



MyEpi

Signup UX Analysis

Author

Troels Kaldau

V1.1.0

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1. Purpose

Preliminary Info

Based on Product Overview 1.0.

Based on App version 2.0 pre-release.

Purpose

The purpose of this analysis is to optimize the signup flow. The functional purpose of the signup flow is to collect and verify information necessary to provide services to the user. The quality attributes have been identified as information correctness, data safety, user process simplicity.

Objectives:

- Information gathered is verified for the user signing up
- Information is formatted correctly
- Information can be gathered from users in all countries
- User process is quick
- User process requires as little thinking as possible
- Error states are minimized
- Error states are easily understandable
- User rework is minimized

2. Current Design

2.1. Current User Flow

The current user flow is a simple collection of data. It splits the flow into 3 screens – personal info, user type, and password/terms and conditions. The given info format is validated locally before moving to the next screen. Additionally, it is checked whether the email exists in the system on the first screen.

At the last screen, the system checks whether the user already has an authentication user. This would be from a previous failed attempt at completing the signup flow. If the user has one, the system moves to creating a profile. If the user does not have one, the system will try to create one with the email and password. If this fails the system throws an error, stating there was an error in the creation of the user. If it is successful, it moves on to profile creation.

The system will check for the user type which the user has selected. It will attempt to create a profile of that type. If it fails, the system will return a message with the reason, and allow the user to alter the info and try again.

Should the user drop out of the flow, the authentication user will already exist. This means, the user will not be able to go through the normal signup flow, as the email will already be taken. Instead, they will have to attempt to log in. This will verify their authentication user, and send them to the Signup flow again, where they will be able to fill in the info relating to the profile and attempt to create the profile again.

