It begins with an introduction that highlights the purpose and importance of requirements engineering. The requirements elicitation section focuses on gathering requirements from stakeholders using various techniques. The requirements analysis section involves refining and validating the collected requirements to ensure clarity and feasibility. Requirements documentation is crucial for capturing and organizing the requirements in a structured format. Verification and validation techniques are employed to ensure the quality and correctness of the requirements. Requirements management encompasses activities such as traceability, change management, and version control. Lastly, effective communication and collaboration among stakeholders play a vital role throughout the entire requirements engineering process. By following these sections, organizations can effectively gather, analyze, document, manage, and validate requirements to ensure successful software development projects.

3.1 System Users

Our expected users are those who are interested about Saudi culture or want to know about Souk Okaz or Store owners in Souq Okaz. They should be 16 years old or above. Store owners must have a legal license in (freelance) platforms. Additionally, they should have completed middle school or above. and should have Learnability and understanding of using mobile applications.

3.2 Use Case Diagram



3.3 Product Backlog

This section contains our product backlog which includes the prioritized features of our project in user stories format with more details such as the size and the acceptance criteria in addition to definition of ready for the 6 top user stories that are ready for implementation in the next sprint.

3.4 Definition of Done

√	Business value is clearly articulated
✓	Details are sufficiently understood
✓	Dependencies are identified; no blocking dependencies exist
✓	Team is appropriately staffed relative to the PBI
✓	Estimated and small enough to be completed during sprint
✓	Acceptance criteria are clear and testable
✓	Performance criteria, if any, are defined and testable
√	Team understands how to demo the completed PBI

PBI	Size	Type	Acceptance Criteria
As a user I want to add a post so that I can share my experience and recommendations about the places I visited in Souk Okaz.	3	Feature	If the user clicked on the 'Plus' sign button in the home page, then the user will be directed to a page for adding a new post. Users can add photos and write descriptions or details below the photo. The page should also include an "add" button, which, if clicked then the post will be added to the application and will be visible to all users.
As a store owner I want to delete my post So that buyers know that	3	Feature	If the user taps on the delete button, a pop-up will come up with options to confirm or cancel. If you click "confirm," the post will be removed from the

the product is no longer available.			database. If you choose "cancel," nothing will happen, and the post will stay in the database.
As a user, I want to be able to edit my previously published posts, so that I can make updates or improvements my recommendation content.	3	Feature	If the user taps on the edit button, then users should have the ability to modify the post's content, and multimedia elements then If the user taps on the save button post will be updated on database If user choose "cancel," nothing will happen, and the post will stay in the database.
As a store owner I want user to view my post So that the user knows the details of what I offer.	3	Feature	If a user clicks on a specific post, then the post page will appear including the picture, like, Save button, descriptions, like button.
As a user I want to log in to my account so that I can enter my account and take advantage of the application service.	2	Feature	If the user enters email and password and hit "submit," the system will verify if that information already exists in the database. If it does, you'll be directed to the home page. But if there's no record of your information, you'll see an error message indicating that you haven't registered yet.
As a store owner I want to sign up so that I can offer my products to interested buyers and view other store products.	2	Feature	If the user fills in their information including the name, email, and password in the registration page and clicks on the submit button, then the system will verify if they already exist in the database. If they're new, confirmation message will appear, and they'll be redirected to the login page. If they already exist, they'll be prompted to log in
As a user I want to log out so that I can exit my account.	2	Feature	If you click on the logout button, a pop- up message will appear asking if you want to confirm. If the user choose "yes", you'll exit your account and lose access and privileges. If you choose "no," you'll stay logged in.

As a user I want to like and dislike the post so that I can show my feelings and support the post.	3	Feature	If a user clicks on a specific post, then the post page will appear including the picture, like, Save button, descriptions, like button. If the user clicks on a like button, then the button color will change.
As a user I want to be able to search for a specific store or product so that it saves my time rather than scrolling through the whole application.	3	Feature	If the user searches for a store or product that already exists, then it will appear on the page. However, if the product does not exist, then a feedback message should appear informing the user that the product does not exist.
As a user I want to save the post so that I can get to it later faster.	3	Feature	If a user clicks on a specific post, then the post page will appear including the picture, like, Save button, descriptions, like button. If user clicks on a save button, then 'the button color will change, and the saved posts will be stored in the user's database.
As a user I want the app to be easy to use so that I can learn to use it in 10-15 minutes.	3	Feature	If the 10 selected users learned how to use the system in 10-15 minutes, then the system is easy to use.
As a user I want the app to be fast so that response time to view post details does not exceed 30 seconds.	3	Feature	If the 10 selected users selected post details from the app, then there should be a response in 30 seconds.

4 Chapter 4: System Design

4.1 System Architecture

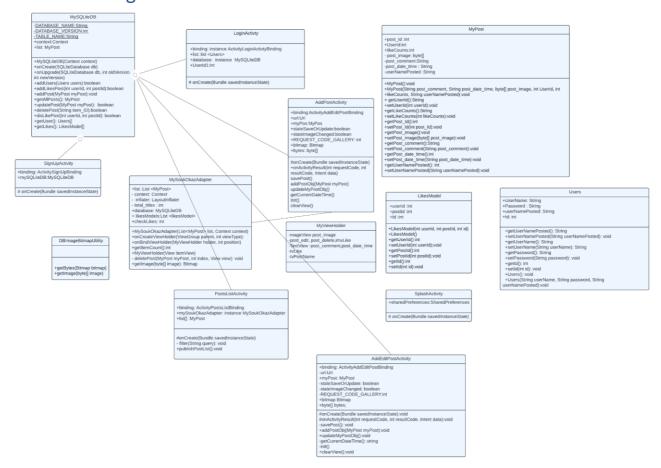
The OKAZ app would benefit from a client-server architecture, which divides the system into two main components: the client and the server. The client represents the user interface running on the user's device, while the server manages the data and business logic of the application. By using this architecture, the client-side components can interact with the server-side components to perform various operations and retrieve necessary data.

The client-side encompasses the user interface and user-facing elements of the app, enabling users to register, log in, view details, like and add posts, and delete posts. Accessible through mobile devices, the client communicates with the server to fulfill these functions.

