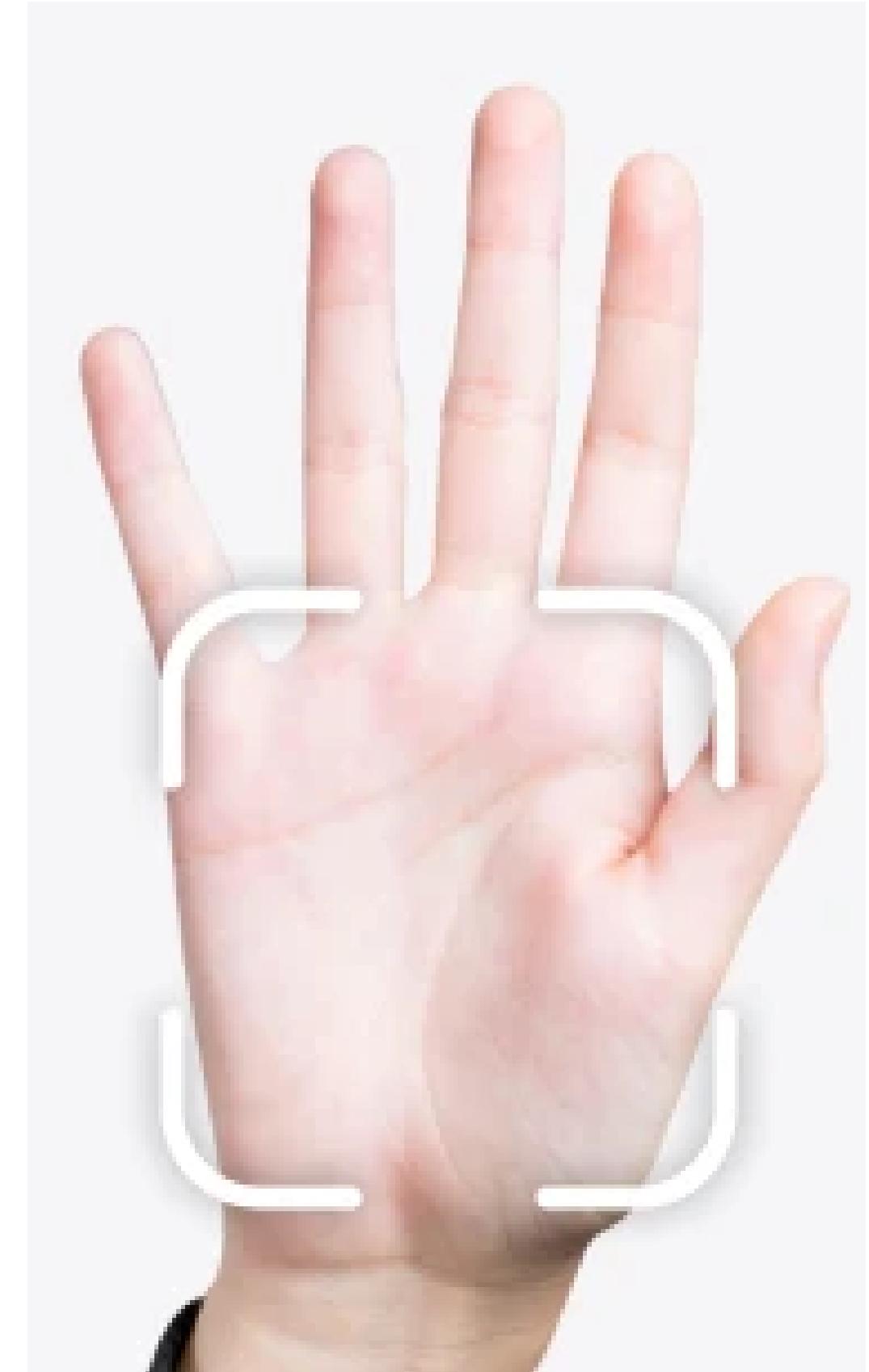


ALAKAN

The Payment using Hand Scanning



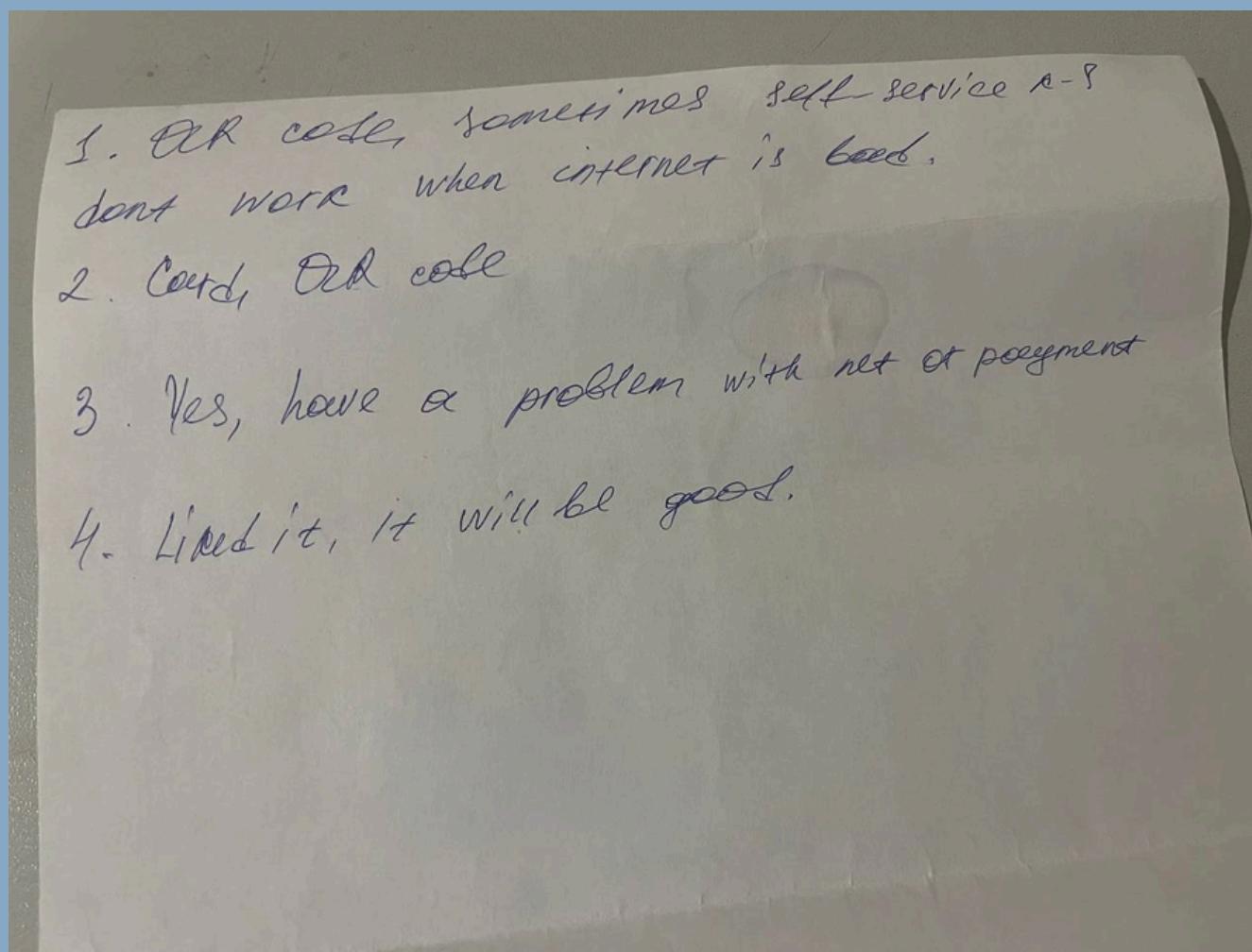
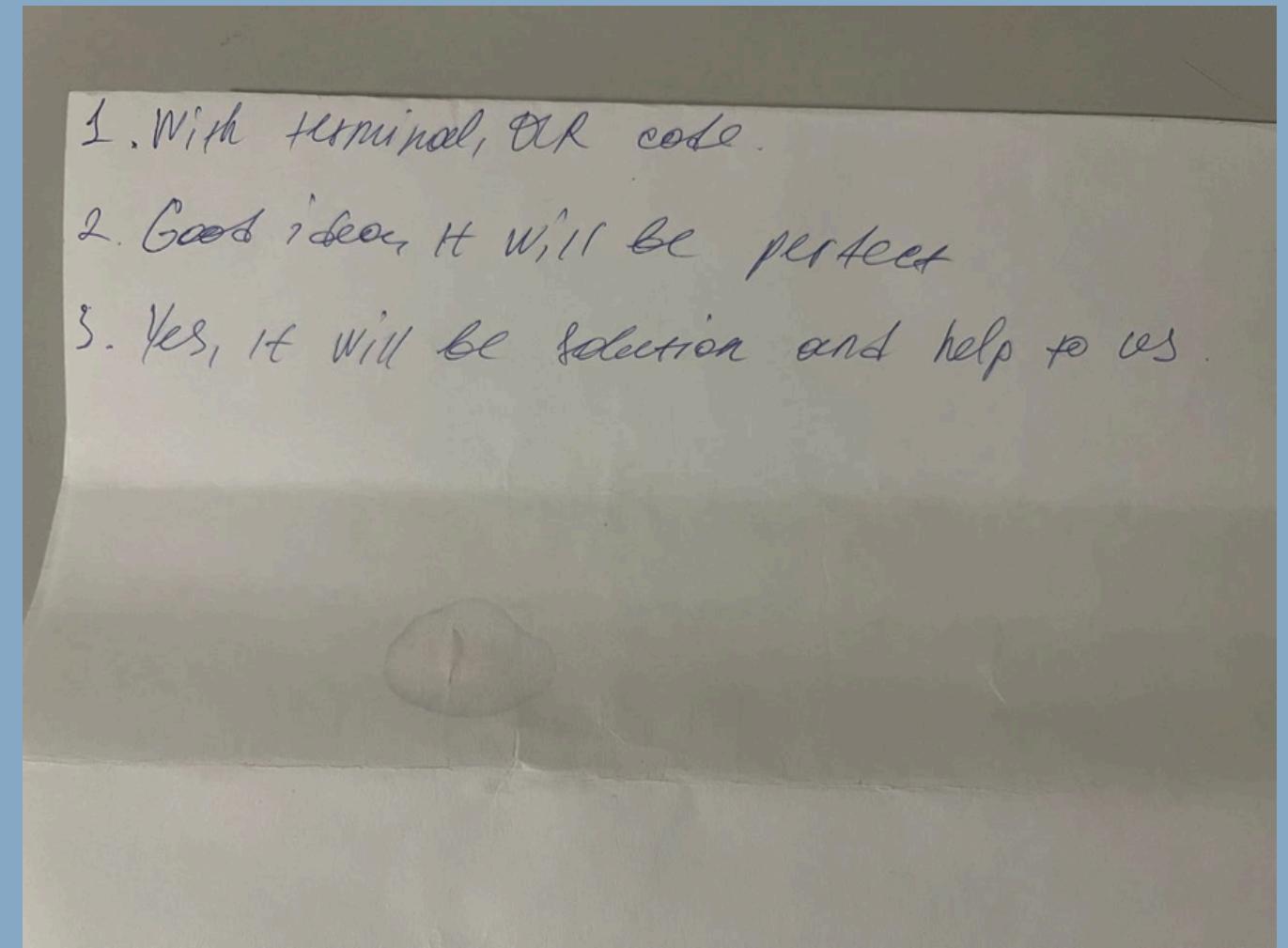
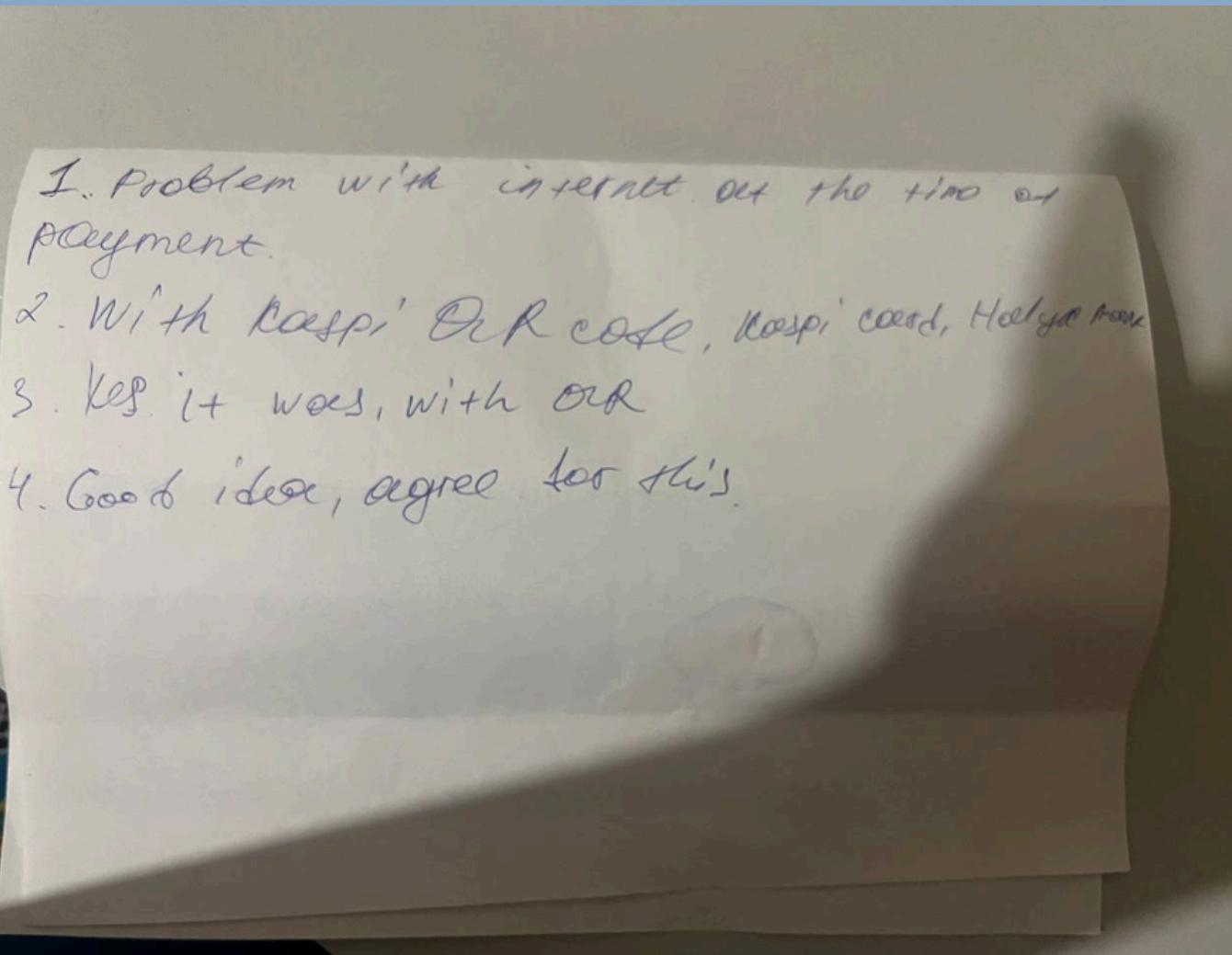
Background and User Research



