Umm Al Qura University

College of Engineering and Computers in Al-Qunfudhah

Department of Computer Science

PROJECT NAME : AL RAJHI BANK

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Contents

1.1 INTRODUCTION:

Al Rajhi Bank, established in 1957, is one of the largest Islamic banks in Saudi Arabia and globally. It offers financial services compliant with Islamic law, including accounts, financing, and credit cards. The bank is known for its wide branch network and advanced digital services

1.2 Purpose of the Program:

Alrajhi Bank is a digital banking platform that covers many financial services and functionalities with the most emphasis on user friendliness and security. As the platform is user-friendly, people with different technical expertise can interact with it and carry out operations like account management, money transfer and client support efficiently.

1.3 Why does it exist :

The primary purpose of the app is to enable users to manage their finances on the go, addressing the challenges of traditional banking by offering 24/7 access to essential banking services.

1.4 Problem it solves:

The app solves problems such as the need to visit physical bank branches for transactions, long processing times, and limited banking hours. It caters to a wide array of needs, including funds transfers, bill payments, account management, credit card services, and instant personal financing. This makes the app indispensable for users looking for convenience and efficiency in managing their financial affairs.

1.5 Main tasks:

1- Providing savings account opening services and current accounts.

2- Easy to transfer money locally and internationally.

3- Providing personal and commercial loans, order management and repayment 4- Banks help individuals and businesses move money easily and quickly.

1.6 Functional requirements :

1.6.1 user requirements

The system is clear, easy to use and the user interface is simple so that anyone can use it, even people who do not have high technical experience. The system provides a wide range of services and features that meet the needs of users.

1.6.2 Systems requirements

1- The system must provide secure login: Supports login using advanced technologies such as facial recognition or fingerprint. Requests an additional verification code when logging in from a new device or making large transactions.

2- Allows viewing account details: Displays the current account balance and details of previous transactions. Allows opening new accounts directly from the application and closing them.

3- Enables direct communication with customer service: Supports live chat or phone calls with customer service. Allows submitting complaints or inquiries directly through the application. Provides a section for frequently asked questions and their answers.

1.7 Non-functional requirements:

1- The digital banking system must be easy to use for all age groups, which means having an intuitive and easy-to-understand user interface.

2- The system's response speed must be high to meet user expectations, and it should effectively handle a large number of users without affecting performance.

3- The digital system must provide the highest levels of security, including encryption and protection of users' personal data.

4- The user should be able to access their account and use services without worrying about their personal or banking information being compromised.

5- The digital banking system must be available at all times (24/7) with quick technical support in case of any malfunction, and downtime should be planned and limited to avoid impacting the user experience.

2.1 Comparison table between Al Rajhi Bank and PayPal based on their advantages and disadvantages:

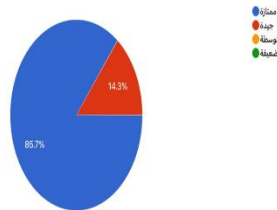| advantages	PayPal	Al Rajhi Bank
27/7 Access	Simple and easy-to-use interface, facilitating quick registration and transactions	Access Users can perform transactions anytime, increasing convenience
International Transactional use	Available in multiple countries, making it suitable for International Transactions	Primarily serves users within Saudi Arabia with limited international banking and currency management options

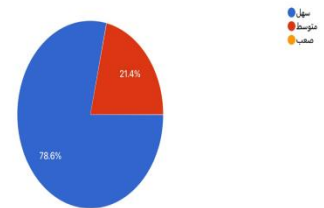| disadvantages	PayPal	Al Rajhi Bank
Limited International Use	Fees apply to certain transactions, especially international money transfers and commercial transactions.	The app has fewer options for international banking and currency management.
Customer Support	is not available in all countries, limiting its global reach.	Users may face slow or unhelpful customer service through the app.

