

ACCESSIBLE MOBILE SIGN-UP

W24.ACB04

Thea Hatlevold

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INTRODUCTION

In this presentation, I will design low-fidelity wireframes for the sign-up process of a mobile app. In this design I will focus on accessibility, mostly for visually impaired users.

First, I will start off by presenting the different guidelines, principles, and requirements when it comes to general design - as well as accessibility. This will include WCAG 2.0, Jakob's 10 Usability Heuristics, Universal Design, and general legibility.

I will then present the user flow that is the base of my design.

Then it is time to show the first iterations of my designs. I will provide pictures of the main parts of the design, the full design + prototypes is available in the appendix.

After testing my designs with a friend, it's time for the second iteration with improvements.

As a summary, I will talk about what I have learned in the recent weeks when it comes to designing for accessibility.



WCAG 2.0

Principle 1: Perceivable

- 2.2 Zoom/magnification: It is possible to zoom and enlarge text on the sign up form.
- 2.3 Contrast: The contrast of colours are approved using [this contrast checker](#).

Principle 2: Operable

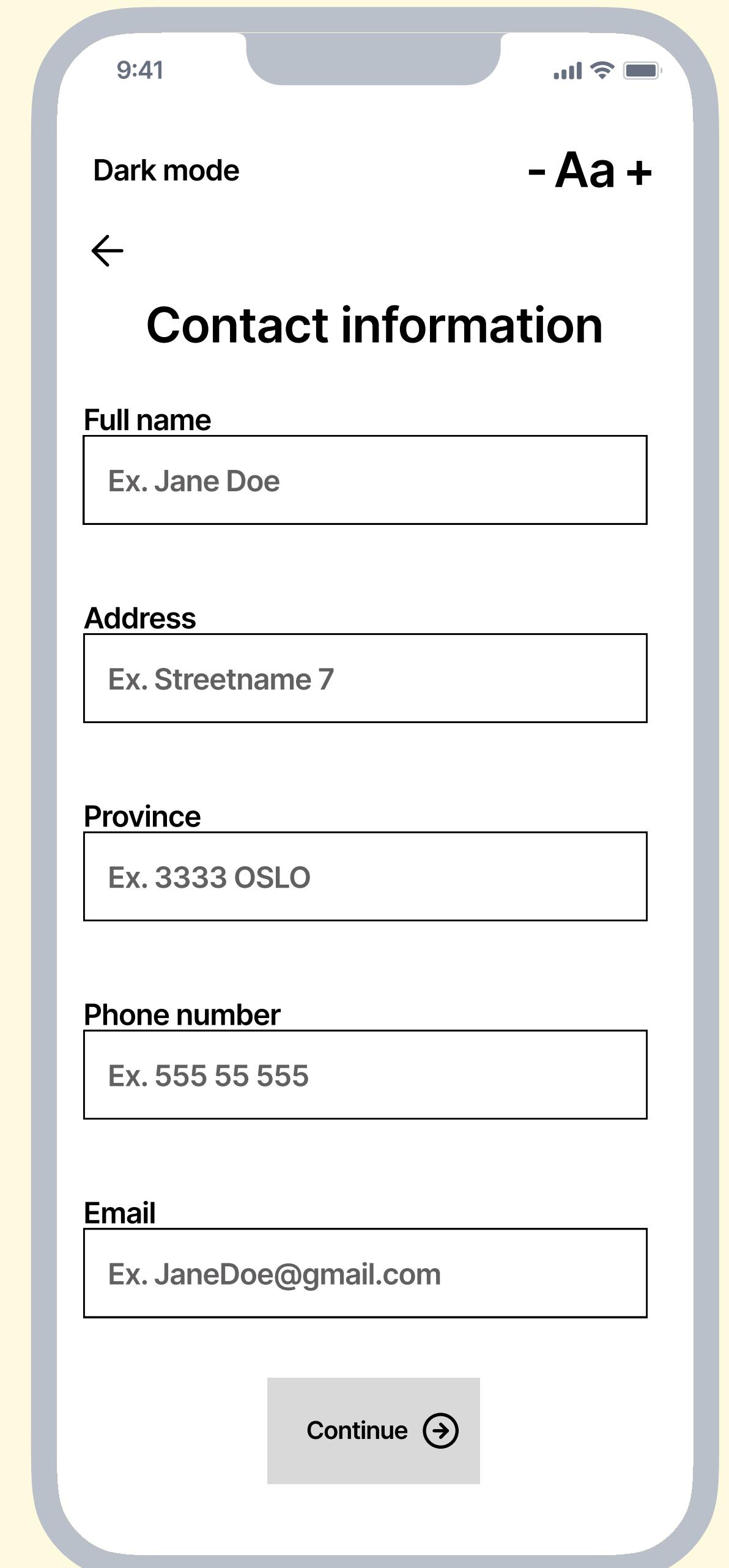
- 3.2 Touch target size and spacing: All button should be big enough to be an easy target by all users.
- 3.3 Touch screen gestures: The app should be usable with the standard touchscreen gestures for the given device.
- 3.4 Device Manipulation gestures: The app should be usable with the standard manipulation gestures (e.g. shake to undo typing).
- 3.5 Placing button where they are easy to access: All buttons are places in logical and easy-to-reach places, i.e they are close to the edge of the screen.

Principle 3: Understandable

- 4.1 Change screen orientation: The app is possible to use in both portrait and landscape mode.
- 4.2 Consistent layout: All pages in the sign up process are similar and predictable.
- 4.5. Provide clear indication that elements are actionable, i.e all buttons uses words or symbols to show the action.

Principle 4: Robust

- 5.1 Set the virtual keyboard to the type of data entry required: All input fields will have a keyboard to match the entry data.
- 5.2 Provide easy methods for data entry: In some cases (i.e. date) there will be a date picker to ease the process. Also use forgiving search where possible/needed.



JAKOB'S TEN USABILITY HEURISTICS

Visibility of system status

- Users will be informed of the status through confirmation- and error messages throughout the sign up process.

Match between system and real world

- The sign up process speaks the users' language instead of fancy jargon.

User control and freedom

- All pages have a "back"-button in case the users need an exit.

Consistency and standards

- All pages have similar layout and uses the same elements and symbols.

Error prevention

- All input fields use a keyboard that matches the required input, as well as provides example inputs.

Recognition rather than recall

- All input field will have the required input written right above it, to make sure the user doesn't input the wrong data.

Aesthetic and minimal design

- The sign up form has minimal decorative design, in order to help the users focus on the task.

Help and documentation

- All error messages provide a solution to the problem, not just the problem.

9:41

Dark mode - Aa +

← Contact information

Full name
Ex. Jane Doe

Address
Ex. Streetname 7

Province
Ex. 3333 OSLO

Phone number
Ex. 555 55 555

Email
Ex. JaneDoe@gmail.com

Continue →

UNIVERSIAL DESIGN

The purpose of the Principles is to guide the design of environments, products and communications. (NDA, n.d)

Equitable Use

- All users, no matter ability, are able to use the product.

Flexibility in use

- The product design accommodates users preferences and abilities.
- This product provides resizable text size and dark mode if wanted.

Simple and Intuitive Use

- The design is easy to understand and use, regardless of the user's experience.
- All buttons and actions uses clear words and/or clear symbols.

Perceptible Information

- All information is communicated effectively, regardless of users' conditions and abilities.
- All pages and input fields has logical titles

Tolerance for error

- Minimize consequences of mistakes.
- Error and solution is provided if anything is wrong. Forgiving search where possible.