Questions of Interview

Questions in the Interview:

1. What difficulties do you face when visiting?
2. How do you usually pay for your purchases (card, cash, banking apps)?
3. Have you encountered payment related problems (eg internet, hardware, scanner errors)?
4. What problems do you have while working at the checkout?
5. What do you think about our app of “Alakan”?
6. Do you think it can help solve the problem with the queue?



Full answers

1.Sometimes there are problems with payment when the Internet connection is poor.

2.I always use a QR code either with a Kaspi or Halk Bank card. Since it's convenient for me with a QR code, I use it every day and sometimes there are problems with the network

3.Yes, very often there are problems with the Internet when I pay. Sometimes when there is a lot of queues, I wanted to pay through self-service kiosks, but they also sometimes do not work and are turned off in the evening.

1.There were problems with the Internet during payment. When even the university Wi-Fi did not work and it took longer

2.I always pay via QR code, sometimes with a card if I have one. It's convenient for me to use it

3.Yes, of course, and this very often happens when there is no Internet connection and because of this I cannot pay via QR code

4. It's great if we had something like this too, I think the queues would decrease a little

1.Sometimes there are problems with the terminal during payment due to which customers have to wait for a long time. And of course this happens due to a poor Internet connection.

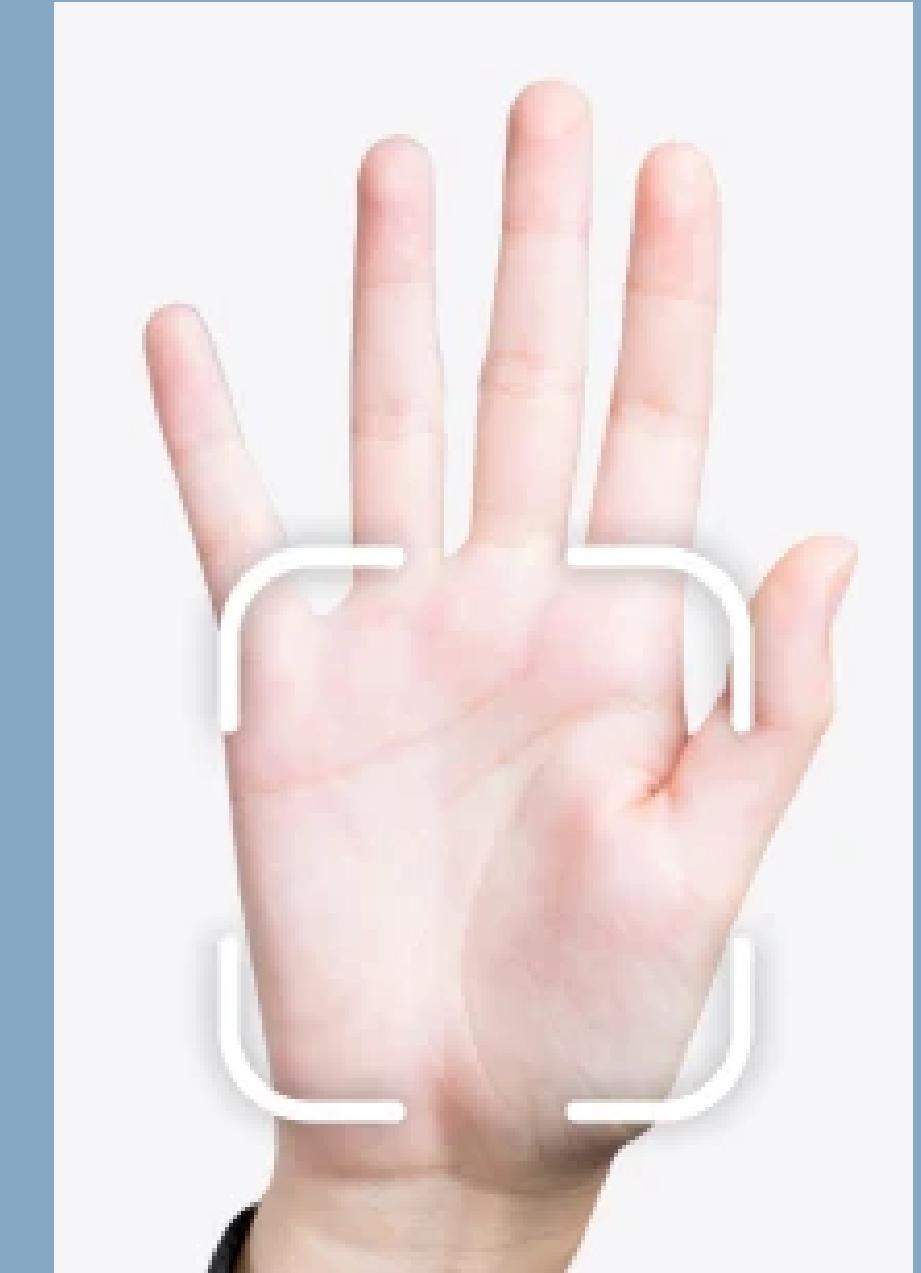
2.I think this is great and it would be useful for all of us. Also, the application does not have many functions that are not clear to everyone. Therefore, I support the development of such technologies these days

3.Yes, of course, and I think that using it would help stop our problems. It is very convenient for buyers and will not take much time without creating a bunch of queues

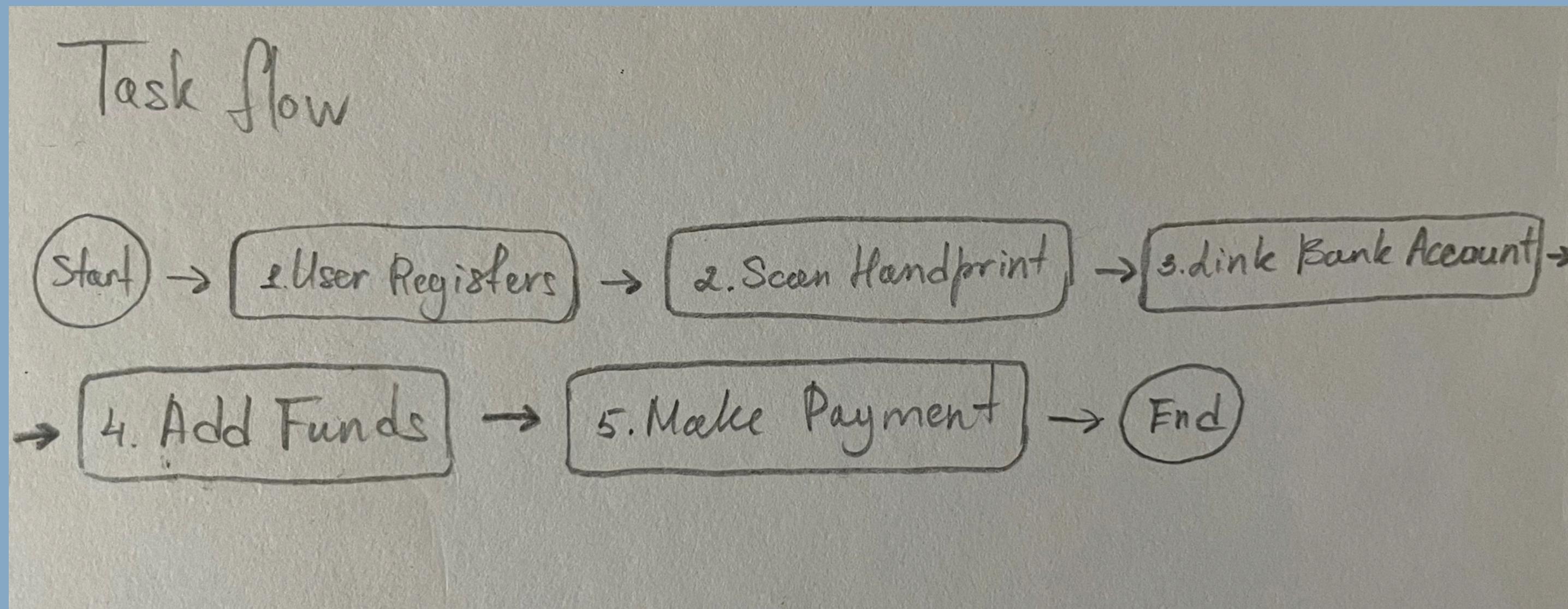
Observations



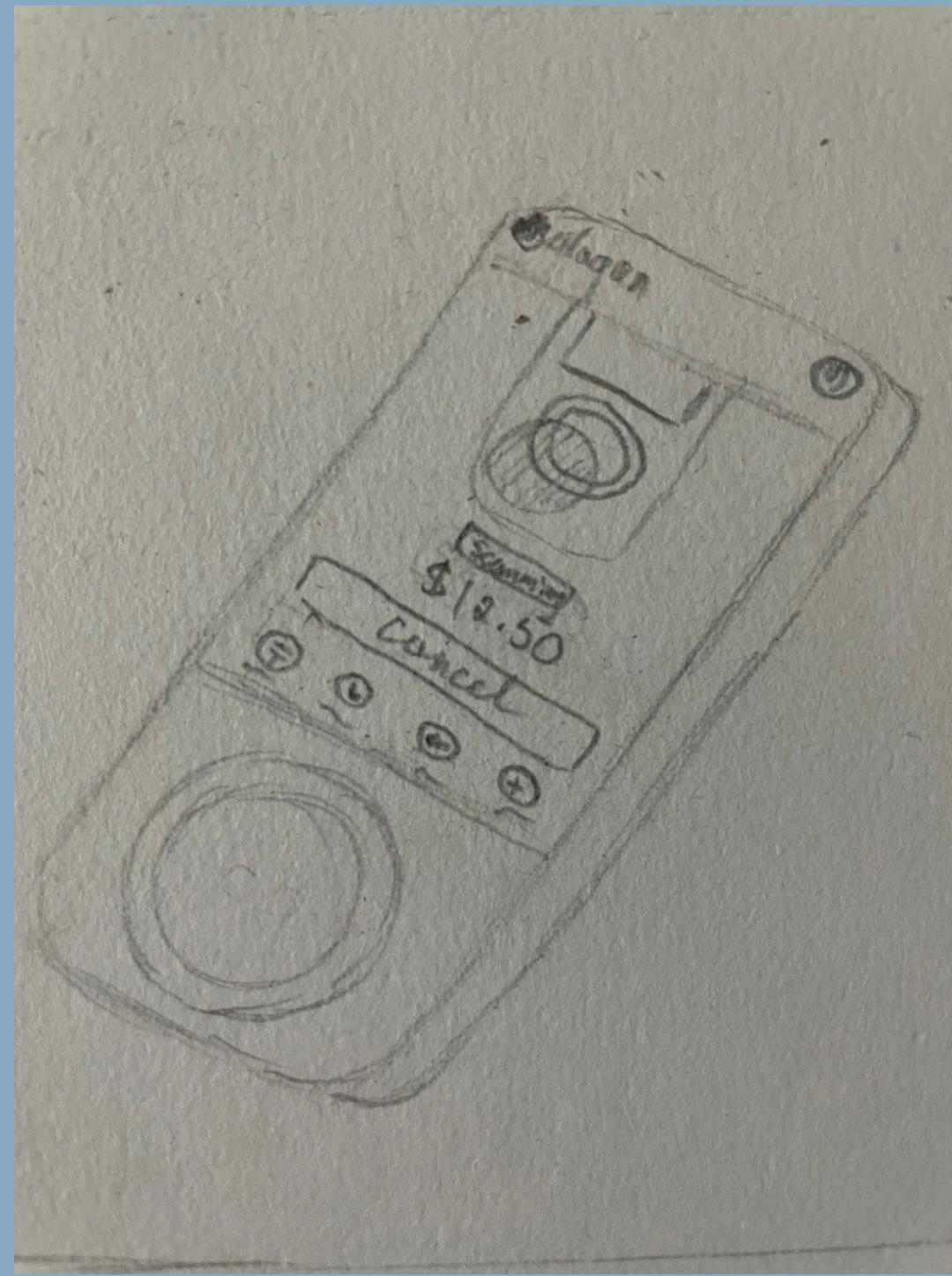
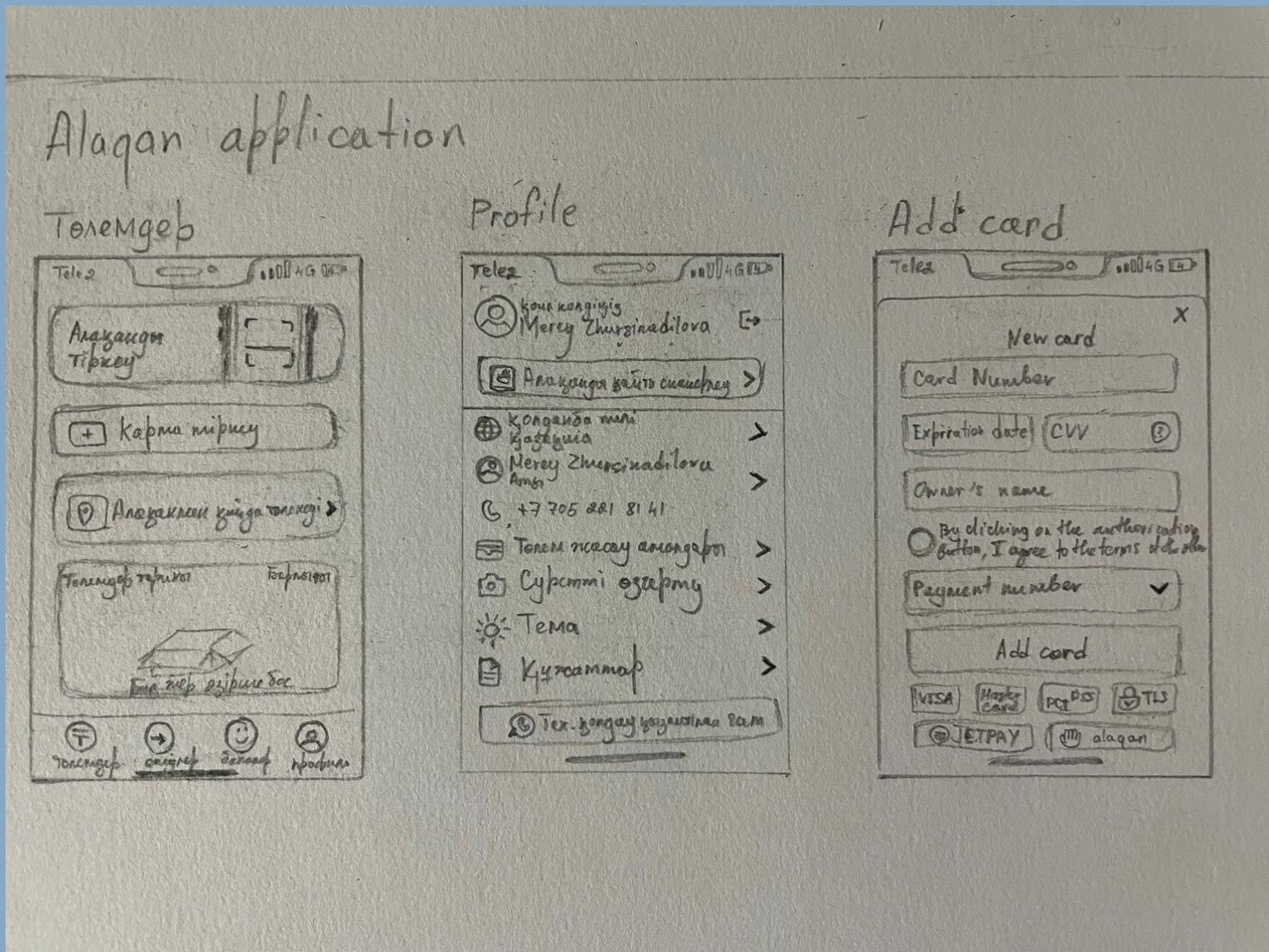
Solution of the Problem



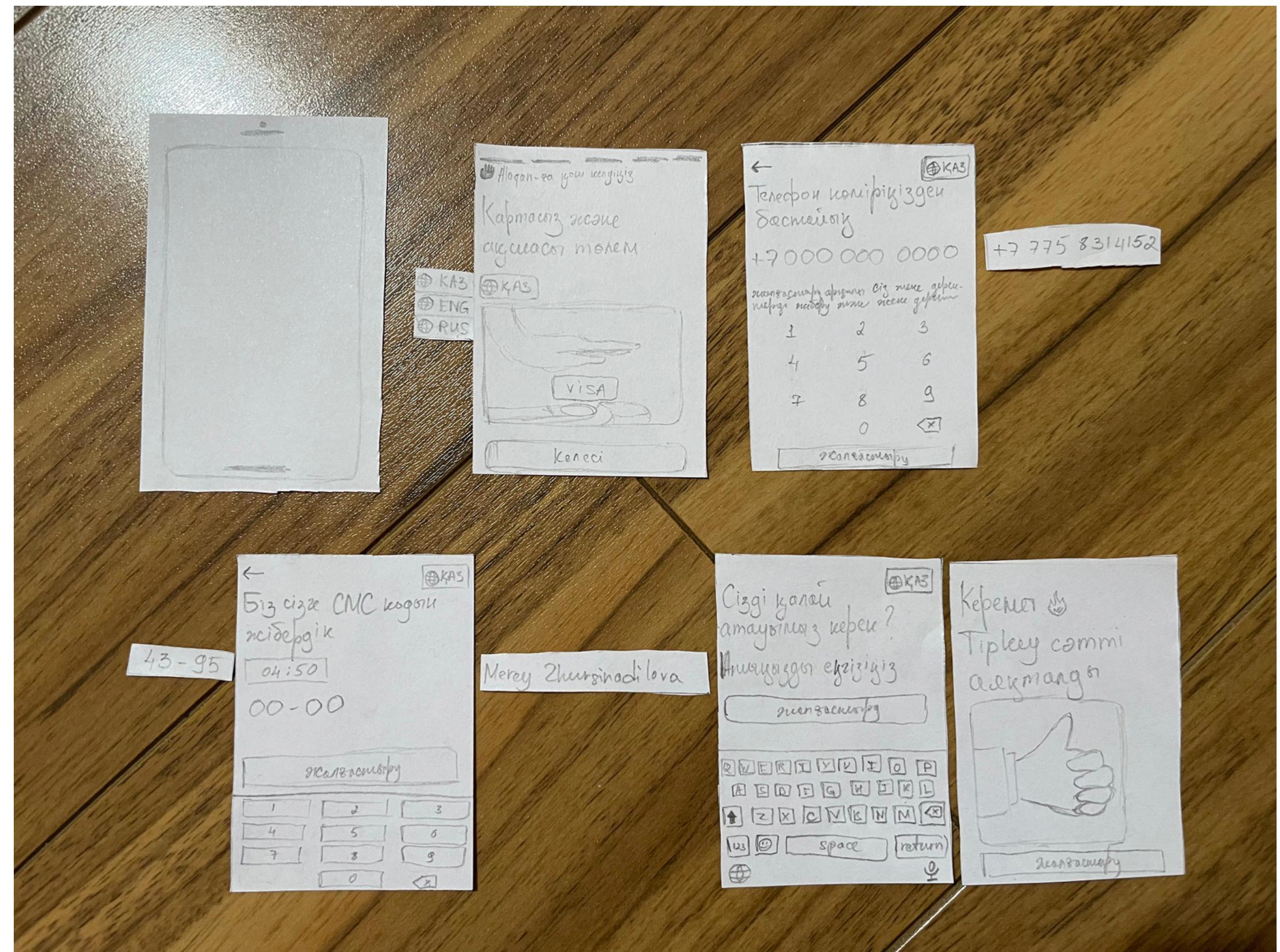
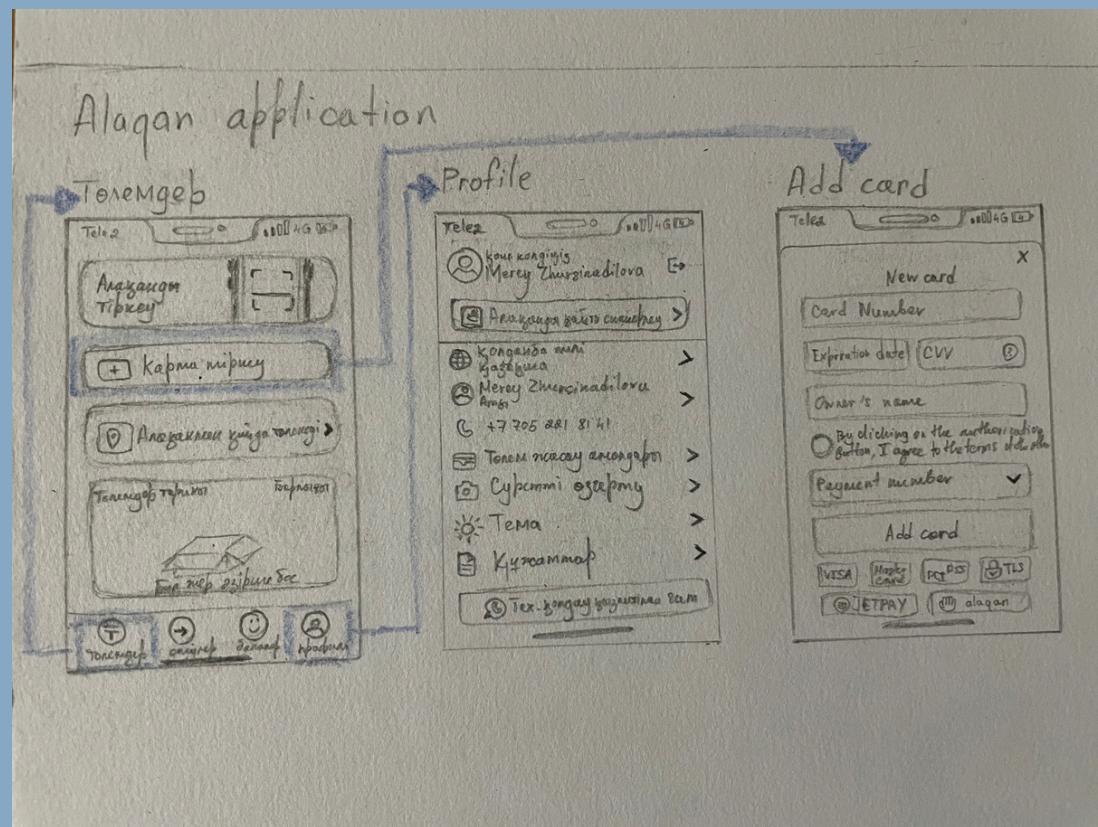
Task flow diagram



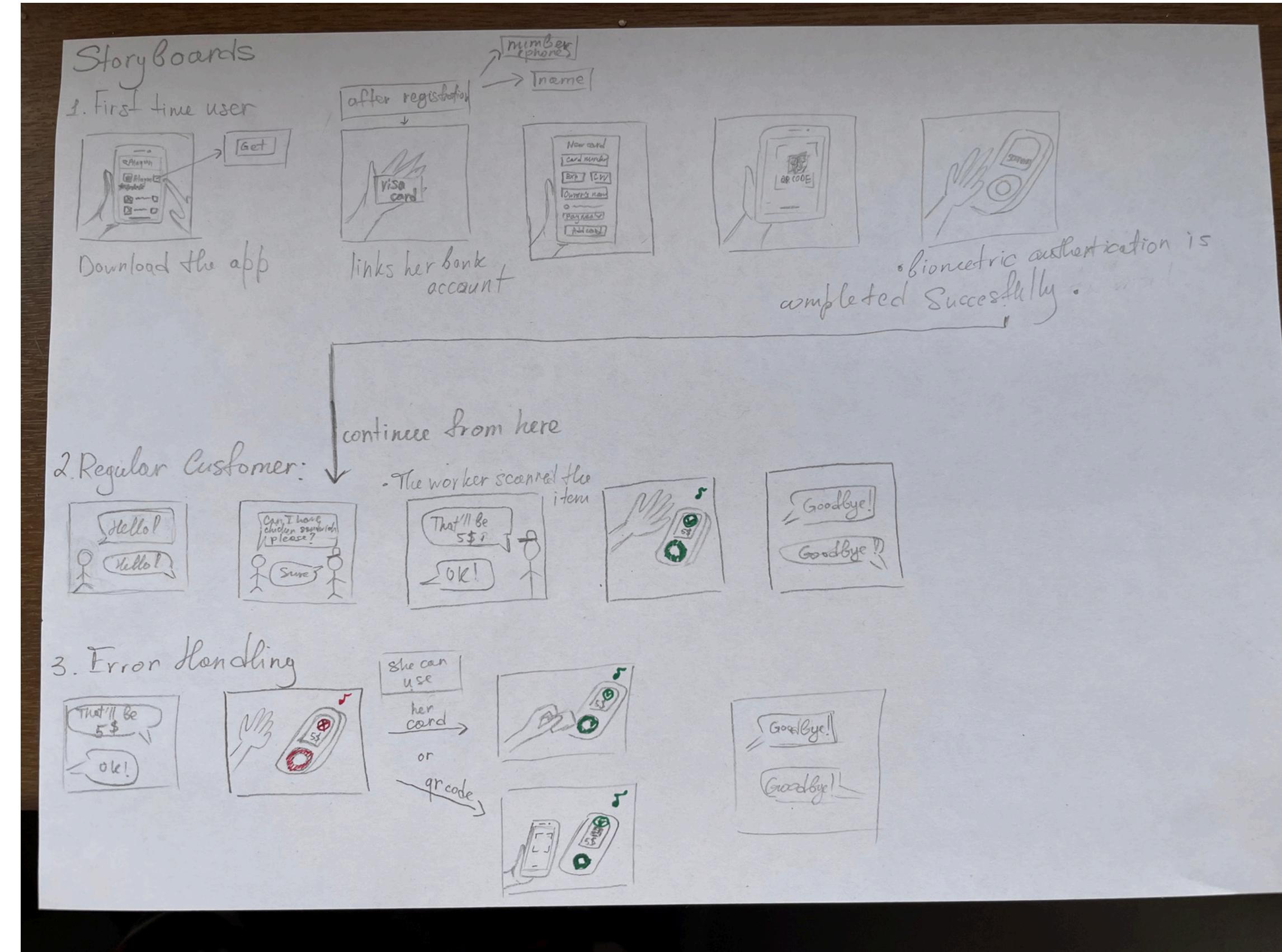
Sketches



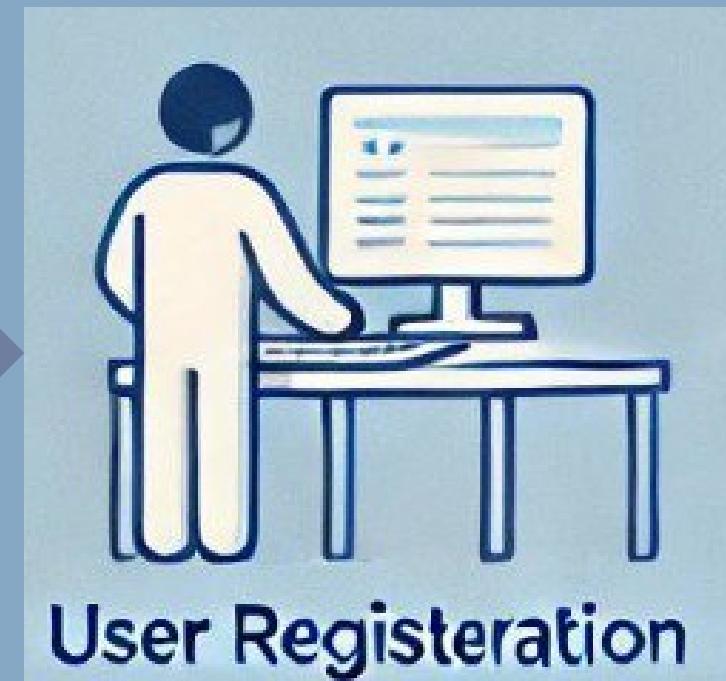
Prototypes (wireframes)



Storyboard



USER JOURNEY MAPS:BECOMING A USER OF “ALAKAN”



Downloading the app

User Registration

Scanning the handprint

Registering the handprint

USER JOURNEY MAPS



Attaching a card in the app “ALAKAN”



Using the Handprint scan to pay

User Evaluation Using A|B Testing

A Version: Simple Format

In this version, users make payments by scanning their handprint at a terminal. The process is quick and seamless, designed for a fast transaction.

- Identified Problem: A significant number of users instinctively touch the terminal, assuming they need physical contact to complete the payment. This behavior can lead to hygiene concerns and unnecessary delays, as users are not maintaining the required hand-to-scanner distance for accurate scans.

B Version: Enhanced Format with Visual Feedback

In this improved version, the same payment process is enhanced with a red and green light feedback system:

- Red Light: Activates when the user's hand is too close to the terminal, signaling them to adjust the distance.
- Green Light: Activates when the user's hand is correctly positioned at the optimal scanning distance, indicating the scanner is ready to process the payment.

This simple yet effective visual feedback system guides users intuitively, solving the problem of unnecessary physical contact and positioning errors.



Conclusion:

Based on the A/B testing results, B Version was selected as the preferred payment process. The addition of the red and green light feedback system not only solved the issue of users touching the terminal unnecessarily but also improved the overall experience by reducing positioning errors and boosting user confidence. This minor enhancement proved critical in optimizing the payment system for real-world use



User Evaluation Using A|B Testing

A Version: Simple Format (No Feedback)

In this version, users make payments by scanning their handprint at a terminal. The process is designed to be fast and efficient.

- Identified Problem: Many users experience uncertainty after scanning their handprint, wondering if the payment was successful or not. This lack of feedback leads to delays as users wait or repeat the scanning process unnecessarily, slowing down the overall transaction flow.

B Version: Enhanced Format with Sound Feedback

In this improved version, the same payment process is supplemented with auditory feedback:

- Successful Payment: A click sound plays to confirm that the payment was processed successfully.
- Failed Payment: A dzz sound plays to indicate that the scan was not successful, prompting the user to try again.

This auditory feedback provides immediate and clear confirmation of the payment status, addressing the confusion and uncertainty observed in the A version.

Conclusion:

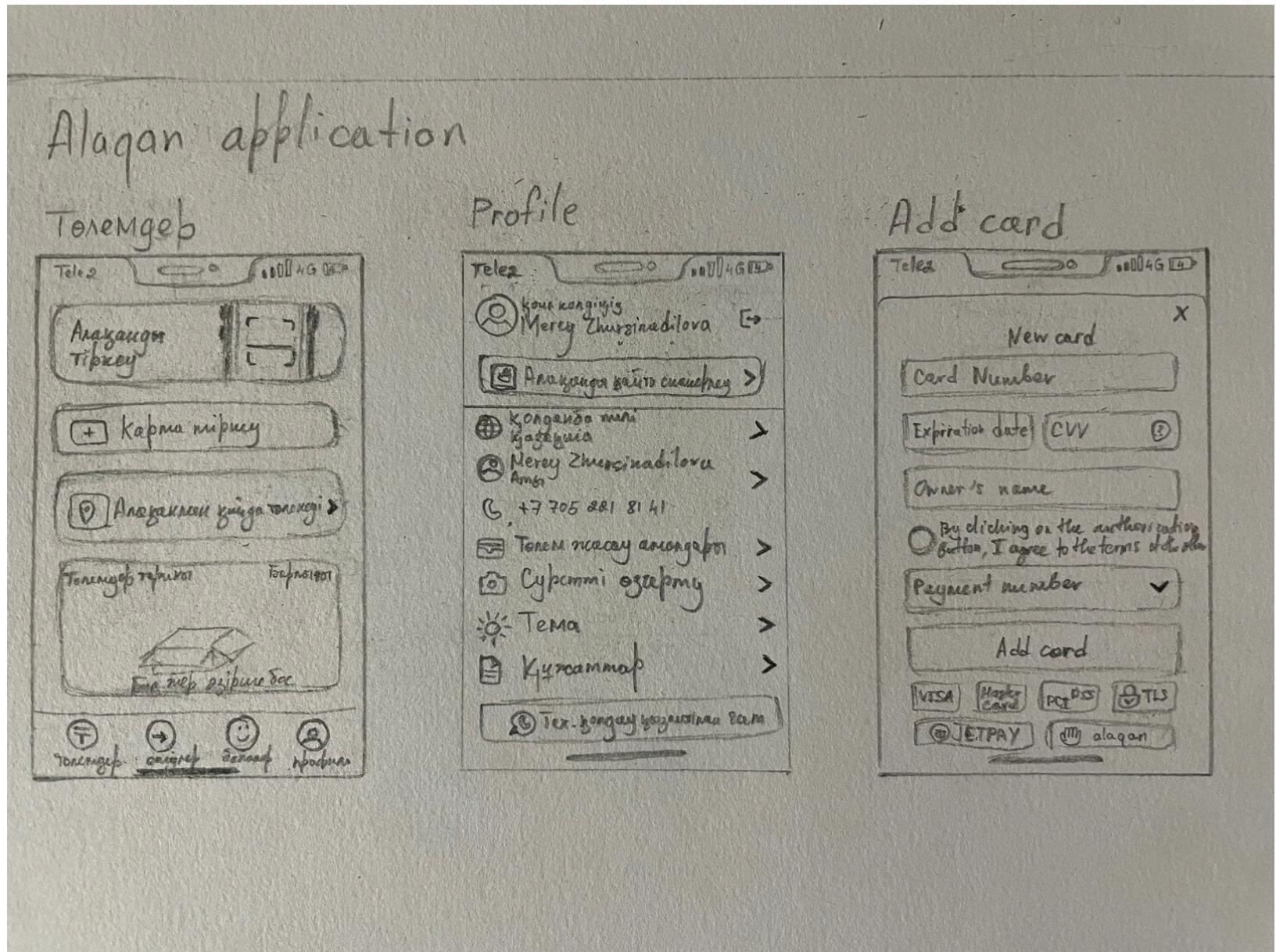
The A/B testing results clearly indicate that B Version is the better option. The introduction of sound feedback solved the issue of uncertainty about payment status, improving transaction speed, error recovery, and overall user experience.

Users reported feeling more confident and satisfied with the payment process in this version, making it the ideal choice for implementation.

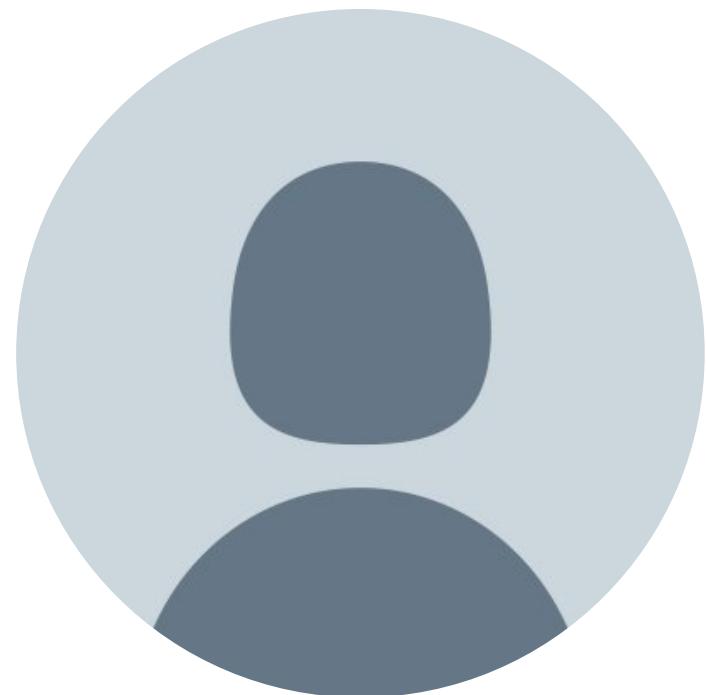




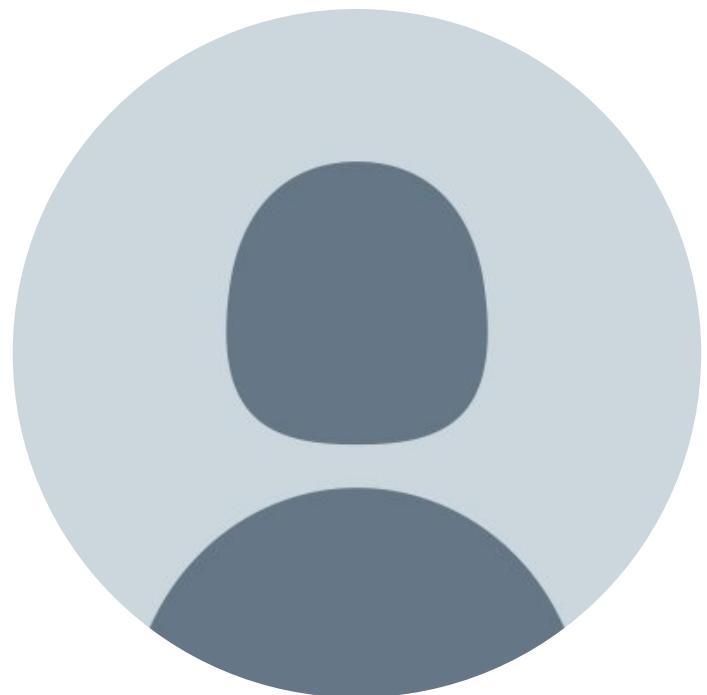
Final design and changes after evaluation



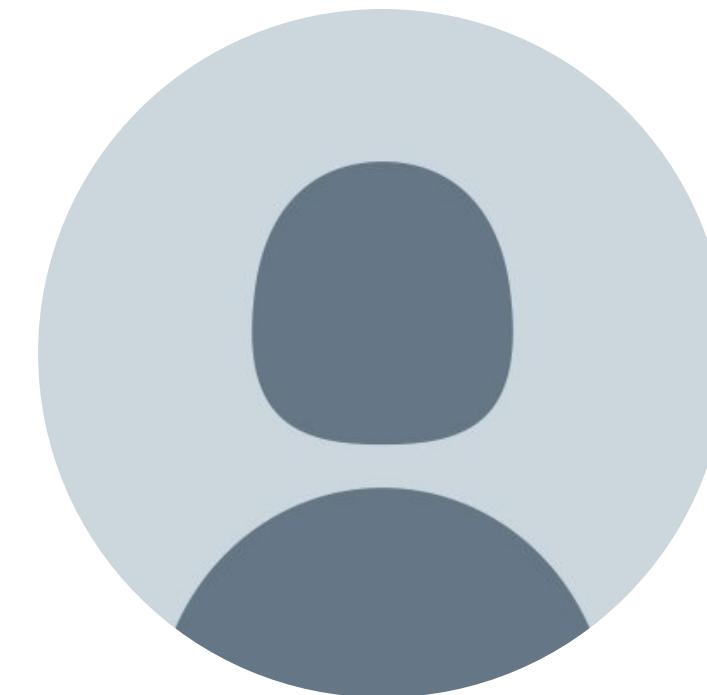
Thanks for attention



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- 3) 220107059, Zhursinadilova Merey

Presentation: https://www.canva.com/design/DAGW9Fp61YI/xMr7MfAt03VQ2HJJmWVUcQ/edit?utm_content=DAGW9Fp61YI&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Background research: 1. Information About Our Supermarket and Its Problem

The supermarket on our university campus is a vital resource for students, professors, and staff, offering essential goods and services. However, it faces a critical issue: long queues at checkout counters, especially during peak hours such as lunch breaks or class transitions. These queues create significant inconvenience for customers who are often pressed for time. Many students and staff are forced to either wait for extended periods, risking being late, or leave without purchasing anything, often staying hungry.

This problem arises due to several factors:

- Slow payment processing: Poor internet connections disrupt banking apps and cashier equipment, leading to delays.
- Operational inefficiencies: Even though the supermarket has two counters, only one is often operational during busy times.
- Technical issues: Pricing errors, barcode scanning malfunctions, and unreliable self-service kiosks exacerbate delays.

As the campus population grows, these issues are becoming more pronounced, highlighting the need for an effective and innovative solution.

2. Observations and Notes

We conducted an in-depth observation of the supermarket's daily operations to identify the root causes of the problem. Below are the key issues we noticed:

Notes from Observations:

1. Customer Internet Problems: Many customers struggled to use banking apps due to weak internet signals inside the supermarket. Payments through apps like Kaspi or Halyk Bank took several minutes, causing significant delays.
2. Cashier Equipment Issues: Cashiers frequently dealt with malfunctioning equipment, such as barcode scanners not working or pricing discrepancies in the system. This led to prolonged customer interactions.
3. Self-Service Kiosks: While these kiosks are designed to reduce queues, they are often unreliable. Customers either lack the technical knowledge to use them efficiently or encounter similar internet-related issues.
4. Insufficient Staffing: During peak hours, only one cashier was available, even though the volume of customers clearly required additional support.

These observations revealed that both technical and operational shortcomings contribute to the persistent problem of long queues.

3. Reasoning and Interviews

To complement our observations, we conducted targeted interviews with students, professors, and supermarket cashiers to understand their experiences and perspectives.

Why These Groups?

- Students and Professors: They represent the primary customer base and experience the direct impact of long queues. Their feedback helps us gauge the inconvenience and assess the potential for adopting a new solution.
- Cashiers: As frontline workers, they provide insight into operational challenges, technical malfunctions, and peak-hour workload stress.

Key Findings from Interviews:

- Students and professors emphasized their frustration with waiting in long queues, often mentioning how this impacts their schedules and forces them to skip meals.
- Cashiers confirmed frequent issues with internet connectivity, faulty equipment, and the challenges of managing high customer volumes with limited staffing.

Our decision to interview these groups was guided by the need to gather a balanced understanding of the problem, incorporating both user and operator perspectives. The insights from these interviews aligned with our observations and validated the necessity for a streamlined solution.

4. Problem Solution: The Alakan Application

To address these issues, we propose the Alakan application, a revolutionary payment solution that uses handprint scanning technology to make transactions faster, easier, and more reliable.

How Alakan Works:

1. Registration: Users download the app, create an account, and scan their handprint for secure biometric authentication.
2. Bank Account Linking: The app allows users to link their bank accounts for seamless transactions.
3. Handprint Payment: At checkout, users simply scan their hand at a terminal to complete the payment instantly.

Key Benefits of Alakan:

- Speed: Handprint scanning reduces checkout times to a few seconds, effectively eliminating long queues.
- Reliability: The app offers offline functionality for payments, addressing internet dependency issues for both customers and cashiers.
- Convenience: With Alakan, users no longer need to carry cards, cash, or rely on banking apps.
- Error Reduction: Automated pricing and payment systems reduce human errors, such as incorrect item pricing or scanning issues.
- Improved Workflow: Cashiers are relieved of technical bottlenecks, allowing them to serve customers more efficiently.

By introducing Alakan, we can transform the shopping experience in our university supermarket. This solution not only addresses current challenges but also modernizes the payment process, making it faster, more reliable, and convenient for all users.

With its adoption, we aim to enhance customer satisfaction, reduce operational strain, and establish a model for innovation in campus retail.

Interview questions:

What difficulties do you face when visiting?

How do you usually pay for your purchases (card, cash, banking apps)?

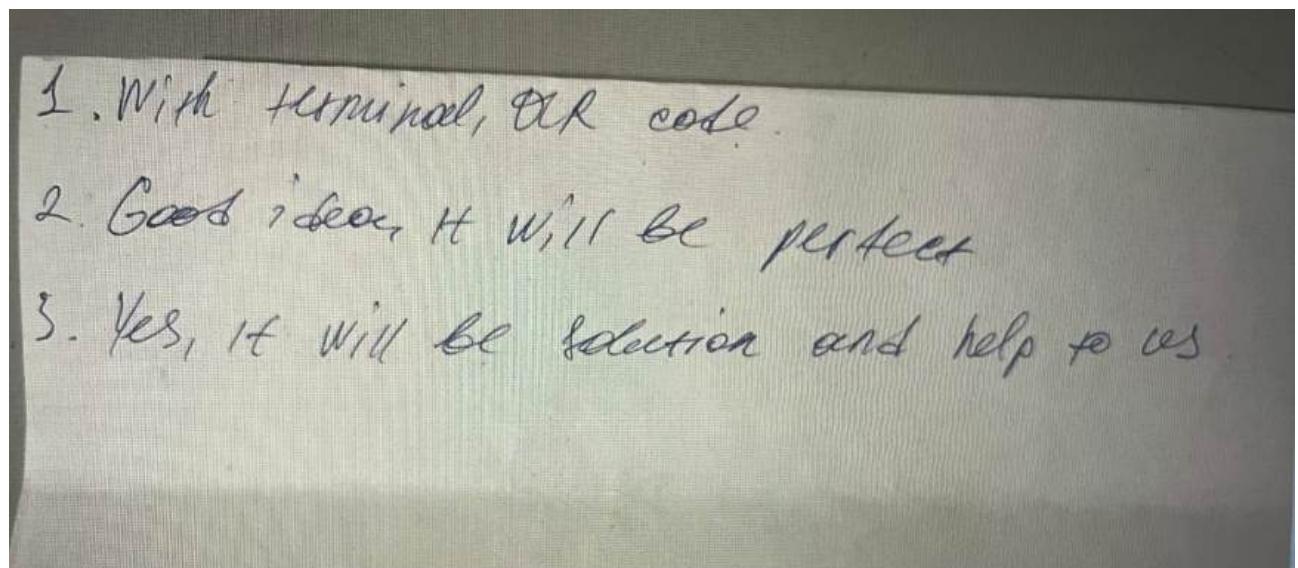
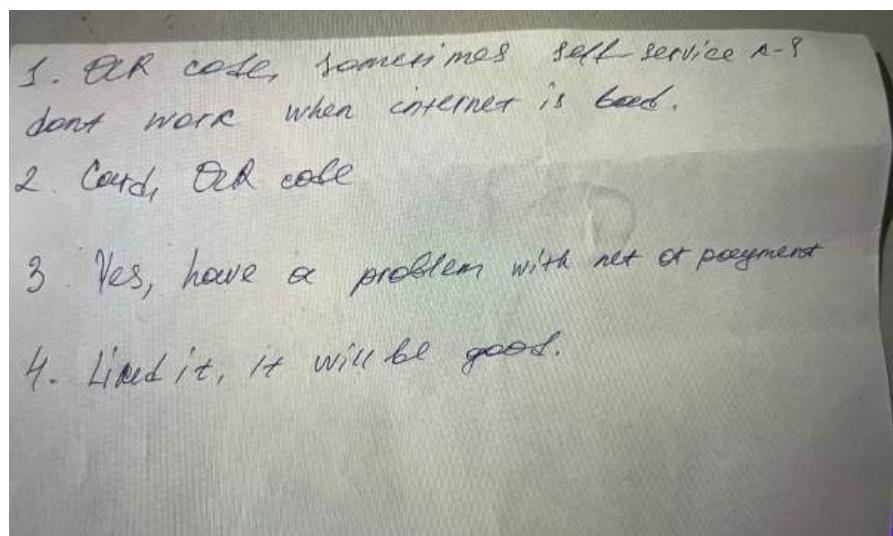
Have you encountered payment related problems (eg internet, hardware, scanner errors)?

What problems do you have while working at the checkout?

What do you think about our app of "Alakan"?

Do you think it can help solve the problem with the queue?

Interview and Observation:



1. Problem with internet or the time of payment
2. With Kaspi's QR code, Kaspi card, Halkbank
3. Yes it works with QR
4. Good idea, agree for this

Full answers

(1)

1. Sometimes there are problems with payment when the Internet connection is poor.

2. I always use a QR code either with a Kaspi or Halk Bank card. Since it's convenient for me with a QR code, I use it every day and sometimes there are problems with the network

3. Yes, very often there are problems with the Internet when I pay. Sometimes when there is a lot of queues, I wanted to pay through self-service kiosks, but they also sometimes do not work and are turned off in the evening.

(2)

1. There were problems with the Internet during payment. When even the university Wi-Fi did not work and it took longer

2. I always pay via QR code, sometimes with a card if I have one. It's convenient for me to use it

3. Yes, of course, and this very often happens when there is no Internet connection and because of this I cannot pay via QR code

4. It's great if we had something like this too, I think the queues would decrease a little

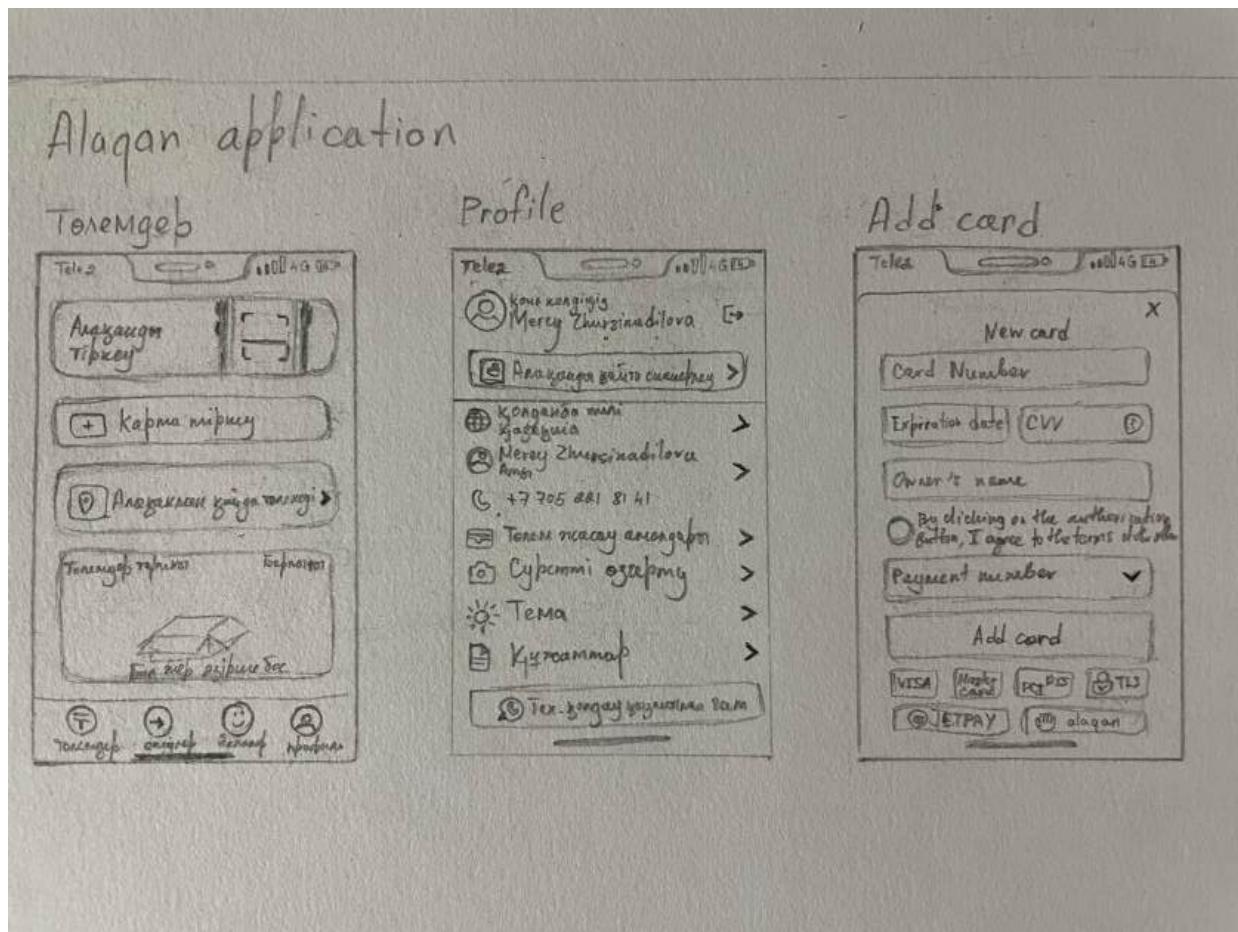
(3)

1. Sometimes there are problems with the terminal during payment due to which customers have to wait for a long time. And of course this happens due to a poor Internet connection.

2. I think this is great and it would be useful for all of us. Also, the application does not have many functions that are not clear to everyone. Therefore, I support the development of such technologies these days

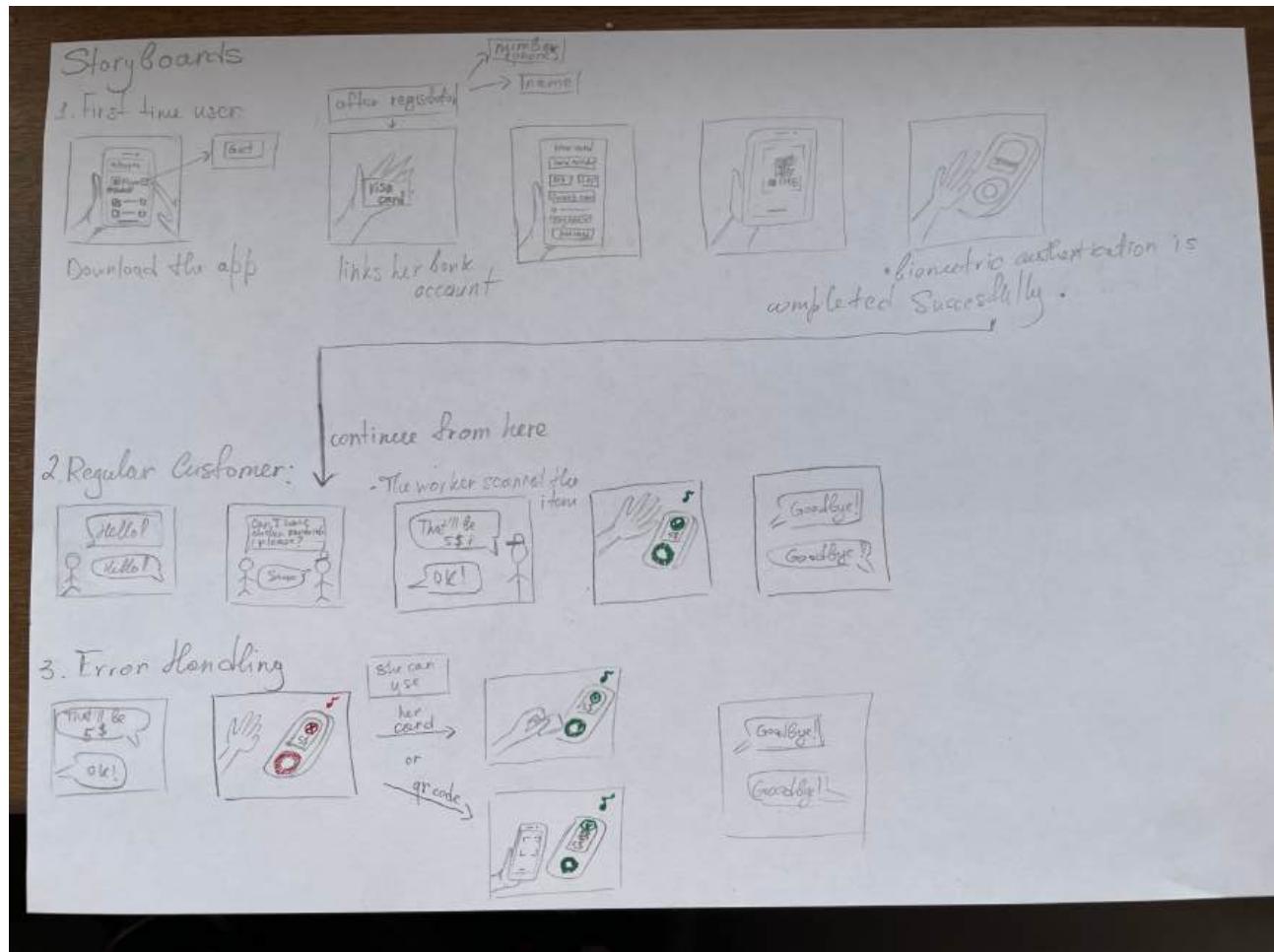
3. Yes, of course, and I think that using it would help stop our problems. It is very convenient for buyers and will not take much time without creating a bunch of queues

Sketches:

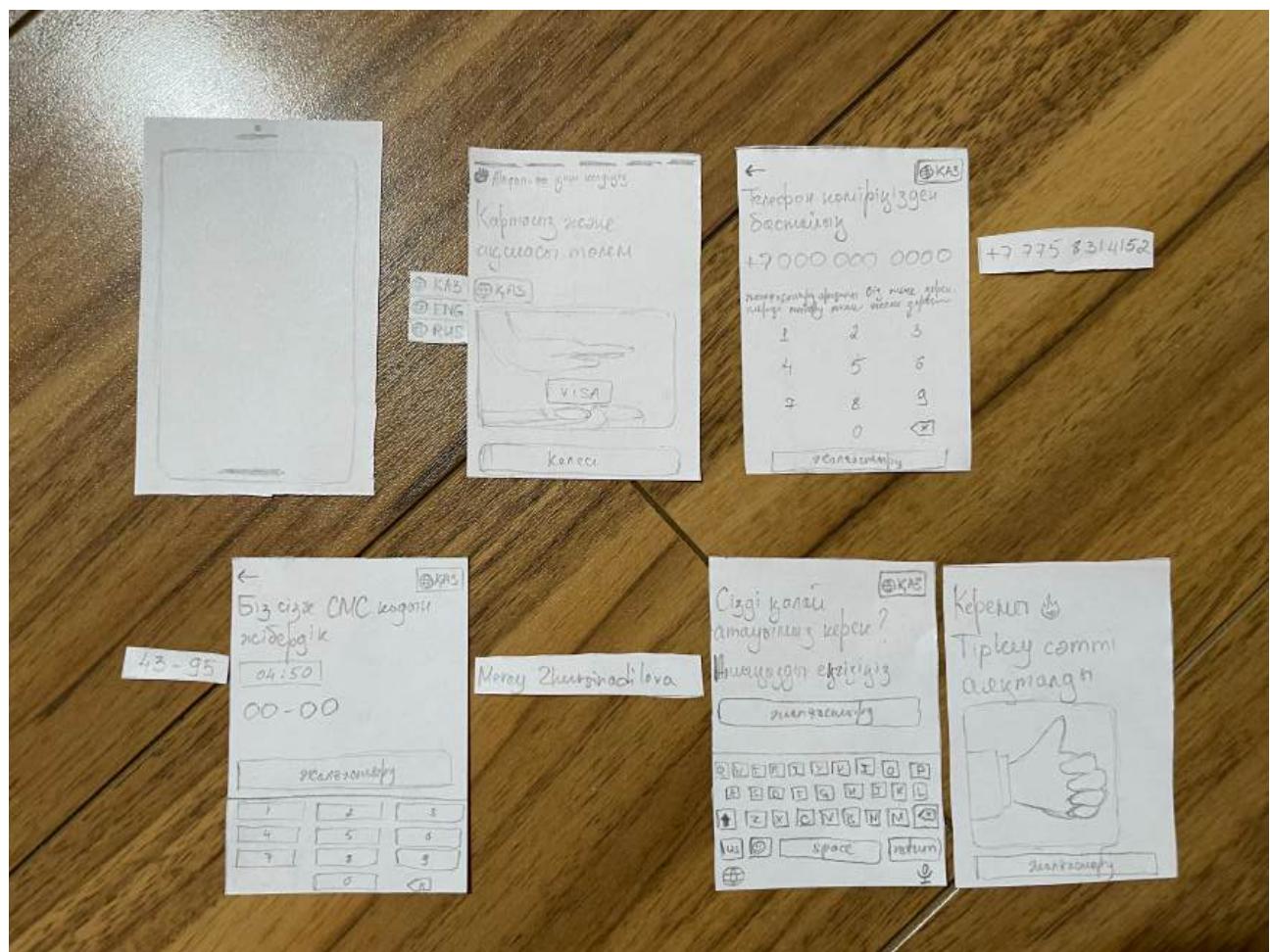




Storyboard:



Prototypes (wireframes):