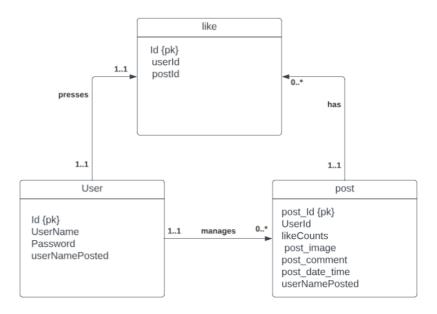
On the server side, there exists a database for storing user information and posts, along with the implementation of the application's business logic using the Java programming language. The server side is responsible for processing user requests, handling data retrieval and updates from the database, and executing various operations required by the application.

The client-server architecture is a suitable choice for OKAZ due to its scalability and clear separation of concerns. This separation allows for easier maintenance and updates, as changes can be made to one component without impacting the other. In contrast, a Peer-to-Peer architecture, where users act as both clients and servers, may be suitable for certain applications but can be more complex to manage, particularly with a large number of users. The centralized approach of the client-server architecture simplifies data and business logic management, making it more suitable for OKAZ.

4.2 Class Diagram



4.3 Data Design



Schema

User (UserName, Password ,<u>Id</u>, userNamePosted)

Primary key: Id

Post (post_Id, , Userld, ikeCounts, post_image, post_comment, post_date_time, userNamePosted_)

Primary key: post_Id

Foreign key: userNamePosted references to user (userNamePost)

Foreign key: UserId references to User (Id)

like (postId, , UserId, Id)

Primary key: Id

Foreign key: UserId references to User (Id)

Foreign key: postId references to post (post_Id)

Data dictionary

Data dictionary showing description of all entities.

Entity name	Description	Aliases	Occurrence
User	A user could be individual who utilizers' our app, whether they are a store owner or visitor, or any user interested	-	A user can manage one, none or many post
Post	Any post in our app	-	A post can belong to one and only one user
like	like in the post	-	like can belong to one and only one post

Data dictionary showing description of all Relationships.

Entity name	Multiplicity	Relationship	Entity name	Multiplicity
User	11	Manages	Post	*0
	11	presses	like	11
post	11	has	like	*0

Managing relationships between user and post represents Add/delete /edit /like function.

Data dictionary showing description of all attributes

Entity Name	Attribute	Description	Data Type	length	nulls	Multi- Valued	Default Value	rang e	Pk
User	userNamePoste d	User's name visible to another user	TEXT	20	N	N	N		
Oser	password	User's password	TEXT	100	N	N	N		
	username	User's name	TEXT	50	N	N	N		
	ID	Unique	INTEGER		N	N	N		Y
	Post_id	Unique id to the post	INTEGER		N	N	N		Y
post	likeCounts	Nummer of like on the post	INTEGER		N	N	N		
	post_date_time	Time and date post was added	TEXT	255	N	N	N		
	userNamePoste d	User name who adds the post	TEXT	50	N	N	N		
	post_comment	comment in the post	TEXT	1000	N	N	N		
	Post_image	image in the post	ВҮТЕ		N	N	N		
	userId	user id who added the post	INTEGER		N	N	N		
like	Id	Unique id for the like	INTEGER		N	N	N		Y
	userId	id of the user who like the post	INTEGER		N	N	N		
	postId	id of the post was liked	INTEGER		N	N	N		

4.4 Component Design

Show the design details of each user story using available modeling tools such as activity diagrams, state diagrams, flowcharts, and pseudocode. Start the component-level design of each user story by its row (from the PB).

Sprin t num ber	PBI (user story)	User story tasks with effort estimates in hours					
1	As a user I want to add a post so that I can share my experience and recommendations about the places I visited in Souk Okaz.	Create a "class MyPost " to take the user's post and we used the addPost method in MySQLiteDB to insert the new post into the database.	Designing the "Add Post" interface involves creating a visually appealing layout with relevant UI elements, implementing functionality to handle image selection, comment input, and saving posts to the database	validates inputs by ensuring the comment field is not empty before saving and assumes the presence of an image before proceeding with operations that involve images.	handling image converted to a byte array using DBImageBit mapUtility.ge tBytes because databases cannot directly store image formats but can handle raw byte data efficiently.	handle errors and exceptions that might occur during database operations or other critical sections of the code.	15 hours
1	As a store owner I want to delete my post So that buyers know that the product is no longer available.	for each item in the RecyclerView, there was a delete icon/button (post_delete). Clicking on this icon triggered the deletePost() method.	deletePost() Method in MySoukOkazAda pter , there is a a confirmation dialog (AlertDialog) is shown to confirm the deletion of the post and the deletePost() method interacted with the MySQLiteDB helper after delete confirmation	The deletePost() method in MySQLiteDB took the post's ID (post_Id) as a parameter. It executed a SQL query to delete the corresponding post from the database (MySoukOkazTable).	(MySoukOkaz Adapter) updated the RecyclerView by removing the deleted item from the list (list.remove(ind ex)).	error handling for database operations related to post deletion. Error messages or toasts were displayed to inform users about successful or failed deletion attempts.	5 hours
1	As a user, I want to be able to edit my previously published posts, so that I can make updates or improvements my recommendation content.	The AddEditPostActivity receive an intent with the post ID when launched for editing a post.	The publishPost() method in AddEditPostActivi ty queried the database based on the received post ID to fetch the details of the post being edited.	If the post details were successfully retrieved, the UI elements (ImageView and TextView) in the AddEditPostActivity were populated with the fetched data.	When the user made changes and clicked the "Save" button, the savePost() method checked if it was an update operation (determined by the existence of a post ID). If the operation was an update, it modified the post's comment and image data accordingly.	The updatePost() method in MySQLite DB then updated the post in the database with the modified details.	5 hours

• Add a post:

Classification:

Function

Definition:

The user should be able to add a new post when all constraints are applied.

Construction:

Inputs: image, image description. Precondition: User must be signed in.

Postcondition: The post is added in the database'MySQLiteDB' and displayed in "all post"

Pseudocode:

IF the user clicks the "Add" button in navigation bar:

DISPLAY "Add post" page

Read the image description, and image.

WHILE any field is empty:

DISPLAY a message to the user asking him to fill the field.

Read the field.

END WHILE

Add the post information to the database.

DISPLAY a message to confirm the addition.

DISPLAY the post in "all post" page based on their creation time or an assigned timestamp.