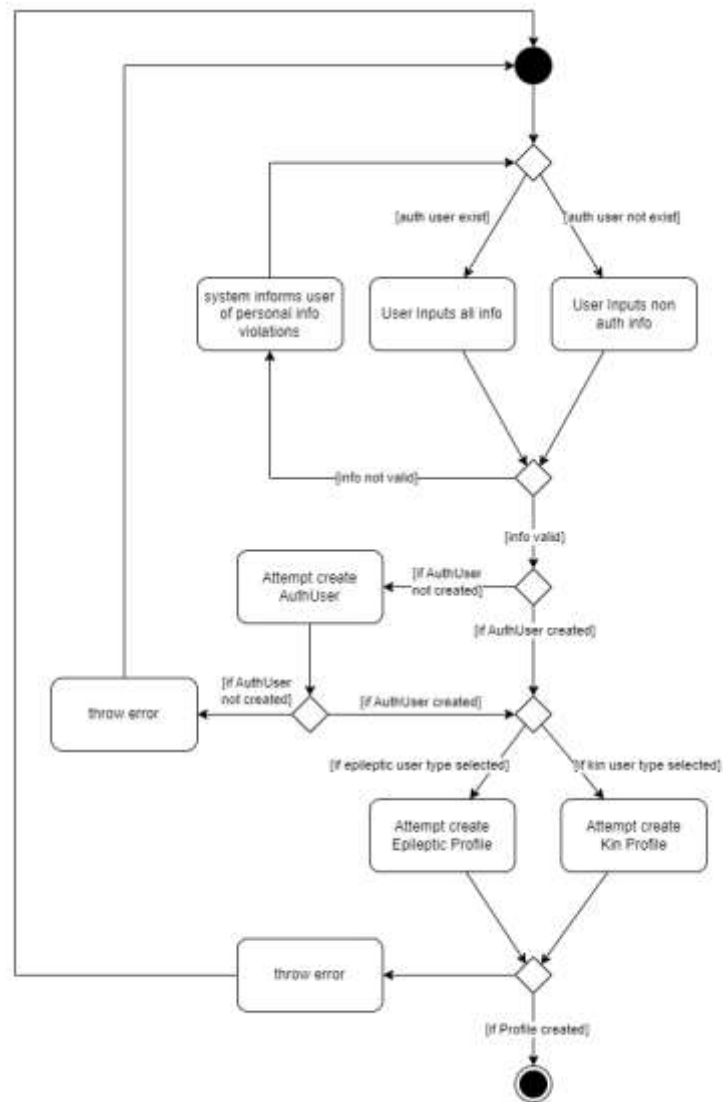


Figure 1: Current user flow activity diagram

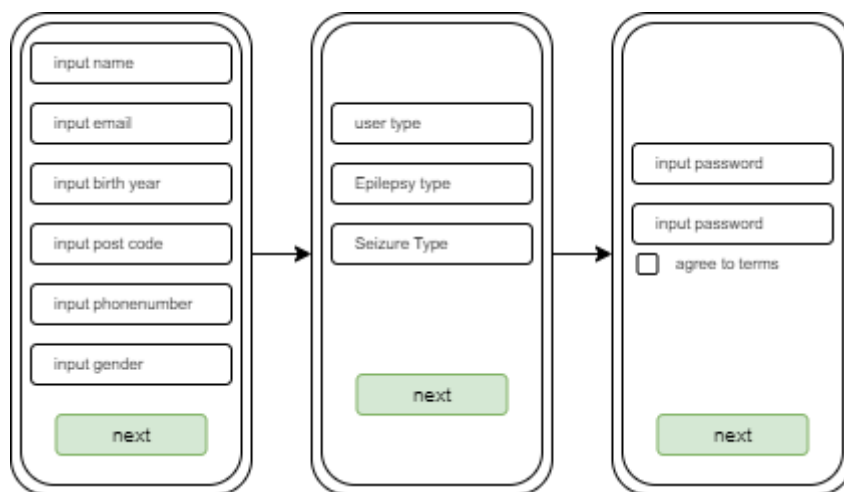


Figure 2: Current user flow sketch

2.2. Problems

2.2.1. Info validation late in the process

The user is first informed of the phone number being taken by another at the last page. This means, the user needs to navigate far back to correct it. In general, all info should be validated on the page where it is given, when possible.

2.2.2. Missing Email Validation

The email is not validated to belong to the user. If the user misspells their email, they will not be able to reset their password.

2.2.3. Missing Phone Validation

The phone number is not validated to belong to the user. This has multiple complications. If a user misspells their phone number, they will not get alerts or calls from the service. If a user takes another user's phone number, by accident or on purpose, that user won't be able to use their own phone number. If an epileptic profile user has set a phone number as a contact, and another user than the owner of the phone number signs up with that phone number, they will be able to see sensitive information about the epileptic profile user without being authorized.

2.2.4. Missing Authentication Separation

The authentication info and personal info is collected on the same pages. It is therefore not able to be separated. If the app needed a new authentication method or additional authentication methods, the signup flow would have to be redone.

2.2.5. Confusing Backend Failure Correction

The current handling of an authentication user being created when the profile creation fails, is confusing to the user. The steps they need to follow to complete the signup is not logical and some may be lost in the onboarding process.

2.2.6. Location Not International

Currently, the signup flow accepts only a location based on a Danish postal code. This is saved as a string and will be very inflexible when the app needs to be internationalized.

3. Solution Design

3.1. New User Flow

In the new version, the signup flow has been separated into two sequential flows – one for creation and authentication user and one for creation of a profile.

On the first page, the user is asked to type in their email. The system will first validate the email format and then check if the email is available. If the email is validated, a message will be sent to the email with a validation token and the user will be sent to the next screen.

On the next screen, the user can pass in the token they received. If they did not get the message, they can press a button to resend the message. This button will have a cooldown period of 5 seconds to avoid the user spamming their inbox with messages. The system will check that the token is correct for the email, and if it is, send the user to the third page.

On page three, the user will be asked to give a password. The system will validate the password format. If it is validated, the system will create a user with the email, token, and password.