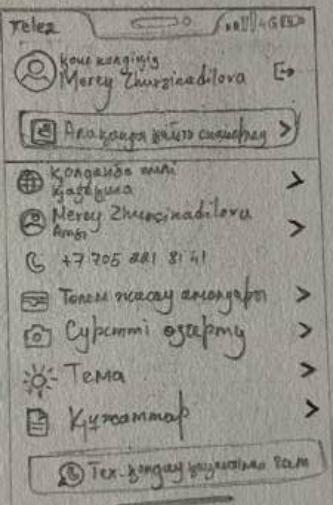


Alagan application

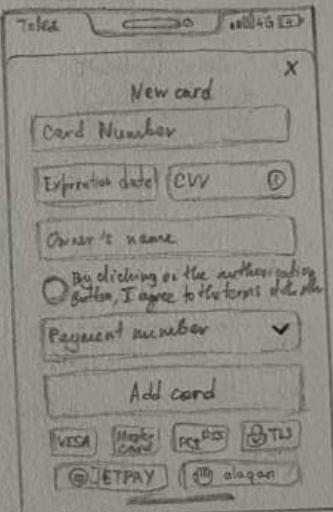
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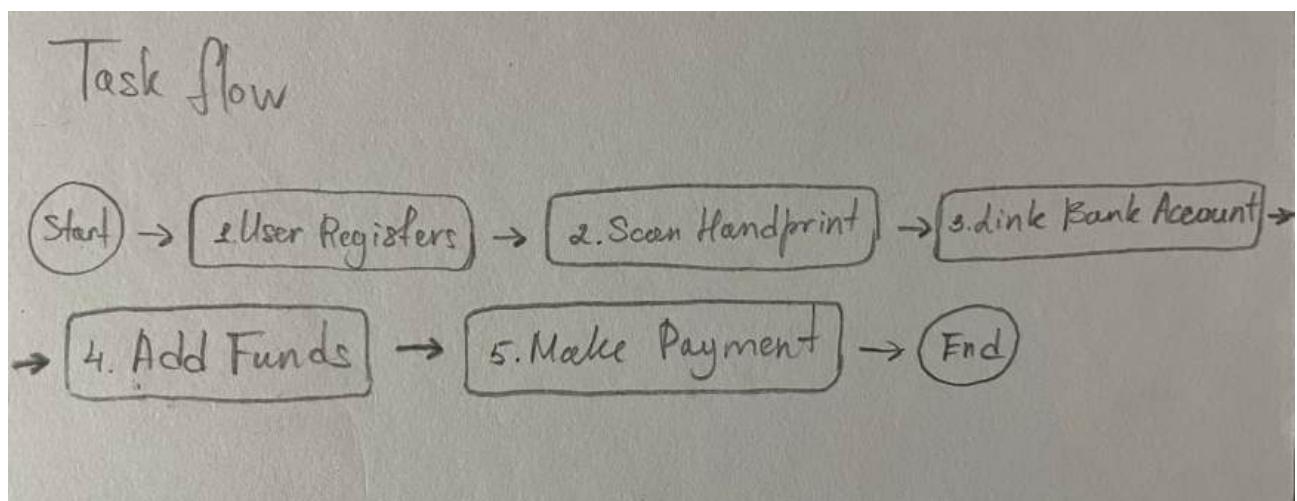
Profile



Add card

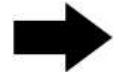


Task Flow:

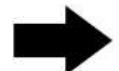


User Journey Maps:

1) Downloading the application “Alakan”:



2) Registration in the application:



3)Scanning the Handprint:



4)Registering the Handprint:



5)Attach a bank account in the application to easy access to money:



6)Making a payment using the handprint:



Evolution: User Evaluation Using A|B Testing

1.Objective:

To assess the user experience and effectiveness of two different formats for making payments using handprint scanning and identify the preferred version based on usability and problem resolution.

A Version: Simple Format

In this version, users make payments by scanning their handprint at a terminal. The process is quick and seamless, designed for a fast transaction.

- Identified Problem: A significant number of users instinctively touch the terminal, assuming they need physical contact to complete the payment. This behavior can lead to hygiene concerns and unnecessary delays, as users are not maintaining the required hand-to-scanner distance for accurate scans.

B Version: Enhanced Format with Visual Feedback

In this improved version, the same payment process is enhanced with a red and green light feedback system:

- Red Light: Activates when the user's hand is too close to the terminal, signaling them to adjust the distance.

- Green Light: Activates when the user's hand is correctly positioned at the optimal scanning distance, indicating the scanner is ready to process the payment.
- This simple yet effective visual feedback system guides users intuitively, solving the problem of unnecessary physical contact and positioning errors.

A|B Testing Results:

The two versions were tested with separate user groups, and the following results were observed:

Evaluation Metrics

1. Ease of Use:

- o A Version: Some users found the process confusing, resulting in repeated attempts to touch the terminal.
- o B Version: The red and green lights provided clear guidance, significantly reducing confusion and improving ease of use.

2. Error Rate (Incorrect Hand Positioning):

- o A Version: Higher rate of positioning errors due to unclear feedback, leading to delays.
- o B Version: Substantially lower error rate, as the visual feedback helped users position their hand correctly.

3. Transaction Time:

- o A Version: Faster when users understood the process, but delays occurred due to incorrect positioning or repeated touch attempts.
- o B Version: Slightly slower initially due to the feedback system but overall more consistent with fewer delays.

4. User Satisfaction:

- o A Version: Lower satisfaction due to confusion and the added step of figuring out the correct distance.
- o B Version: Higher satisfaction as users felt guided and confident in completing the payment without errors.

Conclusion:

Based on the A/B testing results, B Version was selected as the preferred payment process. The addition of the red and green light feedback system not only solved the issue of users touching the terminal unnecessarily but also improved the overall experience by reducing positioning errors and boosting user confidence. This minor enhancement proved critical in optimizing the payment system for real-world use.

2. Objective:

To evaluate and compare the user experience of two versions of a handprint-based payment system and identify the preferred version based on the effectiveness of feedback mechanisms.

A Version: Simple Format (No Feedback)

In this version, users make payments by scanning their handprint at a terminal. The process is designed to be fast and efficient.

- Identified Problem: Many users experience uncertainty after scanning their handprint, wondering if the payment was successful or not. This lack of feedback leads to delays as users wait or repeat the scanning process unnecessarily, slowing down the overall transaction flow.

B Version: Enhanced Format with Sound Feedback

In this improved version, the same payment process is supplemented with auditory feedback:

- Successful Payment: A click sound plays to confirm that the payment was processed successfully.
- Failed Payment: A dzz sound plays to indicate that the scan was not successful, prompting the user to try again.

This auditory feedback provides immediate and clear confirmation of the payment status, addressing the confusion and uncertainty observed in the A version.

A/B Testing Results:

Evaluation Metrics

1. Clarity of Payment Status:

- o A Version: Users often hesitated after scanning, unsure if the payment was completed, leading to unnecessary delays.
- o B Version: The auditory feedback provided immediate clarity, eliminating hesitation and unnecessary repeated scans.

2. Transaction Time:

- o A Version: Longer transaction times were recorded due to users' uncertainty and repeated attempts.
- o B Version: Faster transaction times were achieved as users received real-time feedback on the payment status.

3. Error Recovery:

- o A Version: Users had no clear indication of failed payments, causing frustration and confusion.
- o B Version: The dzz sound effectively alerted users to retry, streamlining error recovery.

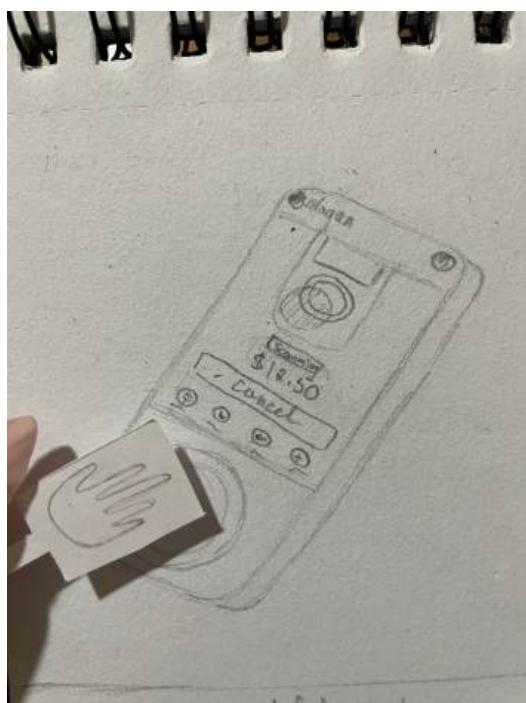
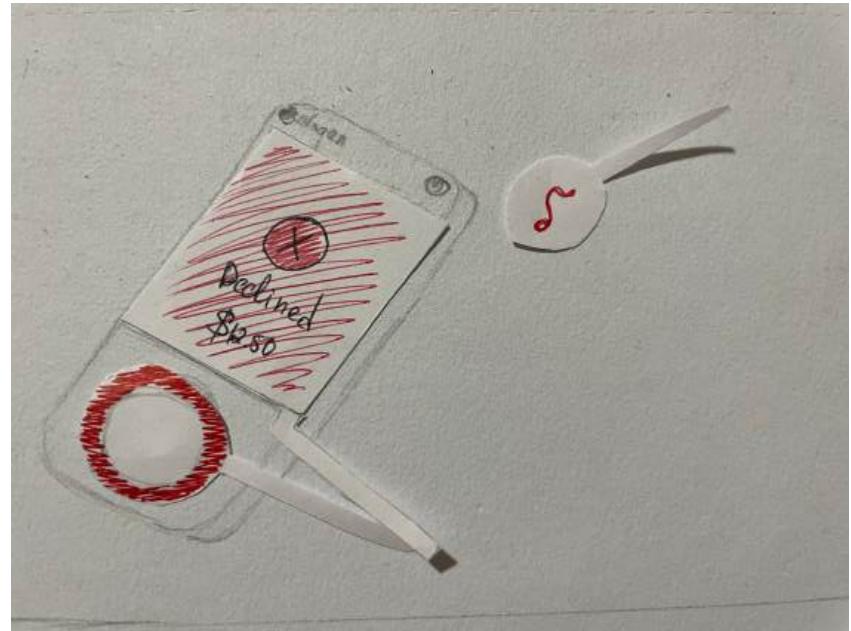
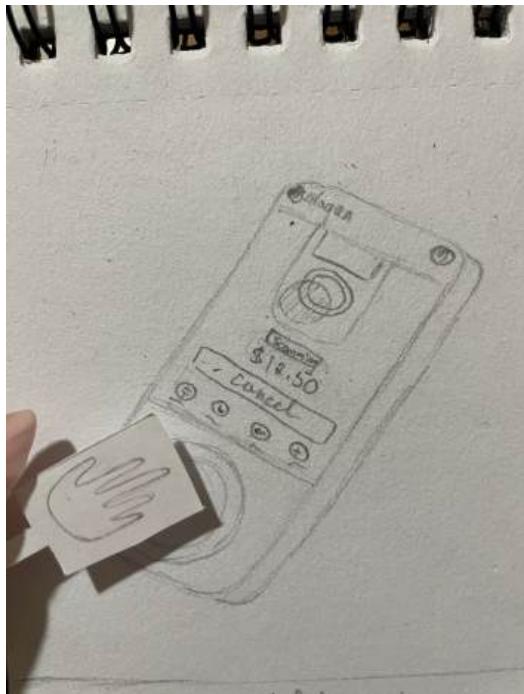
4. User Satisfaction:

- o A Version: Lower satisfaction due to lack of clarity and the added cognitive load of figuring out payment status.
- o B Version: Higher satisfaction as users felt reassured by the immediate feedback and experienced smoother transactions.

Conclusion:

The A/B testing results clearly indicate that B Version is the better option. The introduction of sound feedback solved the issue of uncertainty about payment status, improving transaction speed, error recovery, and overall user experience. Users reported feeling more confident and satisfied with the payment process in this version, making it the ideal choice for implementation.

Final design and changes after evaluation:

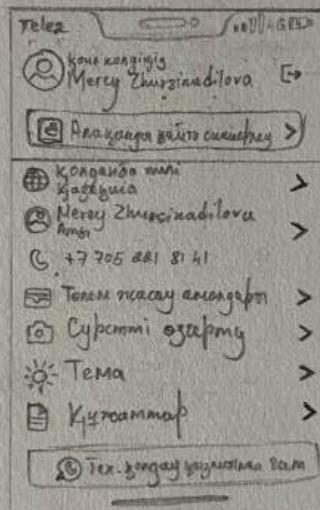


Alagan application

Төлемгөп



Profile



Add card