END IF

• Edit a post:

Classification:

Function

Definition:

The user should be able to edit their added post and description.

Construction:

Precondition: The user must be signed in and the post must already been added.

Postcondition: The post is edited from the database and edited from "all post" page.

Pseudocode:

IF the user clicks the "edit" button:

DISPLAY post page to the user so he can edit.

IF the user confirms the edit:

edit the post from the database.

edit the post from "all post" page.

ELSE

Do nothing.

END IF

END IF

• delete a post:

Classification:

Function

Definition:

The user should be able to delete their post.

Construction:

Precondition: The user must be signed in and the post must already been added.

Postcondition: The post is deleted from the database and removed from "all post".

Pseudocode:

IF the user clicks the "Delete" button:

DISPLAY a message to the user asking him to confirm the deletion.

IF the user confirms the deletion:

Delete the post from the database.

Delete the post from the "all posts".

ELSE

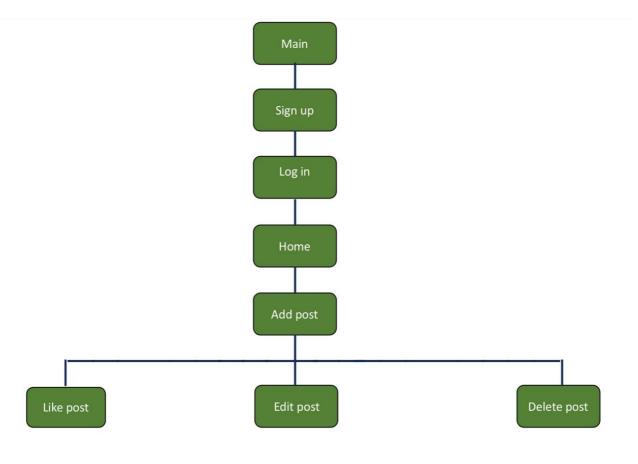
Do nothing.

END IF

END IF

4.5 Interface Design

User Navigation Hierarchy

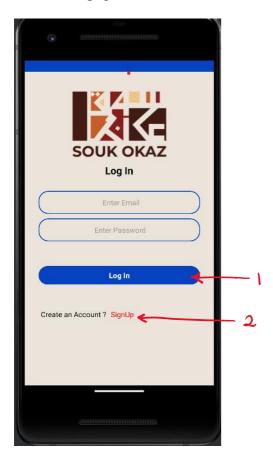


interface clean and uncluttered.

- 2-Clear Navigation: Provide clear and intuitive navigation that enables users to move through your interface seamlessly.
- 3-Feedback and Validation: Provide immediate feedback to users for their actions.
- 4-Consistency: Maintain consistency throughout your design by using standardized elements such as buttons and icons,
- 5-Error prevention.

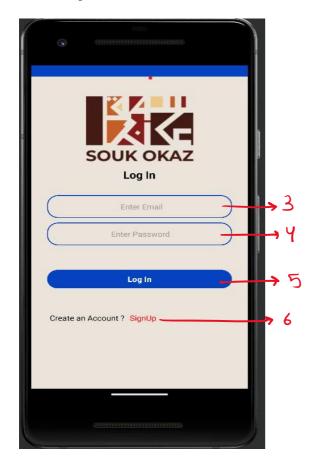
User interfaces

1- Main page:



#	Description
1	Log in button takes the user to the Log in page
2	SignUp link that take s visitors to the SignUp

2- Log in (if user click on #1):



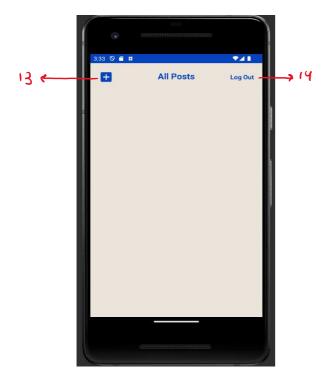
#	Description
3	Email address entered by the user, which is required to view the user's page
4	Password entered by the user, which is required to access the user's page
5	After all information is entered, the user is taken to the homepage by the Log In button.
6	The sign-up button directs a new user to the sign-up page.

3- Sign up Page (if user click on #2):



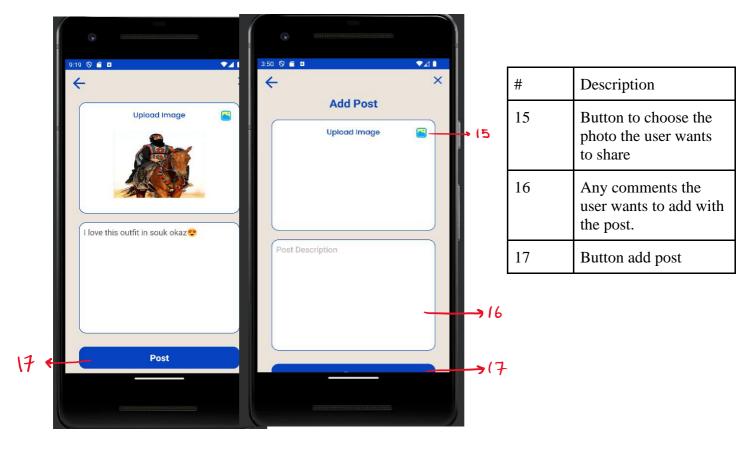
#	Description
7	The required form for entering the user's name in order to Sign Up as a new user and view their page
8	User's email address, which is required in order to view the user's page and Sign Up as a new user
9	User's address, which is required in order to view the user's page and Sign Up as a new user
10	Password input area for the user, which is required in order to register as a new user and view the user's page
11	Make sure the password is the same
12	Once all the information is entered, the sign-up button will take the new user to the login page.

4- Home page (if user login successfully):

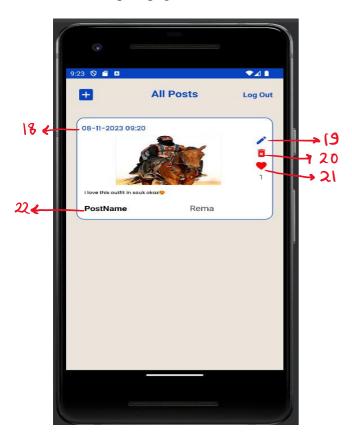


#	Description
13	To take the user to the "Add post page," click the Add button.
14	To return to the home page, click the "Log out" button.

5. Add post page (if user click on #13):

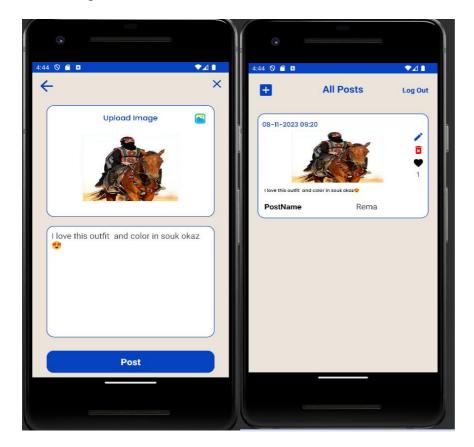


5- All post page (if user click on #17):

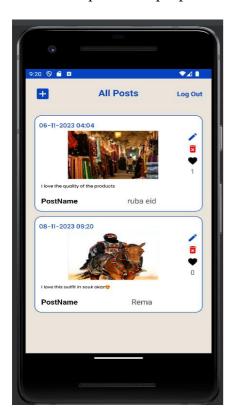


#	Description
18	Date and time of sharing the photo
19	Edit post
20	Delete post
21	Like post
22	post Name

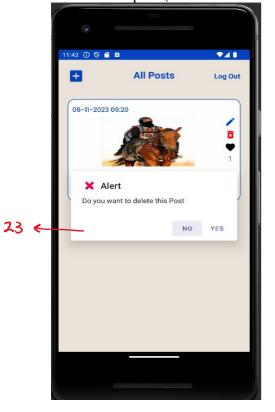
6- Edit post (if user click on #19):



7- Share post other people:



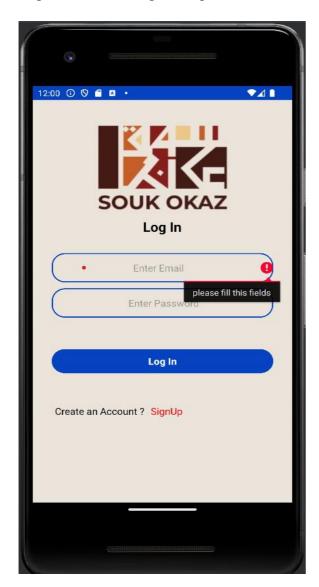
8- Delete post (if user click on #20):





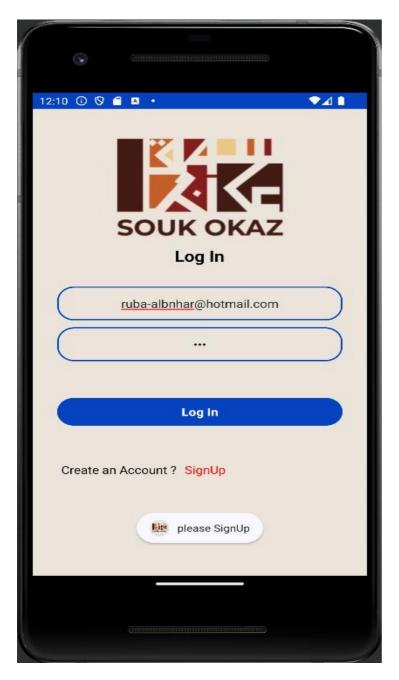
#	Description
23	Make sure that the user wants to delete the post

- Error message:
- Log in without filling the required fields





• Log in with wrong credentials:



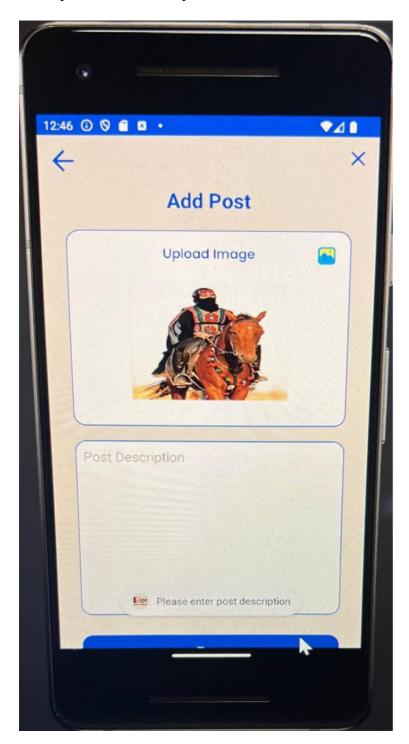
• Sign up without filling the required fields:



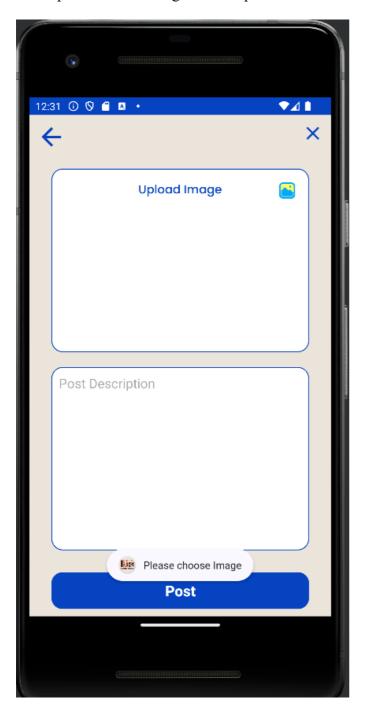
• Add description without post:



• Add post without description :



• Add post without filling all the required fields:



5 Chapter 5: Implementation

- **1. Requirements gathering:** Understand the specific requirements of Souk Okaz, including the objectives, target audience, and desired features of the application. This would involve discussions with the event organizers and stakeholders.
- **2. Designing the User Interface:** Create user interface designs that reflect the branding and theme of Souk Okaz. Consider incorporating elements of Saudi culture and traditional aesthetics into the design to create an immersive user experience.

3. Development:

- Front-end: Build the front-end of the application using XML and Java, ensuring it aligns with the designed user interface. Implement screens, forms, and components that allow users to explore and interact with Souk Okaz.
- Back-end: Develop the back-end of the application using Java and SQLite to handle server-side logic, data storage, and retrieval. This would include features such as user authentication, post management, and database interactions specific to Souk Okaz.
- **4. Testing and debugging:** Conduct thorough testing of the application's front-end and back-end components. Perform user acceptance testing, user story acceptance testing, and integration testing to ensure the application functions as expected, meets user requirements, and provides a seamless experience.
- **5. Database**: Set up a relational database to store relevant information related to Souk Okaz, such as user data, posts, comments, and other event-related details. Ensure the database is properly configured, secure, and efficient in handling interactions.