If the user drops out of the signup flow after this point, an authentication user will already exist in the system. If they try to create a new account with an email belonging to an authentication user, they will be asked to login, to validate that they own the created auth user. When they try to login, they will be sent back to the Signup flow, but will skip the first three pages.

Page four and five contains personal info regarding the user. This needs no verification and is simply validated locally to ensure that it follows the format correctly. A country selector will be added to page four but will be disabled and set to “Denmark” by default.

On page six, the user is asked to type in their phone number. The system first checks that the phone number is in the correct format, and then checks if it is available. If the phone number is validated, the system will send an SMS with a token and the user is sent to the next page.

On page 7, the user types in the token which the system validates to match the given phone number. Like the email page, there will be a resend button with a 5 second cooldown. In addition, a local variable will be set on the phone for how many retries you have used. There will be a max limit of 3 text messages. The user will be able to reset this by deleting and reinstalling the app. If the token is validated, the user is sent to the next page.

On the last page, the user will be shown the terms and conditions in a scroll view. In the bottom there will be a button to agree to the conditions. Upon agreeing to the conditions, the system will create a profile with all the given information and the user will be logged in. If the user drops out of the profile flow, they will have to start the profile flow over again.

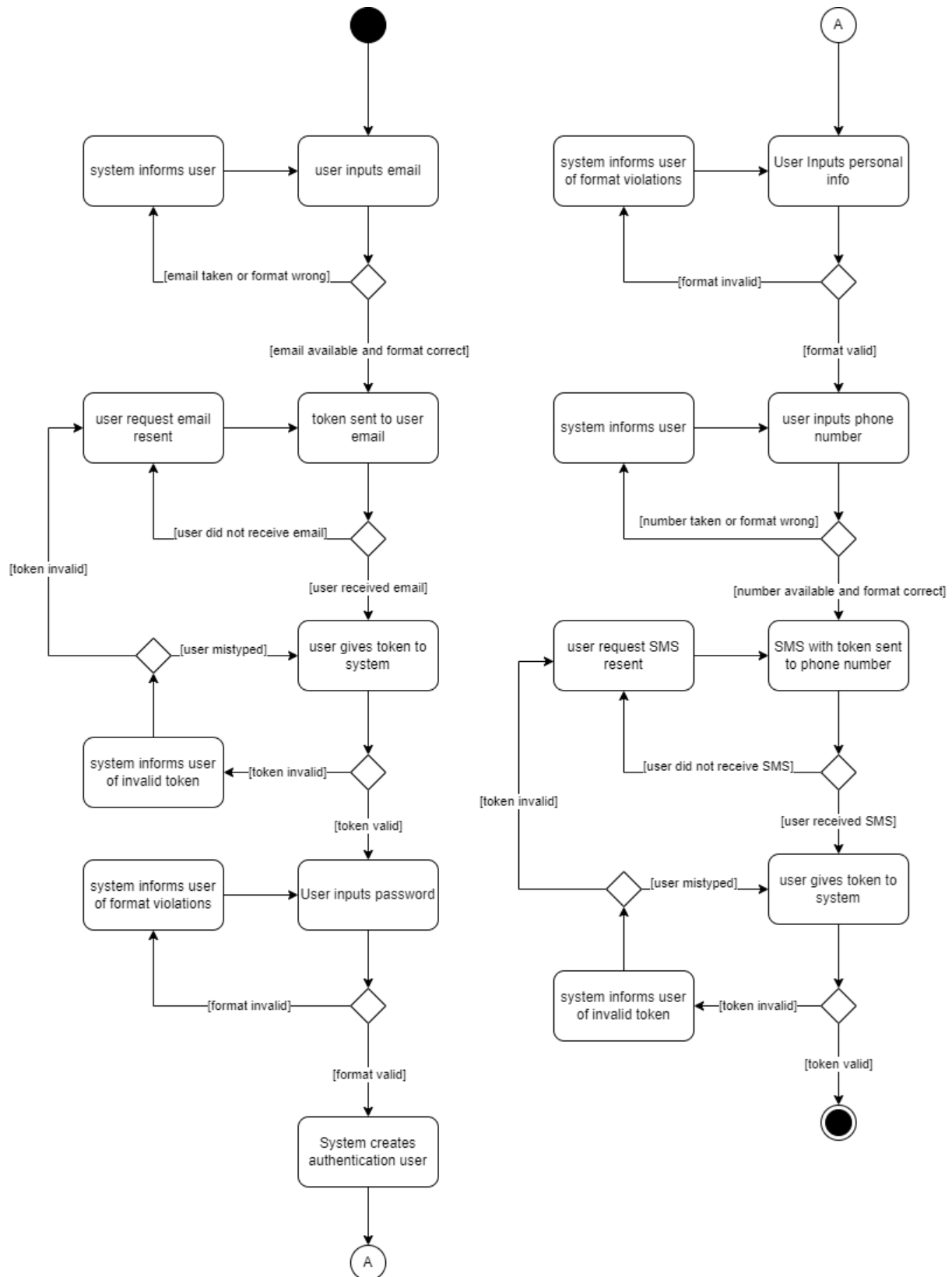


Figure 3: New user flow activity diagram



Figure 4: New user flow sketch

3.2. Problem Solutions

3.3. Info validation late in the process

The signup process is split into more screens. The info is validated at the step of each screen. When possible, it checks both for input format and for violations with existing data in the system. This allows the user to receive immediate feedback on any restrictions which their input is violating. They will be able to correct their input without navigating back and forth.

3.4. Missing Email Validation

The email is separated into its own two pages, which validates the ownership of the email. The verification is done with a token instead of a link to protect the user against phishing attacks.

3.5. Missing Phone number Validation

Like the email verification, the phone number is separated into its own two pages, which validates the ownership of the phone number. The verification also uses tokens to protect against phishing attacks.

3.6. Missing Authentication Separation

By separating the email and password into their own pages and placing it before the input of the personal info, swapping this out for alternative auth methods will be much simpler.

3.7. Confusing Backend Failure Correction

By splitting the authentication step into their own screens, it is much simpler to inject the user into the personal info screen, should the profile creation have failed.

3.8. Location Not International

By adding a country selector, the address field will be able to adapt to the local format of the selected country.

4. Cost

Email verification

The process has been developed in other projects but needs to be implemented in MyEpi's backend.

Estimation: 4h

Phone verification

The process has been developed for phone number authentication, but not for standalone verification of phone number without authentication. The verification process therefore needs to be extracted from the authentication flow.

Estimation: 6h

Phone taken

A simple function needs to check if the phone number is in use by other profiles. This needs to be checked for both Epileptic Profiles and Kin profiles, preferably in a single endpoint call.

Estimation: 2h

Address handling

The address is currently formatted with a single postal-code string. This needs to be changed into a flexible address object. The user country also needs to be added to the personal info.

Estimation: 4h

Phone number revalidation

It must be possible for the user to change phone number. In this case, the phone number needs to be revalidated. A separate endpoint call needs to be made for changing the phone number with built in verification.

Estimation: 4h

Frontend signup flow

The new signup flow needs to be implemented in the frontend

Estimation 20h

Frontend Phone number update flow

Changing the phone number in the frontend needs to be done on a separate screen like in the signup flow. This needs to be implemented.

Estimation: 4h

Total Cost: 44h

5. Future Improvements

5.1. OAuth

The user could be offered multiple methods of authentication through OAuth. This would allow them to login with e.g., Microsoft, Google, and Apple.

5.2. One-time-password login

The user could be offered to login with a one-time-password. Here, the user will be sent an email with a password they can type in and login with for a limited time.

5.3. Internationalization

To internationalize the app, the country selector needs to be enabled, and the address field needs to be adapted to the enabled countries. Each country needs their own handling method.