Low physical effort

- The product can be used effectively with minimum fatigue.
- All buttons are positioned in an easy to reach positions, similar actions are grouped together.

Size and space for approach and use

- Appropriate size and space for all actions.
- Buttons are big enough to be used with no problem.

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LEGIBILITY

Enlarged text

- The typical zoom-function on smartphones are rarely enough for users with visual impairments. I have included a function to enlarge the text size in order to increase legibility.

Contrast

- Sufficient contrast between colours is important - not only for users who are colourblind, but also for people with visual impairment to prevent eye strain. This, as well as the minimal design as mentioned earlier, improved legibility and makes it easy for the user to focus without distractions.

Use more than just colours

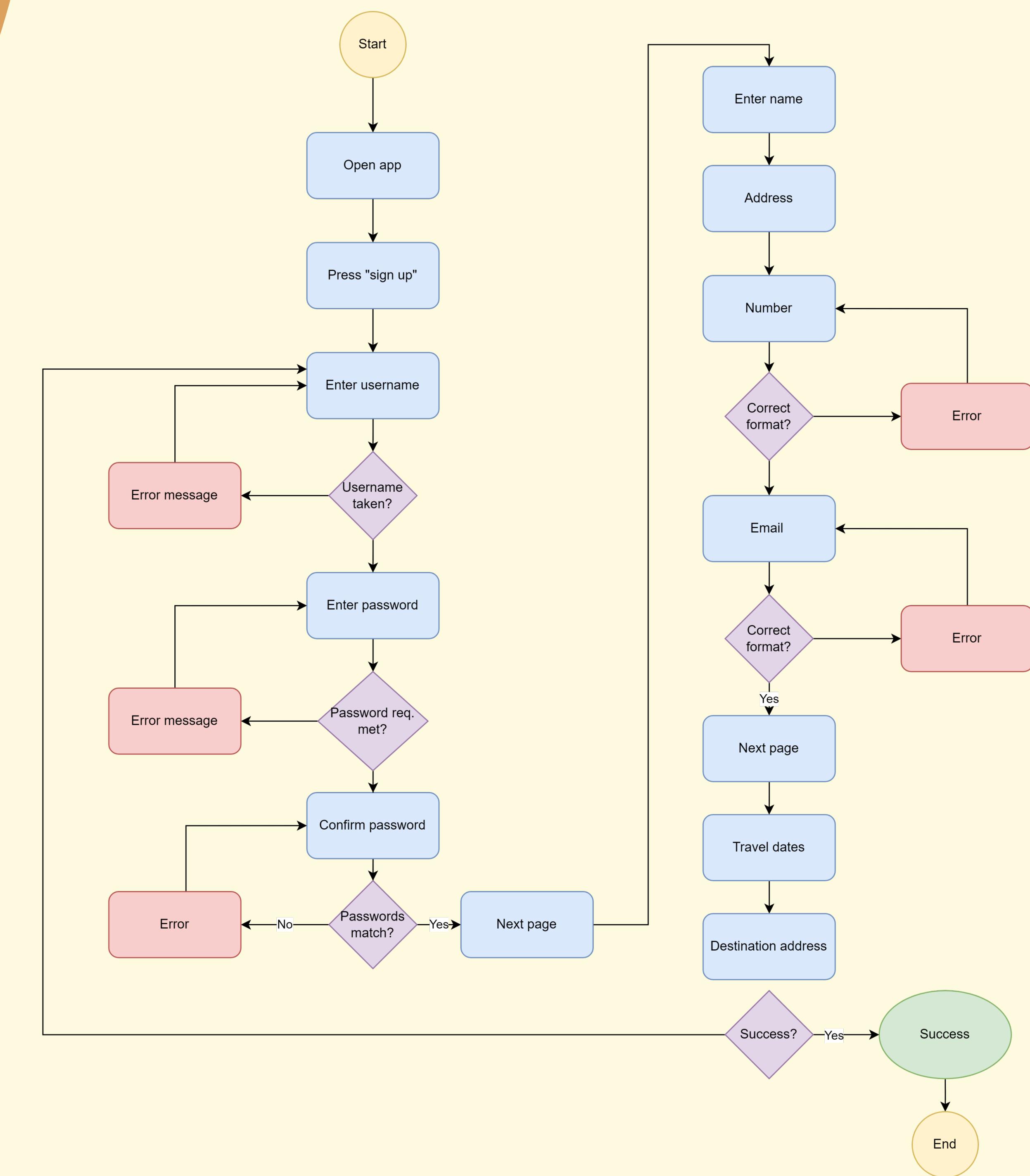
- In order to improve legibility for all user with vision impairments, it is important to not just rely on colour when it comes to important information. In the app there is text as well as colours and symbols to inform the user.

Dark mode

- Light mode is often associated with the standard on websites and applications, but dark mode has been proven to improve legibility for users with visual impairments. Long-term reading on light backgrounds is also associated with near-sightedness. There is an option to turn on dark mode in the app design.

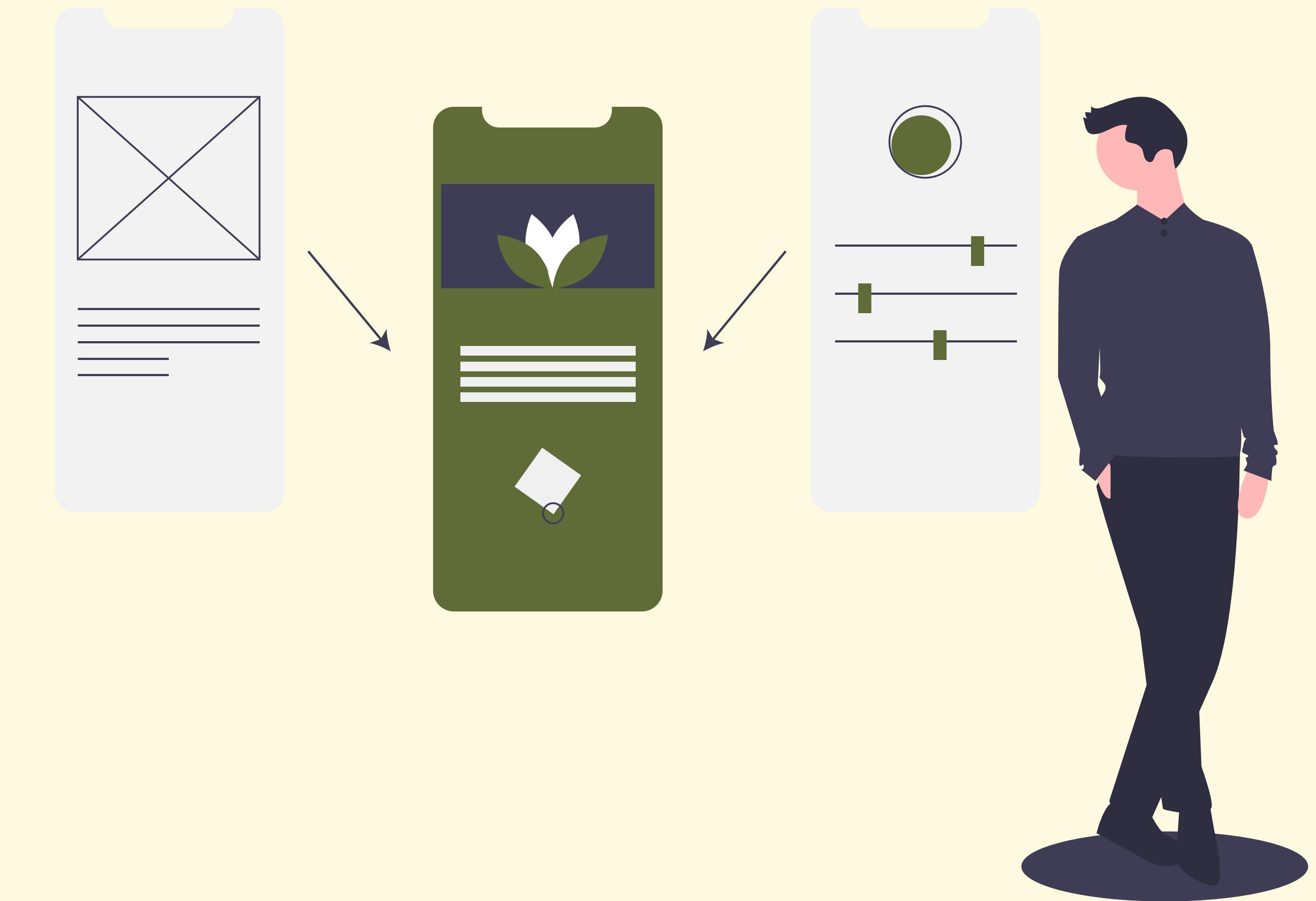


USER FLOW

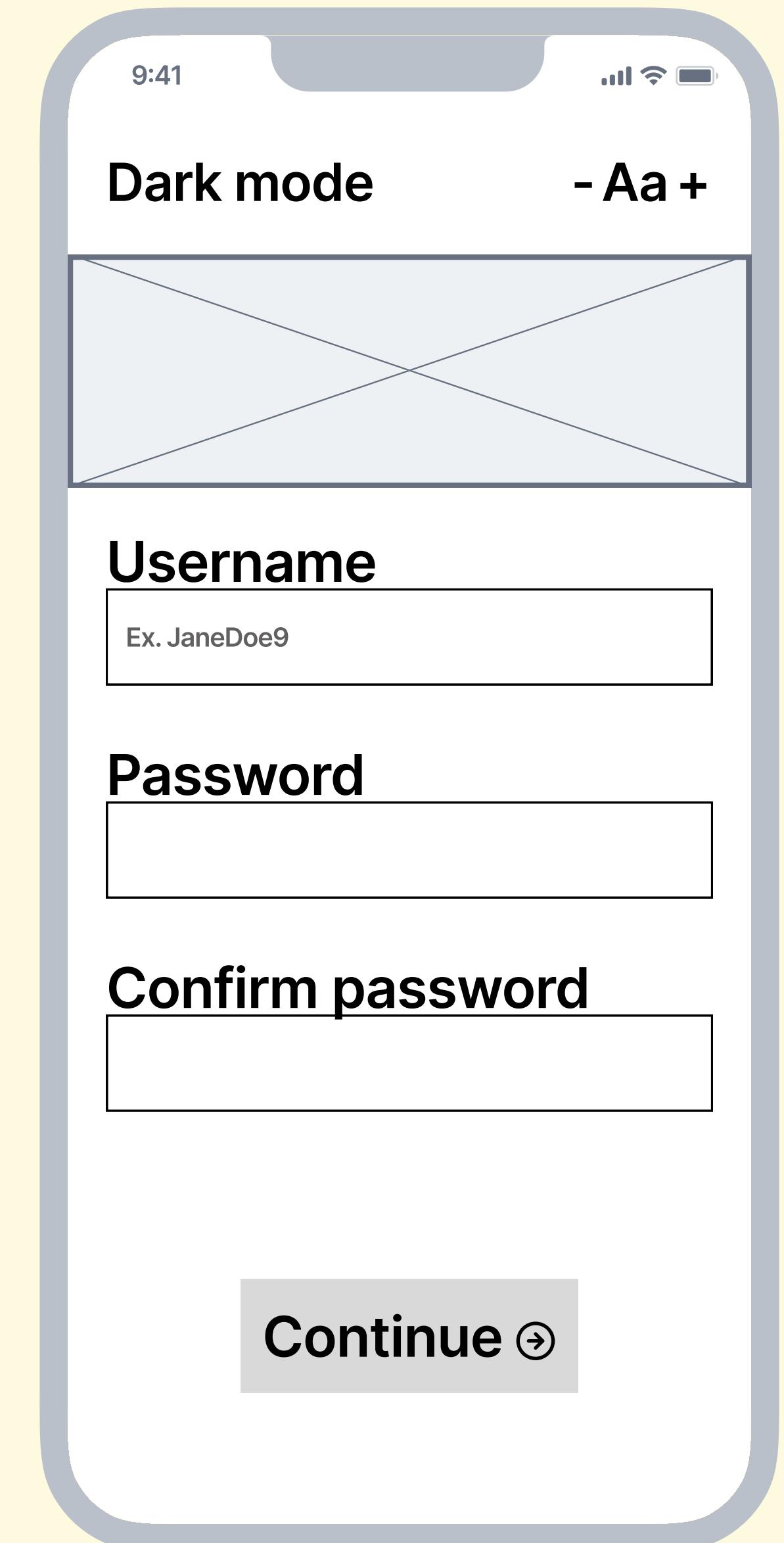
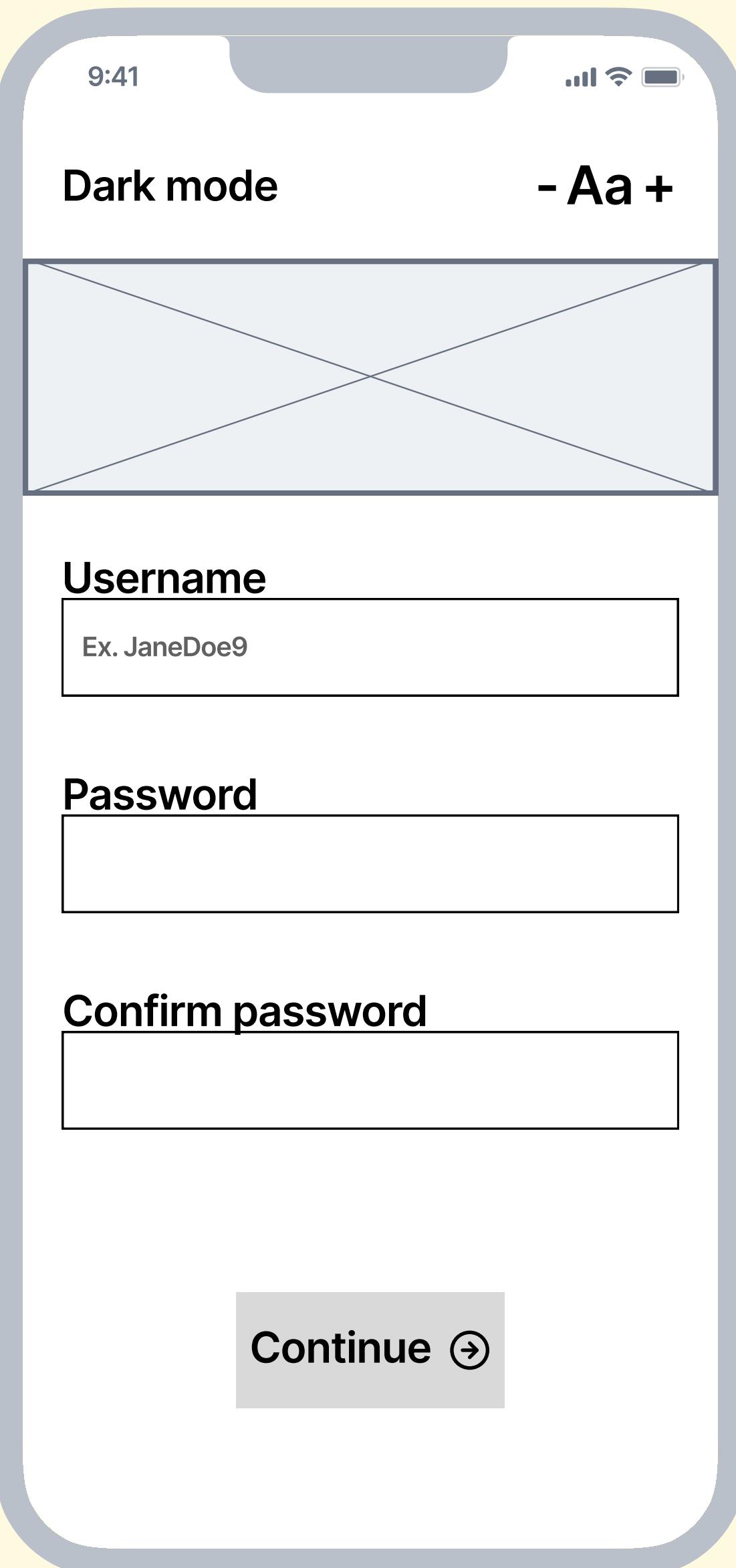
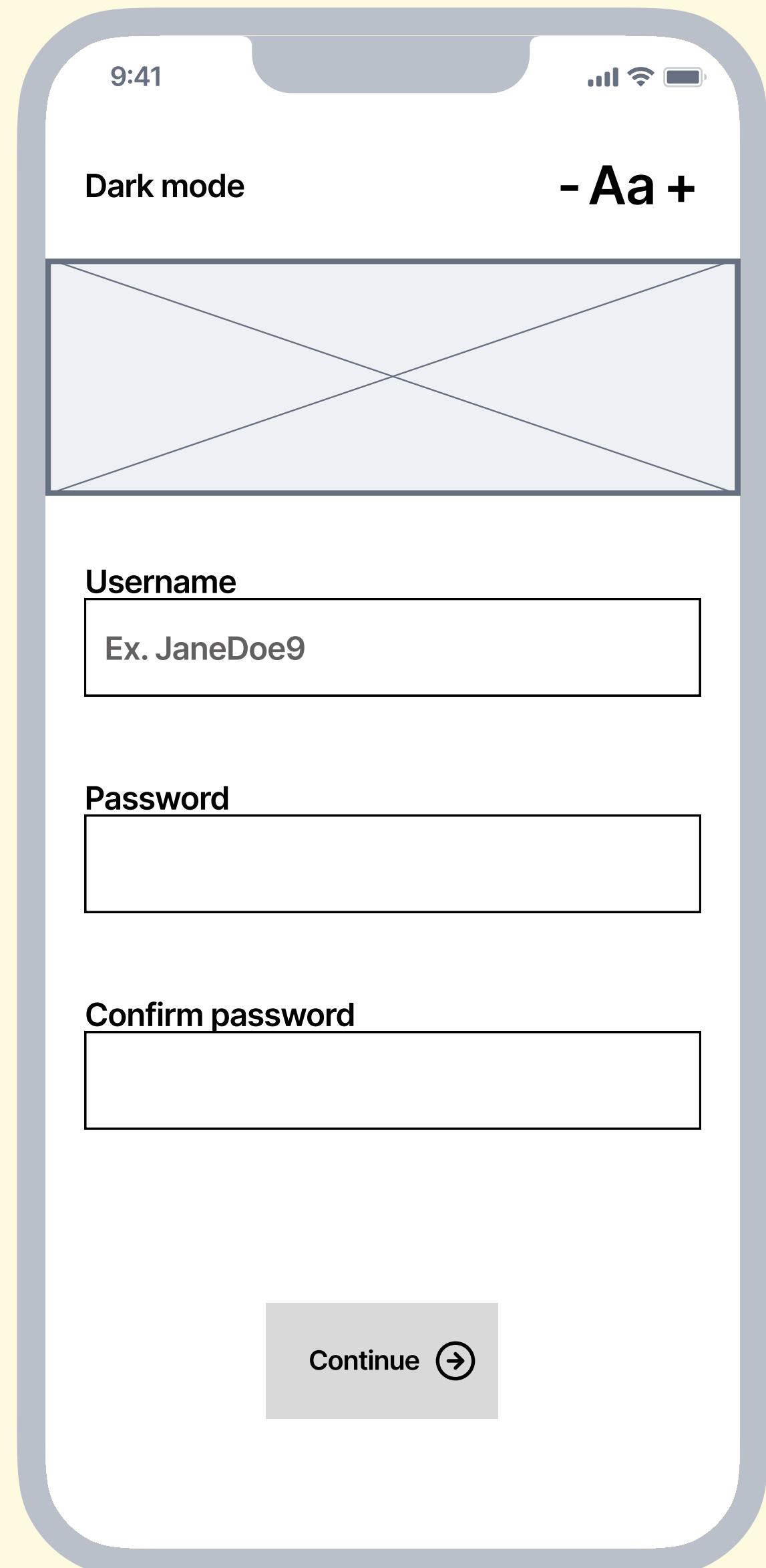


DESIGNS

- I have included a selection of the design from before the testing and iterations.
- The figma page with the full design before and after the iteration can be found in the appendix.



TEXT ENLARGEMENT



THE PROCESS

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Dark mode - Aa +

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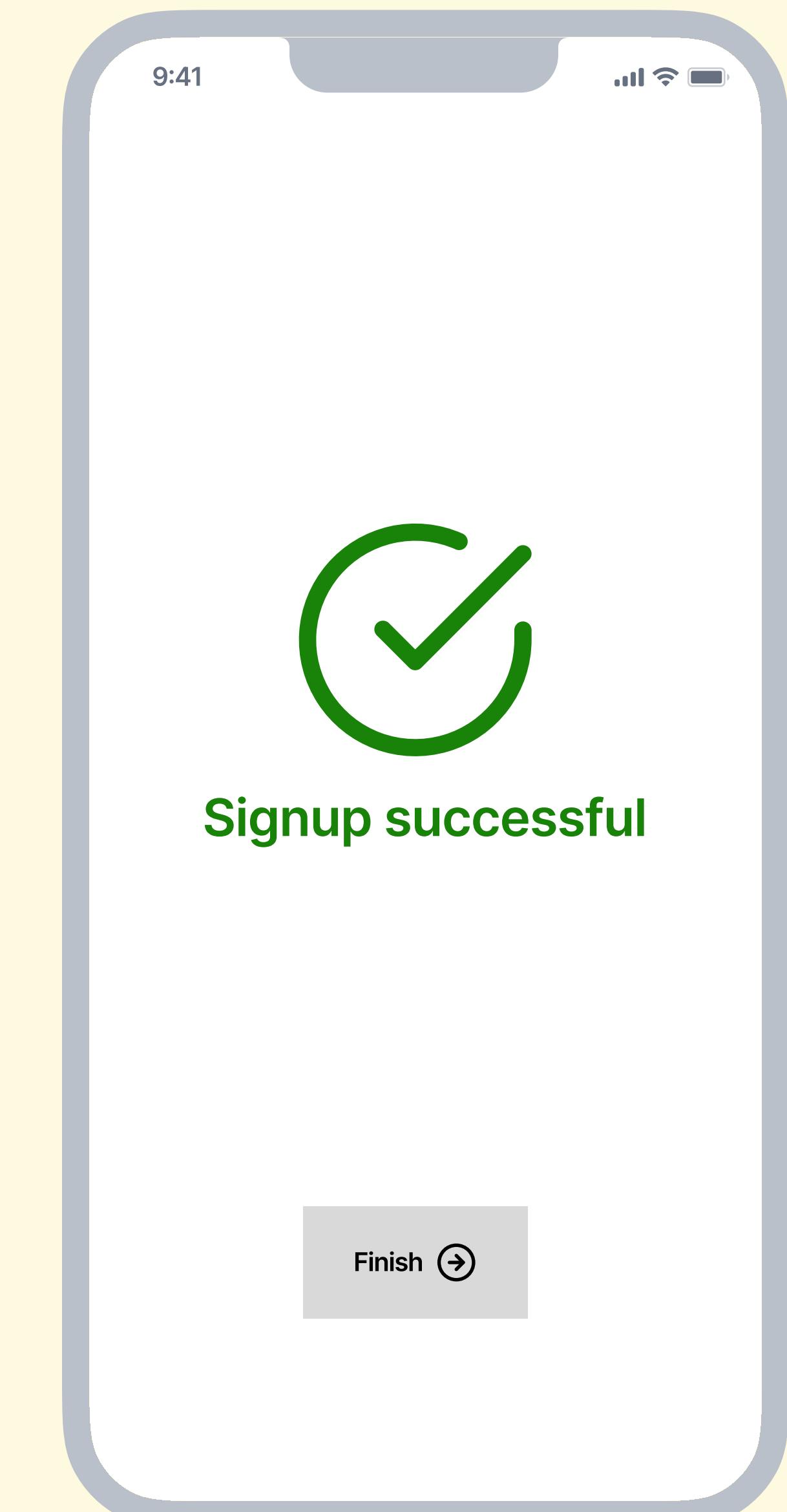
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Travel destinations

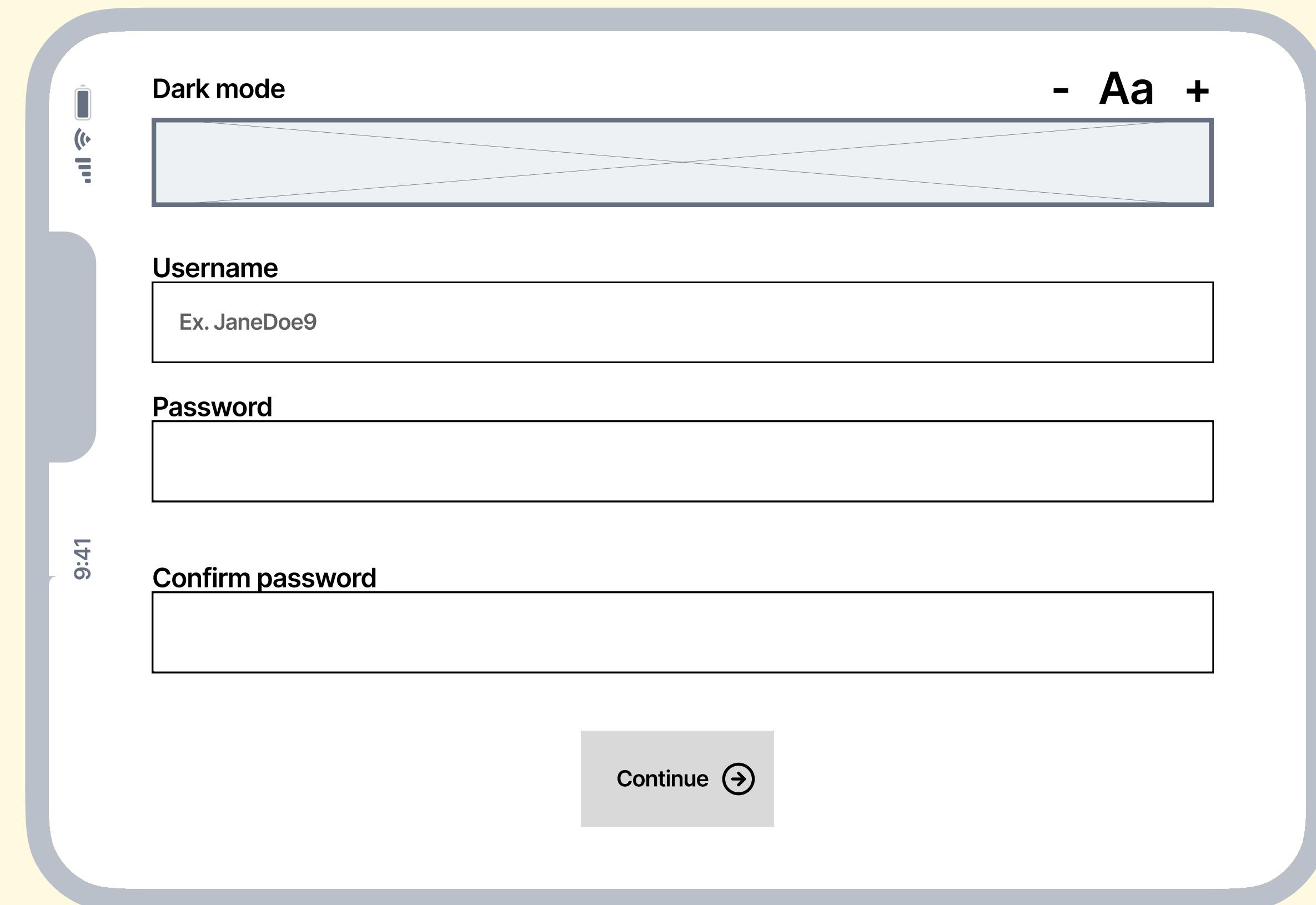
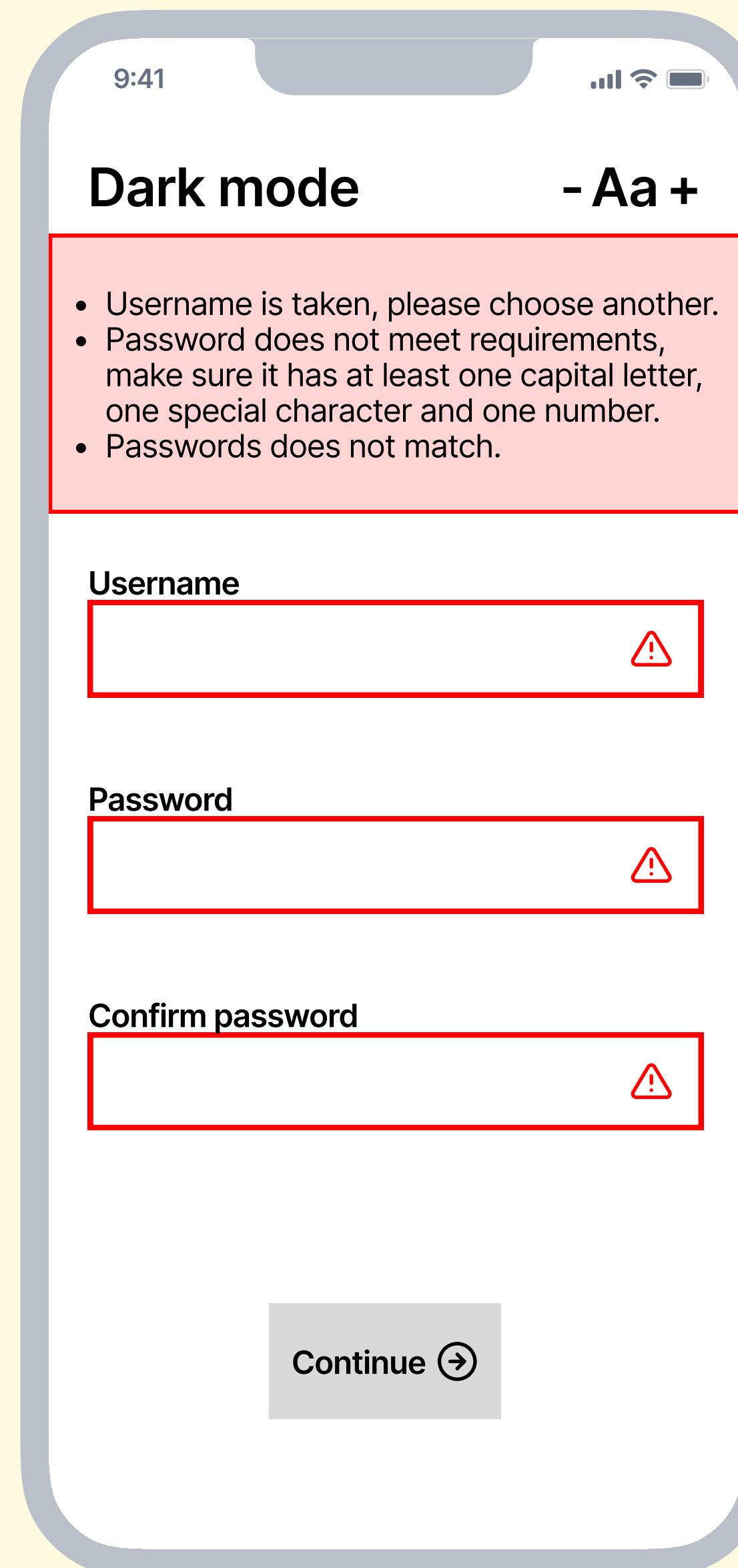
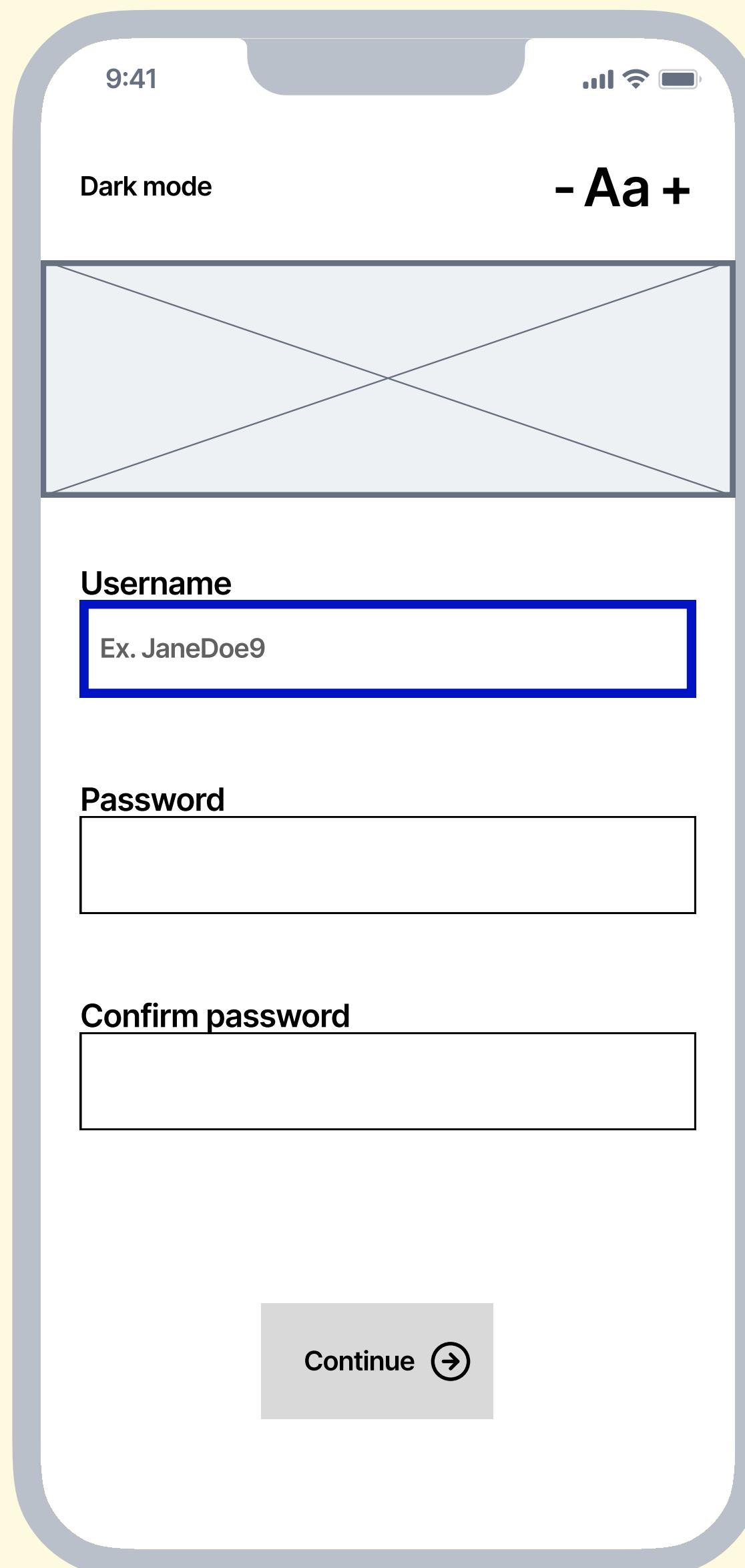
Date
Ex. 19-3-2023

Destination
Ex. Streetname 7

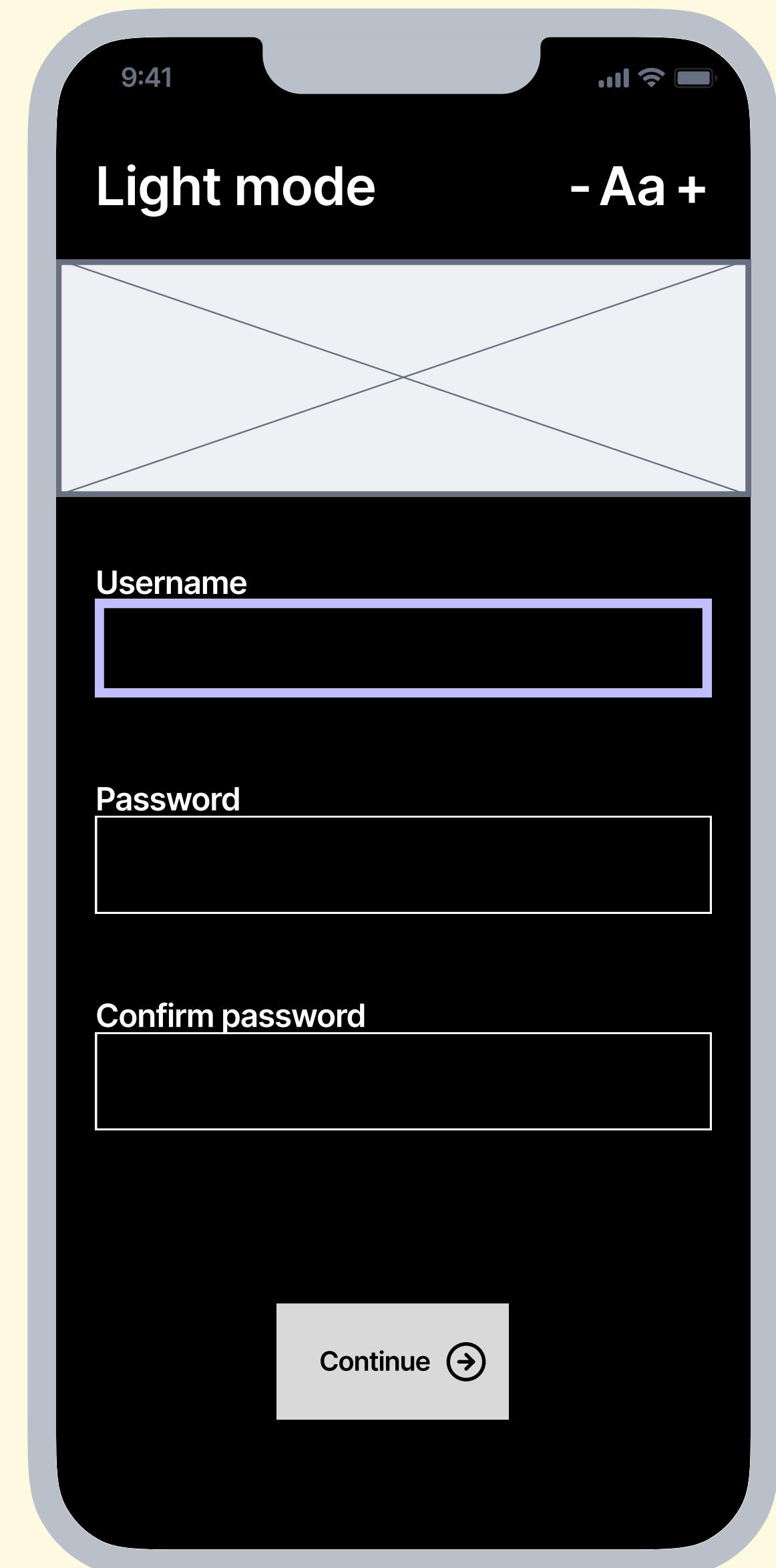
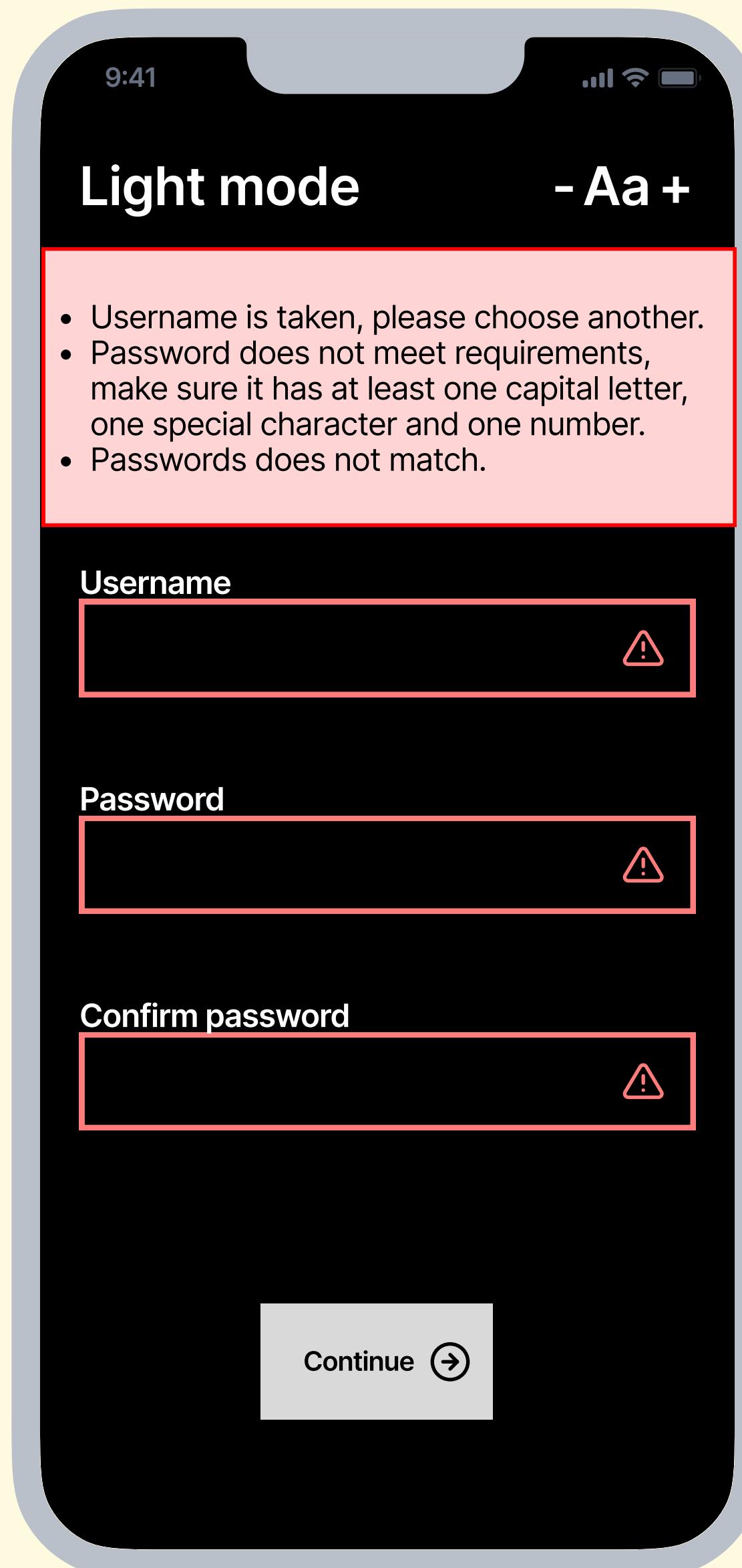
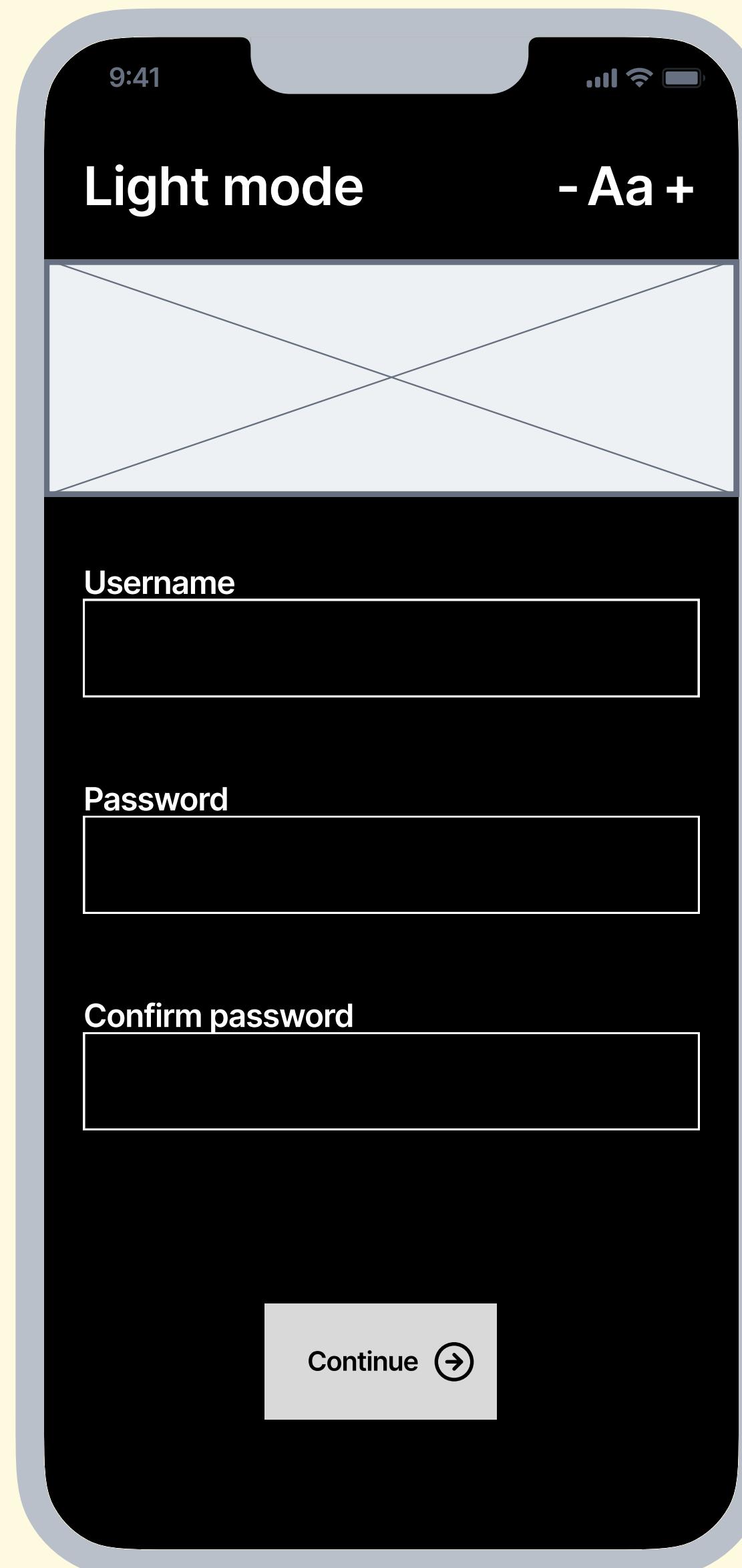
Submit →



FOCUSED, ERROR AND LANDSCAPE



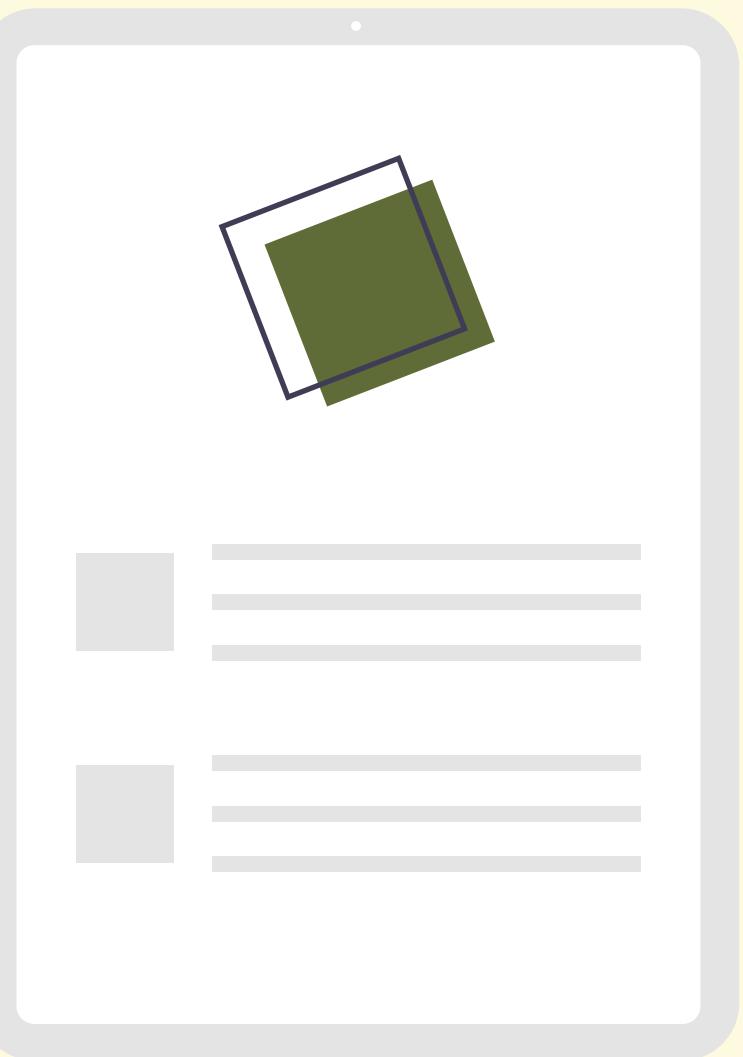
DARK MODE, ERROR AND FOCUS



TEST AND FINDINGS

After testing the low fidelity wireframes on a friend, some issues were discovered:

- The example text inside each input field did not enlarge with the rest of the text.
- There were no clear “cancel”-button except for the “back”-button that only takes you one step back.
- On the second page of the flow, the order of the input fields was impractical.



ITERATION - FONT SIZE, EXIT-BUTTON & FIELD ORDER

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EXIT Continue ↗

SUMMARY

Disabilities comes in all shapes and sizes. Some are permanent, and some are not. Some have lived with it their whole life and adapted, some have new or temporary disabilities, either way we have to make a design that fits everyone without too much hassle.

Designing for accessibility is not an easy task. First of all, it is hard to imagine every scenario possible when you don't live with a disability on a daily basis. This is why user testing with real users are more important than ever. All voices should be heard and all experiences shared. Digital platforms are a bigger part of our lives than ever, especially for the people with disabilities that encounter difficulties in the real world on a daily basis. As UX designers, we have the opportunity to improve peoples' experiences online.

As mentioned, there is a lot to take into account when designing for accessibility. That's why it's important to get in touch with real user's throughout the whole design process, from research to implementation. Not only to understand the user's problems and needs when developing a product, but also to understand what other products it works with, i.e. screenreader, voice-to-text products, external hardware, etc. The end product have to be robust enough to handle all these 3rd party hardwares/softwares and other ways of using a product.



Some disabilities are not physical, but can still greatly complicate their interaction with products. For example dyslexia or other disabilities that reduces a persons cognitive ability. Good design can also improve this group of users' experience online.

Most people will encounter some sort of disability in their lives, often visual and audio impairment with age. Having to adapt to certain features later in life can be difficult, especially if these features are not present on some products. This is why it's important to prioritise universal design over just accessibility when possible as well. As mentioned in the presentation, some design features can even help prevent the visual and audio impairments that often comes with age, for example. dark mode or [Apple's audio warning](#)

WCAG, Universal design, and Jakob's Ten Usability Heuristics are some of the guidelines and principles in order to guide designers in the right direction when designing for accessibility. Although they are only guidelines and ideas, they are incredibly important and useful.

When fully universal design is not possible, we have to find other ways to make it usable for all users. This include alternative text for media, subtitles for sound- and time-based media, make it usable on different devices, legible, and more



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APPENDIX

Prototypes

Other designs