3.1 Survey or Interview Overview:
Objective
Via conducting a usability test with 5 potential users for testing the usability, security and functionality of the digital banking system.
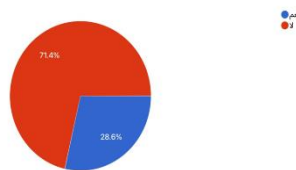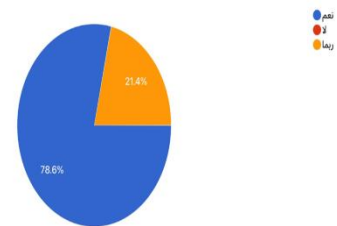
كيف تقيم سهولة استخدام النظام المصرفي الرقمي لبنك الراجحي؟

كيف تصف تجربتك العامة مع بنك الراجحي؟
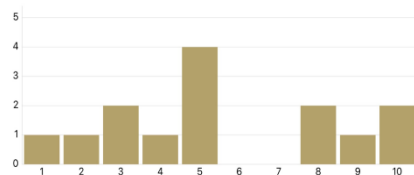

هل تنوي الاستمرار في استخدام النظام المصرفي الرقمي لبنك الراجحي؟

هل واجهتك أي مشاكل أثناء استخدام النظام المصرفي الرقمي؟
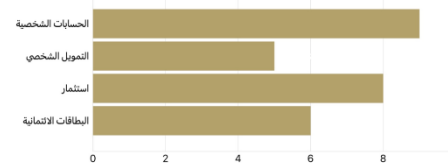

ما هي أقسام بنك الراجحي التي تنوي استخدامها أكثر في المستقبل؟

كيف تقيم سرعة استجابة خدمة العملاء لبنك الراجحي؟

كيف تقيم مستوى الأمان في الخدمات المقدمة من بنك الراجحي؟

ماهي الميزات التي تستخدمها في النظام المصرفي الرقمي لبنك الراجحي؟
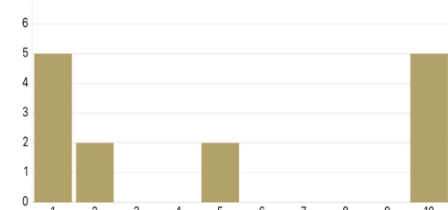
3.2 Key Survey Results

The following are shortcuts of the most important results and questions included in the Al Rajhi Bank User Experience Evaluation Survey:

1. The objective of the questionnaire: To evaluate the user experience in Al Rajhi Bank, including ease of use, security, and the functionality of the digital banking system.

2. Evaluation of the overall experience with Al Rajhi Bank: Customer satisfaction was reviewed in general with their experience with the bank.

3. Evaluating the ease of use of the digital banking system: a question about the ease of using digital banking services.

4. Security level assessment: a questionnaire about the extent of user satisfaction with the level of security in the bank's services.

5. Features used in the digital banking system: Identify the features most used by customers.

6. Problems encountered by users: A question about whether users encounter any problems while using the system.

7. Assessing the speed of customer service response: Measuring customer satisfaction by how quickly customer service responds to their inquiries or problems.

8. Continue to use the digital system: a question about the intention of customers to continue using the digital banking system.

9. Bank sections that expect to be used more in the future: a questionnaire about the sections or services that users plan to utilise in the future.

4. INTRODUCTION:

System Diagrams

In this phase, In order to clarify the functional requirements and system activity's, we will show you a series of required models including the activity diagram, sequence diagram.

4.1 Sequence Diagram
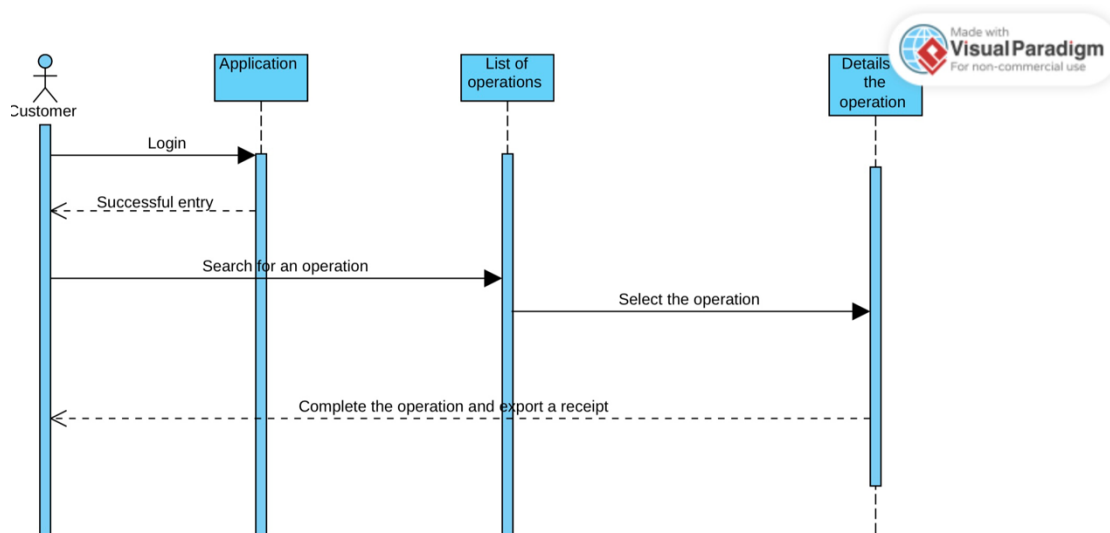
1. Login: The user initiates the process by logging in to the application.

2. List of operations: After successfully logging in, a list of available operations that the user can perform is displayed.

3. Search for a specific transaction: The user searches for the banking transaction he wishes to perform.

4. Process selection: After the desired operation is found, the user selects it.

5. Process completion: The process is carried out successfully.

6. Issuing a receipt: At the end, a receipt or confirmation of the customer is presented on the completion of the process.

4.2 ACTIVITY DIAGRAM
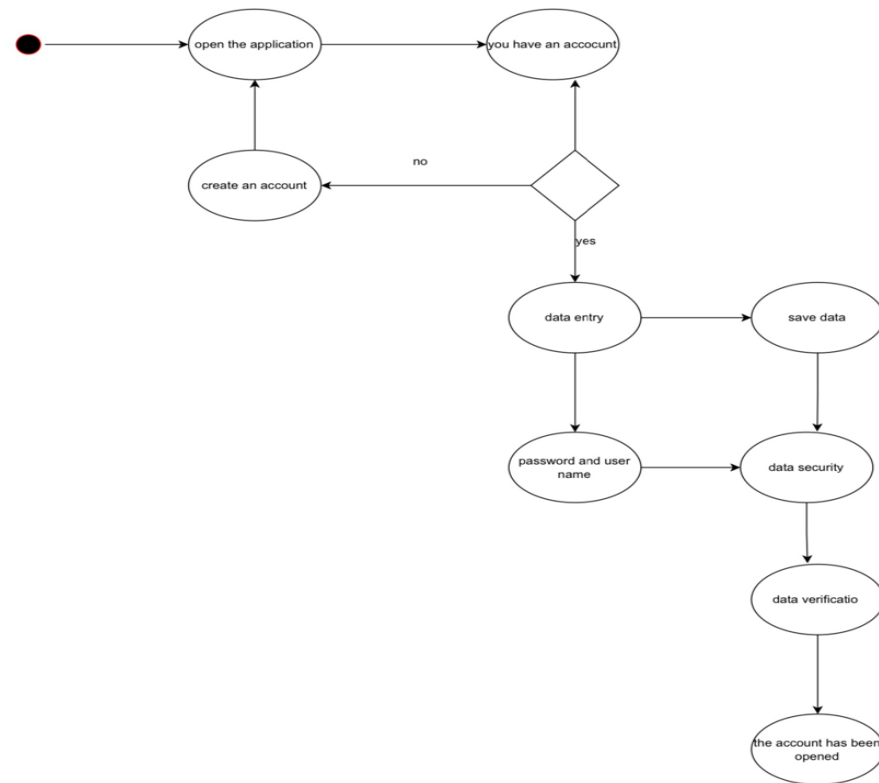
1.Open the App The user starts by opening the banking app.

2. Check for Existing Account: The system asks the user if they have an existing   account.
- If the answer is "No," the user is directed to the "Create Account" step.
- If the answer is "Yes," the login process begins.

3. Enter Data: In the case of creating a new account, the user enters the required   data (such as name and password).

4.Secure Data: The entered data is protected by security mechanisms (such as validating the username and password).

5. Verify Data: The system verifies the accuracy of the entered data.

6. Open Account: If the data is correct, the user is informed that the account has been successfully created.

5.1 User Interfaces:
INTRODUCTION
This is a set of interfaces for the Al Rajhi Bank application, which is designed to facilitate financial transactions and provide many useful services to users
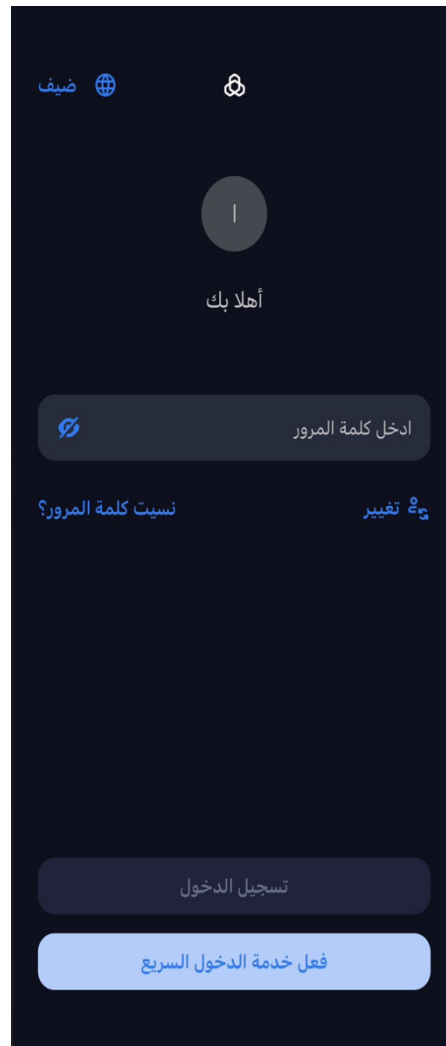
5.1 Login Interface: In this interface, the user can log in by entering the password, which consists of letters and numbers to ensure security. The user can also change the language as he wishes, in addition to the ability to reset the password if he forgets it. This interface focusses on security and easy access to the account.
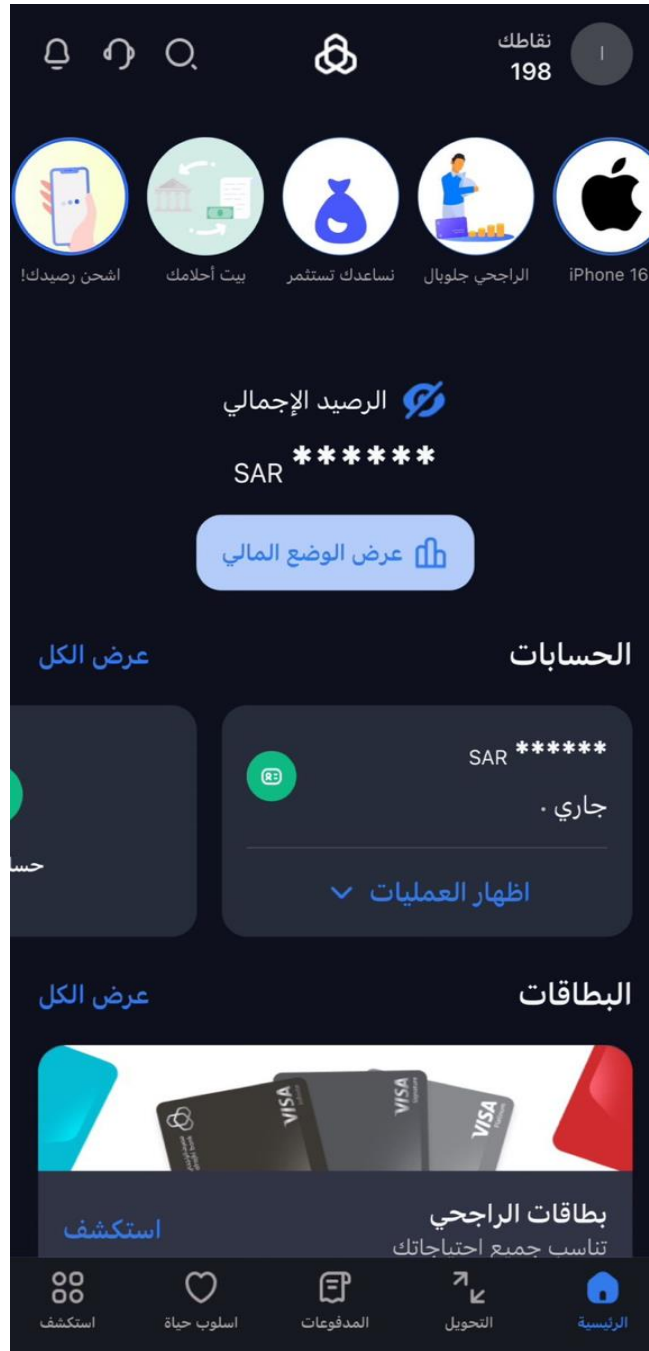
5.2 Account Information Display Interface : this interface, this interface displays all information related to the account, including the balance available in the accounts. It allows the user to monitor his balances and check the financial operations he has conducted quickly and effectively.

خدمات

جمعية خيرية	أوامر مستديمة	إرسال هدية
طلبات سريع	طلبات الراجحي	التحويل لمحفظة الاستثمار
سجل التحويلات النقدية	المستفيدين	إعدادات التحويل
الشيك الرقمي	نقد السفر الطارئ	سجل التحويلات الدولية

استكشف — اسلوب حياة — المدفوعات — التحويل — الرئيسية
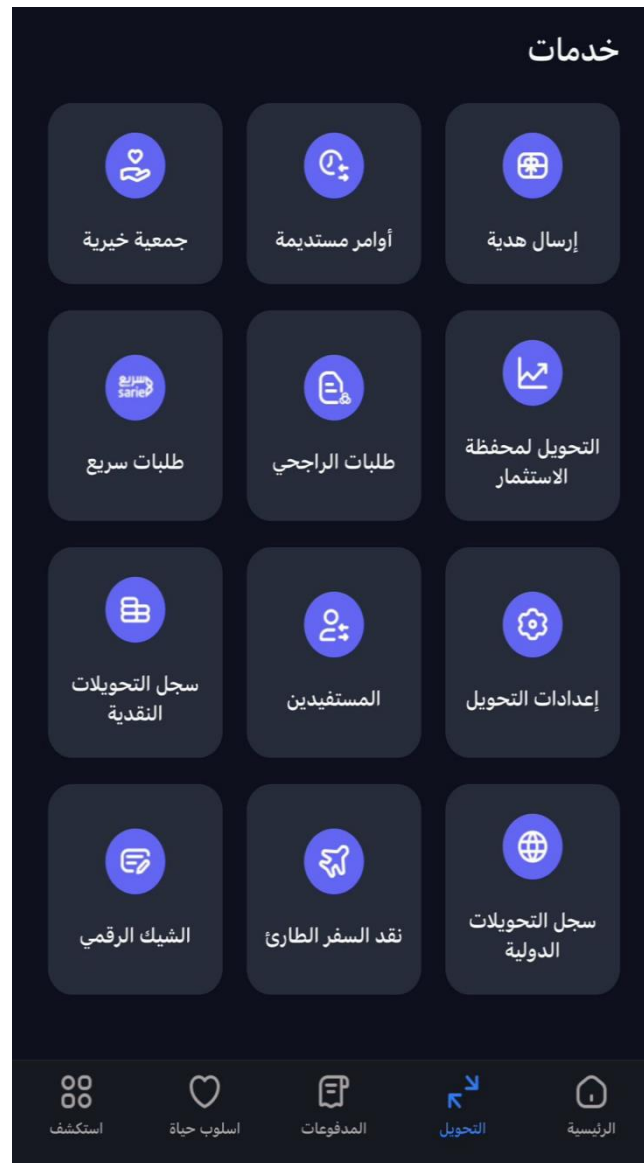
5.3 Various Services Interface: This interface contains a variety of options such as displaying charities and the number of beneficiaries, in addition to services such as booking trips, digital check, recording international transfers, and transferring to the investment portfolio. It also includes "Quick Orders" services that allow the user to quickly access the most used services.
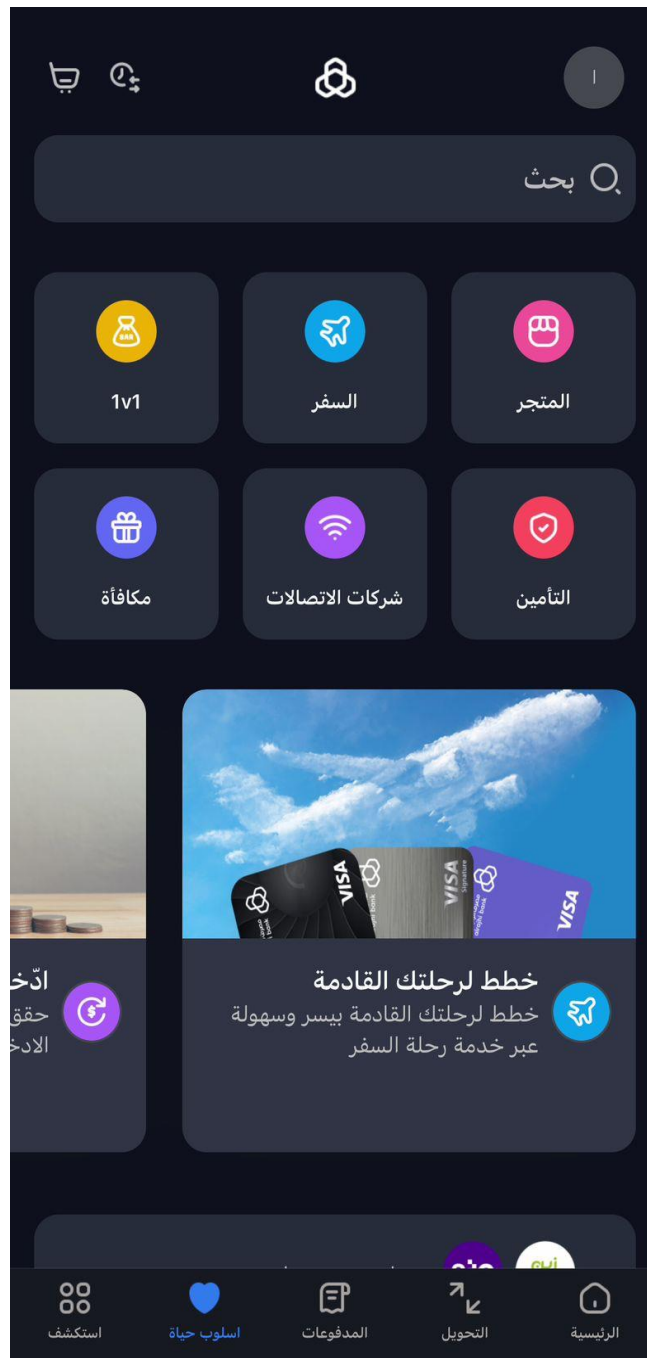
5.4 Travel and Rewards Interface: On this page, the user can see the nearest available trips to travel, as well as the rewards he can get. This page also includes the option of communicating with carriers, in addition to securing personal items, making it a comprehensive place to manage multiple aspects of everyday life.
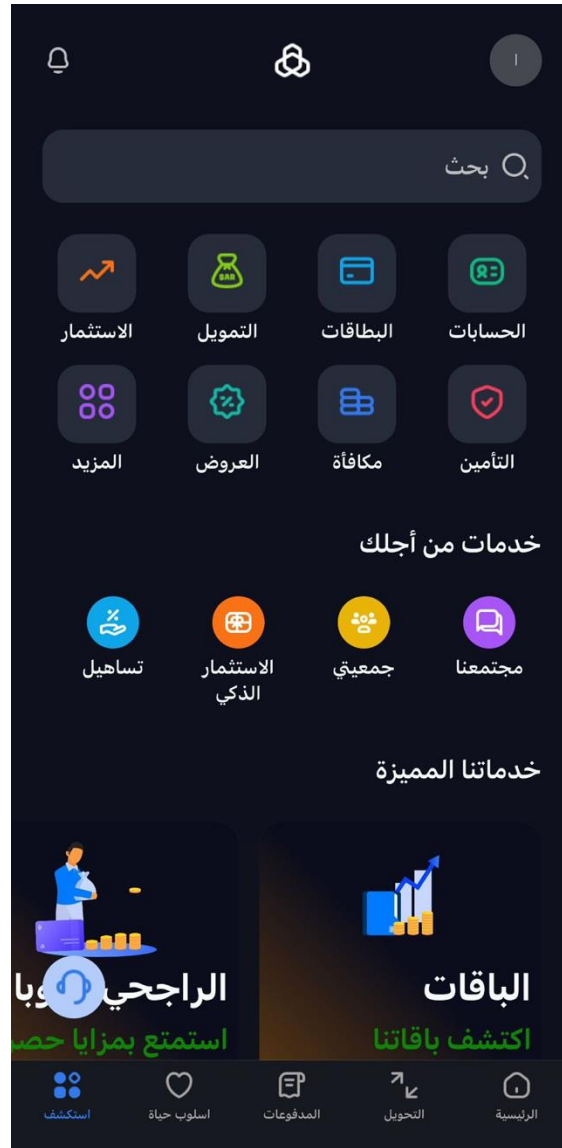
5.5 Accounts and Offers Interface : Through this page, the user can find out the number of accounts added to the application, view the available offers and discounts, and follow up on his investment rate. It also contains additional services such as "easing", "our community", and "smart investment" service that help the user make better investment decisions.

6. technical specifications:

6.1 User Interface Layer

• This layer is responsible for the interaction between the user and the system.

• Contains graphical or text interfaces used by the customer, such as login screens, balance display, making transfers, and paying bills.

• You can rely on technologies such as HTML/CSS, JavaScript, or Kotlin/Swift for mobile applications.

6.2 Service Class

• The layer includes services provided to the user, such as processing money transfer requests, account queries, and user management.

• This layer interacts directly with the data and handles the logic associated with it.

• Protocols such as REST or SOAP are used in the provision of services.

6.3 Business Logic

• This layer contains the logic that governs the functioning of banking operations, such as the interest account, the verification of balances, and other rules of banking.

• This layer often relies on a framework that helps to apply the business logic securely and quickly.

6.4 Data Handling

• Dealing with the storage and retrieval of data from the database.

• Contains banking databases that store user data, balances, financial operations, etc.

• You can use databases such as Oracle or SQL Server.

• Rely on ORM (relational object-markeding) techniques to associate data with upper classes.

6.5 Integration

• Deals with the communication between the Al Rajhi Bank application and external systems, such as other banking networks or financial service providers.

• Rely on APIs or web services to communicate with third parties.

• Protocols such as MQ or Kafka can be used to transmit messages between systems

6.6 Monitoring and Recording

• Responsible for recording processes that occur in the application and monitoring performance.

• Helps detect errors and analyse problems.

• Tools such as Splunk or ELK Stack are used to monitor systems.

7. Conclusion:

At the end of the project, it is clear that the Al Rajhi Bank application represents an integrated digital solution that facilitates banking operations for users. The application focusses on user experience, security and ease of use, meeting the needs of individuals and companies. It also addresses the challenges associated with traditional banks, such as the need for branch visits and long waiting times, making it an effective financial management tool. The digital system ensures a high level of protection and flexibility, which enhances customer satisfaction and enhances the use of digital banking services, contributing to the development of the banking sector

8. References

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9. Appendices: