

Design for Mobile Money Smartphone App for Financial Inclusion in Pakistan

Design Toolkit

<http://www.karandaaz.com.pk/toolkit>



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02	Methodology
03	App Overview
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05	Design Components
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The following acronyms are used throughout this document.

UX
User Experience

UI
User Interface

HCD
Human-Centered Design

MM
Mobile Money

P2P
Peer-to-Peer

This is a toolkit to help providers of mobile financial services (MFS) in Pakistan improve the UX design of their smartphone apps.

01. Methodology

The Toolkit includes examples from our human-centered design (HCD) process. HCD is a methodology that engages with the end-user throughout the research and design process, ensuring that the UX of the product is both usable and desirable.

03. Primary Use Cases

The Toolkit includes detailed design documentation for key screens and user flows. We attempt to give a rationale for each of our design choices as well as concrete examples of how to improve the UX of a smartphone mobile money app.

05. Getting Started

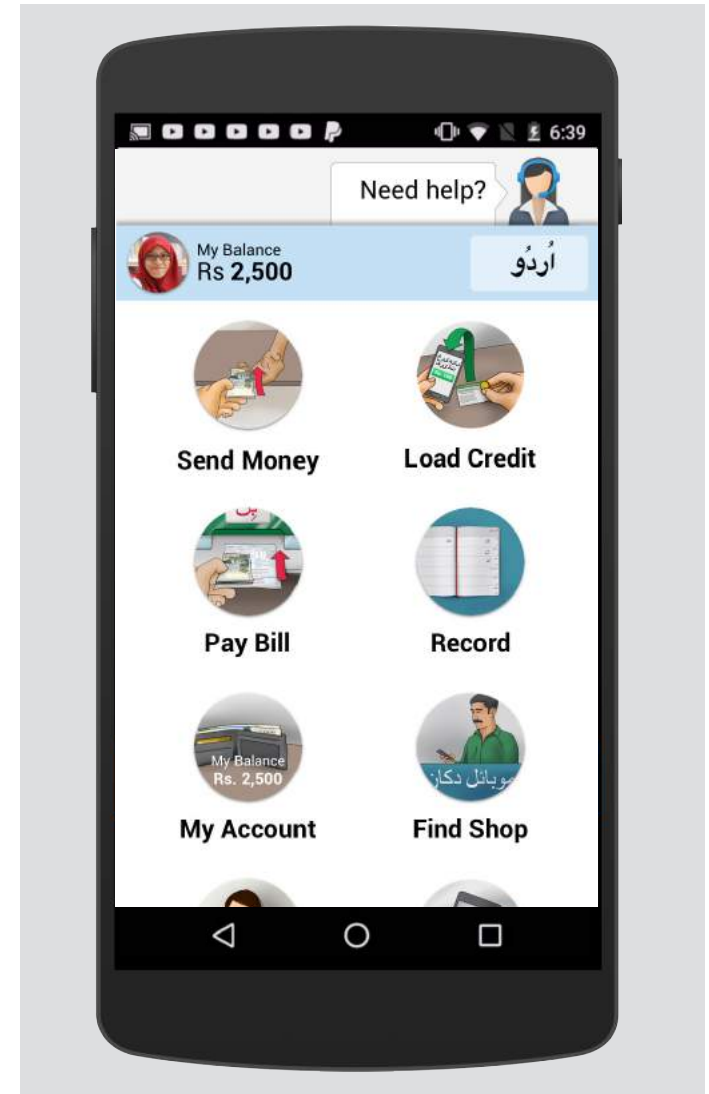
The Toolkit includes recommended next steps for providers trying to improve the UX of their own smartphone apps. It also includes additional resources you can reference to learn more about a human-centered approach to UX design.

02. App Overview

The Toolkit includes a set of universal design principles that served as the foundation for the design recommendations in this document. The design principles were identified through a collaborative, interactive research and design process with providers and users.

04. Design Components

The Toolkit includes components that can be incorporated into existing designs and links to download our assets.



Download the interactive prototype at <http://www.karandaaz.com.pk/toolkit>

Who Is This Toolkit For?

This Toolkit is targeted at various providers in Pakistan – banks, mobile money providers, payment providers – who want to extend MFS to mass market in low-income emerging markets via a smartphone delivery channel.

Mobile Money Providers

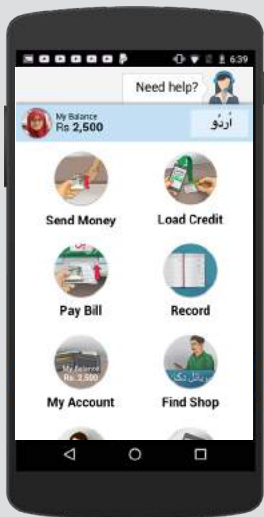
Mobile money (MM) providers will find this Toolkit helpful if and when they develop a smartphone app channel for their products and services. These providers will be able to adopt the use flows as well as iconography and other design pattern recommendations into their wireframes.

App Developers

App developers hired by MM providers or banks to design and develop smartphone apps will be able to reference this Toolkit and rely on this set of recommendations, informed by extensive user-tested research.

MFIs and Banks

MFIs and banks that may be developing smartphone apps for their customers can rely on this Toolkit for insights into how to make their apps more customer-centric. While not all use flows will be relevant for every provider, the insights about how to frame and design options, the visual language, and other design elements may prove useful.



Who is the Intended Audience of this App?

The recommendations in this Toolkit focus on the design of an app for the mass market – average mobile money customers in the Pakistan market. It was our intention to create designs that would appeal to the broadest range of customers, from low-literate new users to existing customers who already use MM services. The design decisions that we feel allow new users (perhaps lower-literate, lower-income users) to engage with the platform *do not*, in our opinion, prevent existing, more “fluent” MM users from using the same app or platform. After rigorous testing, we feel the design recommendations in this Toolkit allow providers and app developers to design a smartphone app that has wide market appeal, both inviting new potential MM customers into the experience and catering to the needs of existing customers as well.

Why a Smartphone App?

With the increasing ubiquity of smartphones among multiple income segments, there is now the opportunity to develop a viable and scalable alternative to the USSD format. In Pakistan, smartphone penetration currently stands at 31%, with a further surge expected given the increasing availability of low cost smartphones and improved 3G/4G services. Keeping these factors in mind, the MFS industry in Pakistan is poised to explore the smartphone app space.

Make MM More Visual

The use of icons and graphics can help overcome literacy barriers that make USSD menus challenging to use for so many people.

Build Trust through Engagement

Leveraging social networks, gamification and other methods to keep customers engaged with the brand resulting stronger trust.

Leverage Marketing Channels

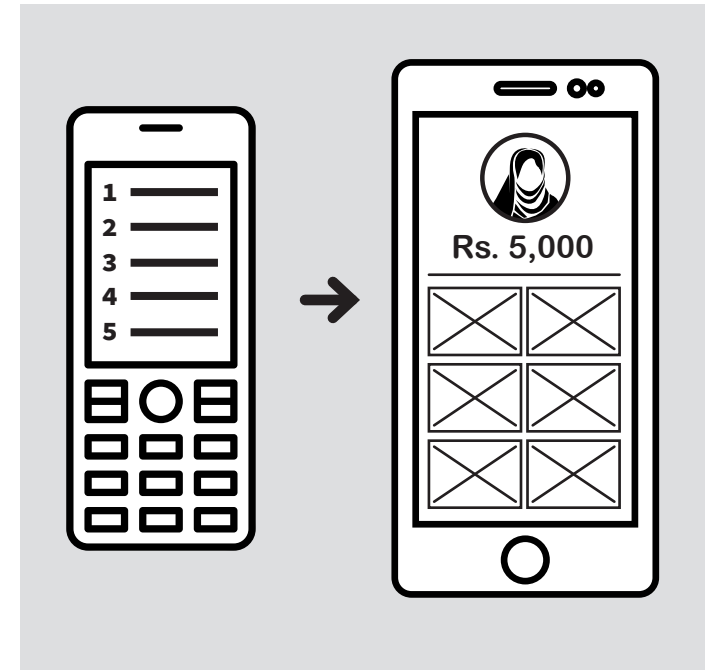
Smartphone apps offer a unique ability for MM providers to market other products and services to customers in a visually appealing and actionable way.

Make MM More Convenient

Leveraging smartphone capabilities to move away from complicated USSD menus or reliance on agents will make MFS more convenient for customers and empower them with new independence.

Get Ahead of the Curve

It is important for providers to design for the quickly evolving market, especially as smartphones become more and more available and adopted.



From USSD menus to apps

Why User Experience (UX) Design?

MFS delivered through a smartphone interface has the capability to extend and improve financial access across Pakistan. To this end, a well-designed user interface (UI) will enable providers to better serve existing customers by providing more advanced services and improved UX, with the added possibility of expansion into new market segments by designing apps that take into account the challenges of the less literate.

It's not just how it looks

UX design is considered to be essential and not something that comes "after the fact". The largest tech companies in the world - Apple, Google, Facebook, WhatsApp - prioritize UX design because they know it's a main factor in what drives uptake and usage of their products and services.

Think beyond the UI

Good UX design looks at a product within an ecosystem of other products and services. Even the best designed app can fail if the experience of interacting with Customer Care is poor.

Make apps accessible, usable and desirable

The app must feel easily accessible and usable by customers while also feeling aspirational (like a smartphone is). If an app is designed in such a way, uptake and usage is more likely.

Know your user

As the name suggests, UX design is all about the user. Good UX design finds ways to involve the user in the design process (as this document will demonstrate!) and forces product teams to think of innovative ways to give users what they need while still meeting business requirements and technical constraints.



The traditional handset offers a poor UX, leaving many customers to rely on agents.

About the Partners



Karandaaz Pakistan

Karandaaz Pakistan is a Section 42 company established in August 2014, promotes access to finance for small businesses through a commercially directed investment platform, and financial inclusion for individuals by employing technology enabled digital solutions.

The Company has financial and institutional support from leading international development finance institutions; principally the United Kingdom Department for International Development (UKAid) and the Bill & Melinda Gates Foundation.

Karandaaz Pakistan is governed by eminent Pakistanis, and is managed by an experienced team with core expertise in international investment management, digital finance, and financial inclusion.

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GRID Impact

GRID Impact is a global research, innovation, and design collective tackling problems in financial inclusion, agriculture, water and sanitation, education, and alternative energy. The organization employs a human-centered research and design methodology that leverages insights and practices from behavioral science to design products, services, experiences, programs and policies that respond to people's needs, preferences and behaviors. GRID Impact offers its social impact partners a variety of services including research and design consulting, training and capacity building, workshop and meeting facilitation, impact evaluation design, and strategic advising.

Contact:

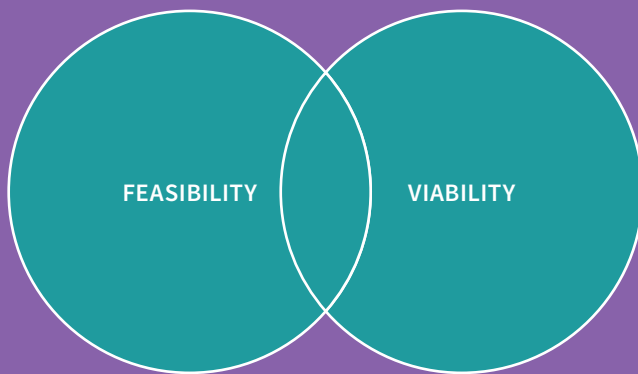
Alexandra Fiorillo, Principal
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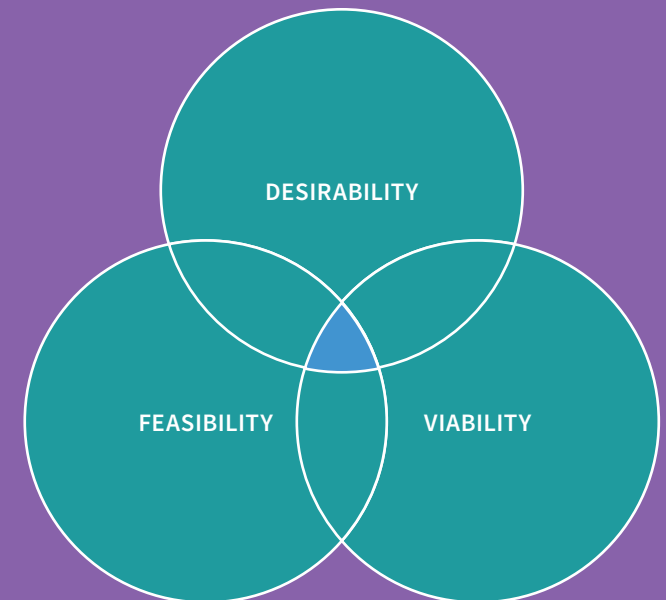


Methodology

The following sections gives examples from our HCD process. HCD is a methodology that engages with the end-user throughout the research and design process, ensuring that the UX of the product is both usable and desirable.



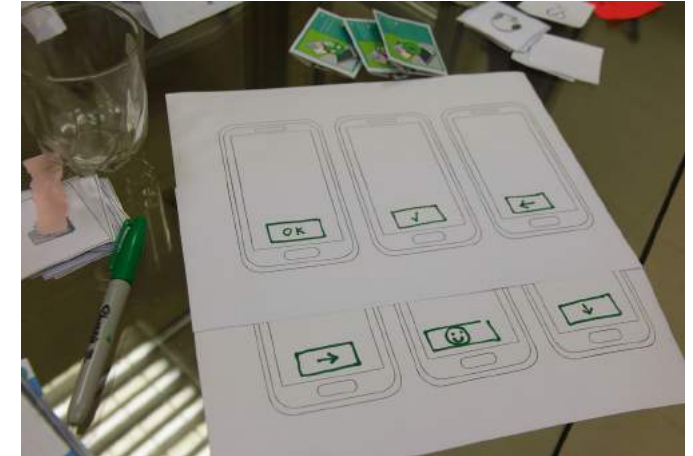
Traditional approaches to product innovation focus on technical feasibility and business viability.



A HCD approach introduces desirability, ensuring product innovation meets the needs and desires of the people we are designing for.

Human-Centered Design

HCD requires new mindsets, including...



Developing Empathy

Developing empathy means understanding and sharing someone's feelings. It helps us see the world from someone else's point of view, in order to relate to his/her behaviors and attitudes.

Our team built empathy throughout the project by conducting in-depth, contextual interviews with users and agents about their experiences, preferences and behaviors.

Failing Fast

HCD uses iterative prototyping so that mistakes are made early in the process.

A prototype is a rough representation of an idea used to understand and evaluate that idea. Iterate means to repeat a process until you reach a desired outcome.

Our team learned from our mistakes by starting with low-fidelity, paper prototypes.

Designing *With*, Not *For*

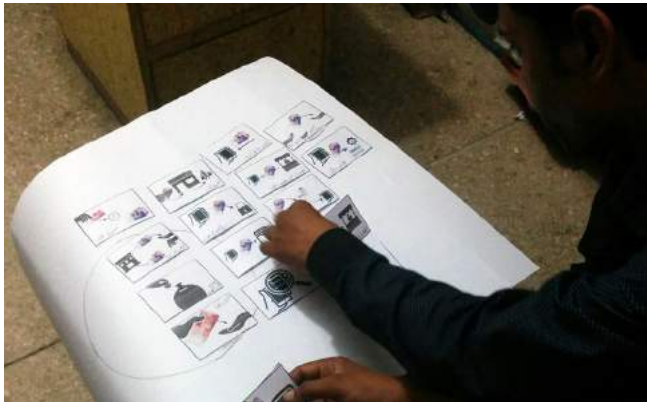
Co-creation (or co-design) is a method that invites the end-user to participate in the design process and to envision his/her own ideas.

Our team engaged users as co-designers through the use of participatory activities.

To learn more about HCD, read the posts on Karandaaz's blog at <http://www.karandaaz.com.pk/toolkit>

Human-Centered Design Discover

The first phase of our HCD process is Discover. In this phase we use a variety of participatory methods to gain a deeper understanding of the target market, including in-depth interviews, behavioral mapping, customer journey maps, empathy maps, and other techniques. The Discover phase results in a set of insights that allow us to understand their needs, desires, preferences and behaviors.



Participatory Activities

We used qualitative design research tools, including visual prompts and role-playing activities to facilitate rich conversations with users and agents.



In-Depth Interviews

We conducted in-depth, one-on-one interviews with each participant at his/her home or business. We also conducted shorter, intercept interviews with end-users in markets and shops.



Expert Interviews

We interviewed MM agents at their shops to ask them questions about their business, customers and the providers they interact with.

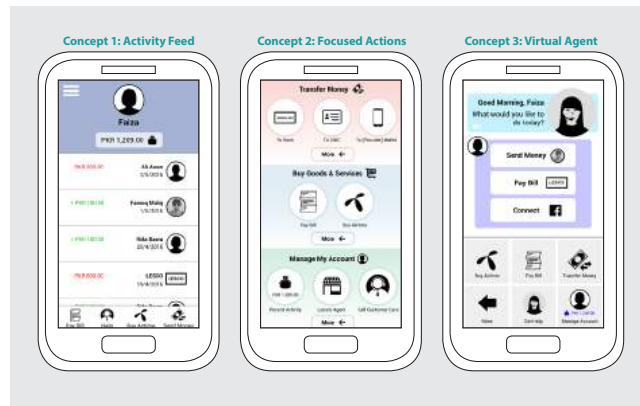
Human-Centered Design Concept

The next phase of our HCD process is Concept. In this phase we generate ideas that respond to the insights, challenges and opportunities from the Discover phase.



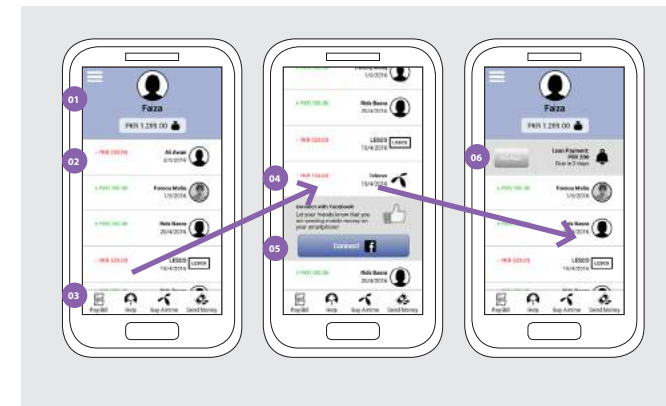
Concept Ideation

Our team held a creative brainstorm to generate a range of possible solutions, approaches and features that responded to the specific behavioral insights uncovered during the Discover phase.



Interaction Models

With Karandaaz, we developed three feasible approaches to a UX design for the smartphone app. Each concept attempted to address several of the key behavioral insights developed during the Discover phase. These three interaction models formed the basis of our initial smartphone app design.

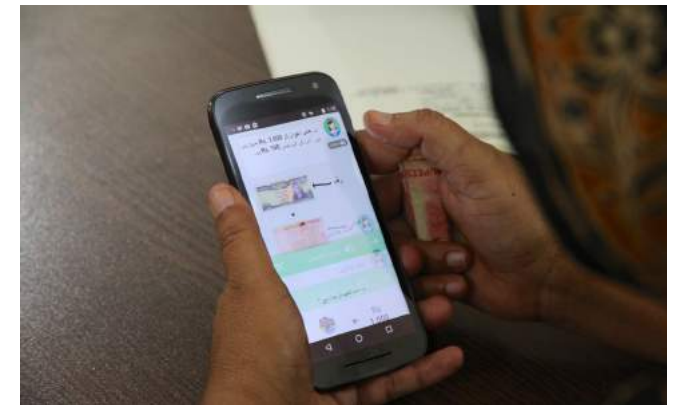
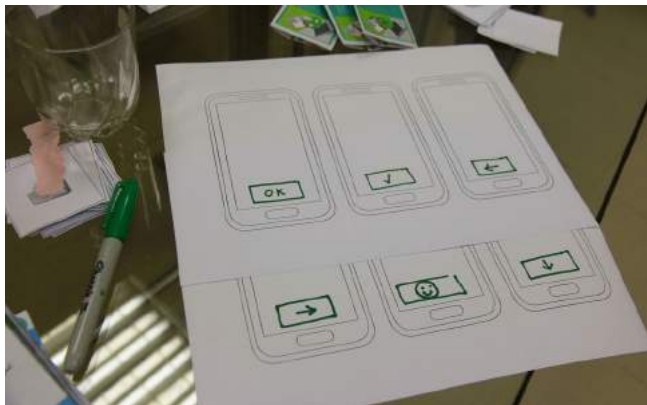


Concept Refinement

Over several weeks, we refined each of the three interaction models to include particular behavioral and UX design elements. We refined the models with feedback from UX design experts, MM experts and other relevant stakeholders. Ultimately, we selected the two most promising concepts to develop into prototypes and test with users and agents.

Human-Centered Design Prototype

In the Prototype phase, we test our concepts with end-users through an iterative, collaborative process. As we collect feedback, we iterate and revise the prototypes and increase the fidelity. In this phase, end-users become designers, suggesting features and elements to incorporate into the designs.



Participatory Activities

Through participatory activities with MM customers and agents, our team tested the various concepts and features. These activities included card sorting to select appropriate visual icons and transaction flows, icon co-design to develop improved visual language and task-based transactions to test the logic of flows.

Low-Fidelity Prototype Testing

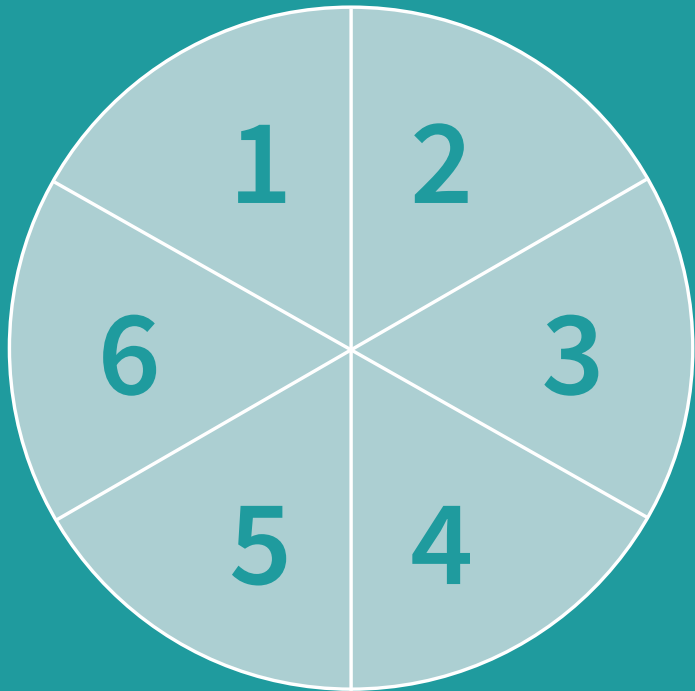
We tested the two selected concepts using low-fidelity prototypes. These paper-based prototypes allowed us to capture feedback from users and agents on the style, design, icons, flows and overall structure of the smartphone app menu.

High-Fidelity Prototype Testing

We also used a high-fidelity clickable prototype to generate feedback from users on how the app worked. Here, we used task-based transactions to see how users engaged with the app, where they encountered difficulties, and how they interpreted transaction flows.

App Overview

Based on input from users and stakeholders during the Discover and Prototype phases, we have developed 6 design principles to guide the design of the app.



Design Principles

Principle 1

Make secondary features more salient without taking focus away from primary actions.

Make it easy for people to explore and discover secondary services and features in a way that is approachable and not overwhelming, without making primary services less accessible.

Principle 4

Increase customers' trust and confidence in using technology.

Improve the UI so independent exploration of MM is easier, more intuitive and less scary. Make it clear that some errors are due to technical or design issues, rather than human error.

Principle 2

Provide contextual help throughout the experience.

Providing help in the right context will build a user's confidence and trust in the system. The help provided should evolve as user's become more experienced, introducing them to new features and uses when appropriate.

Principle 5

Use plain language and make it consistent with how people talk about MM.

Where text is necessary, use simple & neutral language. Choose words that are easy to understand and to the point. Avoid technical terms. Write in plain everyday language.

Principle 3

Communicate the value of MM early and help people envision using the app.

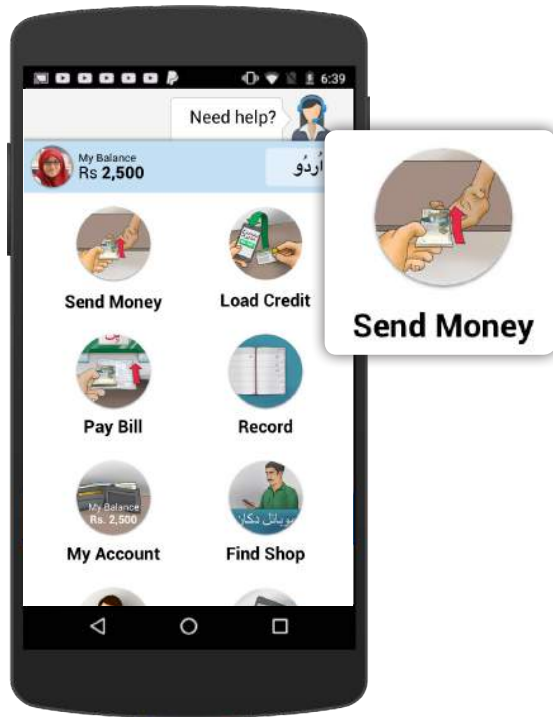
Onboarding should be visually engaging and help the user connect the features of the MM service to his/her personal needs and goals.

Principle 6

Use visual cues as signposts and make them match the user's expectations.

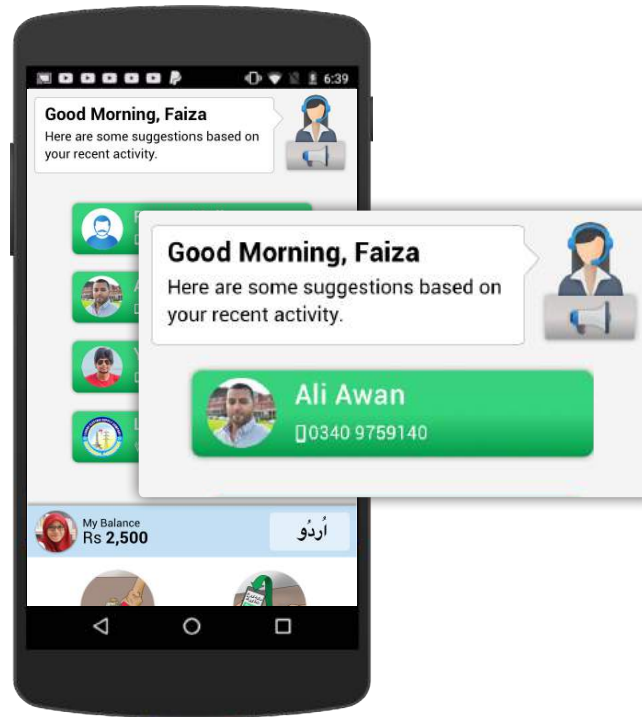
Especially for lower-literate customers, apps should reduce the amount of text used to describe actions and uses. Instead, apps should focus on linking a colloquial, short phrase with a visual cue to help reinforce the desired behavior.

App Overview



The homescreen is characterized by a menu of large, detailed illustrations that visually depict the core features.

- Places the focus on a smaller set of key actions, prioritizing what a user is most likely trying to accomplish.
- Use of icons and static home screen make the UI predictable and memorable for low-literate users.



The app's key feature is a ubiquitous "assistant" that provides contextual, personalized suggestions to the user.

- Personalized suggestions helps a user find relevant actions and discover new features.
- Provides quick access to transactions that a user has done in the past, and will likely want to do again.



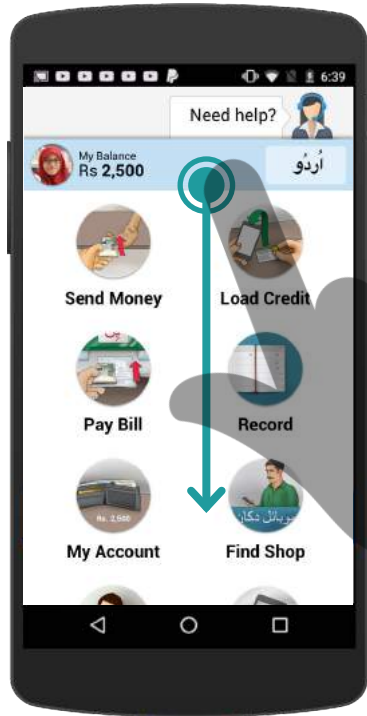
The Assistant also provides help, support and education at key moments throughout the experience.

- Guided support helps build trust and confidence in the service.
- A text-to-speech feature for the smart Assistant can support low-literate users.

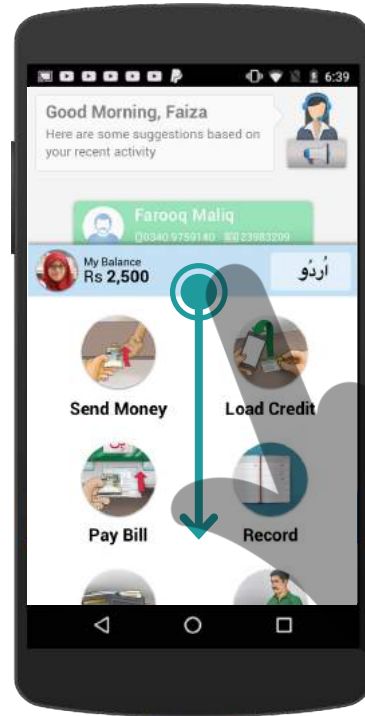
App Overview

The Assistant can be accessed from any screen in the app and appears as a layer behind the main content. The Assistant can also be hidden at any time, so as not to interfere with the user's experience.

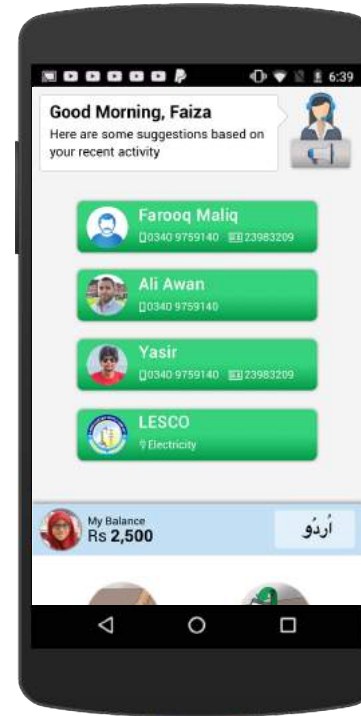
- The Assistant appears in context without interrupting current task.



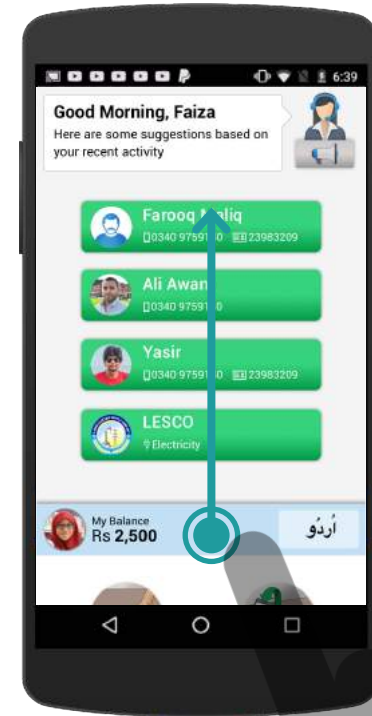
1. Tap the Assistant or swipe down to reveal the Assistant.



2. The Assistant content appears behind the main content.

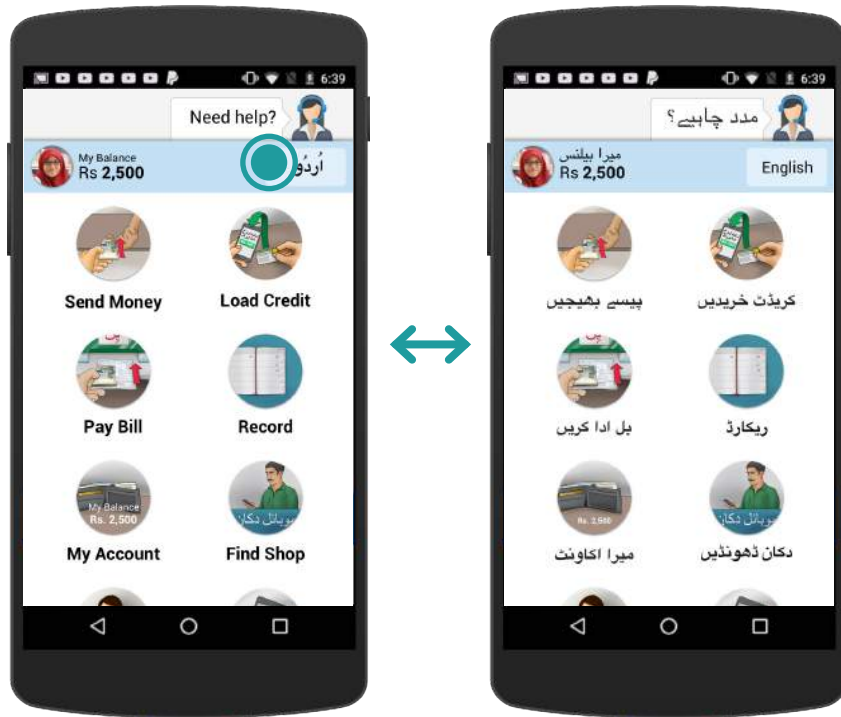


3. The Assistant offers suggestions or help based on the current screen.



4. Swipe up to hide the Assistant.

App Overview



The default language is English, with the option to switch to Urdu. When switching to Urdu, the screen does not mirror or change layout.

- Default to English which is consistent with the preferences of most research participants.
- Allows the user to switch language when needed and easily switch back.
- Only changes the text. Does not flip or mirror the design from left-to-right to right-to-left orientation.

Primary Use Cases

This section illustrates flows for primary use cases and rationale for design choices based on research. The screens are presented as **wireframes**. A wireframe is a schematic for the structure and functionality of the app. Visual design treatment (colors, typography, graphics, etc.) will come in at a later stage of the app development process.

- 01 Onboarding & First Time Use
- 02 Sending & Receiving
- 03 Help & Support
- 04 Marketing
- 05 Authentication

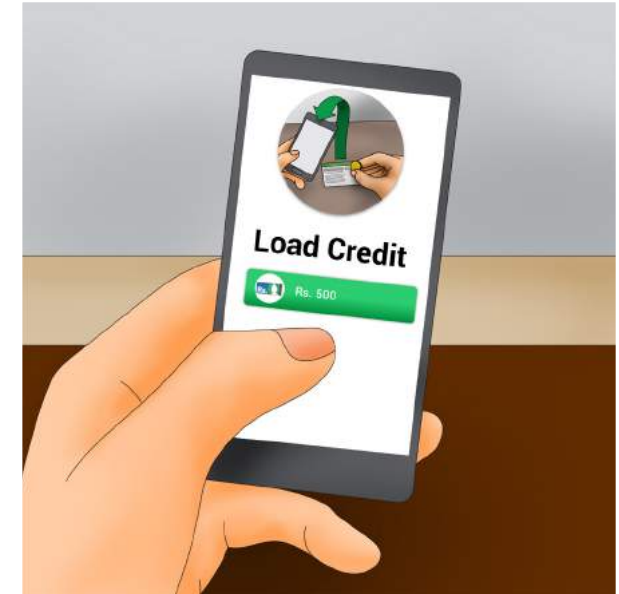
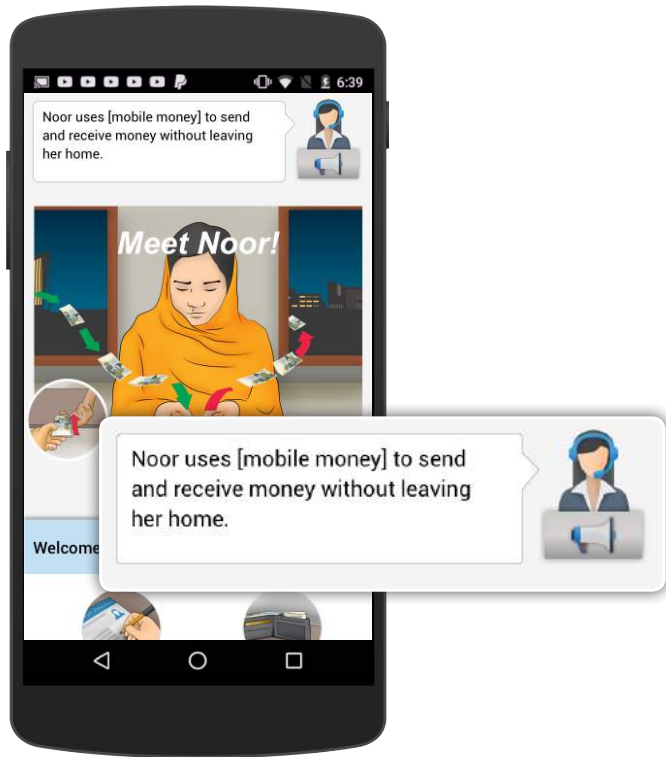
01. Onboarding & First Time Use

The following screens illustrate the experience that users have when they first open the app. “Onboarding” refers specifically to the screens that educate the user about the service before being prompted to register. “First Time Use” refers to the experience a user has when logging into his/her account for the first time.



Throughout the document this symbol is used to indicate designs that failed during prototype testing.

01. Onboarding & First Time Use Key Features 1/2



! Telling a story is an effective way to help people envision how they can engage with the service and become aware of features that they might not know about.

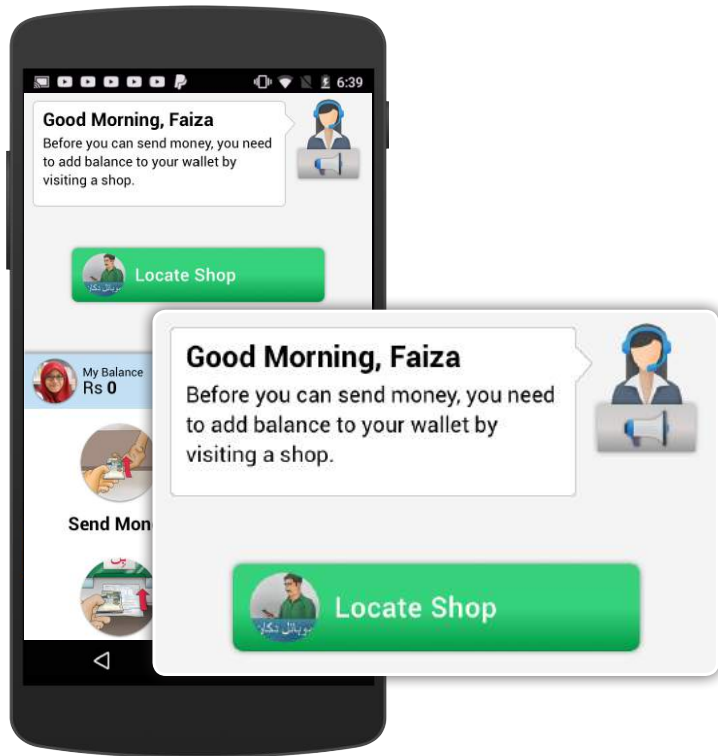
- Research participants found storytelling more desirable than listing benefits and features.

! Illustrations should be detailed and avoid abstraction so that people can easily identify the action that is taking place.

- Illustrations should show the action in context (i.e. inside a user's home).

! Onboarding should communicate the value proposition (i.e. "you can send money from the comfort of your own home") while also helping users understand how the service functions (i.e. what specific buttons represent).

01. Onboarding & First Time Use Key Features 2/2

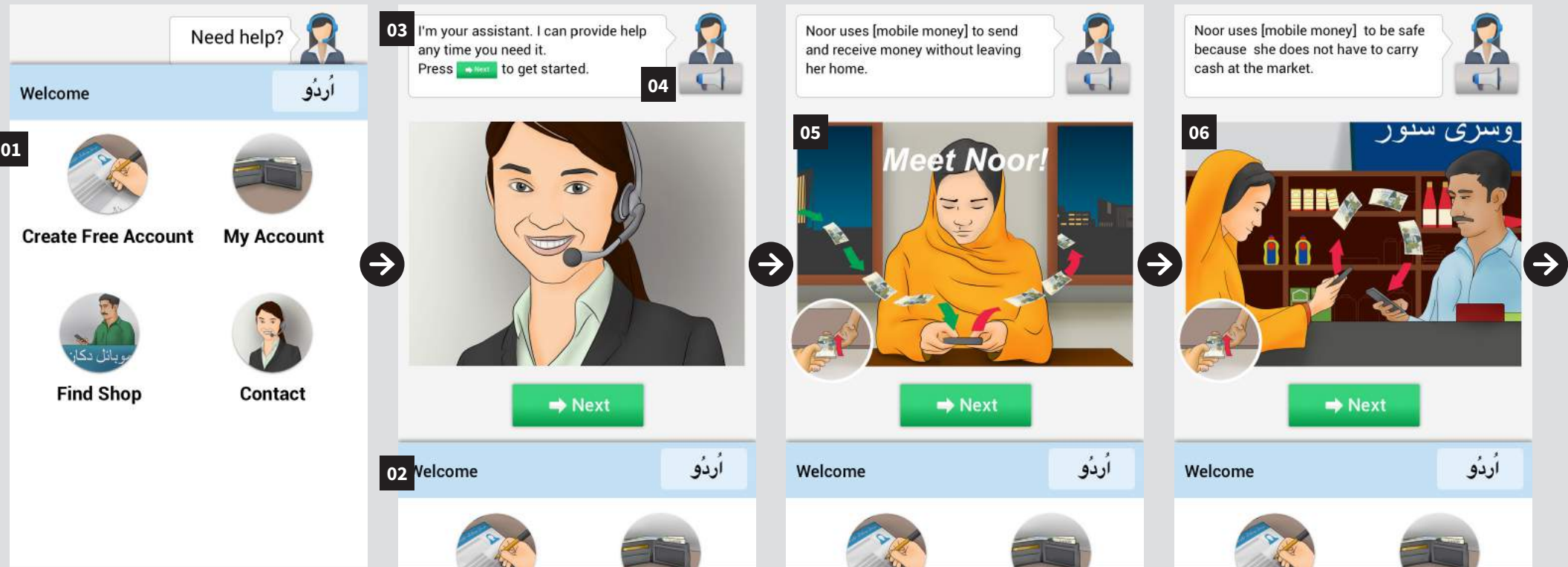


! Personalized greetings help the user feel comfortable.

- In this example, a user is logging in for the first time and has no balance, so the Assistant suggests that she find a shop.

01. Onboarding & First Time Use Wireframes 1/3

Onboarding flow before account login



01 The main menu shows actions that a user can take without needing to sign into his/her account.

Primary actions are accompanied by strong visual cues.

02 When the app first launches, the menu automatically slides down to help the user discover the Assistant.

03 The Assistant greets the user and explains her role. She prompts the user about what to do next.

04 Pressing the speaker icon will play an audio recording that matches the text of the Assistant.

05 The onboarding experience tells a story about a woman using the service. It emphasizes the main value propositions and reflects the needs of the target user.

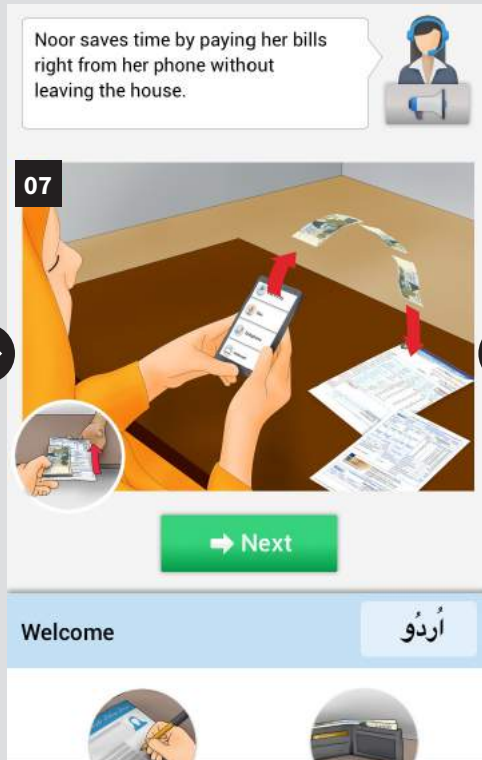
The goal is to help users understand the value so that they become more enticed to register, while also helping them understand all of the different features that are available.

For women, the ability to transact from the house is the key value proposition.

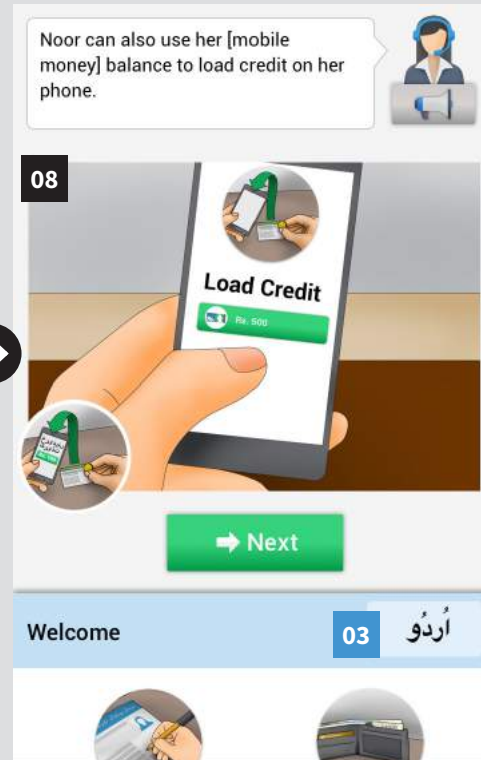
06 After pressing "Next", the user sees the next part of the story which describes another value proposition.

The illustrations show how a user engages with the service in context. For example, inside of a shop.

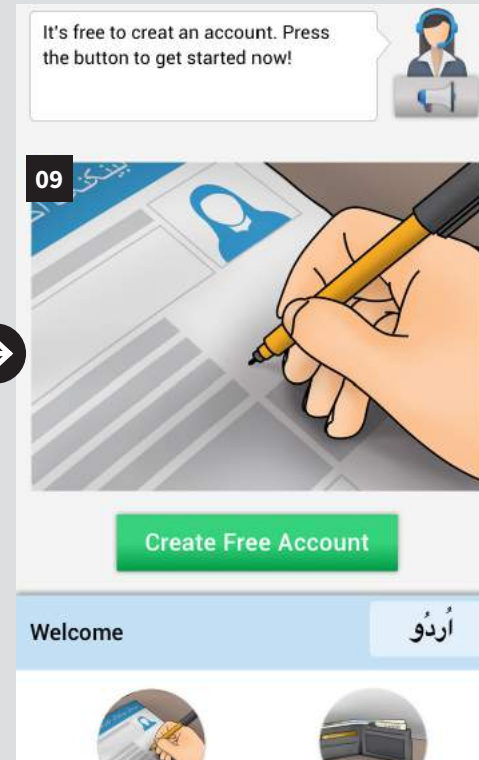
01. Onboarding & First Time Use Wireframes 2/3



07 After pressing "Next", the user sees the next part of the story which describes another value proposition.

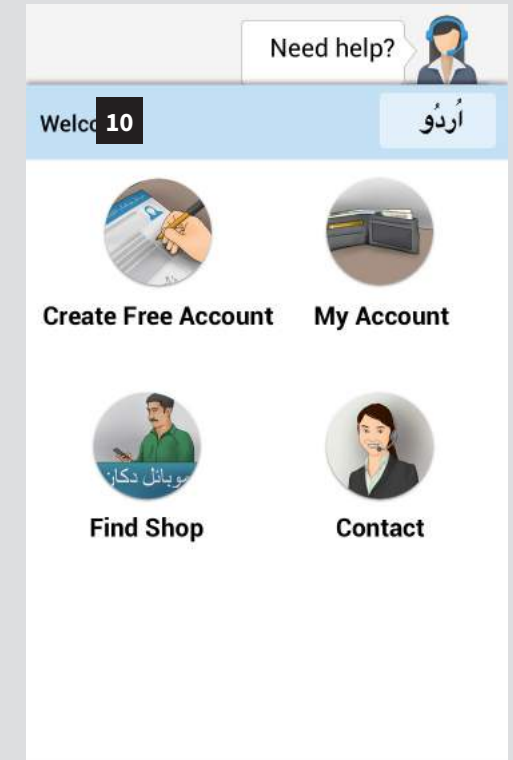


08 As we move further into the story, we begin to show what Noor sees on the screen to help a user become familiar with the interface.



09 At the end of the onboarding experience, a user is encouraged to create an account.

Main Menu (Logged Out)

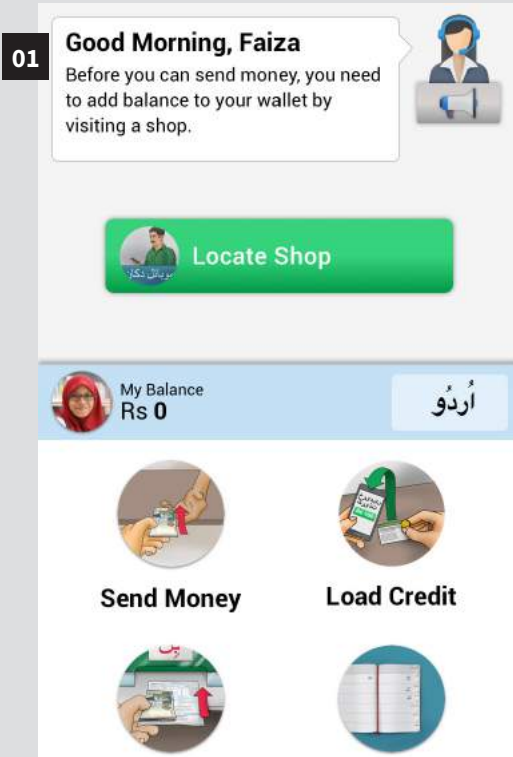


10 At any point during the onboarding experience, a user can swipe up on the screen to access the main menu.

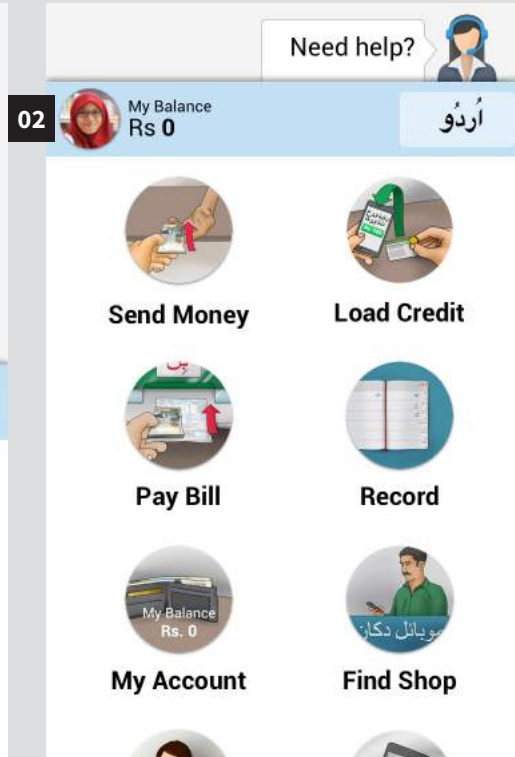
Repeat users can easily skip the onboarding flow.

01. Onboarding & First Time Use Wireframes 3/3

First Time Login



Main Menu (Logged In)



01 When a user logs into his/her account for the first time, he/she sees a personalized greeting from the Assistant. The Assistant also makes suggestions to help the user get started.

In this example, the Assistant is suggesting that the user locates a shop to add balance to his/her account.

02 Swiping up will hide the Assistant and the user can access the main menu.

01. Onboarding & First Time Use Best Practices

Consider the following recommendations when designing your app's onboarding experience.

Allow the user to skip onboarding.

Onboarding will not be relevant for advanced or repeat users and there should be an easy way to the user to skip it.

In this design, a user can skip the onboarding by swiping up on the main menu and hiding the Assistant.

Be visual.

Onboarding content should be as visual as possible and not rely on text. Video and/or sound are also very effective but should not strain a user's bandwidth constraints.

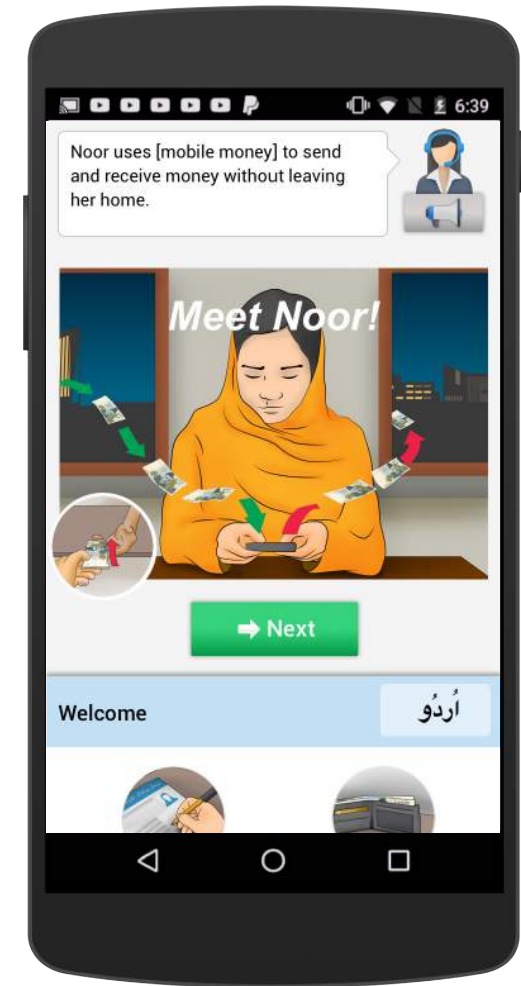
Emphasize the value of the app.

The app's purpose and primary uses should be obvious. Show features and benefits that directly address the user's needs.

In this design, the onboarding leads with Noor transacting at home, which we know is the key value proposition for most women.

Utilize Storytelling.

Our prototype testing revealed that users prefer stories and narratives to the identification of "values" during the onboarding experience.

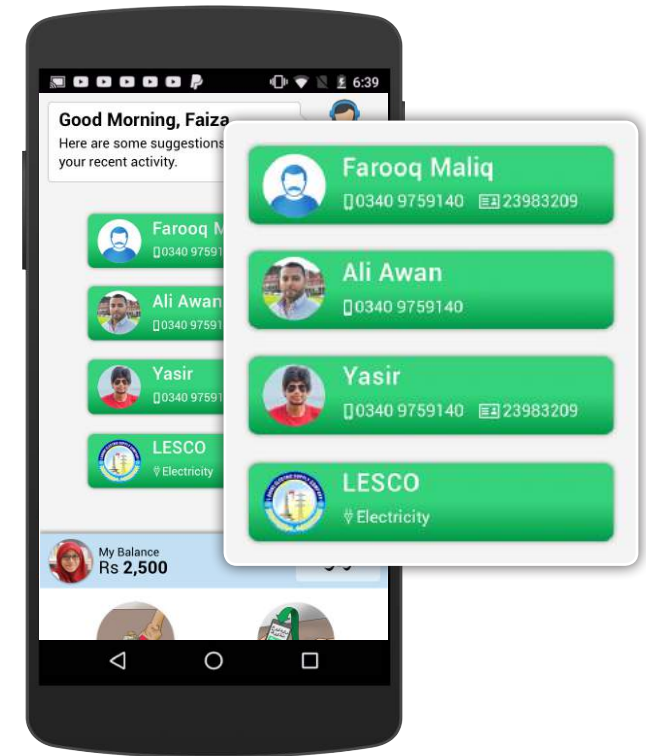
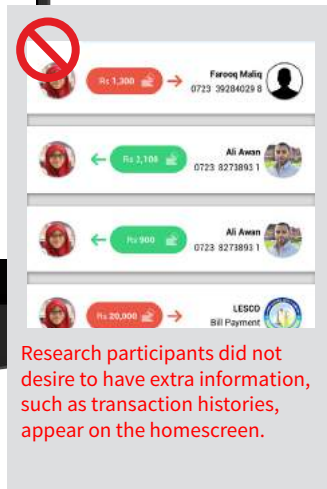
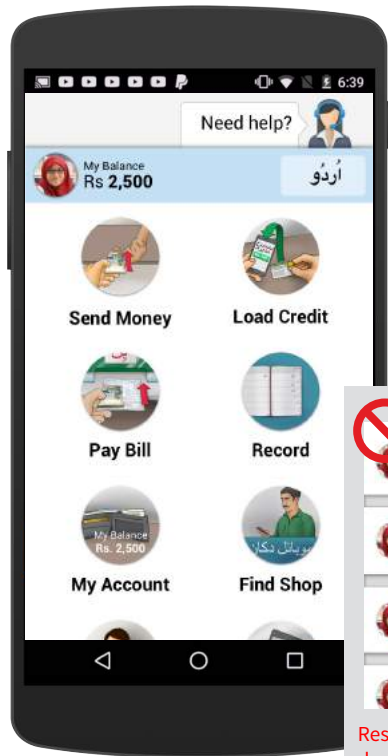


For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

02. Sending & Receiving

The following screens illustrate how a user sends money with the service. This includes Peer-to-Peer (P2P) and Bill Pay transactions.

02. Sending & Receiving Key Features 1/4



Research participants desired a homescreen that is simple and clear.

- Privacy of information is also an important consideration which is a reason not to have transaction history appear on the homescreen.
- The balance is personal information that some user's may prefer to hide.



Illustrations should be detailed and avoid abstraction so that people can easily identify the action that is taking place.

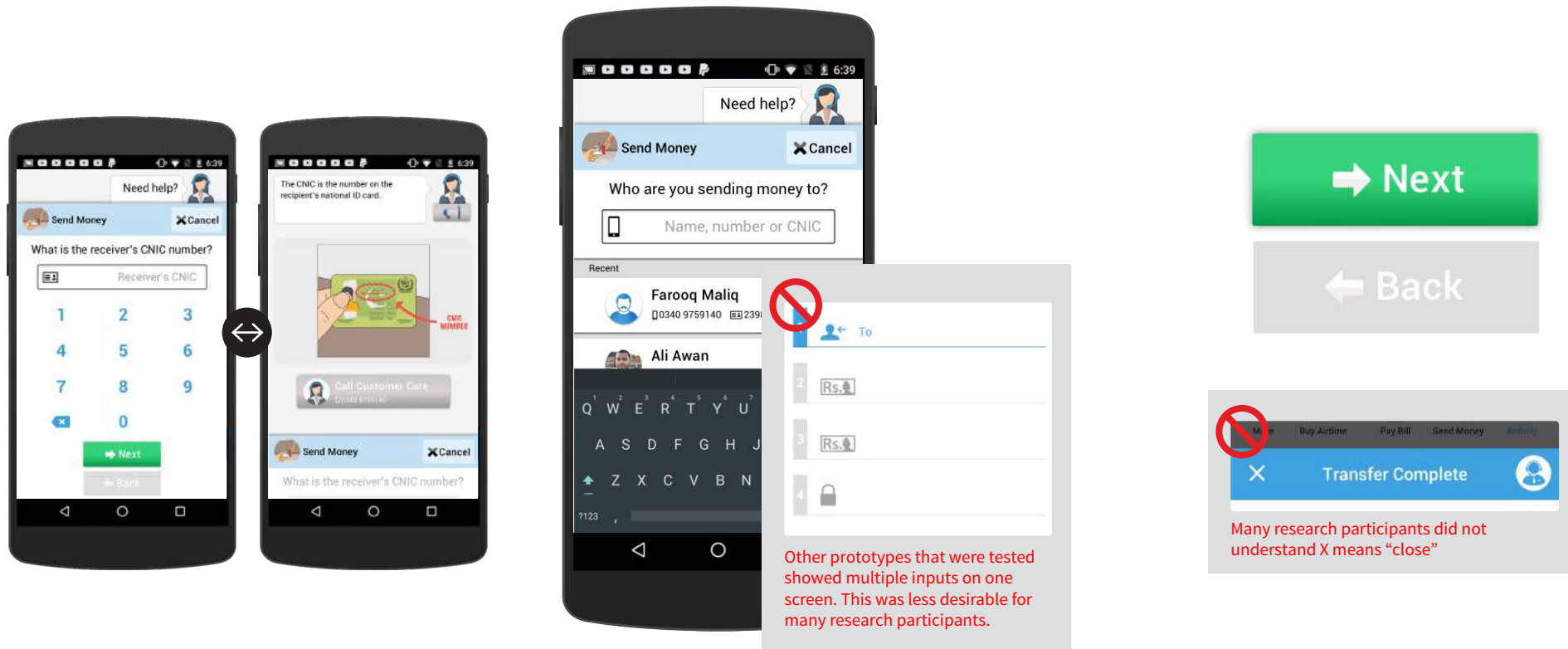
- The design should also make it clear that these are buttons that can be pressed.



The Assistant offers suggested contacts based on transaction history.

- Research participants only transacted with a small number of people/institutions and valued seeing the suggestions that were offered by the Assistant.

02. Sending & Receiving Key Features 2/4



! At any point in the transaction flow a user can receive contextual help.

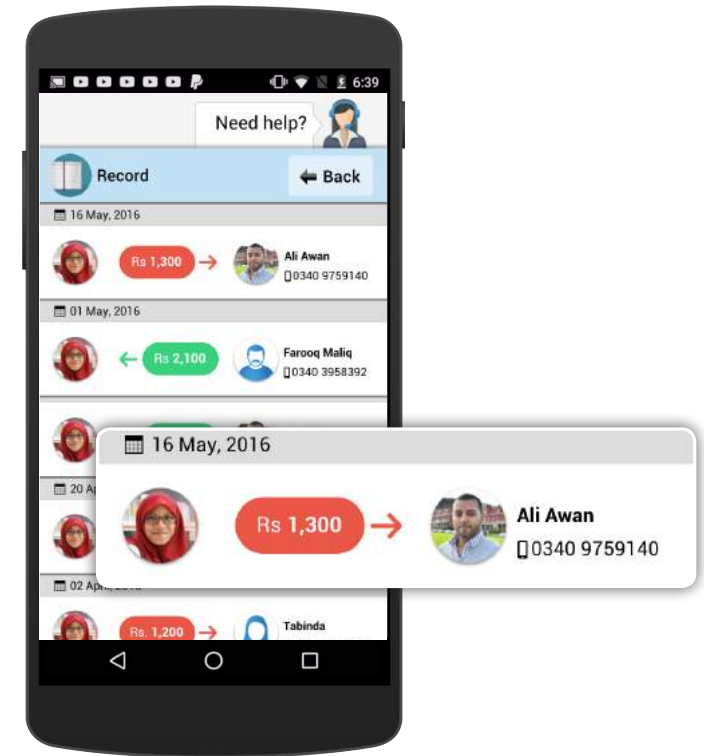
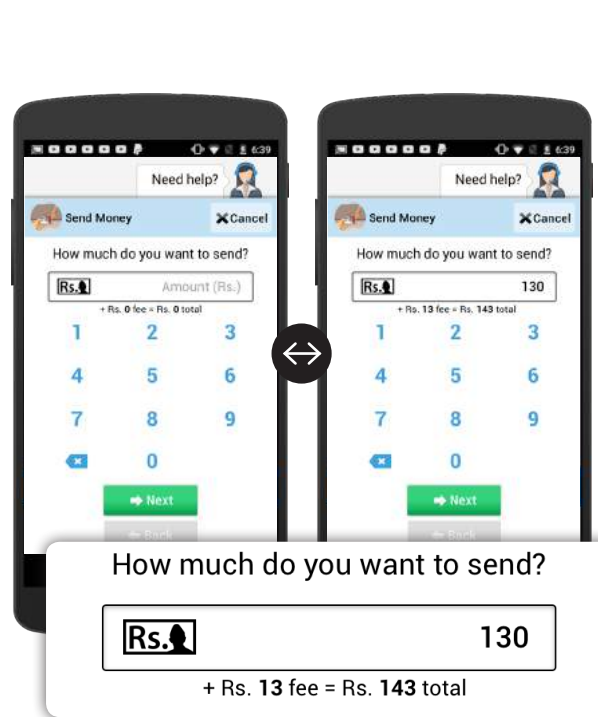
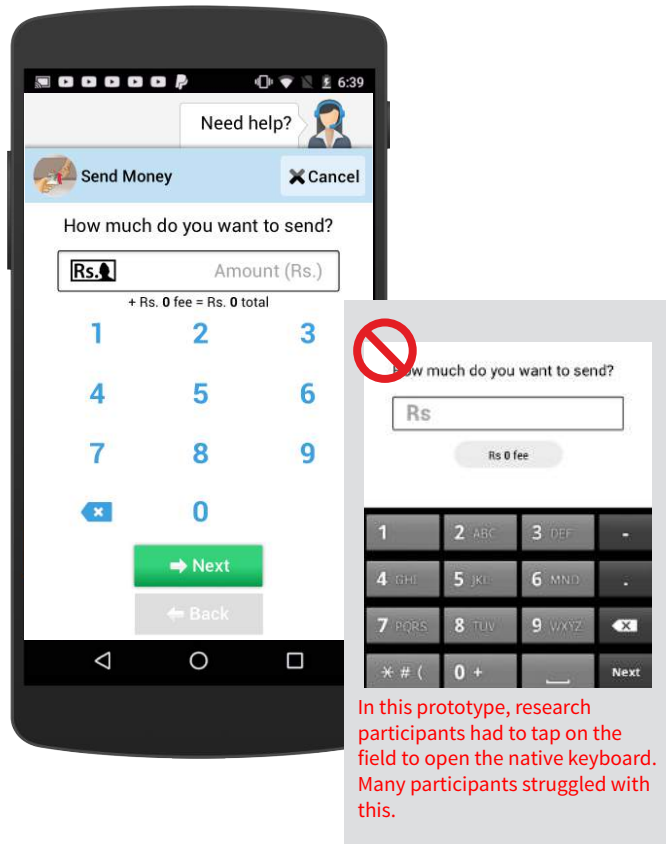
- Help throughout the transaction flow was easy to discover and appreciated by research participants.
- Even for users who did not need help, they welcomed this feature because they might share their phone with someone else who would benefit from seeing the help.

! Breaking the send money form into individual steps and screens allowed users made it easy for users to get through the flow.

! Buttons are intentionally physical to make a clear affordance to press, and icons are carefully chosen and tested.

- Despite the arrow being counterintuitive when coupled with Urdu text, it was the most widely understood symbol for moving to the next step.
- “X” is good for “cancel” because people associate “X” with wrong or mistake. However, “X” is not good for close, because people are not familiar with this UI pattern.

02. Sending & Receiving Key Features 3/4



! Including the dial pad on the screen by default makes it easier and faster for users to complete the transaction.

- Some research participants did not know they had to press the input field to open the native Android keyboard.

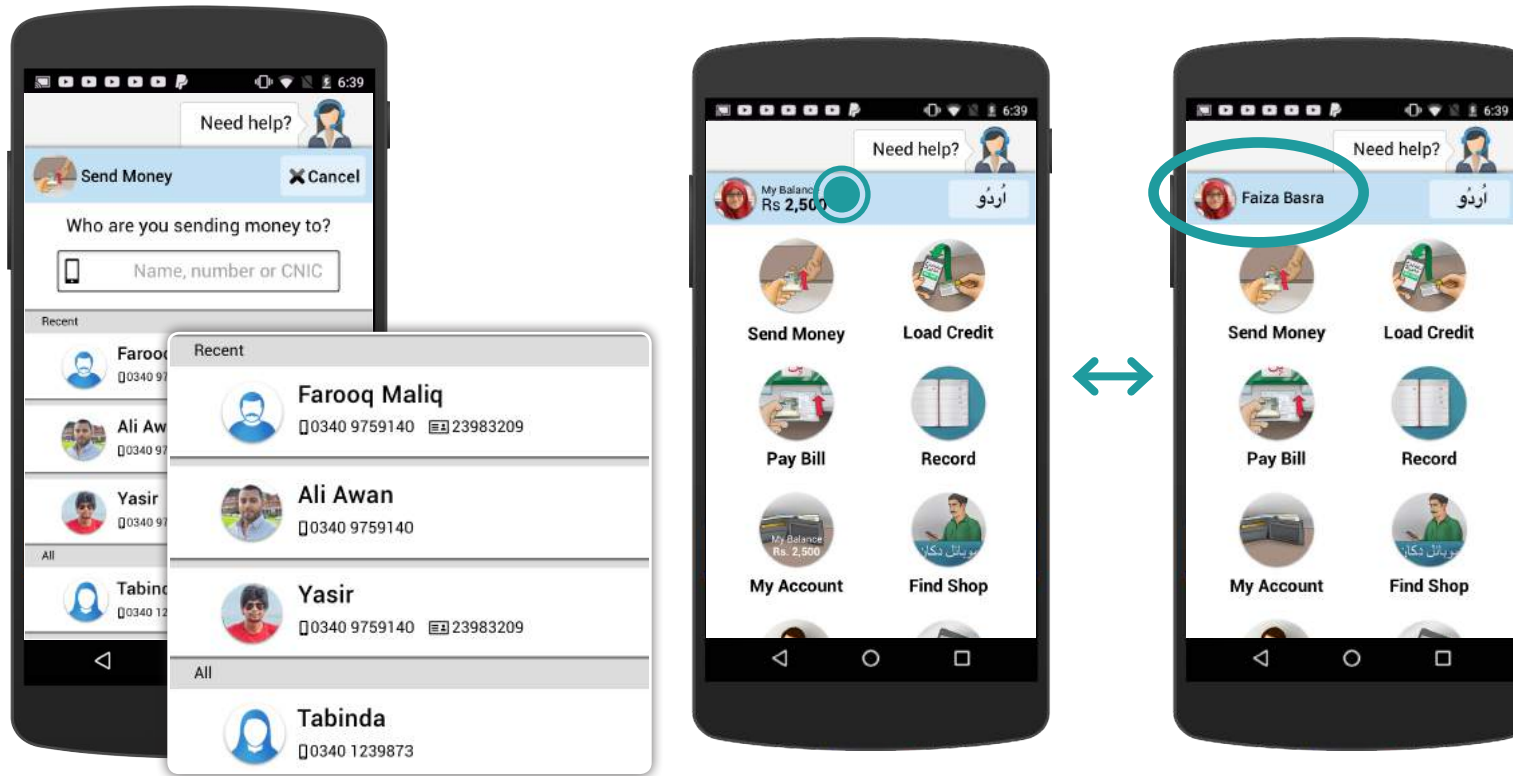
! Real-time feedback helps the user understand how the service works.

- For example, as a user types the amount, she sees the fee and total amount update in real time.
- Note: Showing the balance update in realtime led some research participants to believe that the transaction had already taken place.

! Research participants found the transaction history very important and suggested it be titled "Record".

- However, most participants felt that this was not important enough to be included on the home screen.
- Arrows work well when showing direction of transaction flows (and colors are important for secondary support).

02. Sending & Receiving Key Features 4/4

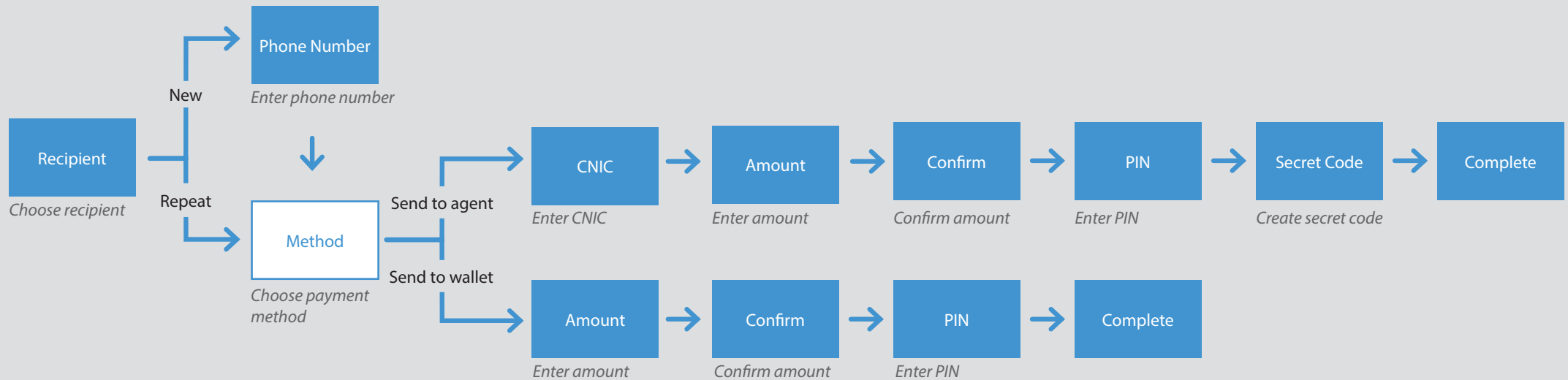


! A user's contact list is integrated into the send money flow, with recent/frequent contacts appearing at the top of the list.

! A user can hide his/her balance by tapping on the balance on the homepage. Once hidden, tapping his/her name will make the balance appear again.

- Balance can also be hidden from the settings screen under My Account.
- This is to address privacy concerns that some users may have.

02. Sending & Receiving Flow

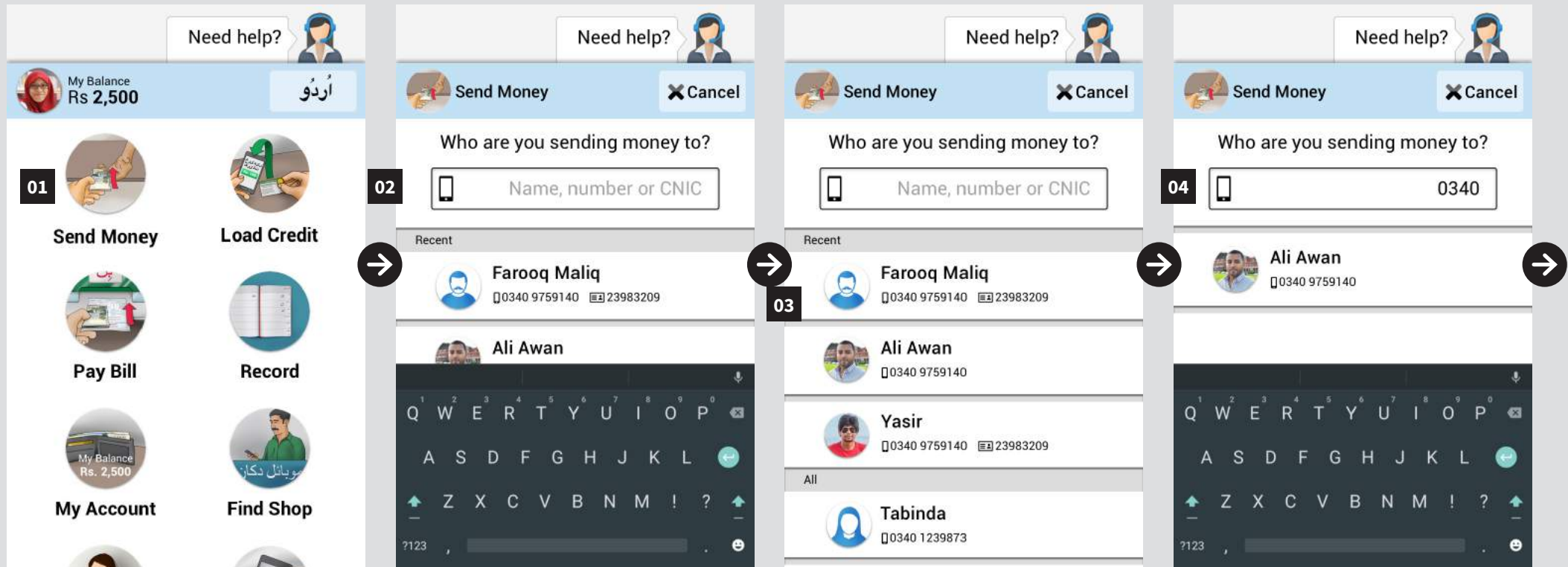


The wireframes in this document are based on this transaction flow. This flow will change depending on the provider's requirements and the wireframes may need to change accordingly.

- A user can choose an existing contact that is saved in the app and/or the device's contact list.
- A user can send to a new contact by manually entering his/her phone number.
- If the recipient has a registered wallet, the user must choose payment method. If the recipient has no registered wallet, it will default to an agent (OTC) transaction.
- The PIN always comes after the transaction details have been confirmed by the user. Entering the PIN "authorizes" the transaction.

02. Sending & Receiving Wireframes 1/8

Send Money Flow



01 The primary way to initiate a transaction is to press "Send Money" in the main menu.

02 The user is prompted to enter a phone number, name, or CNIC. The keyboard is on the screen by default, making this step more obvious and convenient.

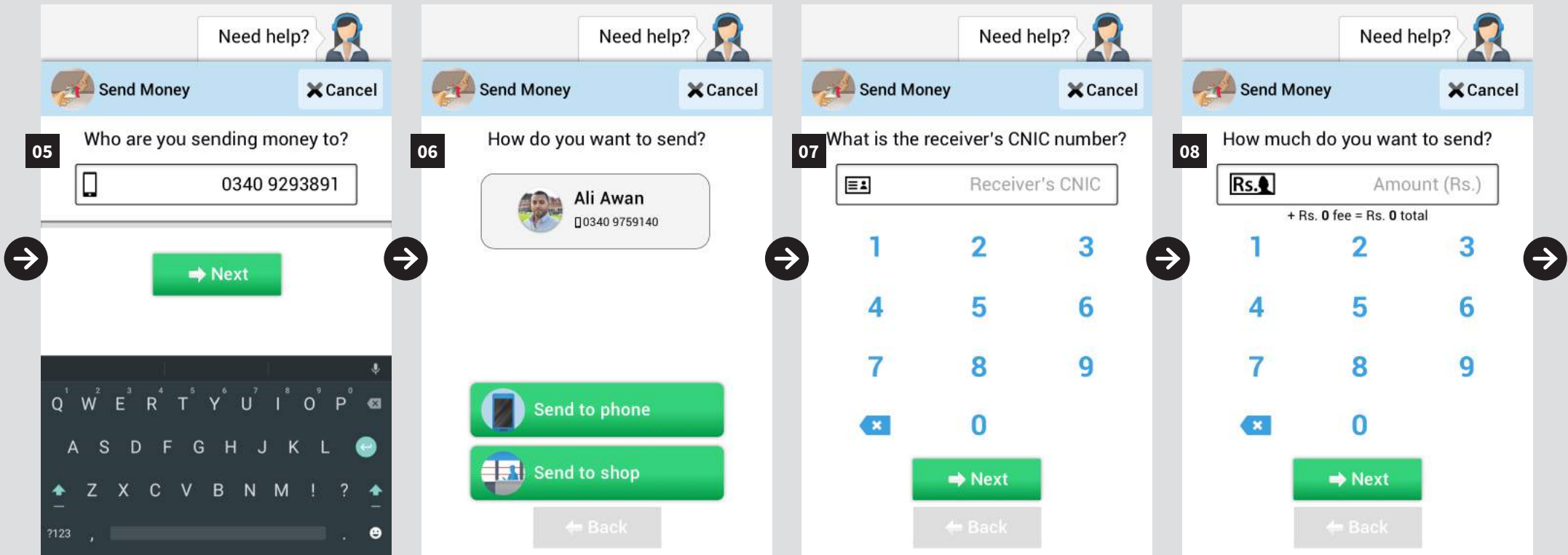
03 A user can close the keyboard and browse contacts. Most recent/frequent contacts will appear at the top of the list.

The contacts are either based on previous transactions and saved in app, or synced from the device's contact list.

04 As a user types a name or number, the list of contacts will filter to show any corresponding matches.

In this example, the user is typing a phone number which matches "Ali Awan".

02. Sending & Receiving Wireframes 2/8



05 If there are no matches, a user must complete the phone number and then press "next".

06 If a user selects a contact from the contact list (in this example, Ali Awan), the user may be prompted to specify how he/she wants the recipient to receive the money (if the service allows).

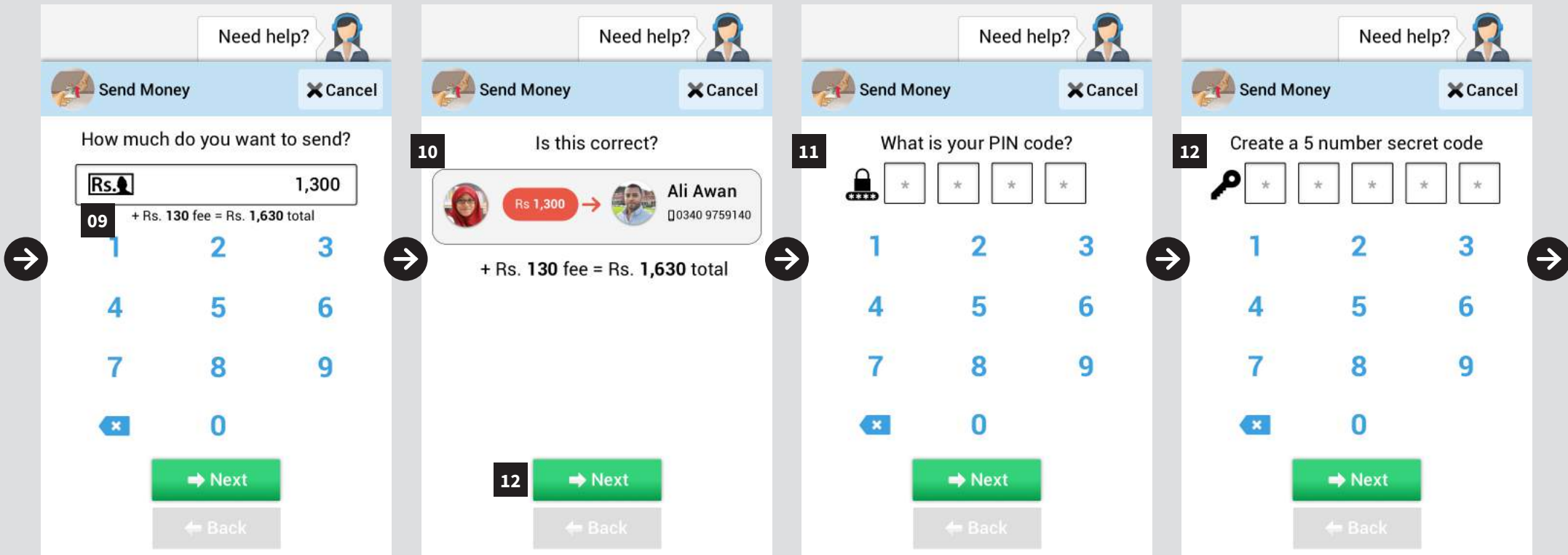
In this example, the user can choose to send Ali Awan money to his phone or to a shop (using a CNIC number).

07 If the user is sending to an agent/shop, he/she must enter the customer's CNIC. The keypad is built into the app interface.

08 After choosing the recipient and transaction method, the user is prompted to enter an amount.

The keypad is built into the app interface.

02. Sending & Receiving Wireframes 3/8



09 As a user types the amount, the fee and total update in real time.

If a user exceeds his/her balance, he/she will see a notification.

10 After entering the amount, a user is asked to confirm the details of his/her transaction.

The design of this confirmation is meant to be consistent with how transactions are visually represented in the transaction history page.

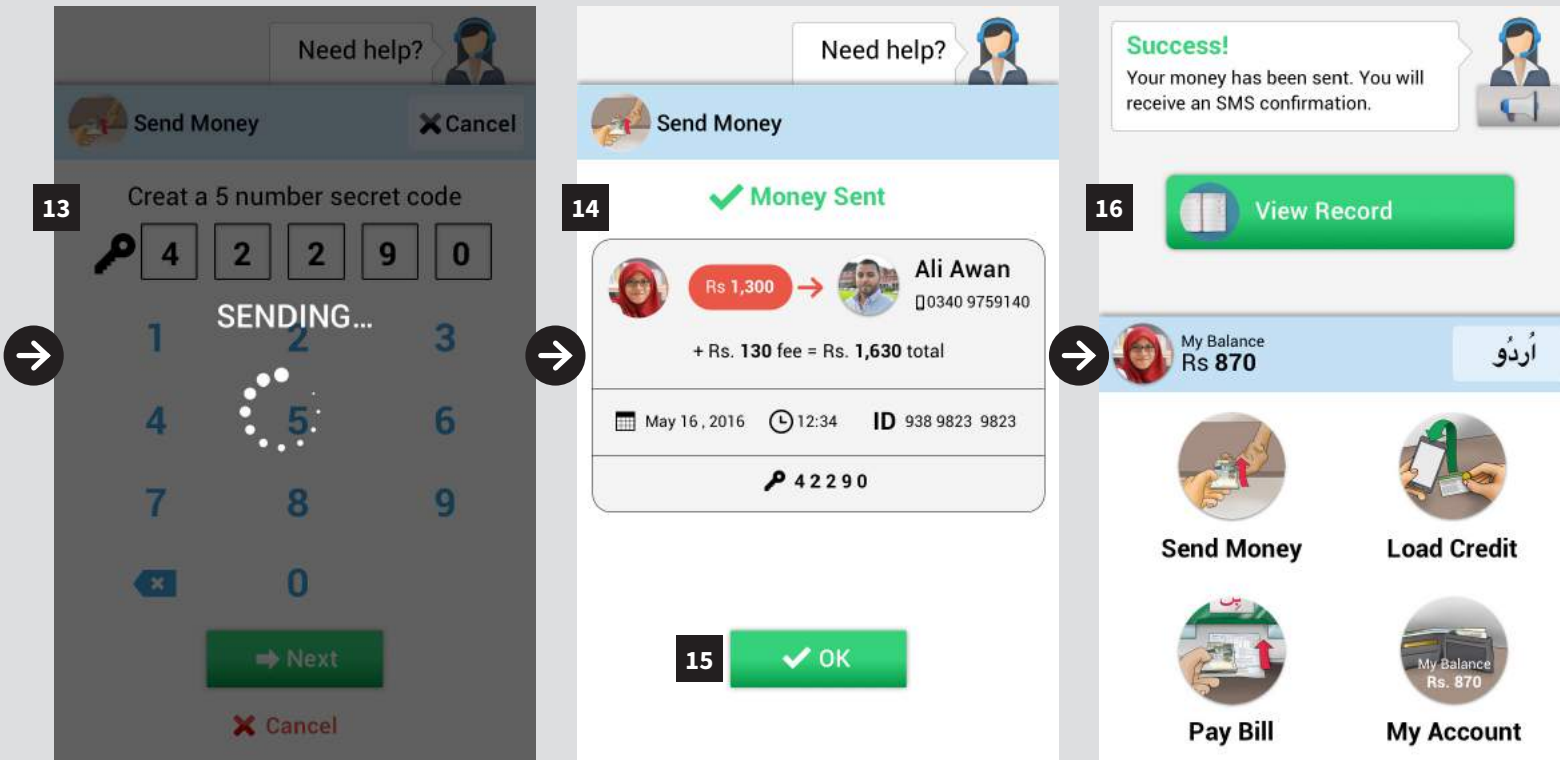
11 After confirming the transaction details, the user is prompted to enter his/her PIN.

The keypad is built into the app interface.

12 If sending to CNIC, a user may be prompted to create a secret code.

The keypad is built into the app interface.

02. Sending & Receiving Wireframes 4/8



13 A brief “sending” animation let’s the user know that his/her transaction is being processed.

Even if the transaction is instant, this animation helps a user feel confident that his/her transaction was successful.

14 After the transaction is complete, the user sees a confirmation. The tick-mark indicates that the transaction is complete.

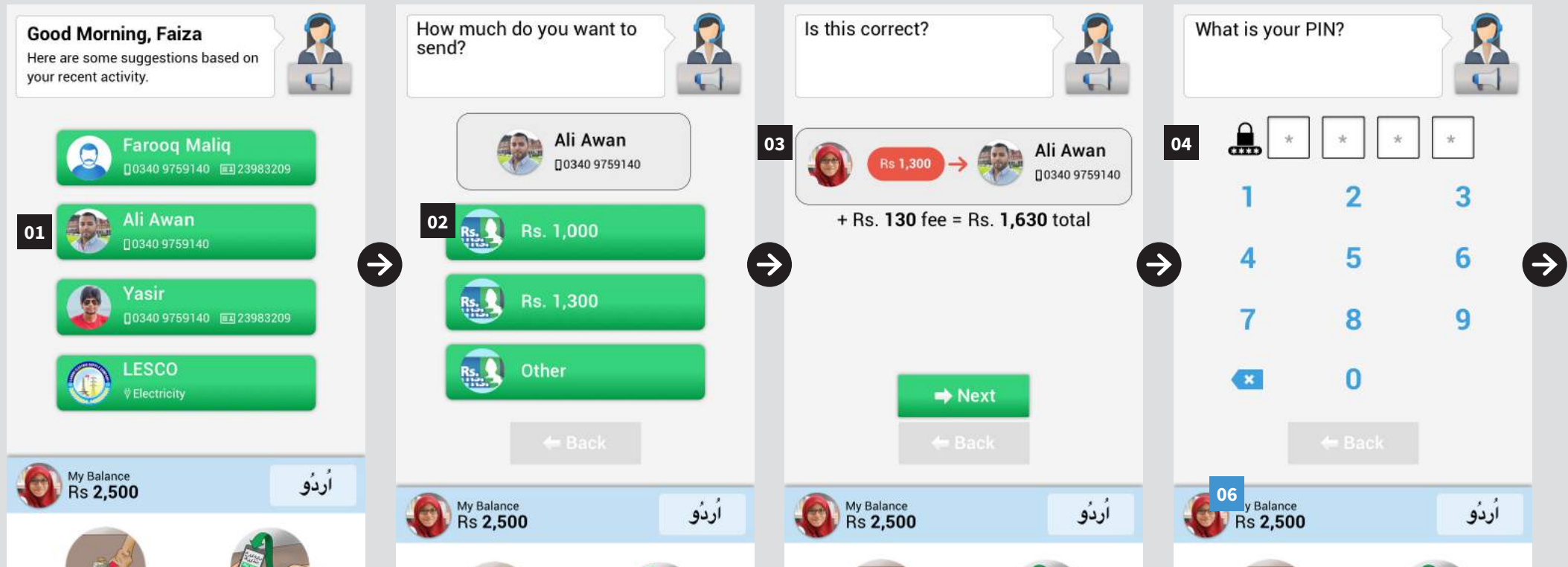
15 A user leaves this screen by pressing OK. The tick-mark let’s a user know that the transaction has been completed.

16 The user returns to the homescreen and sees a notification from the Assistant.

In this example, the Assistant is telling the user that the transaction is complete and offering them the option to review the record.

02. Sending & Receiving Wireframes 5/8

Send Money Flow (With Assistant)



01 A user can also send money by pressing on a suggestion made by the Assistant.

Doing so results in a “shortcut” transaction.

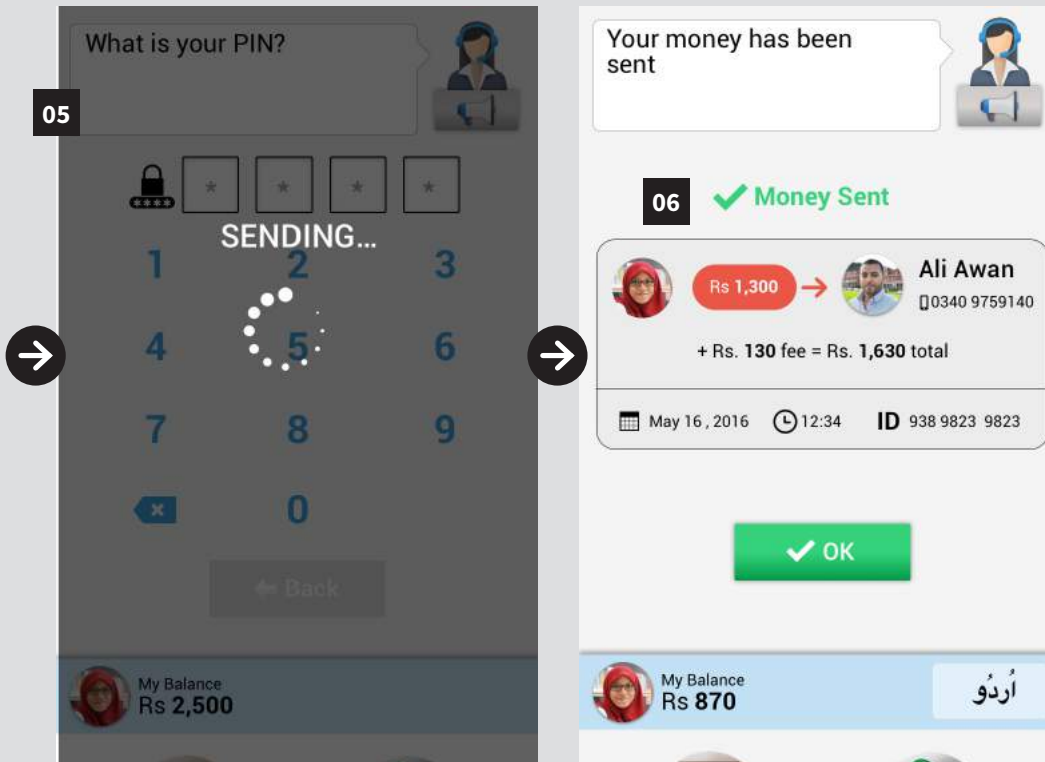
In this example the user is pressing “Ali Awan.”

02 The Assistant suggests amounts based on recent transactions with this recipient.

03 The user confirms amount.

04 The user enters PIN.

02. Sending & Receiving Wireframes 6/8



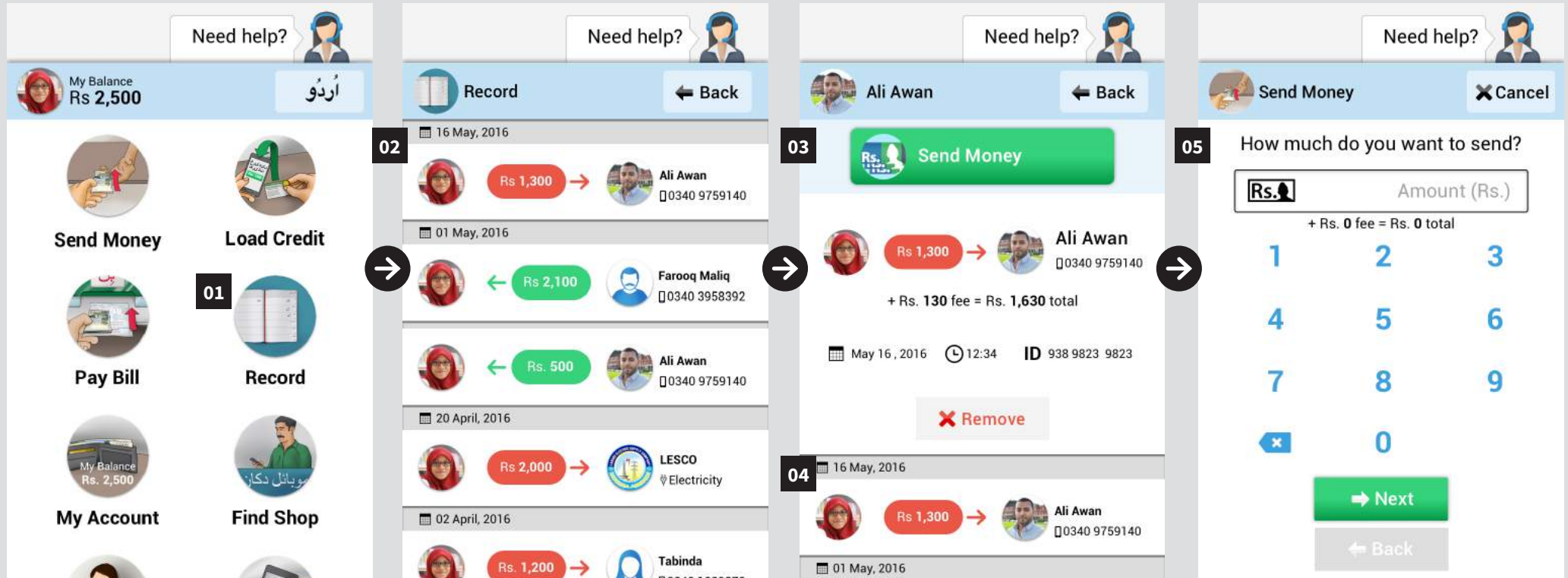
05 A brief "sending" animation lets the user know that his/her transaction is being processed.

Even if the transaction is instant, this animation helps a user feel confident that his/her transaction was successful.

06 After the transaction is complete, the user sees a confirmation. The tick-mark indicates that the transaction is complete.

02. Sending & Receiving Wireframes 7/8

Transaction History



01 Pressing “Record” on the homescreen will allow a user to see his/her transaction history.

02 The Record shows a chronological list of recent transactions. The use of arrows and colors makes it easy to identify the type of transaction.

Tapping on a transaction will open the transaction detail screen.

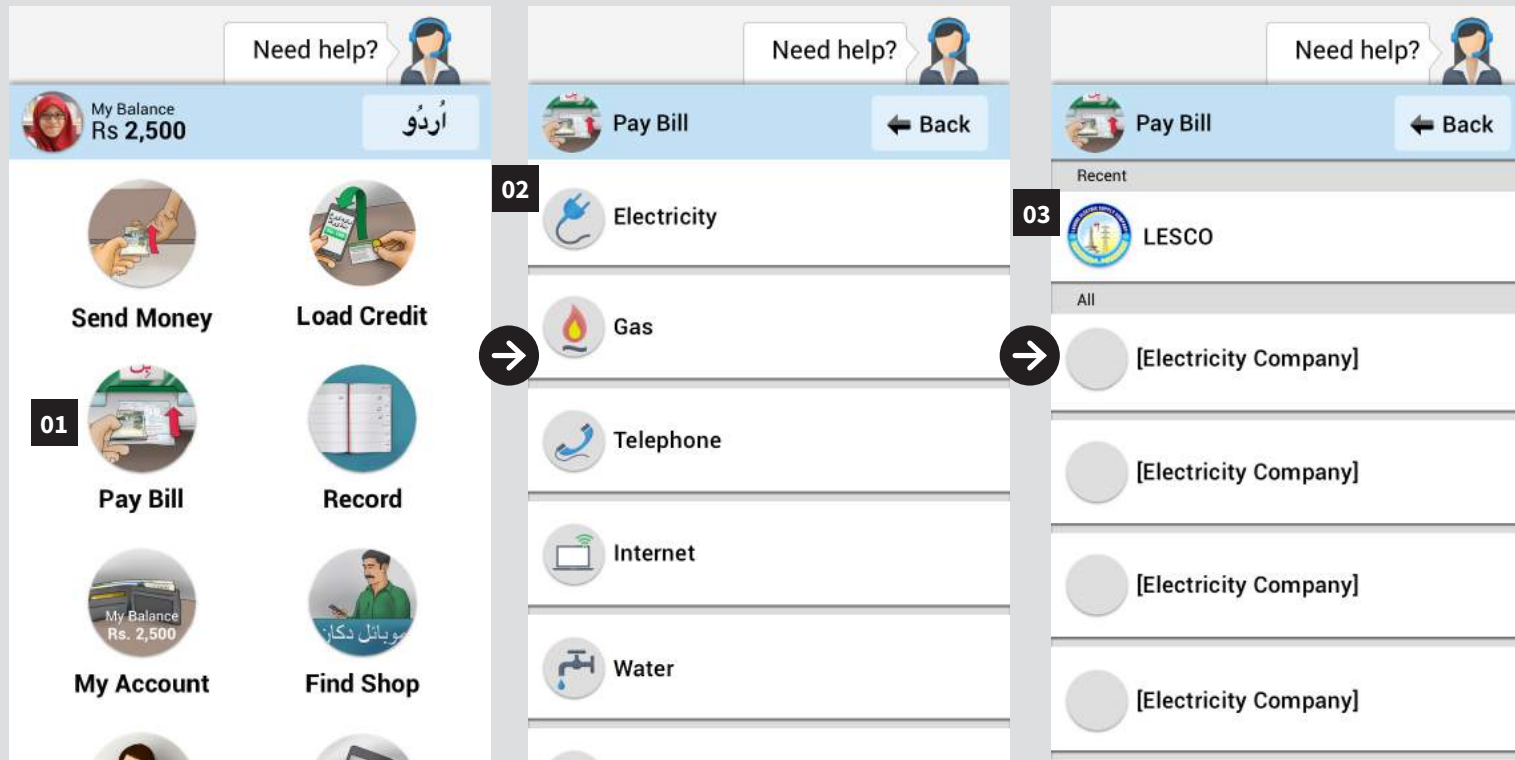
03 The transaction detail screen shows additional details about the transaction.

04 It also shows recent transactions with this particular contact.

05 By pressing “Send Money” on the transaction detail screen, a user can initiate a new transaction with this contact.

02. Sending & Receiving Wireframes 8/8

Bill Pay Menu



01 "Pay Bill" is an icon on the homescreen.

02 The Pay Bill menu is organized by categories.

03 Each category shows an alphabetical list of providers. Providers that a user has previously transacted with appear at the top of the list.

02. Sending & Receiving Best Practices

Consider the following recommendations when designing your app's transaction experience.

Reassure users at each step and encourage them to proceed to the next stage.

Provide visual, clear messaging specific to the current step of the transaction that reassures and encourages the user to progress to the next step with confidence.

Use the confirmation screen to reassure the customer with completed transaction information.

Provide reassuring information related to the customer's transaction (e.g. amount, recipient, fees, customer service contact options, etc.).

Balance should be easily accessible, though also easily hidden for privacy.

Having the account balance easily accessible on most screens is critical, but the app design should allow for the balance to be easily hidden as well.

When relevant, pre-populate personal details for return users.

Automatically pre-populate personal data to streamline the transaction process and other key flows. For example, don't make a user manually enter a recipient's phone number if that number has already been used before and is stored in the app. This will help reduce human errors.

Match the keyboard with the required text inputs.

For example, if the input only requires numbers (e.g. for amount field), then show only a keyboard with numbers.

If the app crashes, it should return the user to the last screen used.

In the event of an app crash, ensure it restarts and returns its state to the last screen used, so that the user can continue where he/she left off and doesn't require the user to re-enter data.

Connect to the contact list.

Using known phone numbers, accounts numbers and regular payment payees/payors greatly eases repeat transactions. This also reduces errors and makes the UX much faster.

Allow users to go back easily in one step.

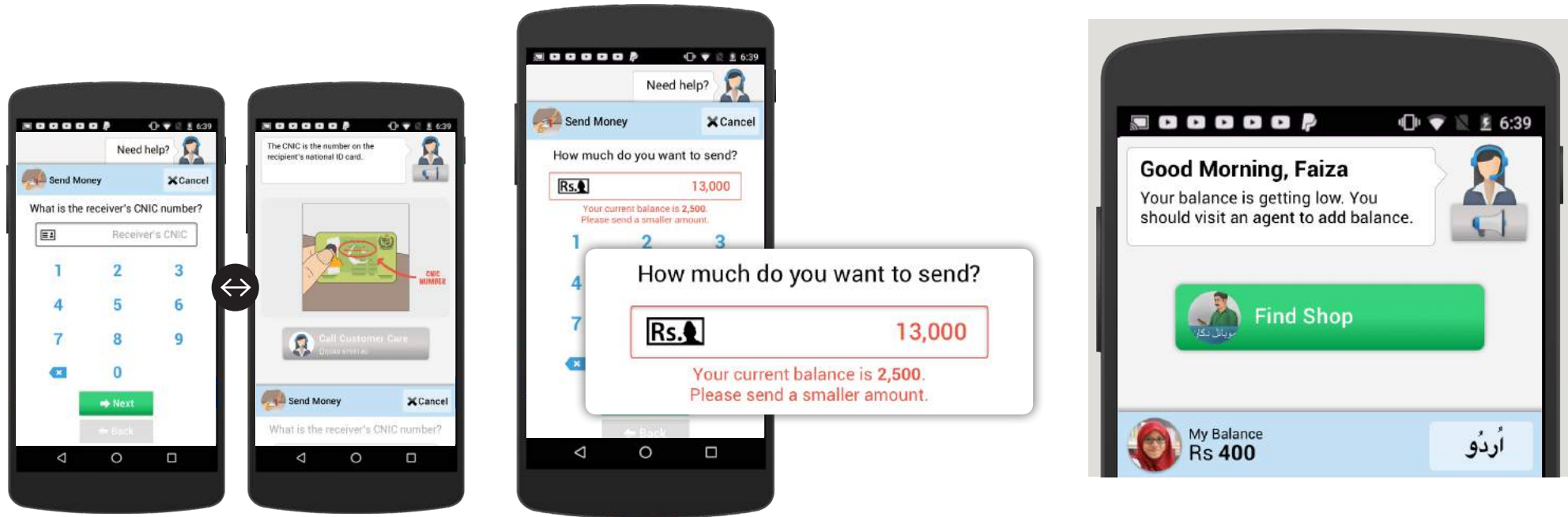
Users may only want to go back one step as they make a transaction. The app should have a back button in addition to leveraging the functionality of the native Android back button.

For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

03. Help & Support

The following screens illustrate how a user receives help and support throughout the app experience. This includes the role of the Assistant, how to access customer care and error handling.

03. Help & Support Key Features 1/1



! At any point in the transaction flow a user can receive contextual help by opening the Assistant.

- The help throughout the transaction flow was easy to discover and appreciated by customers.
- Even for customers who did not need help, they welcomed this feature because they might share their phone with someone else who would benefit from the help.

! When possible, error notifications should appear in real-time.

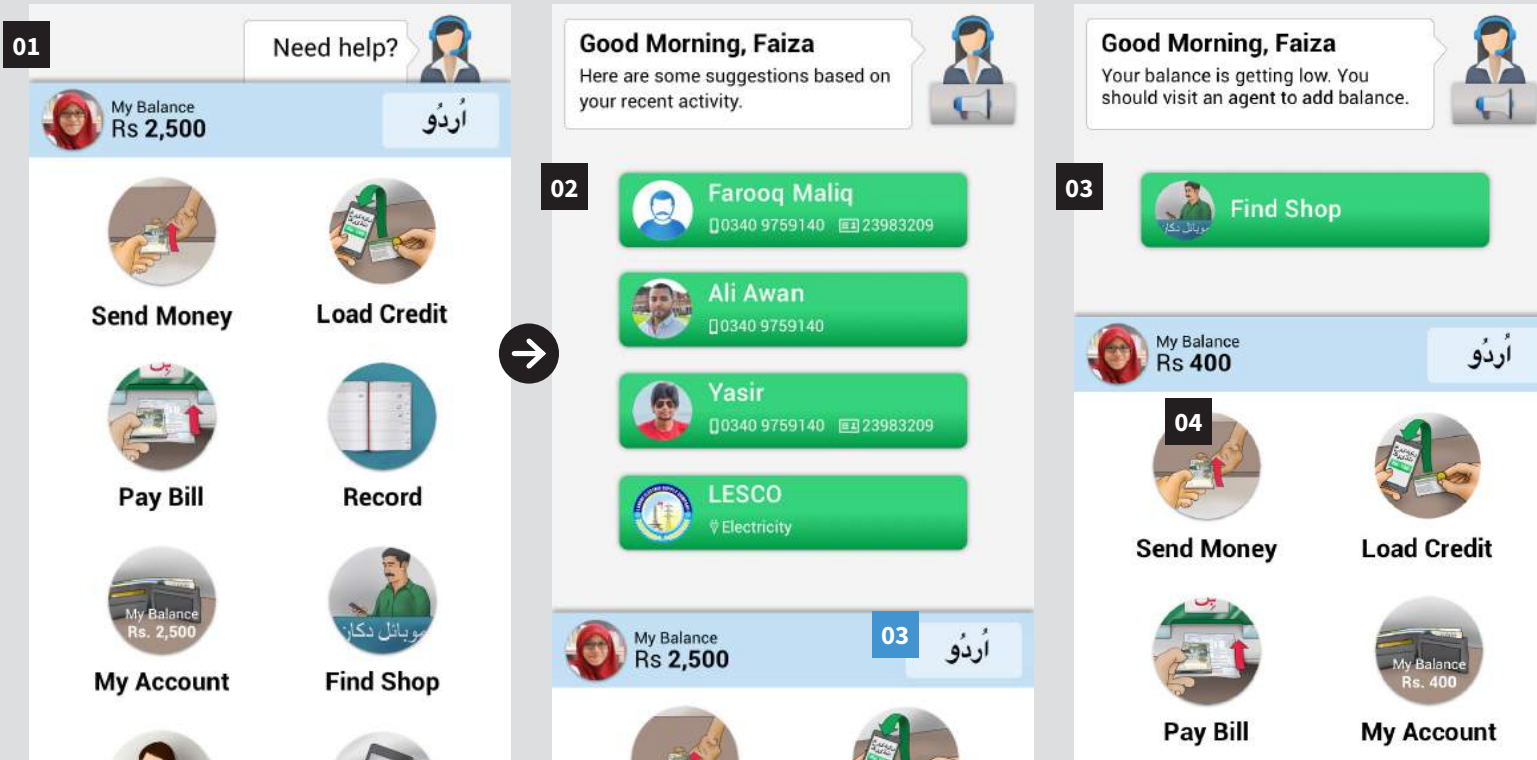
- For example, if a user enters an amount that exceeds his/her current balance, he/she should be notified immediately. Do not wait until users try to proceed to the next step.

! The Assistant can also be a channel to make smart recommendations based on a user's account details and activity.

- For example, suggest that a user visits an agent if his/her balance is getting low.

03. Help & Support Wireframes 1/5

Assistant Recommendations (Home Screen)



01 Pressing the Assistant on the homescreen will allow the user to access suggested actions.

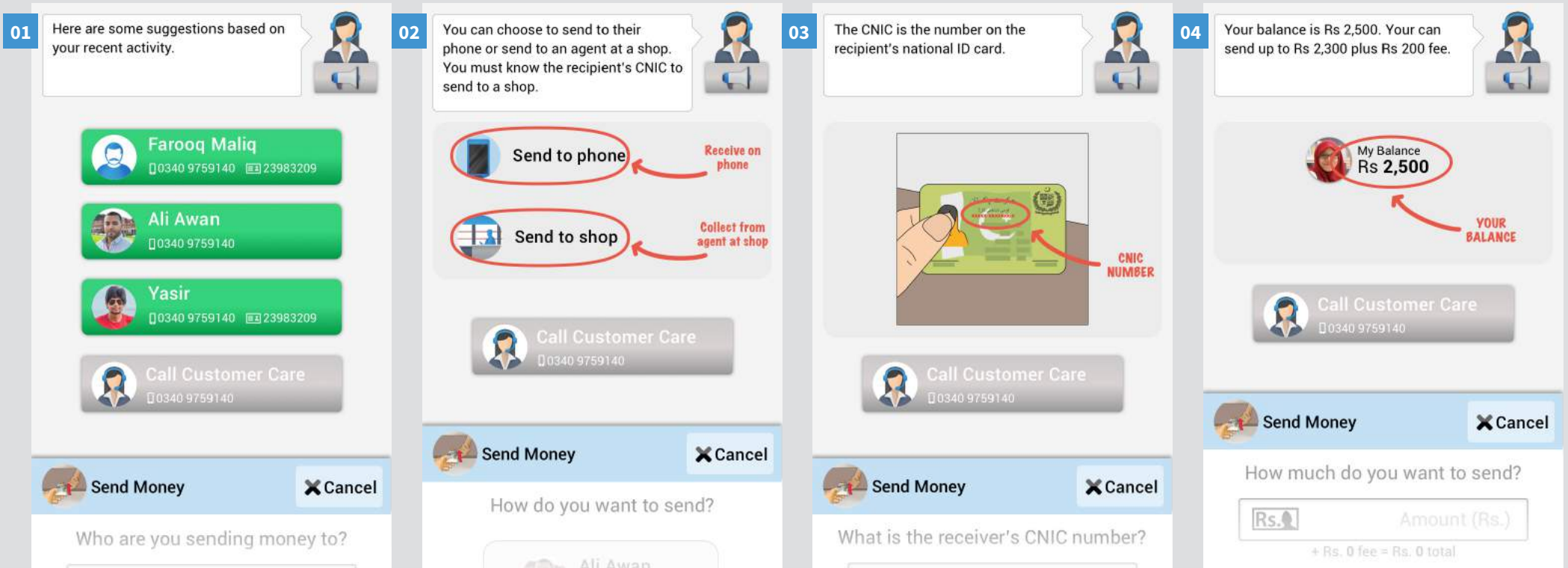
02 The Assistant recommends contacts based on frequency of use. These serve as shortcuts to help a user initiate repeat transactions.

03 The Assistant can also make recommendations based on other factors, such as the user's current balance, location or other past activity.

In this example the user has a low balance so the Assistant suggests that he/she should visit a local agent or shop.

03. Help & Support Wireframes 2/5

Assistant Help (Transaction Flow)



The following screens show the Assistant help text for each step of the transaction flow.

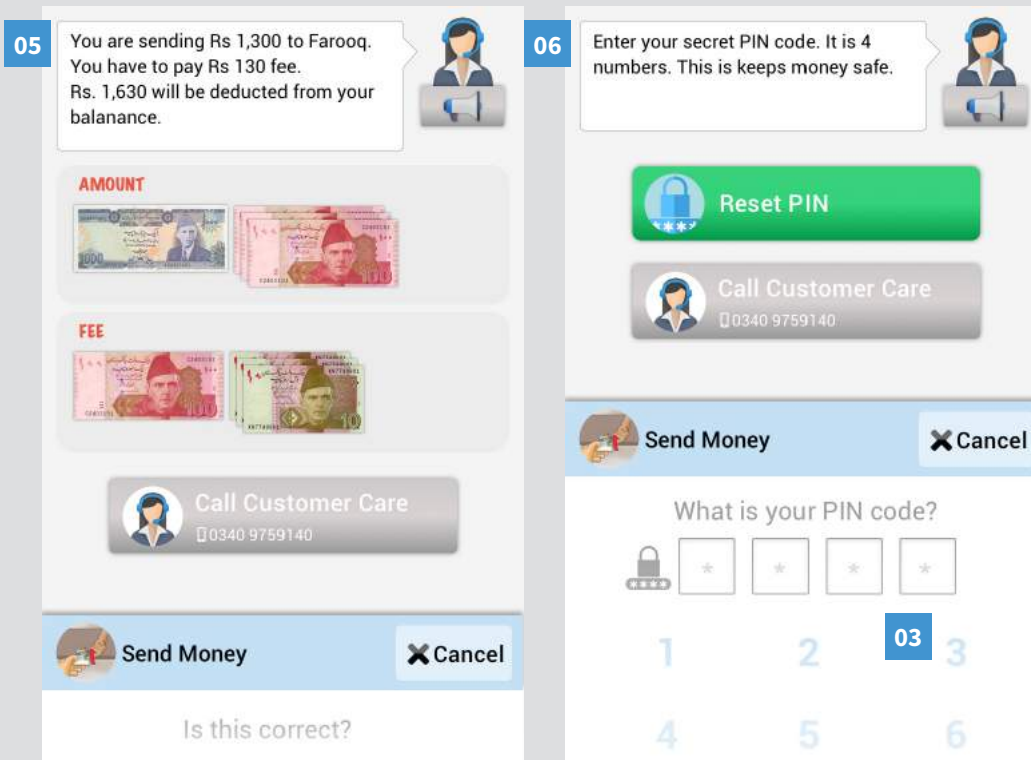
01 Choose recipient.

02 Choose sending method.

03 Enter CNIC.

04 Enter amount.

03. Help & Support Wireframes 3/5



05 Confirm.

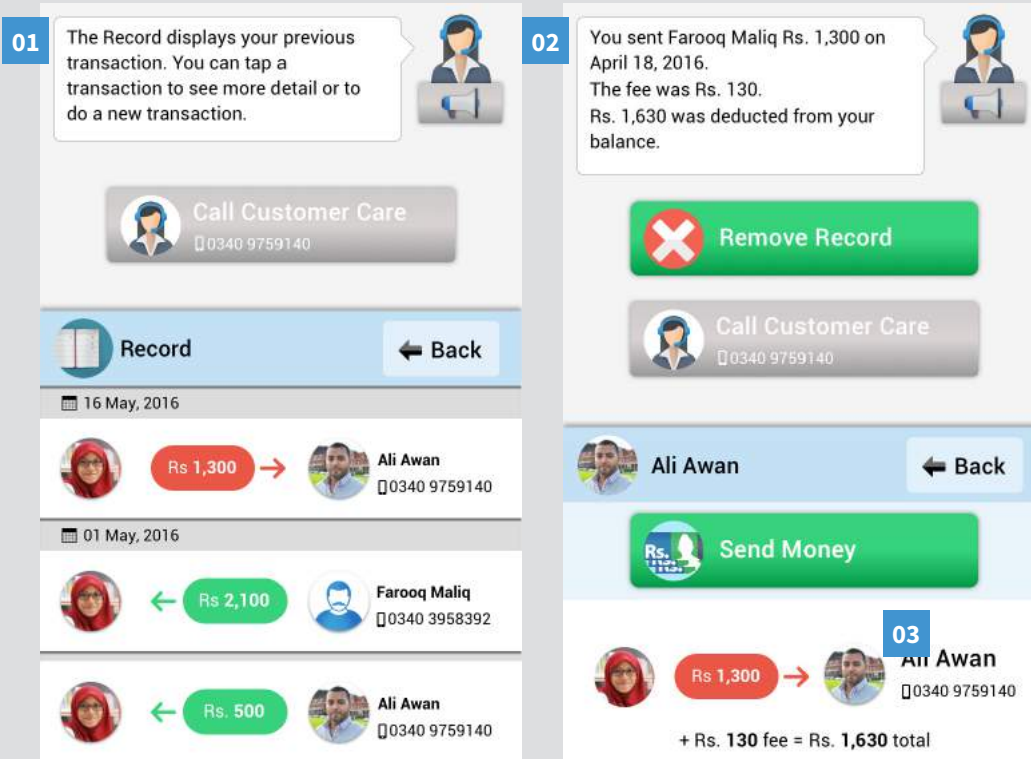
The user sees a visual depiction of the amount she has entered.

06 Enter PIN.

User has the option to reset his/her PIN code without leaving the app.

03. Help & Support Wireframes 4/5

Assistant Help (Record)



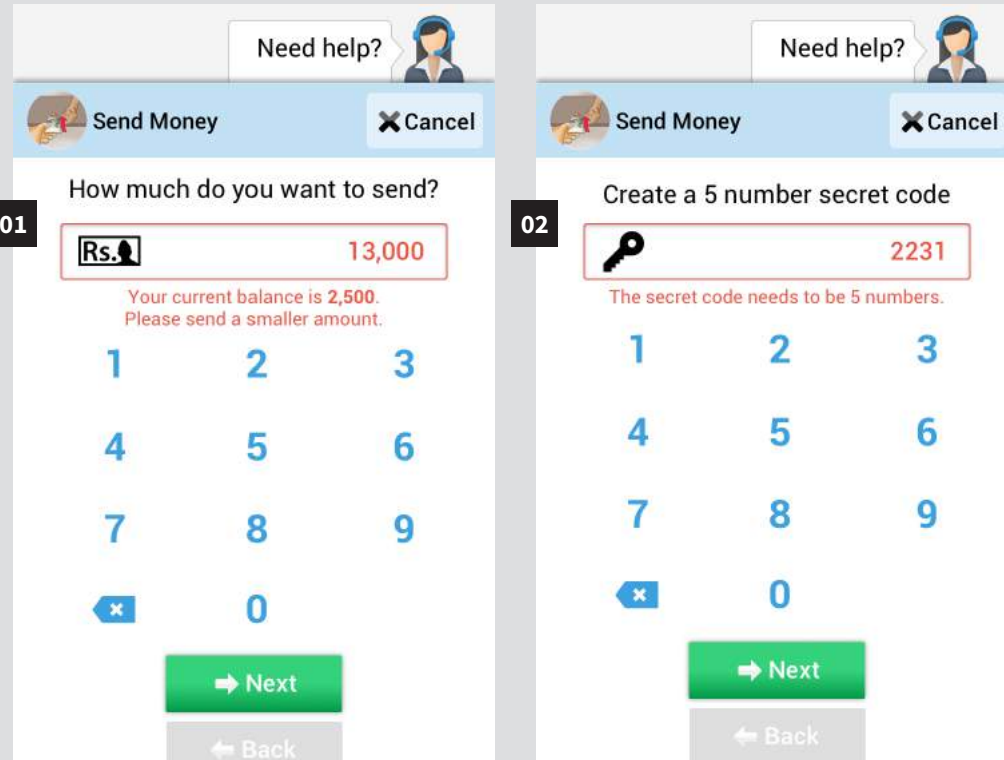
The following screens show the Assistant help text for each Record screen.

01 Record.

02 Transaction Detail.

03. Help & Support Wireframes 5/5

Error Handling



01 When possible, error feedback should happen in real time.

In this example, a user is trying to send more than his/her current balance allows and receives an error as he/she types the amount.

The app does not wait for the user to press "Next" before showing the error.

02 Errors should be in-line and give actionable instruction.

In this example, a user has tried to press "Next" without properly completing the form.

03. Help & Support Best Practices

Consider the following recommendations when designing your app's support experience.

Reduce the chance of errors by providing clear explanations of what to put into specific form fields.

Reduce the amount of errors and increase the percentage of users completing a transaction by explaining to them what you expect them to enter in each form field and in what format.

Communicate form errors in real time.

When possible, give error feedback in real time, before a user presses "Next."

In this design, if a user enters an amount larger than his/her current balance, he/she immediately sees the error. The system does not wait for the user to proceed to the next step before giving the error.

Error handling should provide clear explanation and next steps, without blaming the user.

Handling errors is an opportunity to help address frustrations or barriers for the end users while also explaining clear pathways to resolve the blockage. The app should never place blame on the user for mistakes made.

Allow users to call customer care by clicking a button in the app.

Allow users to be able to initiate a call with customer care from within the app by providing a clear call-to-action. Also provide a phone number, hours, and other details to help a customer plan his/her call to customer care.

Provide easy guidance to find a convenient agent (using smartphone location data).

Access to agents remains critical for MM. Providing in-app guidance to find the most convenient or most reliable agent can be a critical aid.

Allow for PIN resets in the app.

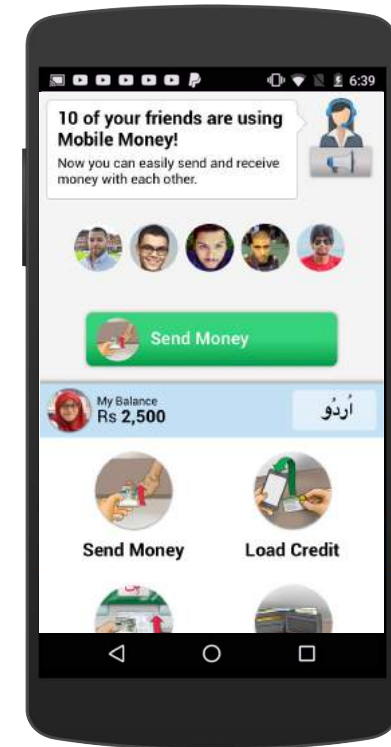
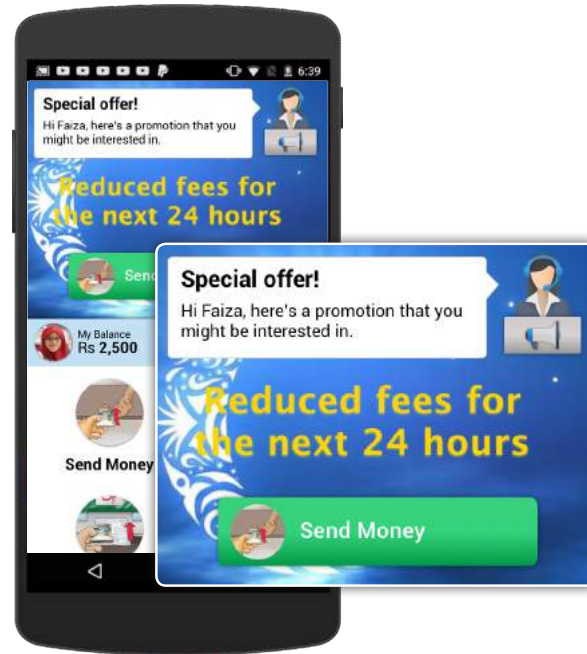
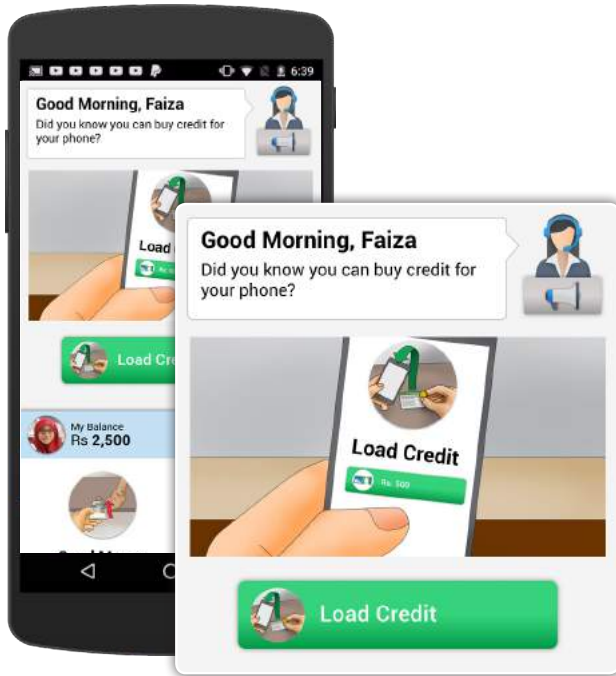
One of the most common reasons to use the call center in MM is to reset PIN codes. An app could be designed to allow users to undertake PIN reset directly, provided the security could be managed.

For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

04. Marketing

The following screens illustrate how a the app can be a channel to promote new features and services.

04. Marketing Key Features 1/2



The Assistant can be used as a channel to raise awareness about features and services that a user may not be utilizing.

- In this example, the Assistant is telling the user about the Load Credit feature. This message could be triggered by activity data that shows that the user has not been using this feature.

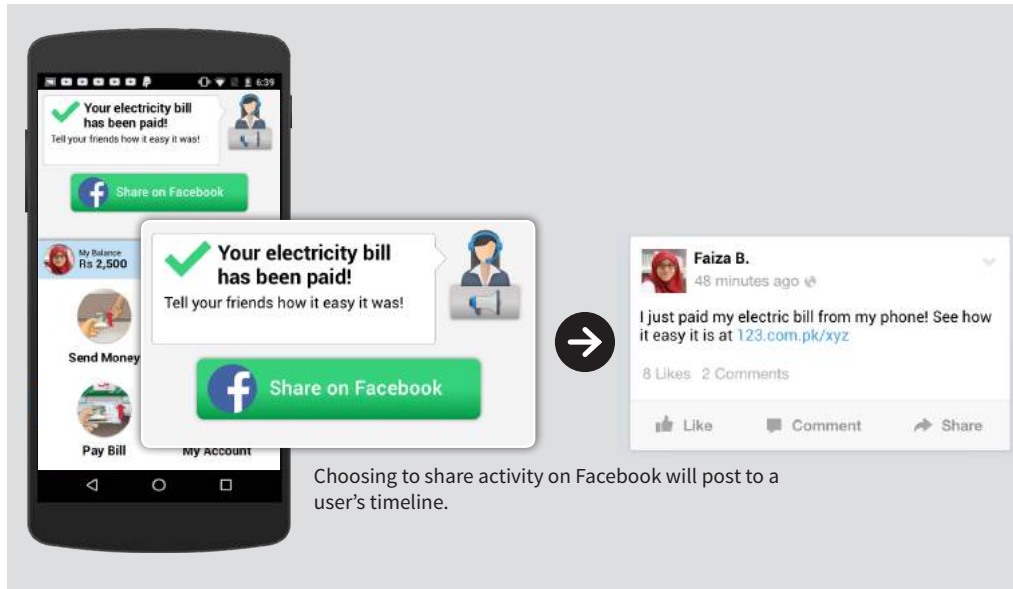
Images, videos and other media can be used to create richer marketing messages.

- In this example, a customized graphic is being used in a holiday promotion.

Connecting with Facebook makes it easy to find contacts and share activity.

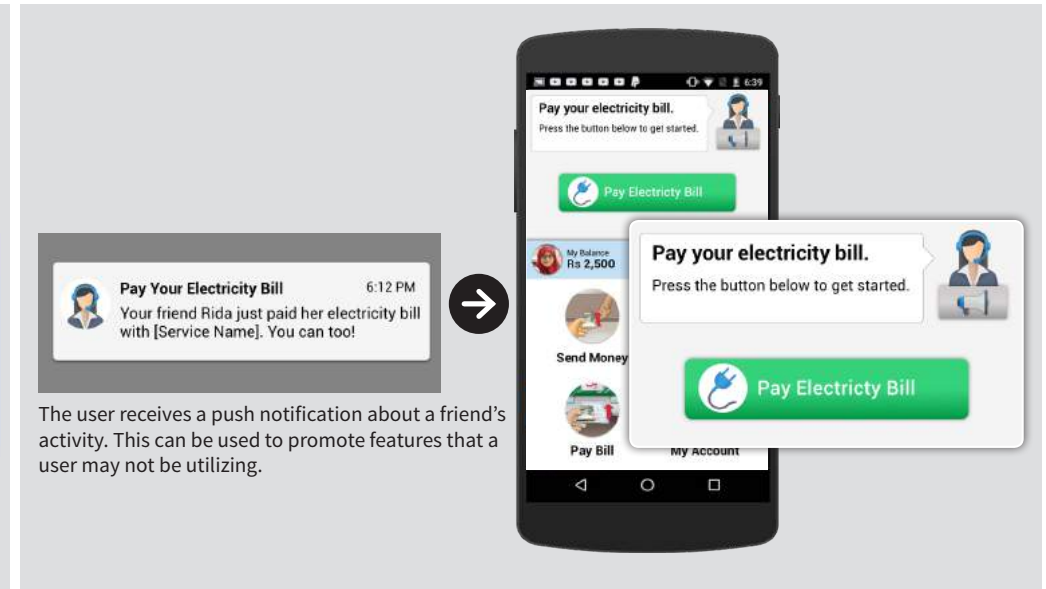
- Nearly all interview participants were active Facebook users.

04. Marketing Key Features 2/2



Integrating with social media can make it easy for users to share with friends and family.

- In this example, a user is choosing to share that she just paid her electricity bill with her smartphone.
- Users may take pride in the fact that they are using these services on their smartphone and wish to share with their friends.



Integrating with social media will also allow the service to promote features that a user's friend may be using.

- In this example, the service is sending a push notification to notify the user that one of her friends is paying bills with her smartphone.

04. Marketing Best Practices

Consider the following recommendations when designing your app's marketing experience.

Incorporate social networks to encourage use.

Sharing information about other customers' usage of MM is a powerful way of encouraging adoption and usage (when it's carefully circumscribed).

Target marketing messages to individual customers based on their usage and behavior and make it timely.

Make marketing messages personalized and relevant by leveraging usage data. Messages should also be time sensitive and obvious to recipients why they are receiving it now. There should be clear calls-to-action and incentives to act in a timely / urgent manner. Always consider each user's context such as his/her local day and time (e.g. messages during bank holidays or unsocial hours could be interruptive and rejected).

Be judicious about when you push notifications to the user.

Do not bombard users with notifications, as that frequently creates "message fatigue" and causes users to ignore future messages and notifications.

Tapping notifications should bring users directly to the content in-app.

When receiving a system notification from the app, a user should be able to tap the notification and be brought directly to the relevant screen in the app.

Integrate marketing messages into the flow of the application.

Do not interrupt activity, as users will find these messages bothersome.

The user should be able to glance at notifications and quickly perceive its relevance.

Be concise, timely and action-oriented with notification content, to ensure the user only needs to glance at it to understand its relevance. Users should be able to easily identify the call-to-action.

For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

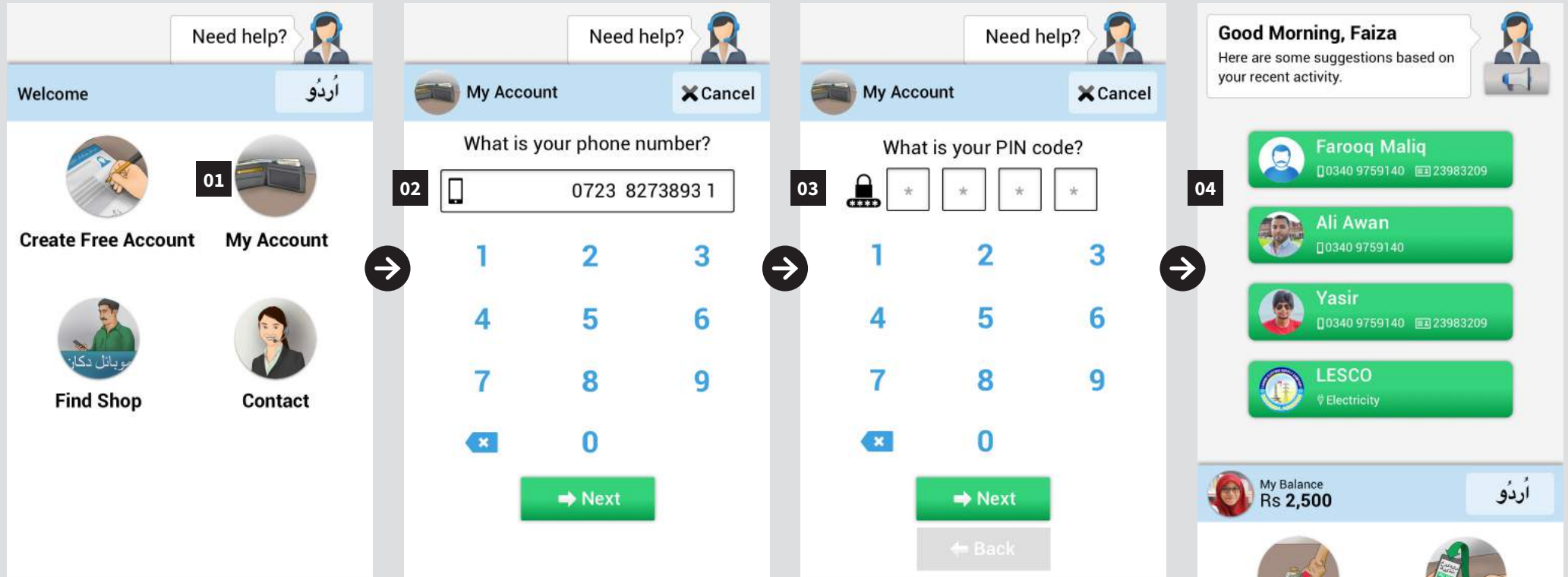
05. Authentication

The following screens illustrate how users create and access their account.

Note: These wireframes do not include new user registrations because of the unique business requirements of each provider.

05. Authentication Wireframes (1/1)

Existing User



01 Pressing "My Account" allows a user to sign in to his/her account.

02 If a user has signed in previously, the phone number field defaults to the last number used.

03 A user must enter his/her PIN.

04 User is now logged in.

05. Authentication

Consider the following recommendations when designing your app's authentication experience.

Enable users to self-register.

Depending on the regulatory and risk environment, some apps may develop functionality that allow new users to register for an account remotely. This might include some combination of taking a photo of their ID card, taking a selfie and entering some basic registration information.

Make password authentication a frictionless experience.

Simplify the authentication experience and minimize the number of steps required. If possible, use different authentication methods such as a third-party login (Facebook) or fingerprint touch login.

Differentiate “sign in” from “sign up”.

Design a “sign in” and a “sign up” that are easily distinguishable from each other so users can get to where they want to go quickly.

For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

Design Components

The following components can be incorporated into existing designs. Download links are provided.

Illustrations



01 Illustration 1 shows a woman sending and receiving money from her home. Being able to transact from home was the value proposition that women most valued.

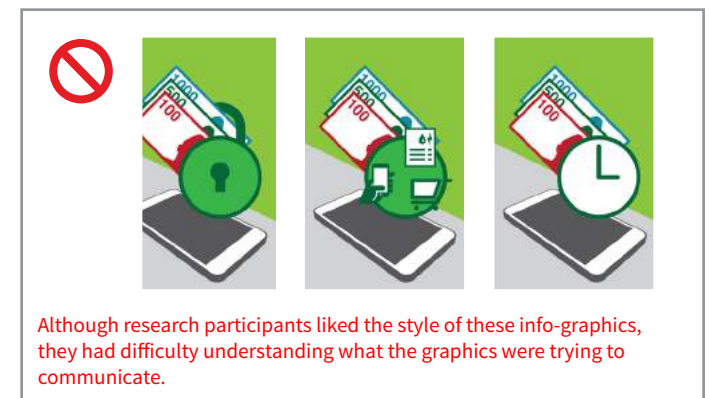
02 Illustration 2 shows a woman making purchases at a market. We tested iterations of this illustration so that it was not confused for a woman transacting with a MM agent.

03 Illustration 3 shows a woman paying her bills from home.

04 Illustration 4 shows a woman buying phone credit with MM.



Download high-resolution illustrations at <https://www.dropbox.com/s/2x13lsxe1opbh34/toolkit.zip>

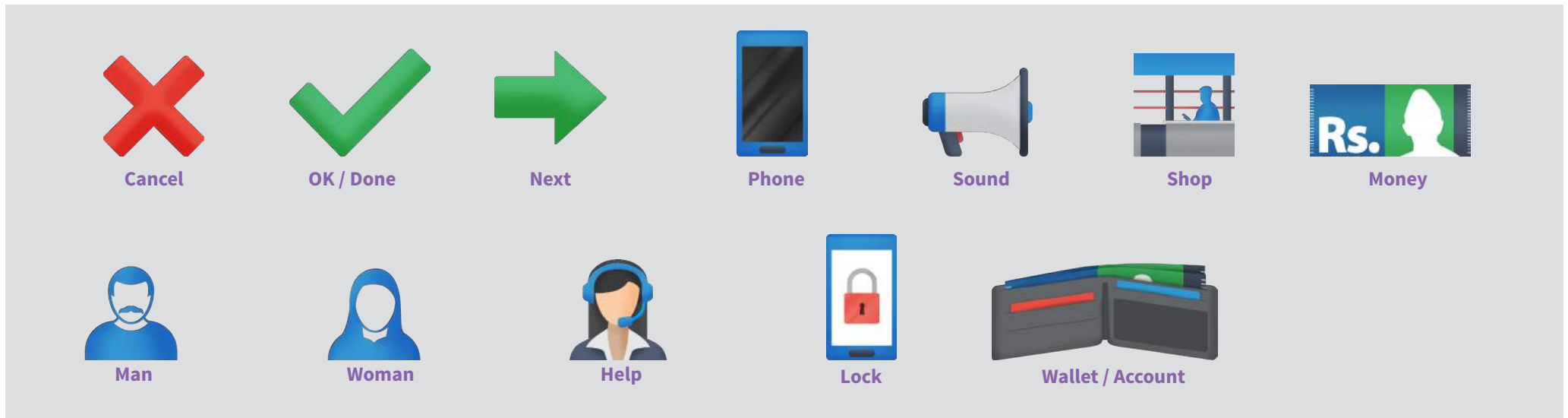


Icons



Download high-resolution icons at
<https://www.dropbox.com/s/2x13lsxe1opbh34/toolkit.zip>

Icons



Icons that use multiple colors and less abstract symbols were easier to recognize by research participants. Iteratively testing the icons led the team to more informed decisions.



Download high-resolution icons at <https://www.dropbox.com/s/2x13lsxe1opbh34/toolkit.zip>

For example:

Cancel

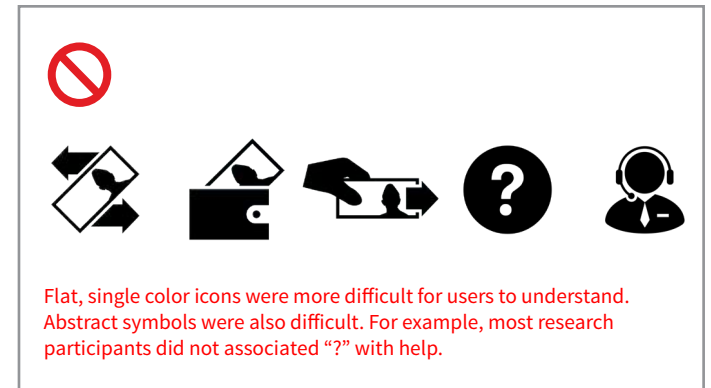
“X” is good for “cancel” because people associate “X” with wrong or mistake. However, “X” is not good for “close”, because people are not familiar with this UI pattern.

Help

Help should be a person with a headset, not question mark, which people did not associate with asking a question for assistance.

Sound

Different speaker icons had different meanings and people often thought pressing it would call customer care. The megaphone (shown here) made the action most clear.



UI Patterns Best Practices

Consider the following recommendations when designing your app's UI elements and notifications.

Text and content should be easy to read (even outside in sunlight).

Many users may be using the service outside in strong sunlight. Furthermore, some users may have poor sight and undiagnosed vision impairments. Fonts should be legible with sufficient contrast between the app content and the background.

Size of content and buttons should be easy to interact with.

Many users may have vision and/or dexterity impairments. Make it easy for users to interact with app content and controls by providing sufficient spacing between all elements. Additionally, make sure buttons are a sufficient size for users to be able to press without difficulty.

Place form labels above form fields or use floating labels (in Android).

Form labels should be above form fields so that users can easily see what they are filling in and why, while making efficient use of screen space.

Use brand logos subtly and sparingly.

Apps do not need a brand logo on every screen that link to the home screen (apps are not websites). App screen space is limited and users have already made the effort to download, so reinforce your brand identity subtly.

Provide text labels and visual keys to clarify visual information.

Visuals and iconography need text labels for consistent and proper interpretation. Research shows that coupling visuals with text is a successful way to communicate actions.

For more UX principles, check out Mobile App UX Principles at https://www.dropbox.com/s/kp6thvtv4rzep5o/Mobile_App_UX_Principles.pdf

Getting Started

This section explains how to start implementing the recommendations from this toolkit, and also suggests additional resources for learning more about User Experience Design and Human Centered Design.

Preparation Checklist

- Adopt best-practice recommendations
- Identify Customer Pain Points
- Better understand your app users
- Test design ideas with customers
- Incorporate design into project and resource planning
- Grow appropriate skills on your team

Getting Started

Adopt best-practice recommendations.

A great place to start is assessing your current offering to identify opportunities for improvement based on this toolkit. Review your app design in conjunction with the design recommendations and best practices described in this document, and identify ways the recommendations could usefully be adopted.

Test design ideas with customers.

The easiest way to begin applying human-centered design methods is to show design ideas to customers before they are built into a real product. This involves preparing some kind of prototype (which could just be paper print-outs of the design) and walking through the design with customers. Rather than explaining the design to customers or simply asking the customer what she does or doesn't like about the design, the best way to generate feedback is to ask the customers to "use" the prototype to do particular tasks. In this way it is easy to uncover the aspects of the design that customers like or find difficult to understand.

Identify Customer Pain Points.

If you already have an app available to customers, it can be invaluable to understand how customers use your service on their smartphones, what challenges they may face, and how the app can be improved. The best way to do this is by observing real people completing real tasks in the app (see page 10). This observational technique will help to identify pain points and opportunities for improvement.

Incorporate design into project and resource planning.

As new initiatives are planned and approved, it is important to think about how human-centered design methods can be incorporated in the work plan. Most importantly, allocate time and resources to speaking with customers about the design before anything is built. Building human-centered design into projects helps organizations avoid building and shipping apps that customers do not like or find difficult to use (which subsequently require costly re-design and re-building). This new set of mindsets and methods should be incorporated from project inception, rather than at a later stage of the design process.

Better understand your app users.

Without a good understanding of real customer needs it is difficult to know where to focus design efforts. It is important to look beyond surveys and questionnaires, and broad market research. Incorporating insights from in-depth conversations with customers will allow you to better understand how they use financial services, and how an app could help solve the problems they have in their daily lives.

Getting Started

Grow appropriate skills on your team

At its core, human-centered design is a set of mindsets and methods that help make products and services better suited to meet customers' real needs. This approach relies on developing empathy for the end users, creating opportunities for the customers to “become designers” so their desires and preferences are built into the design of your app, and iterating the design prototypes many times with customers. In order to create an app using these methods, it is important to make sure that your team has the right skills.

Typically, this includes:

- Customer insight. Ability to conduct in-depth, empathy-building interviews with customers.
- User experience (UX) design. Ability to design app screens and flows that are easy for customers to understand.
- Visual / User Interface (UI) design. Ability to create icons, colors and screen layouts that are both visually appealing and easy to understand.
- Prototyping. Ability to create basic interactive prototypes to test out design ideas with customers.
- Usability testing. Ability to show prototypes to customers to get feedback on how effectively the proposed design solutions are meeting their needs.

Further Resources

Karandaaz Publications



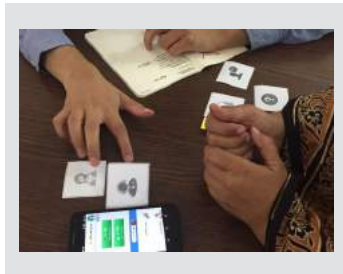
Project Discovery Report

<http://karandaaz.com.pk/content/discovery-report>



Smarter Wallets, Engaged Customers

<http://www.karandaaz.com.pk/blog/smarter-wallets-engaged-customers>



Using HCD to Develop User Friendly Apps and Interfaces

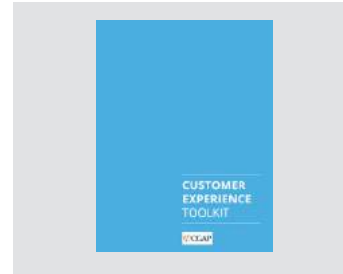
<http://www.karandaaz.com.pk/blog/using-hcd-develop-user-friendly-apps-and-interfaces>



What is Human-Centered Design?

<http://www.karandaaz.com.pk/blog/what-human-centered-design>

CGAP Publications



Customer Experience Toolkit

http://s000.tinyupload.com/index.php?file_id=53475592724054154304



Designing Customer-Centric Branchless Banking Offerings

<http://www.cgap.org/publications/designing-customer-centric-branchless-banking-offerings>



What Human-Centered Design Means for Financial Inclusion

<http://www.cgap.org/publications/what-human-centered-design-means-financial-inclusion>

Further Resources

Understanding HCD & UX Design

For people just starting to learn about HCD and UX



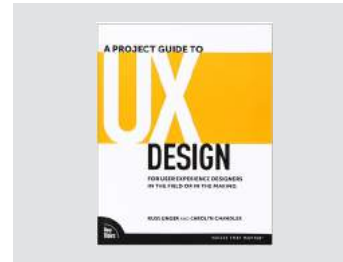
Don't Make Me Think, Revised

<https://www.amazon.com/Dont-Make-Think-Revisited-Usability/dp/0321965515>



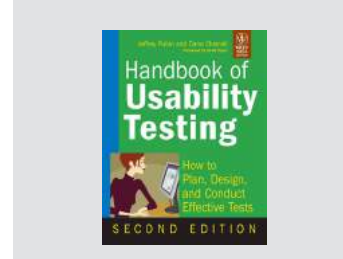
Designing for the Digital Age

<https://www.amazon.com/Designing-Digital-Age-Human-Centered-Products/dp/0470229101>



A Project Guide to UX Design

<https://www.amazon.com/gp/product/0321607376>



Handbook of Usability Testing

<https://www.amazon.com/gp/product/0470185481>

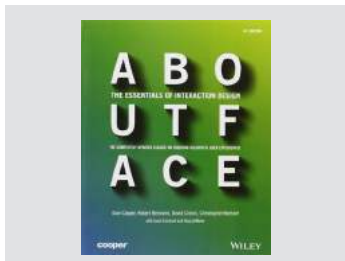


Sketching User Experiences

<https://www.amazon.com/Sketching-User-Experiences-Interactive-Technologies/dp/0123740371>

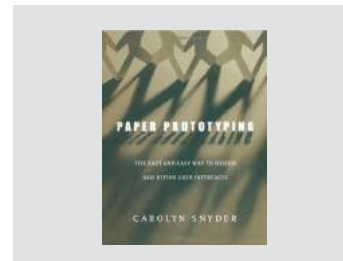
Guides for doing HCD & UX Design

Practical guides for people who want to apply HCD methods



About Face: The Essentials of Interaction Design

<https://www.amazon.com/About-Face-Essentials-Interaction-Design/dp/1118766571>



Paper Prototyping: The Fast and Easy Way to Design and Refine User Interfaces

<https://www.amazon.com/gp/product/1558608702>

Further Resources

Web sites for further learning

Web sites with extensive learning resources

Design Kit

<http://www.designkit.org/>

UX Booth

<http://www.uxbooth.com/>

UX Mastery

<http://uxmastery.com/>

UX Magazine

<https://uxmag.com/>

Design Tools

Tools to help create app designs and interactive prototypes

Axure

www.axure.com

Balsamiq

www.balsamiq.com

InVision

<https://www.invisionapp.com/>

Proto.io

<https://proto.io/>

MockPlus

<http://www.mockplus.com/>

POP

<https://popapp.in/>

Pattern Libraries

Example designs to help inspire and educate

Pptrns

<http://pptrns.com/>

Mobile Patterns

<http://www.mobile-patterns.com/>

Inspired UI

<http://inspired-ui.com/>

Official Design Guidelines

The official design standards, published by Google and Apple

Android

<https://developer.android.com/design/index.html>

iOS

<https://developer.apple.com/ios/human-interface-guidelines/>

Thank You!

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