Implementation Challenges in the context of Souk Okaz:

- **1.** Authenticating users and handling sensitive information: Implement robust user authentication mechanisms to ensure secure access to the application. Handle user input and validation carefully, especially when dealing with sensitive personal information.
- **2. Managing event-related data**: Develop a data management system that can handle the dynamic nature of Souk Okaz, considering the limited 20-day duration of the event. Implement features to store and retrieve event-specific data, such as historical documentation, photos, and information about different stalls and attractions.

In conclusion, the implementation of application in the context of Souk Okaz involves gathering requirements, designing the user interface, developing the front-end and back-end components, testing, and addressing specific challenges related to user authentication, data management, and event-related information. With careful planning and execution, the application can provide a valuable platform for users to explore and engage with the Souk Okaz event, promoting Saudi culture and enhancing the overall experience for attendees.

Link to GitHub: https://github.com/RaghadIT02/Souk-okaz
Link to Jira: 2022-it320-1m - Agile board - Jira (atlassian.net)

6 Chapter 6: Testing

6.1 User Story Acceptance Testing

The User Story Acceptance Testing process plays a critical role in the software development process for SOUK OKAZ, as it helps to ensure that the app is of high quality and meets the needs and expectations of our users. By testing the app from a user's perspective, we can identify any issues or bugs that may affect the user experience and work resolve them. We tested all the acceptance criteria outlined in our user stories, such as sign-up, sign-in, adding a new post, deleting a post, logging out,

and other non-functional requirements, such as app usability and speed.

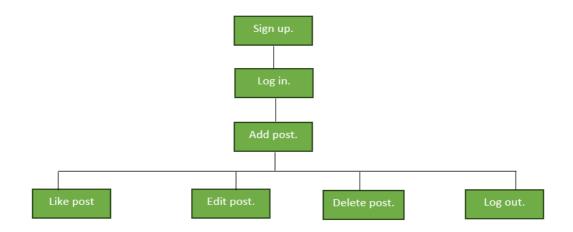
We first prepared the use cases to be tested and then performed the testing with real users from our targeted user group in a calm environment to allow them to focus. We observed the users while they performed the tests to ensure that the acceptance criteria were fulfilled.

Sprint Number	User story	Acceptance criteria	Test action(s)	Pass ?	Comm ents
1	As a user I want to add a post so that I can share my experience and recommendati ons about the places I visited in Souk Okaz	If the user clicked on the 'Plus' sign button in the home page, then the user will be directed to a page for adding a new post. Users can add photos and write descriptions or details below the photo. The page should also include an "add" button, which, if clicked then the post will be added to the application and will be visible to all users.	 Clicking on the PLUS sign button to open the "Add New post" form. Verifying that all required fields (upload image, post description) are present in the "Add New post" form. Filling in all required fields and clicking the "post" button. Verifying that the new post is added to the application and is visible to all users. 	yes	
1	As a store owner I want to delete my post So that buyers know that the product is no longer available.	If the user taps on the delete button, a pop-up will come up with options to confirm or cancel. If you click "confirm," the post will be removed from the database. If you choose "cancel," nothing will happen, and the post will stay in the database.	 User can see the page of "All post". Clicking on the delete icon in the post that user want to delete. pop-up will come up with options to confirm or cancel. If you click "confirm," the post will be removed from the "All post" page. If user choose to cancel, nothing will happen. 	yes	
1	As a user, I want to be able to edit my previously published posts, so that I can make updates or improvements to my recommended content.	If the user taps on the edit button, then users should have the ability to modify the post's content, and multimedia elements then If the user taps on the save button, the post will be updated on the database If the user chooses "cancel," nothing will happen, and the post will stay in the database.	 User tape on the edit button. User has the ability to modify the post content "photo, text". If the user taps on the save button post will be updated on the database and "All post" page. then all users can see the change. 	yes	
1	As a store owner I want user to view my post So that the user knows the details of what I offer.	If a user clicks on a specific post, then the post page will appear including the picture, Save button, descriptions, like button.	 Clicked on a specific post. The post page will appear including "picture, like, save, descriptions". 	yes	

		YC.1	1 0 (/1 1 "	
2	As a user I want to log in to my account so that I can enter my account and take advantage of the application service.	If the user enters email and password and hit "submit," the system will verify if that information already exists in the database. If it does, you'll be directed to the home page. But if there's no record of your information, you'll see an error message indicating that you haven't registered yet.	 Open "Log-In" page. Fill in log-in information which is email that doesn't exist in the database and password then click the "LOG-IN" button. Verify that a message appears on the screen indicating that the user has not registered yet. "Please Sign-Up" Fill in the required information with correct values that already exist in the database then click "LOG-IN" button. Verify that the user will be directed to the home page. 	yes
2	As a store owner I want to sign up so that I can offer my products to interested buyers and view other store products.	If the user fills in their information including the name, email, and password in the registration page and clicks on the submit button, then the system will verify if they already exist in the database. If they're new, confirmation message will appear, and they'll be redirected to the login page. If they already exist, they'll be prompted to log in	 Open "Sign-Up" page. Fill in the registration form with all the required information, including Full name, email that already exists on the database, and password then click "SIGN-UP" button. Verify that a message appears on the screen indicating that the user already exists and instructs the user to log in. Fill in the required information with values that don't exist in the database then click "SIGN-UP" button. Verify that a confirmation message appears on the screen containing a message indicating that the registration was successful and redirect the user to the log in page. 	yes
2	As a user I want to log out so that I can exit my account.	If the user clicked on the logout button on the home page, then a pop-up message would appear to confirm, if the user chooses yes then the user will exit their account and lose access and privileges. If they chose no, then the user will remain in their account.	 Click the "Logout" button. Verify that a pop-up message appears on the screen that has two options: 'yes' and 'no'. Click the 'no' option in the pop-up message, verify that the pop-up message disappears, and the user remains in their account. Click the logout button again. Click the 'yes' option in the pop-up message, verify that the user is logged out of their account and no longer has access to the application. 	yes
2	As a user I want to like and dislike the post so that I can show my feelings and support the post.	If a user clicks on a specific post, then the post page will appear including the picture, like, Save button, descriptions, like button. If the user clicks on a like button, then the button color will change.	 open the "All post" page. select the post you like. click on the like button the heart will change its color to red. If the user clicks again in the like button the red color will disappear. 	yes

2	As a user I want the app to be easy to use so that I can learn to use it in 10-15 minutes.	If the 10 selected users learned how to use the system in 10-15 minutes, then the system is easy to use.	 Select 10 users who have never used the system before. Set a timer for 10 minutes and allow the users to explore and use the system for 10 minutes. After 10 minutes, ask the users to complete a set of tasks using the system. Observe the users as they complete the tasks and take note of any errors they make. 	yes	the user take lease then 10 minute s to learn how to user the system
2	As a user I want the app to be fast so that response time to view post details does not exceed 30 seconds.	If the 10 selected users selected post details from the app, then there should be a response in 30 seconds.	 Select 10 users. Ask them to open "All post" page at the same time. Count the seconds it takes for the page to open for each user. Verify that all users received a response in less than 40 seconds. 	yes	

6.2 Integration Testing



System components	New component	Test case		Comments
Sign up in the system.	Logging in the system.	1. A user signed up into the system successfully.	Yes	
 Sign up in the system. Logging in the system. 	Add a post	 The signed-up user signed in the system. A user signed up into the system successfully. The signed-up user Logging in the system. The logged in user added a new post to the application. 	Yes	
- Sign up in the system. Logging in the system Add a new post.	Like a post	 A user signed up into the system successfully. The signed-up user Logging in the system. The logged in user added a new post to the application. The logged in user likes the post in the application. 	Yes	
- Sign up in the system. Logging in the system Add a new post. like a post	Edit a post	 A user signed up into the system successfully. The signed-up user Logging in the system. The logged in user added a new post to the application. The logged in user likes the post in the application. The logged in user can edit the post that is already in the application. 	Yes	

- Sign up in the system. Logging in the system Add a new post. like a post	Delete a post	 A user signed up into the system successfully. The signed up user Logging in the system. The logged in user added a new post to the application. The logged in user likes the post in the application. The logged in user can edit the post that is already in the application. The logged in user deleted a post from the application. 	Yes	
- Sign up in the system. Logging in the system Add a new post. like a post Delete a post.	Log out of the system	 A user signed up into the system successfully. The signed up user Logging in the system. The logged in user added a new post to the application. The logged in user likes the post in the application. The logged in user can edit the post that is already in the application. The logged in user deleted a post from the application. The logged in user logs out of the system and lose access. 	Yes	

6.3 User Acceptance Testing

End users test the software product to make sure it fits their needs and is suitable for deployment. This procedure is known as a user acceptance test. In order to conduct a user acceptance test, we must first identify the test participants—end users who will use Souk okaz app and provide feedback on their experience; these users should represent the product's target audience and be able to provide feedback based on their experience with our application); next, we must develop test cases—test cases should be developed for each feature or functionality that will be tested; and finally, we must conduct the test. and examine the outcomes (the feedback provided by the participants should be analyzed to identify any issues that were encountered during the test).

6.3.1 Demographics of participants

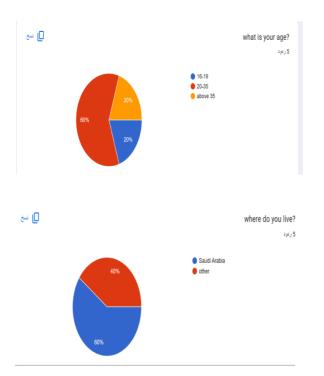
Participants should cover a range of age groups to ensure that the app is user-friendly for individuals of different generations but the majority of them are aged 16 and above. Their level of education is from middle school and above.

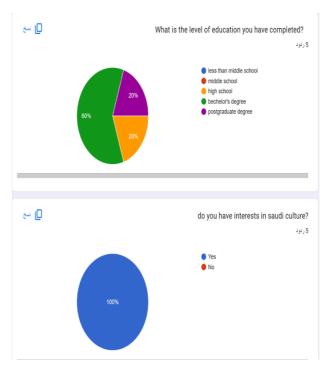
Ensure participants come from different geographic locations to assess if the app caters to a broad audience To support tourism but the majority could be from Saudi Arabia.

Consider users who have an interest in events, marketplaces, cultural festivals, or related activities, as Souk Okaz likely caters to individuals with these interests.

Our questions:

- What is your age?
- Where do you live?
- What is the level of education you have completed?
- Do you have interests in Saudi culture?



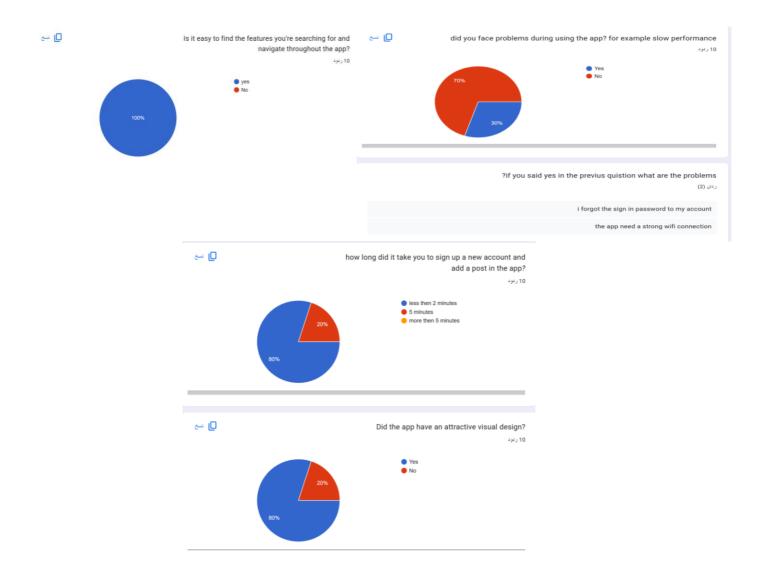


6.3.2 Questionnaire

Ask the testers to provide feedback on the system and the testing process. Display the results in a meaningful way.

The feedback from testers during the system's trial and testing phase is the last stage in ensuring that our system is practical and useful for the intended users.

So that we are able to understand and present the results in a meaningful way, we propose a few questions to them.



It's amazing that we noticed that all of the testers think the app was simple and easy to navigate and use This implies that the user interface (UI) and user experience (UX) design of the app are successful in directing users through its functionalities.

While some testers took five minutes to sign up and add post , the majority took less than two minutes , In the future, we intend to work toward speeding the process.

It's crucial to figure out whether the app or the testers' devices are to blame for the performance problems we noticed in certain testers. by asking more about the particular performance problems and the equipment being utilized. Lastly, it's encouraging to learn that a large number of testers thought the color scheme was visually pleasing. This can enhance the user experience and increase how appealing and pleasurable it is to use the app.

7 Chapter 7: Conclusion and Future Work

7.1 Conclusion

The development of Souk okaz using agile methodology has been a challenging yet rewarding project. Through extensive research, planning, and implementation, we have created an application that meets the needs of users who are wanting to share their experiences in Souk okaz. The agile approach offers for us several advantages. Firstly, it promotes a collaborative and transparent work environment, allowing us to actively engage with cross-functional teams. This fosters better communication, knowledge sharing, and collective decision-making, which can enhance the quality of the software being developed. Secondly, the iterative nature of agile development provides us with frequent opportunities to receive feedback and make adjustments. This feedback loop enables us to continuously improve our work and deliver value in shorter cycles. Additionally, the agile approach encourages us to embrace change and adapt to evolving requirements, empowering us to be more flexible and responsive.

This can boost our problem-solving skills and creativity while reducing the risks associated with rigid planning. the agile approach empowers us to collaborate effectively, iterate quickly, and deliver software that meets customer needs more efficiently.

Throughout the development process, we faced various challenges, including time constraints and performance optimization. Nonetheless, through effective teamwork and collaboration, we successfully overcame these obstacles, resulting in the delivery of a fully functional and dependable application.

The development of the Souk Okaz application has been a valuable experience, emphasizing the significance of meticulous planning, ongoing testing, and user feedback in building a successful application. We are excited to witness the application in action and remain committed to further enhancing it in the future.

7.2 Future Work

There are several areas in which Souk Okaz could be improved and expanded in the future. One potential area for improvement is adding more features like search functionality to the app. Currently, users can browse through the posts on the home page. However, adding a search feature that allows users to filter posts based on specific criteria such as location, price, or the type of events would make it easier for users to find exactly what they are looking for.

Another feature that could be added is ratings and reviews. Allowing users to rate and review posts on Souk Okaz would enable them to share their experiences with specific events. This feedback could be valuable to other users who are looking to attend similar events, as it would provide them with insights and recommendations. Implementing a rating and review system could also help foster a sense of community among users, as they would be able to share their experiences, provide feedback, and support one another.

Additionally, it would be beneficial to enhance the social media aspect of the app. Allowing users to easily share posts, events, and their experiences on various social media platforms would help promote Souk Okaz and attract a wider audience. Integrating social media sharing features would encourage users to engage with the app and spread the word about the events they attend. Furthermore, expanding the range of events and offerings on Souk Okaz would attract a larger user base. This could involve partnering with more event organizers, artisans, and vendors to provide a diverse range of products, performances, and cultural experiences. Increasing the variety of events would cater to different interests and preferences, making Souk Okaz a more appealing platform for users.

Lastly, improving the overall user interface and user experience of the app would enhance its usability and attractiveness. This could involve optimizing the app's performance, streamlining the navigation, and incorporating visually appealing designs. A user-friendly interface would make it easier for users to navigate the app, discover events, and engage with the features.

In conclusion, adding search functionality, implementing a ratings and reviews system, enhancing social media integration, expanding the range of events, and improving the user interface are all potential areas for improvement and expansion for Souk Okaz in the future. These enhancements would contribute to a more engaging, user-friendly, and community-driven platform for users to explore and enjoy cultural events.

4 References

- diagrams: https://lucid.app/user/178870476#subscriptionLevel/lucidchart
- jira: 2022-it320-1m Agile board Jira (atlassian.net)
- coding:https://youtube.com/playlist?list=PLF8OvnCB1EY3e0Yg990aAXreEru72_xWN&si=INQRgNmUJvzcmbA1
- GitHub: https://github.com/RaghadIT02/Souk-okaz

Appendix A: interview

- Interview Questions
- 1. What challenges do you typically encounter when it comes to sharing your opinions or thoughts on cultural aspects in Souk Okaz?
- 2. What kind of information or details do you consider essential before participating in a program for sharing opinions in Souk Okaz?
- 3. If there was an app specifically designed for sharing opinions and thoughts on cultural aspects in Souk Okaz, what features would you like to see included?
- 4. Are you interested in actively participating in discussions or expressing your opinions on cultural topics in Souk Okaz? If so, what motivates you to do so?
- 5. If an app allowed you to share your opinions and thoughts on cultural aspects in Souk Okaz, would you trust the platform and other participants? What factors would increase your trust in them?

Online interview (1)			
Interviewer: Ruba			
Appointment Date: 2 Oct Start Time: 8:00AM End Time: 8:40:6AM			
Reminders: the interviewee has been a visitor to Souk Okaz, she's interested in Culture and encourages intellectual and cultural exchange, and she always shares her thoughts about the historical aspect and cultural On Twitter			
Approximante time: 3min 4min 2min 2min 6sec 4min 3min 5min 4min 3min 5min 3min 5min 2min			

General Observation: The interviewee demonstrated interest in responding to a variety of topics and offering her point of view throughout the conversation. She also reaffirmed her unwavering support for the notion of creating this application.

Unsolved Issues, Topic not covered: we've covered almost everything, and we finished in time .

Online interview (1)		
Interviewee: Rana	Date: 2 Oct 2023	
Question:	Answers and Notes:	
1. What challenges do you typically encounter when it comes to sharing your opinions or thoughts on cultural aspects in Souk Okaz?	It is rare to find people interested in heritage, especially these days, so it's difficult for me to find people how are interested in cultural aspects to share my opinions and experience in Souk Okaz with. Observation: she was a little frustrated that no one shares the same interest with her and there's no right place that she can share her experience	
2. What kind of information or details do you consider essential in participating in a program for sharing opinions in Souk Okaz?	maybe provide a guideline for using the program to make it easy to use for most people because Souk Okaz has a lot of visitors from different cities in Saudi Arabia. Observation: she was excited when giving her answer	
3. If there was an app specifically designed for sharing opinions and thoughts on cultural aspects in Souk Okaz, what features would you like to see included?	It would be lovely if I can post some pictures about the thing I find interesting in Souk Okaz and give feedback about my experience, also being able to see what other people are sharing. Observation: She took a minute to think about the feature that will be helpful for her point of view	
4. Are you interested in actively participating in discussions or expressing your opinions on cultural topics in Souk Okaz? If so, what motivates you to do so?	Of course, One of the most important factors that motivates me to participate and express is the desire to enhance knowledge in the cultural aspect, and I am interested in knowing the opinions and experiences of others in this field. Observation: It seems that she liked the idea of exchanging and sharing opinions in Souk Okaz	
5. If an app allowed you to share your opinions and thoughts on cultural aspects in Souk Okaz, would you trust the platform and other participants? What factors would increase your trust in them?	Trusting the platform and other participants would be essential to me, active engagement among participants would significantly increase my confidence in the platform, particularly if there are constructive discussions and a respectful exchange of diverse opinions. Observation: It seems important to her that the other participants in the program are individuals who are serious and reliable in expressing their opinions.	

Online interview (2)			
Interviewee: Renad	Interviewer: Taif		
Location\Medium: Phone Call	Appointment Date: 3 Oct Start Time: 9:00AM End Time: 9:42:8AM		
Objective: Gain information about the challenges that people faced when going to Souk Okaz Gain information of how people get people opinion in purchasing from Souk Okaz	Reminders: The interviewee was a fashion designer at Souk Okaz. She is interested in heritage and historical fashion, encourages intellectual and cultural exchange, and she always searches for people opinions about her designs on Instagram.		
Agenda: Introduction Background in Project Overview of Interview Topic to be covered. Permission to Record Question1 Question2 Question3 Question4 Question5 Summary of Major Points Questions from Interviewee	Approximante time: 3min 4min 2min 2min 8sec 4min 4min 5min 4min 3min 5min		
Closing	2min		

General Observation: The interview was clear. She was cooperative and responded with details, expressing her interest and desire for the application and that she would be the first to benefit from it.

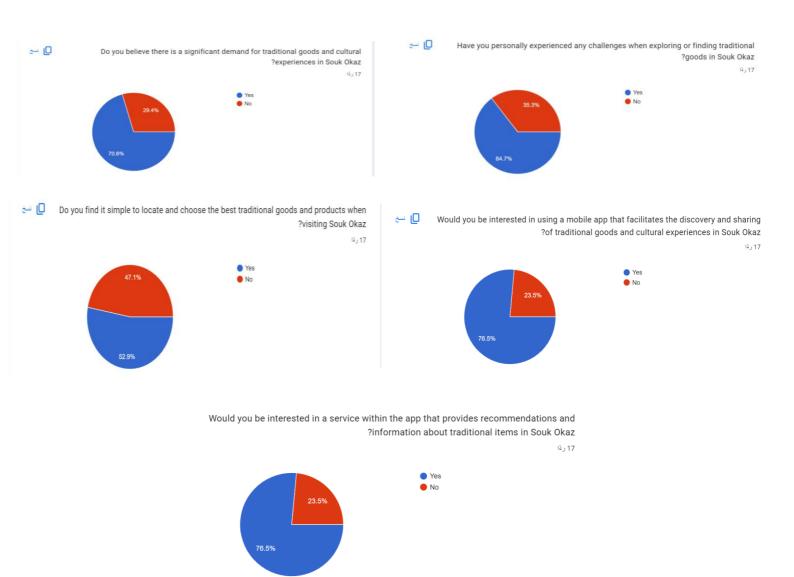
Unsolved Issues, Topic not covered: we've covered everything important.

Online interview (2)		
Interviewee: Renad	Date: 3 Oct 2023	
Question:	Answers and Notes:	
1. What challenges do you typically encounter when it comes to sharing your opinions or thoughts on cultural aspects in Souk Okaz?	As someone interested in heritage and historical fashion, it has become increasingly rare to find individuals who share this interest without any modern adaptations. Observation: She spoke with interest and curiosity about the problem	
2. What kind of information or details do you consider essential in participating in a program for sharing opinions in Souk Okaz?	Before sharing my opinion on the application, I think my sharing must be my experience and not someone else's experience, and I think the opinion must be supported with pictures, as they are better at conveying the idea. Observation: She seems upset by the lack of credibility of some people when expressing their opinion.	
3. If there was an app specifically designed for sharing opinions and thoughts on cultural aspects in Souk Okaz, what features would you like to see included?	It is wonderful to have such an application. It will help me a lot in communicating with people interested in traditional fashions. It would be great if there was a feature to evaluate stores and the customer could communicate privately with the store owner. Observation: she shed light on some new feature that we hadn't thought about	
4. Are you interested in actively participating in discussions or expressing your opinions on cultural topics in Souk Okaz? If so, what motivates you to do so?	Souq Okaz is one of the festivals in which I am always keen to participate, and I greatly enjoy being among people familiar with our wonderful culture. What motivates me to do this is my fear that this generation will lose their interest in history. Observation: She responded quickly, enthusiastically, and with a focus on cultivating the interest of this generation in Saudi history	
5. If an app allowed you to share your opinions and thoughts on cultural aspects in Souk Okaz, would you trust the platform and other participants? What factors would increase your trust in them?	I think that I should not completely trust social media platform, as sometimes there are hateful users who express wrong opinions, but I may trust them more when there is a clear account and posts that do not contain inappropriate words. Observation: She spoke confidently and honestly	

Appendix B: Questionnaire

- Questionnaire Questions
- 1. Do you believe there is a significant demand for traditional goods and cultural experiences in Souk Okaz?
- 2. Have you personally experienced any challenges when exploring or finding traditional goods in Souk Okaz?
- 3. Do you find it simple to locate and choose the best traditional goods and products when visiting Souk Okaz?
- 4. Would you be interested in using a mobile app that facilitates the discovery and sharing of traditional goods and cultural experiences in Souk Okaz?
- 5. Would you be interested in a service within the app that provides recommendations and information about traditional items in Souk Okaz?

• Questionnaire Answers



Appendix C: Jira:

