



NOX+

Star Forge Labs

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This document is intended for developers and engineers who will implement the Nox+ app and physical card. It provides the technical details, flows, and rationale needed to build the system accurately.

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1. Project Overview

Background & Context

This project explores how students can better manage their identity verification needs across different aspects of life while maintaining privacy and security. It investigates the challenges of managing multiple forms of identification like driver's licenses, birth certificates, and student IDs, and examines the risks of oversharing personal information, unauthorized tracking, and potential data breaches. The focus is on understanding how to balance convenience, security, and privacy in modern identity systems, and exploring how new approaches could give users more control over what information they share and when.

Design Problem

"How might we help college students securely and conveniently verify their identities across multiple systems while reinforcing their sense of trust, control, and confidence in how their data is used?"

2. Project Scope

In Scope

Design elements included because they directly address students' pain points around trust, security, and verification usability.

- Centralized identity management app (Nox+) for storing digital documents.
- Universal Proof Card concept with biometric unlock for campus access (physical and digital).
- Visible security cues (lock icons, security banners, confirmation messages).
- Biometric authentication and encryption principles.
- Data-sharing history showing what information was shared and with whom.
- AI-assisted search bar for guidance on verification processes.

Out of Scope

Elements excluded due to complexity, technical feasibility, or reliance on external systems.

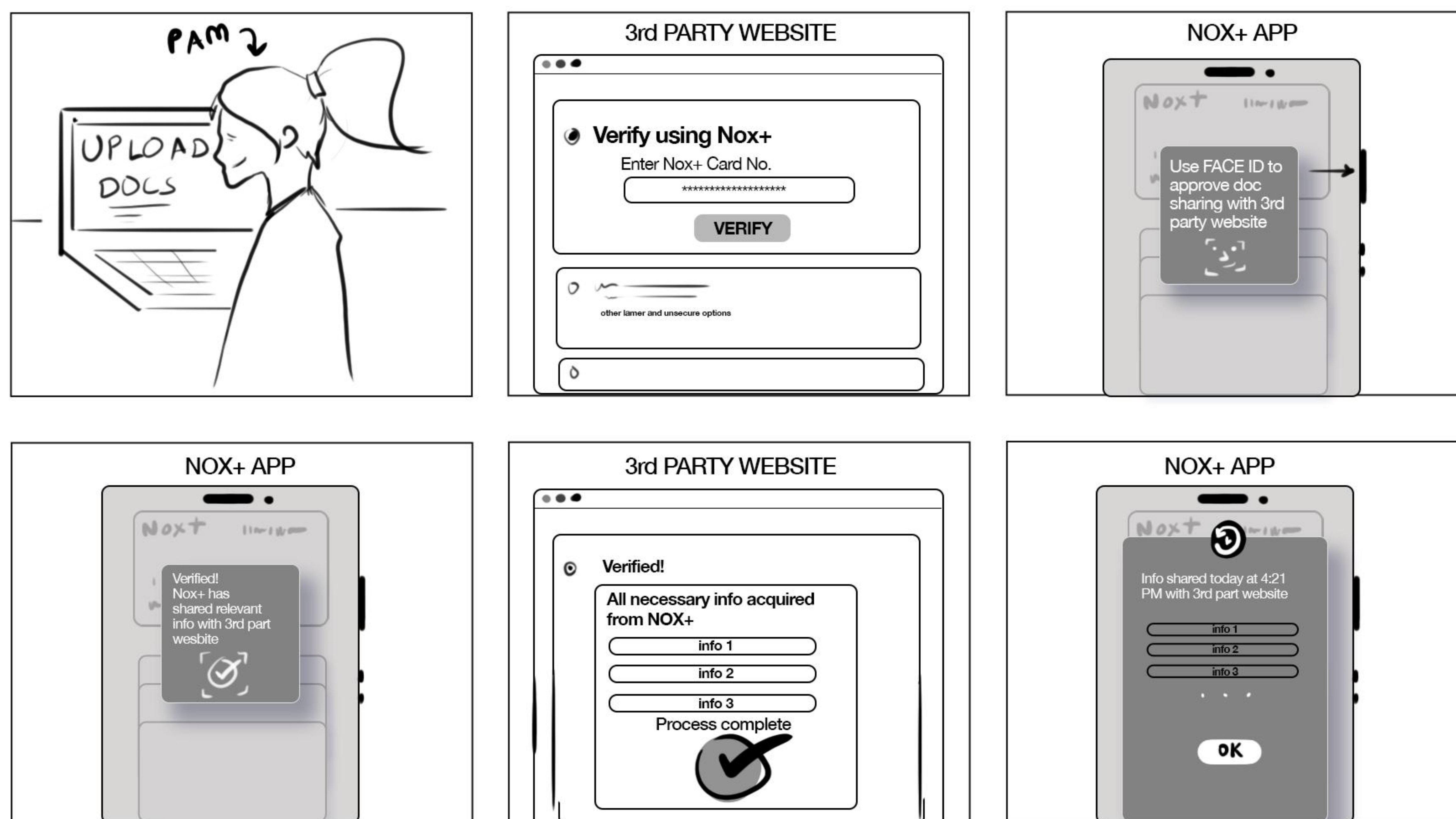
- Building actual encryption systems, biometric hardware, or secure databases.
- Creating backend servers for real identity storage.
- Handling regulatory compliance (FERPA, KYC, etc.).
- Manufacturing the physical Universal Proof Card or embedded fingerprint sensors.
- Designing NFC chips or offline verification devices.
- Designing for use-cases where the user cannot verify their identity by fingerprint.

3. Storyboards

Pam Privacy

From our research (survey, semi-structured interviews, and contextual inquiries) we created our primary persona: Pam Privacy. Pam wants strong data protection and clear transparency about where her information goes. She needs a verification system that gives her full control over what is shared and when, since she distrusts platforms with unclear privacy policies or inconsistent security cues.

Her struggles align with our research: students like her often feel anxious about data leaks, and Pam’s fear of misuse reflects the 64% of respondents who had personal or second-hand experiences with scams or breaches. She also finds scattered document storage overwhelming, mirroring the 74% of students who keep documents in multiple locations. Pam ultimately needs reassurance, clarity, and a secure, centralized system that protects her identity at every step.



Her persona follows this storyboard- using the NOX+ app to verify her identity and easily upload documents for a identity verification process. She has control and transparency during this process.

3. Storyboards

Brian Brainer

From our research we also create our secondary persona: Brian Brainer. Brian wants a fast, simple way to verify his identity without dealing with repetitive steps or tracking down scattered documents. He needs a streamlined system that consolidates everything in one place and gives him quick, clear confirmation that verification was successful. His struggles match the 52% of students who reported frequent difficulties and the 57% who experienced upload or format errors, which he finds frustrating and time-consuming. Brian often misplaces physical documents or passwords, reflecting the broader issue of fragmented storage among students. He ultimately needs a convenient, efficient tool that minimizes effort and reduces friction in his busy daily routine.



His persona follows this storyboard- using the NOX+ physical ID to easily and safely verify his age to purchase a drink.

4. Design Decisions & Rationale

NOX+ Universal Proof Card

We chose to design a Universal Proof Card because our research showed that fragmented identity documents create confusion and repeated verification errors. Students currently juggle multiple documents that each prove different information, and **74% store them across scattered places** like wallets, drawers, cloud folders, or phone photos. This fragmentation leads to mistakes: **57% reported failed uploads** or unreadable scans, and **34% struggled with unclear document requirements**. Students also reported feeling “nervous” or “unsure which document to use,” which reinforces the need for a unified and predictable verification method. The Universal Proof Card addresses this by providing a single way to prove the information typically found across multiple documents. This directly supports user needs identified in our study: **students want clarity, consistency, and less cognitive load, along with a simpler process that reduces the number of steps and documents they must manage.**

Fingerprint Unlocking

We chose fingerprint authentication for the Universal Proof Card because students expressed a strong need for visible, reliable security that still feels quick and low-effort. In our research, **37% reported privacy concerns** when sharing documents, and students who experienced breaches described **wanting reassurance** that “no one else can access my information.” At the same time, **usability remained a priority**. Participants consistently praised tools like Duo for being “simple” and “really smooth,” showing that biometrics match student expectations of fast, familiar verification. Fingerprint unlock supports both needs by **giving students clear control over access** while eliminating passwords, extra steps, or the risk of someone using the card without permission. We also brainstormed other biometrics we could use for verification, ones that users without a finger print could also use but due to constraints around size, cost, and realism we ultimately moved forward with the fingerprint.

From usability testing, we found that using the bottom 30-40% of the card as a fingerprint sensor pad allows users to place their fingers where it feels most natural to them. We also found that the optimal time to keep information visible after unlocking is 30 seconds.



Usability test from initial card mock-ups. We tested having a single point of contact and the entire bottom of the card as a fingerprint sensor. From findings we decided to keep the bottom 30-40% of the card as a finger print sensor.

4. Design Decisions & Rationale

NOX+ App

We created the Nox+ app because students struggle with fragmented document storage and inconsistent verification processes. In our research, 74% stored documents in scattered places like wallets, drawers, phone photos, and cloud drives, and 52% experienced verification difficulties due to unclear requirements and repeated upload errors. Students also wanted clearer guidance, with several describing verification as “confusing,” “stressful,” or “easy to mess up.” An app allows all identity information to be centrally organized, provides real-time guidance through the AI-assisted search bar, and gives students transparency through data-sharing history and visible security cues. Together, these features support the core user needs identified in our study: clarity, consistency, convenience, and confidence.

History Feature

The History feature increases transparency by showing exactly where a student’s data was used, what information was shared, and when it occurred. Our research showed that low confidence in data security comes from unclear data flows and a lack of visibility. By presenting a chronological list of verifications, searchable by category, students regain a sense of control and understanding over how their identity is used.

Documents Feature

The Documents section centralizes identity files that students currently store in scattered places. Research showed that fragmented storage leads to lost documents, upload failures, and confusion about which version is correct. Auto-populated documents, expiration alerts, and clear verification status help reduce errors and make document management easier and more reliable. This directly addresses students’ needs for consistency and clarity.

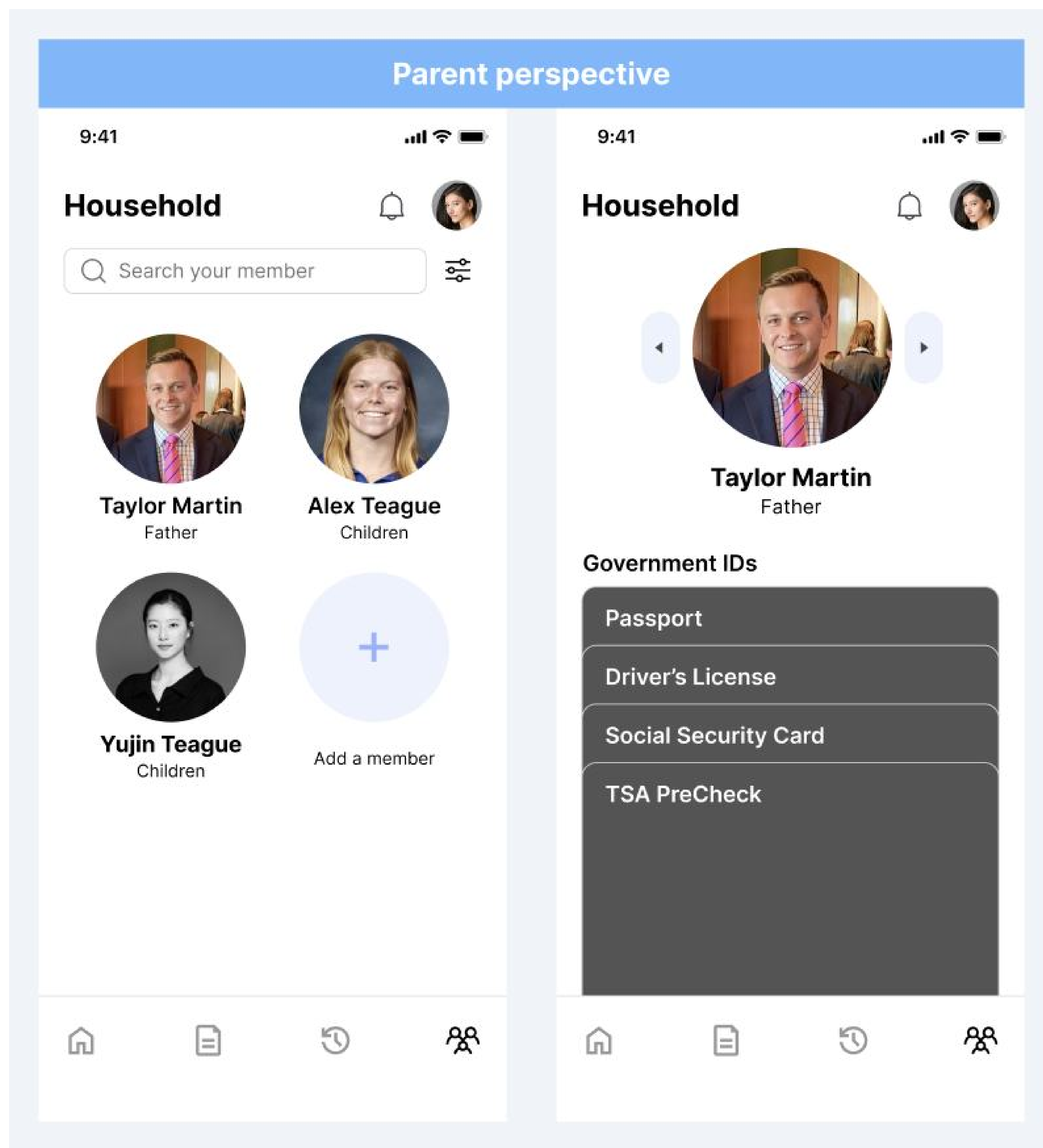
One-time Pincode

The one-time pincode gives students a quick, secure way to verify their identity without sharing full documents. This directly responds to students’ concerns about over-sharing sensitive information and their desire for fast, low-effort verification. It provides a temporary code that works across online and offline services, reducing the need for repeated uploads or photo submissions.

4. Design Decisions & Rationale Cont.

Family Feature

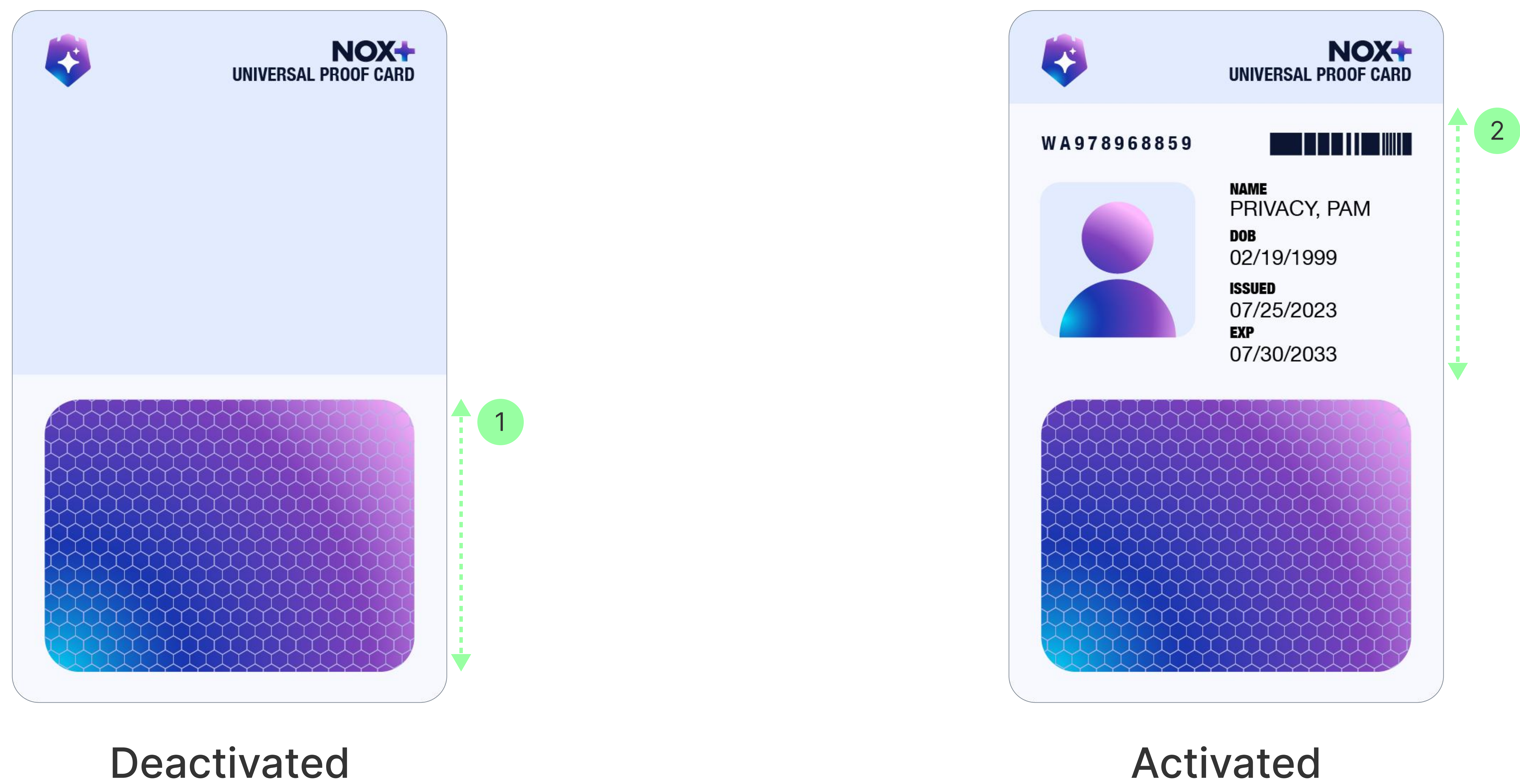
Students often rely on family members for shared documents such as insurance cards, citizenship papers, or financial forms. However, access is usually informal, inconsistent, and difficult to track. The Family feature provides secure, time-limited access to a family member's documents with clear notifications and controls. This supports shared responsibilities while maintaining privacy and transparency for all parties.



From usability testing we found that our family feature needs to be more student oriented as that is our target user. We added a family access feature, where students can gain access to their parents/guardians documents for up to 14 days.

5. Design Specifications

Nox+ physical card



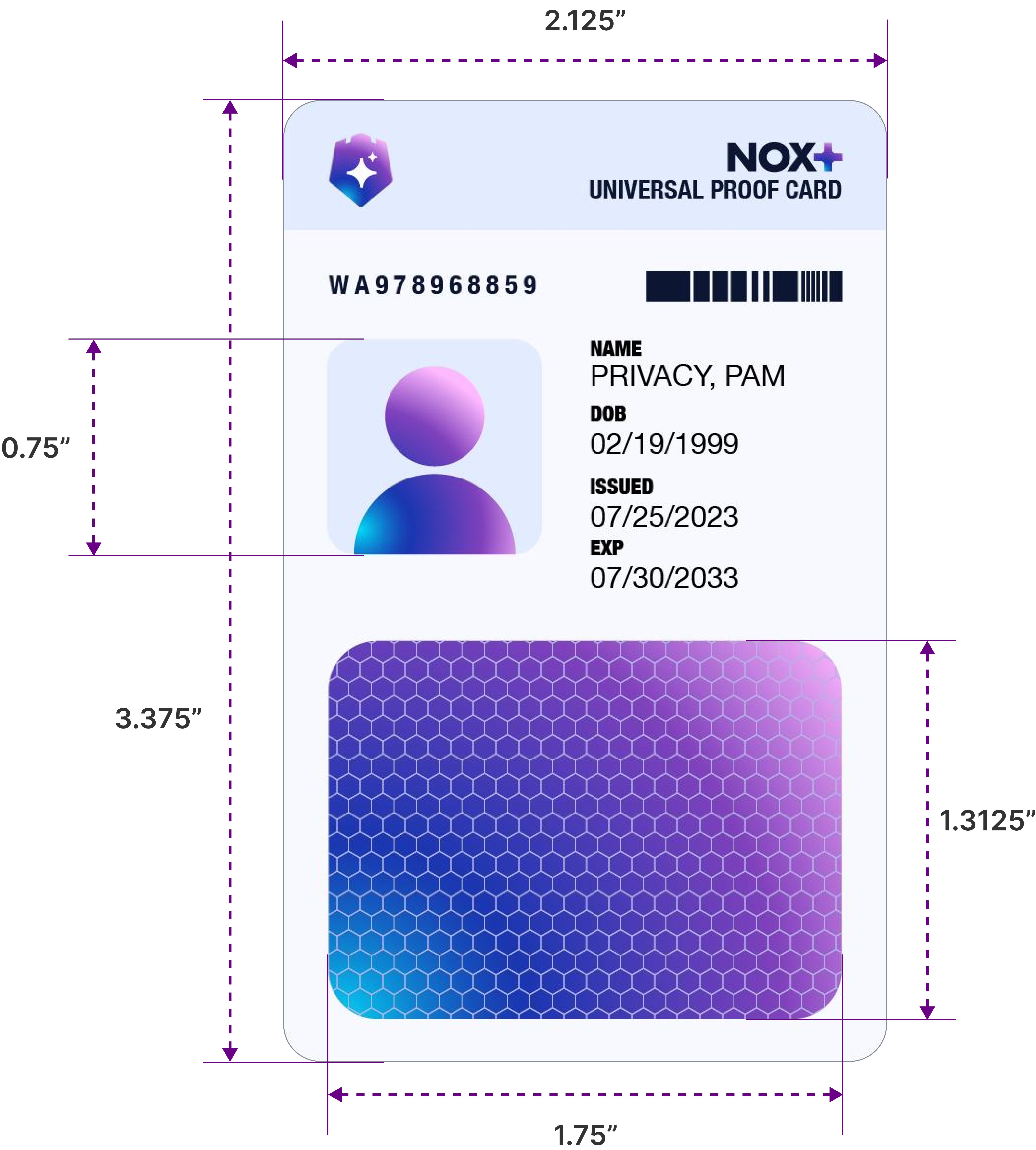
- 1 Fingerprint scanning area**
This section highlights the fingerprint authentication area of the Nox+ Universal Proof Card. Users authenticate themselves by placing their finger on this area, allowing the card to unlock and reveal identity details securely.

- 2 Identity details**
The full physical card displays essential identity information—such as name, date of birth, issuance date, and expiration date. These details become visible only after successful biometric verification and remain accessible for 30 seconds before automatically hiding again, ensuring that sensitive information is shown only briefly and securely.

Physical mockups



Nox+ physical card



Visual Design System of Nox+ physical card

Gradient



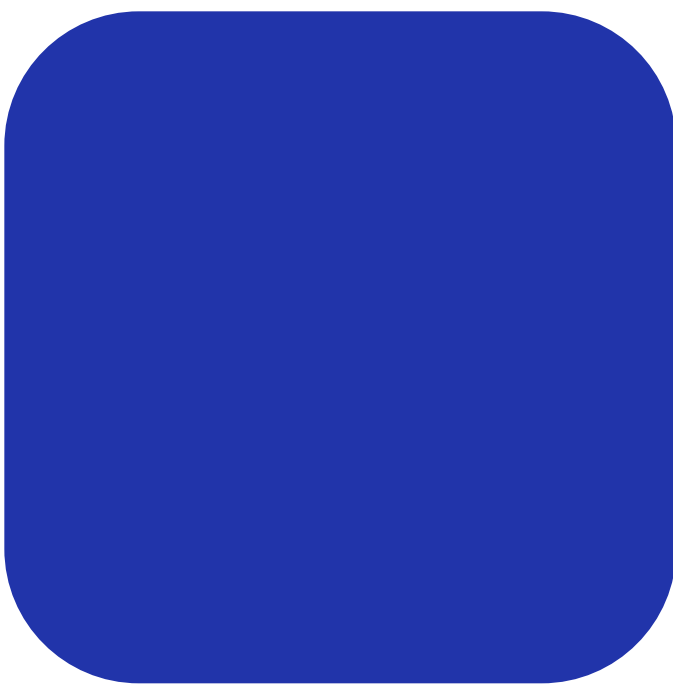
Logomark



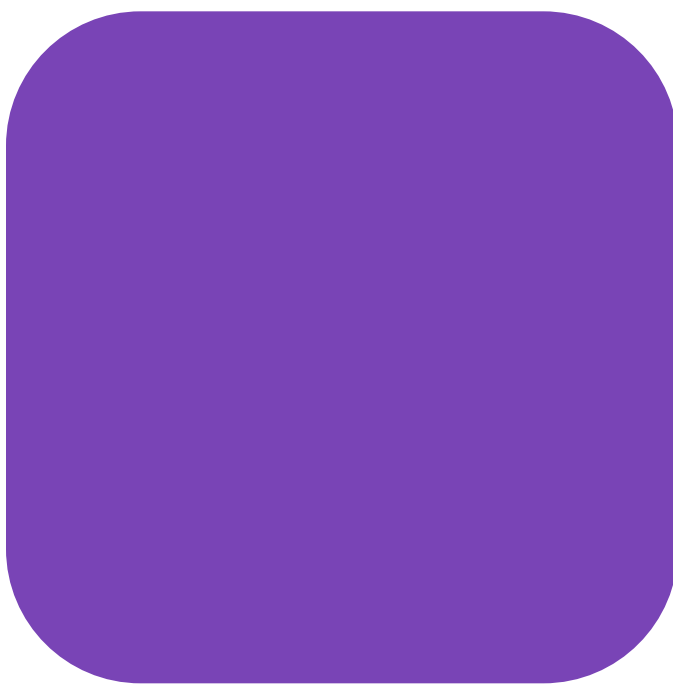
Colors



24C0E9



2135AA



7944B7



F6BDFF



0E1630



E6EDFF



Wordmark



Typography

Style

FUTURA
Bold

Helvetica Neue
Condensed Bold

Helvetica Neue
Regular

Content

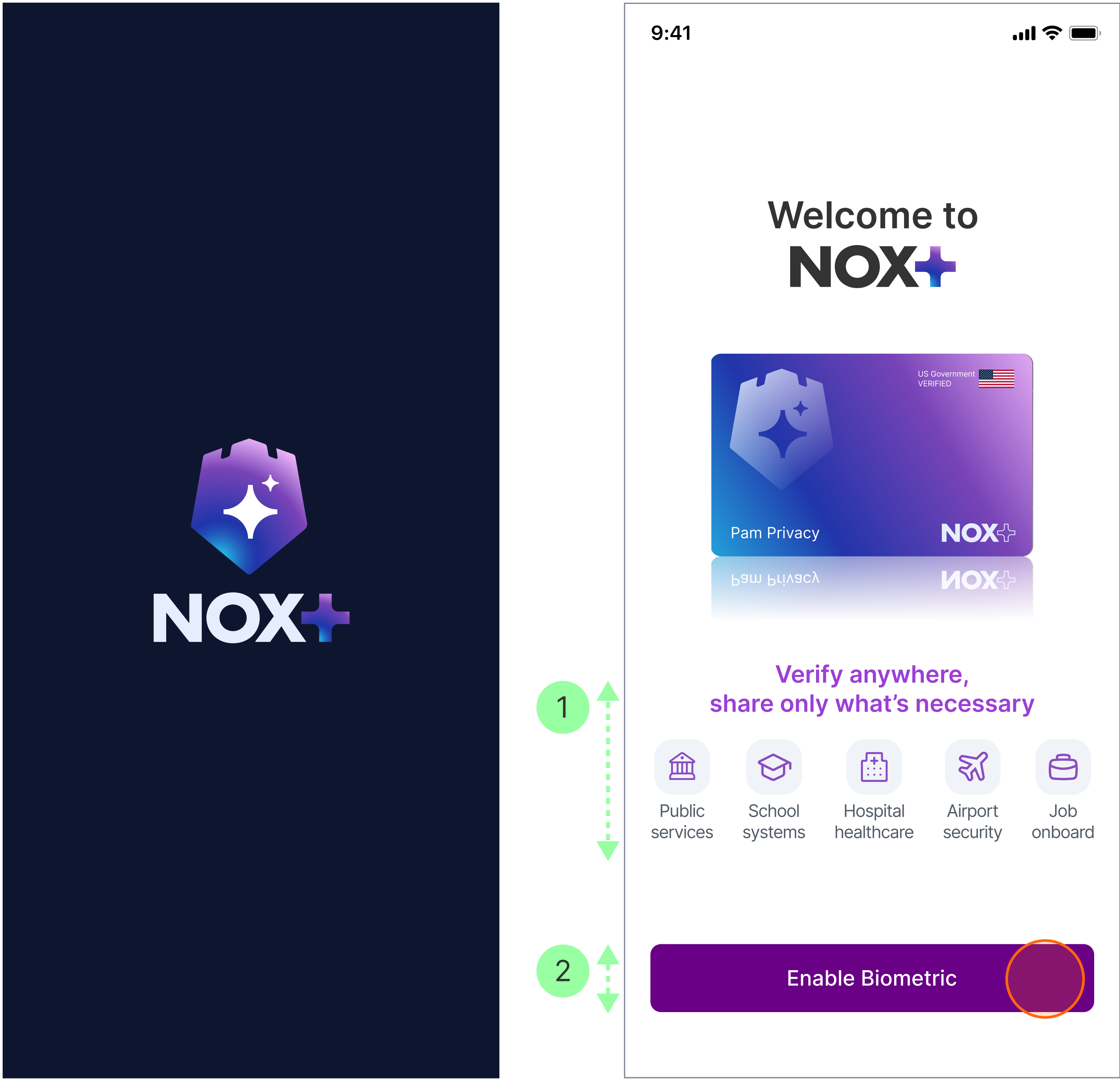
Used for logo font.

Used for headings.

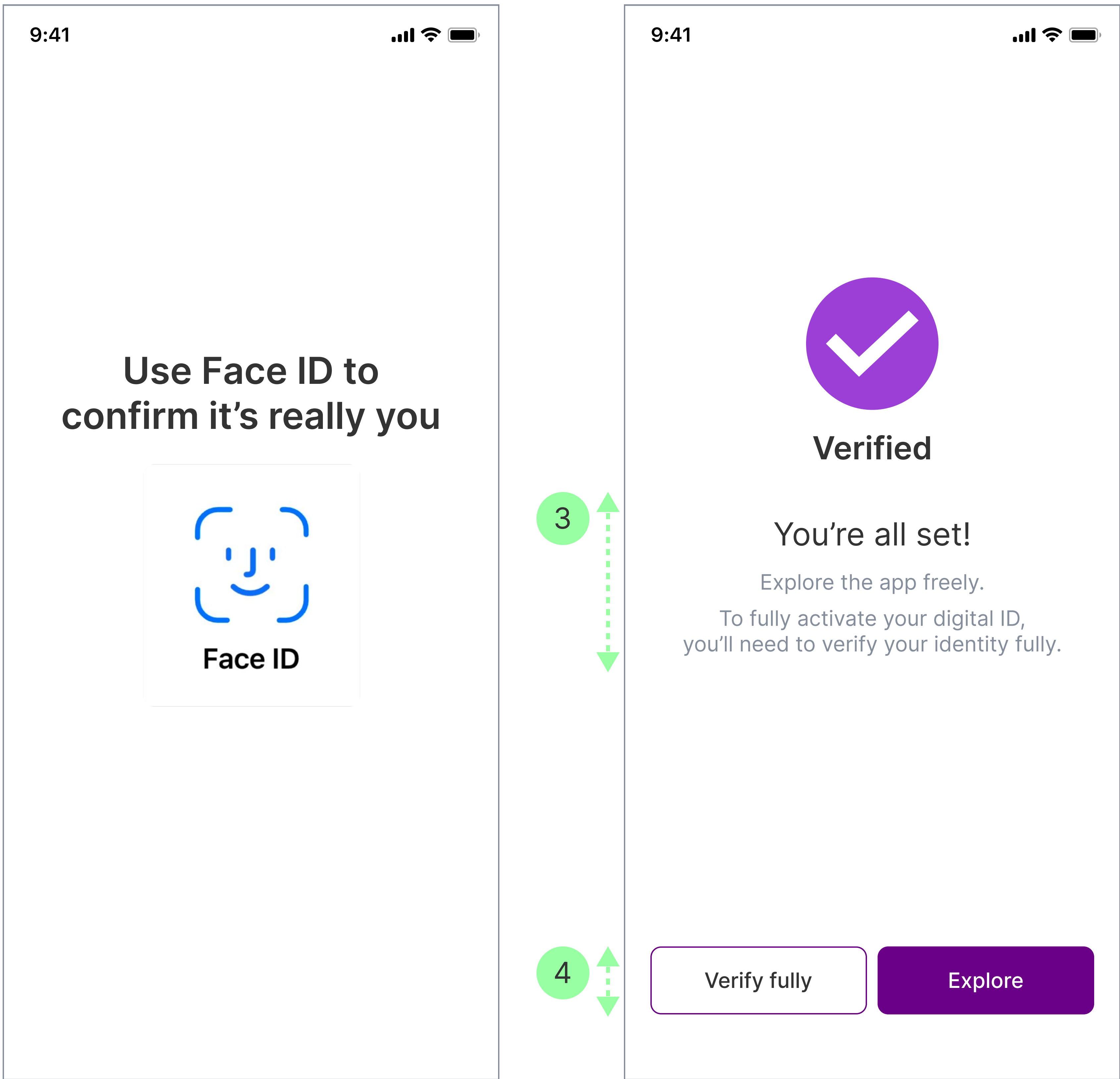
Used for secondary text.

 Please click the link : [Figma prototype](#)

Nox+ App: Onboarding

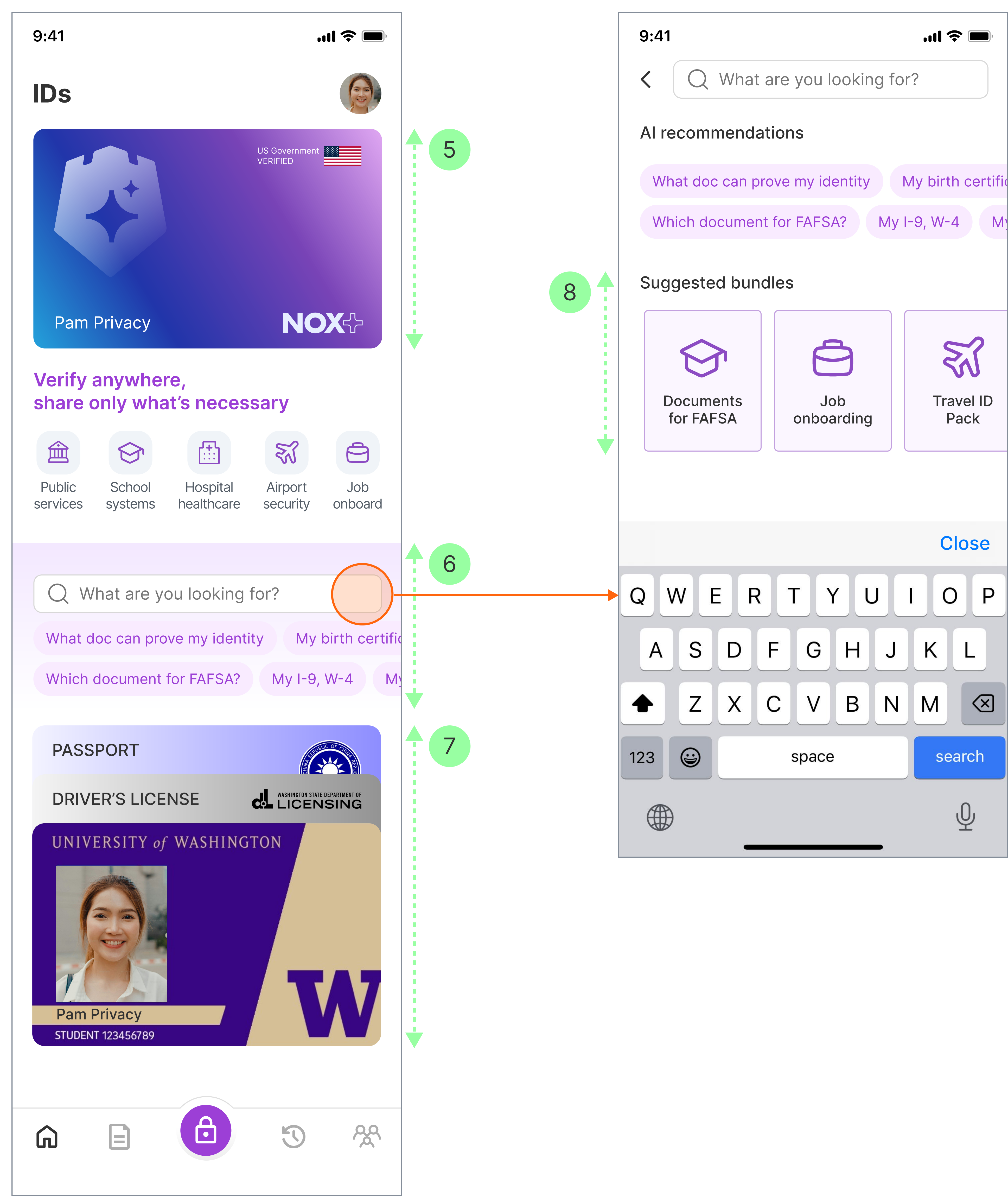


- 1 **Brief introduction to Nox+**
This section provides a simple introduction to Nox+, explaining its purpose as a secure digital identity wallet and setting the context for the onboarding flow.
- 2 **Navigates to the biometric verification screen**
When the user taps the button, they are directed to the biometric verification screen to confirm their identity using Face ID.



- 3 **Light Mode introduction**
After biometric verification, the user is introduced to Light Mode, a limited-access state that allows them to explore the app before completing full identity verification.
- 4 **Two-button layout: proceed or fully verify**
At the end of onboarding, two buttons are presented: one for completing full verification, and one for entering the app. This gives users the flexibility to either explore immediately or finish the full onboarding process.

Home



5 Universal verification card

The Nox+ card serves as a universal digital ID that can be used for identity verification across services. The U.S. Government Verified mark reinforces its authenticity and builds trust, signaling that the identity has been validated using official government documents.

6 Search bar

The search bar allows users to quickly look up documents or information. AI-powered suggestions appear below to guide common queries and speed up navigation.

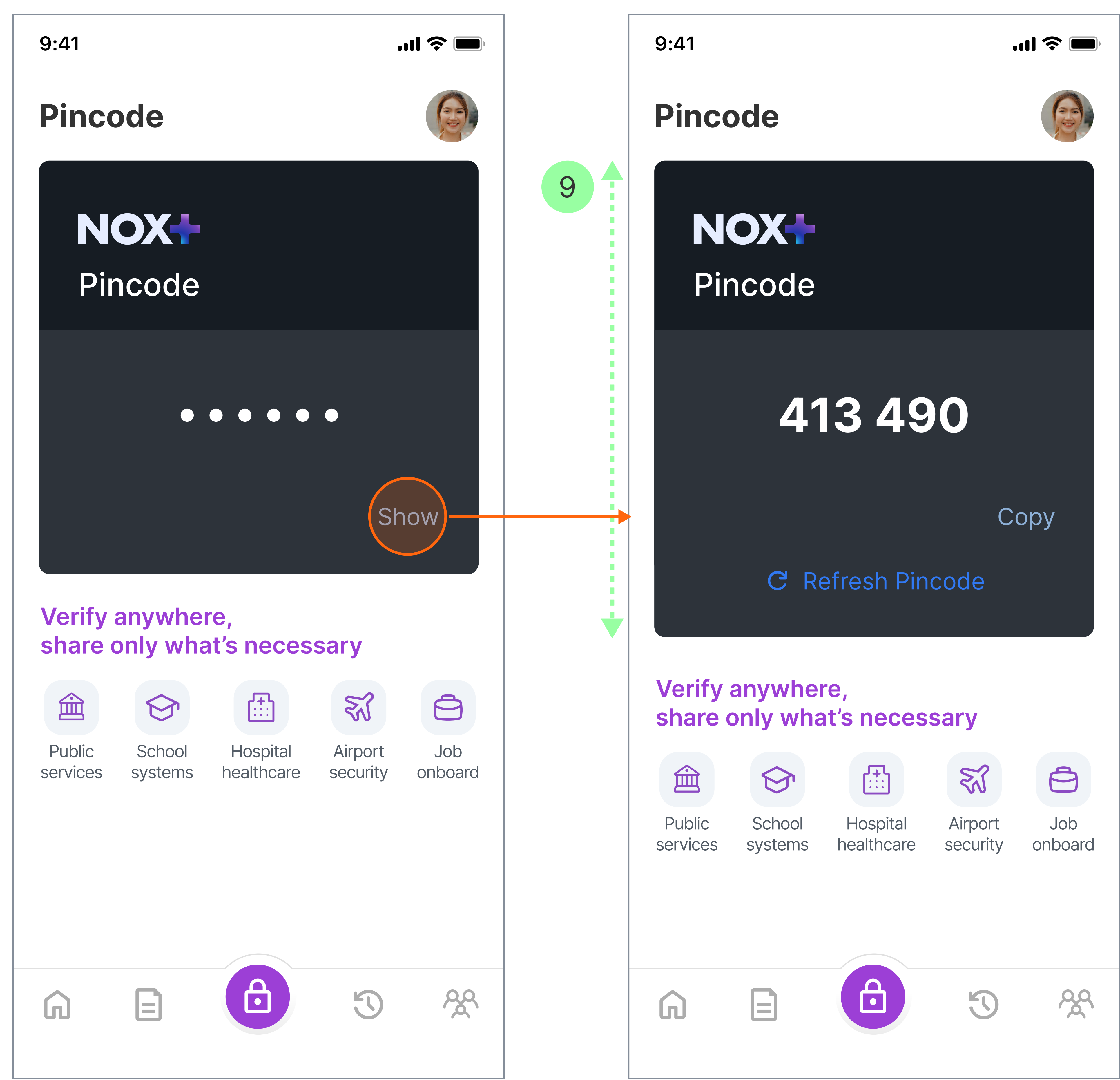
7 Primary documents displayed

Key identity documents—such as passports, driver’s licenses, and student IDs—are surfaced prominently for quick access and reference.

8 Suggested bundles for key tasks

Task-based bundles (e.g., FAFSA documents, job onboarding, travel IDs) are suggested to help users complete common verification tasks efficiently using Nox+.

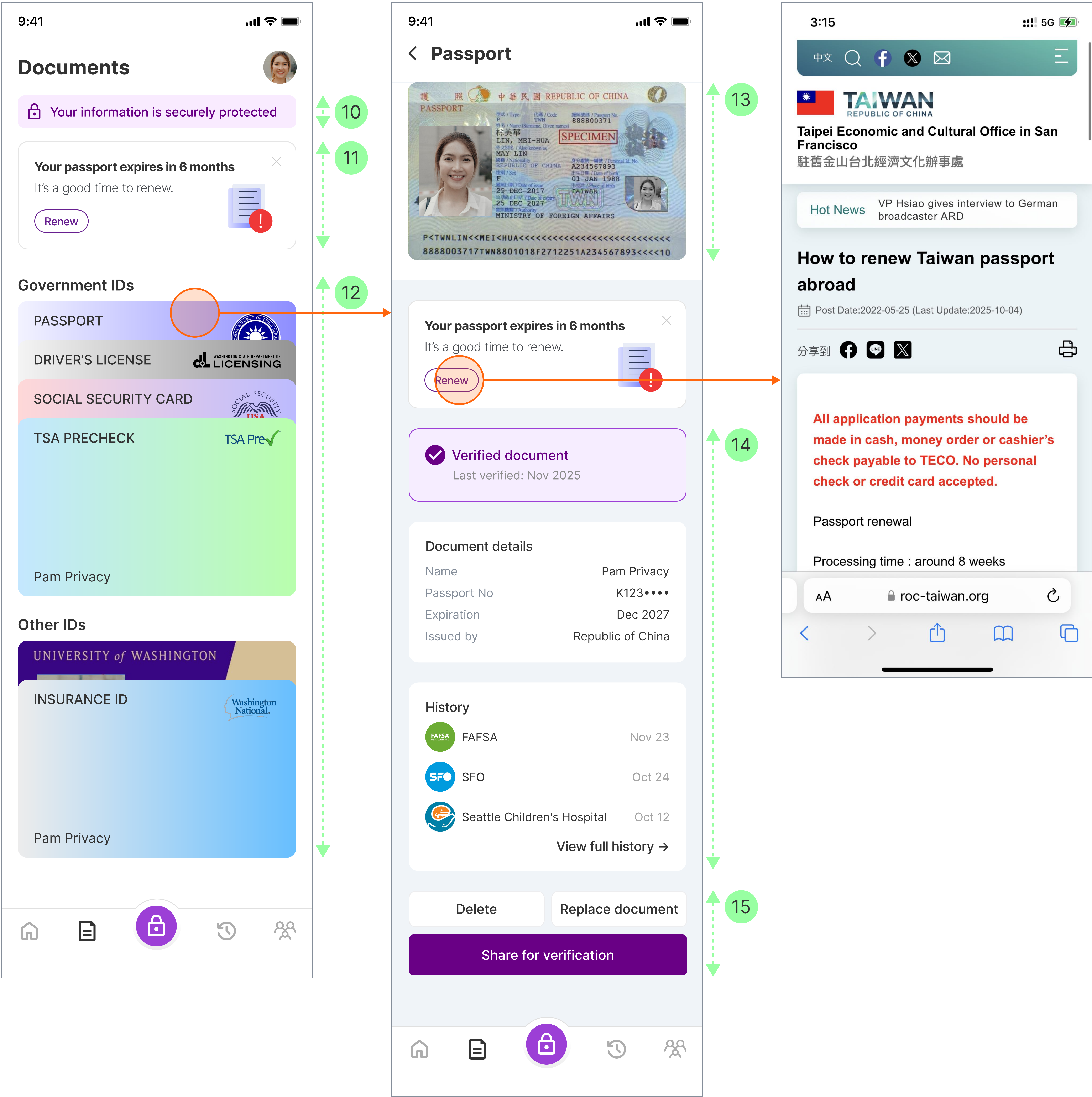
Pincode



9 One-time pincode

Users can reveal a one-time pincode that is required for identity verification across both online and offline services. This temporary code enhances security and ensures that only the verified user can complete the authentication process.

Documents



10 Security reassurance message

A brief security message is displayed to reassure users that their information is securely protected, reinforcing trust and transparency within the Documents section.

11 Expiration alert

An expiration alert appears when a document is nearing its renewal date. The alert includes a “Renew” button that guides users directly to the external renewal site.

12 Auto-populated document list

Documents are automatically populated upon login and categorized into Government IDs and Other IDs. Users can tap each document to view detailed information, history, and verification status.

13 Display of the physical document image

The selected document's image is prominently displayed at the top of the screen, giving users immediate visual confirmation of which document they are viewing.

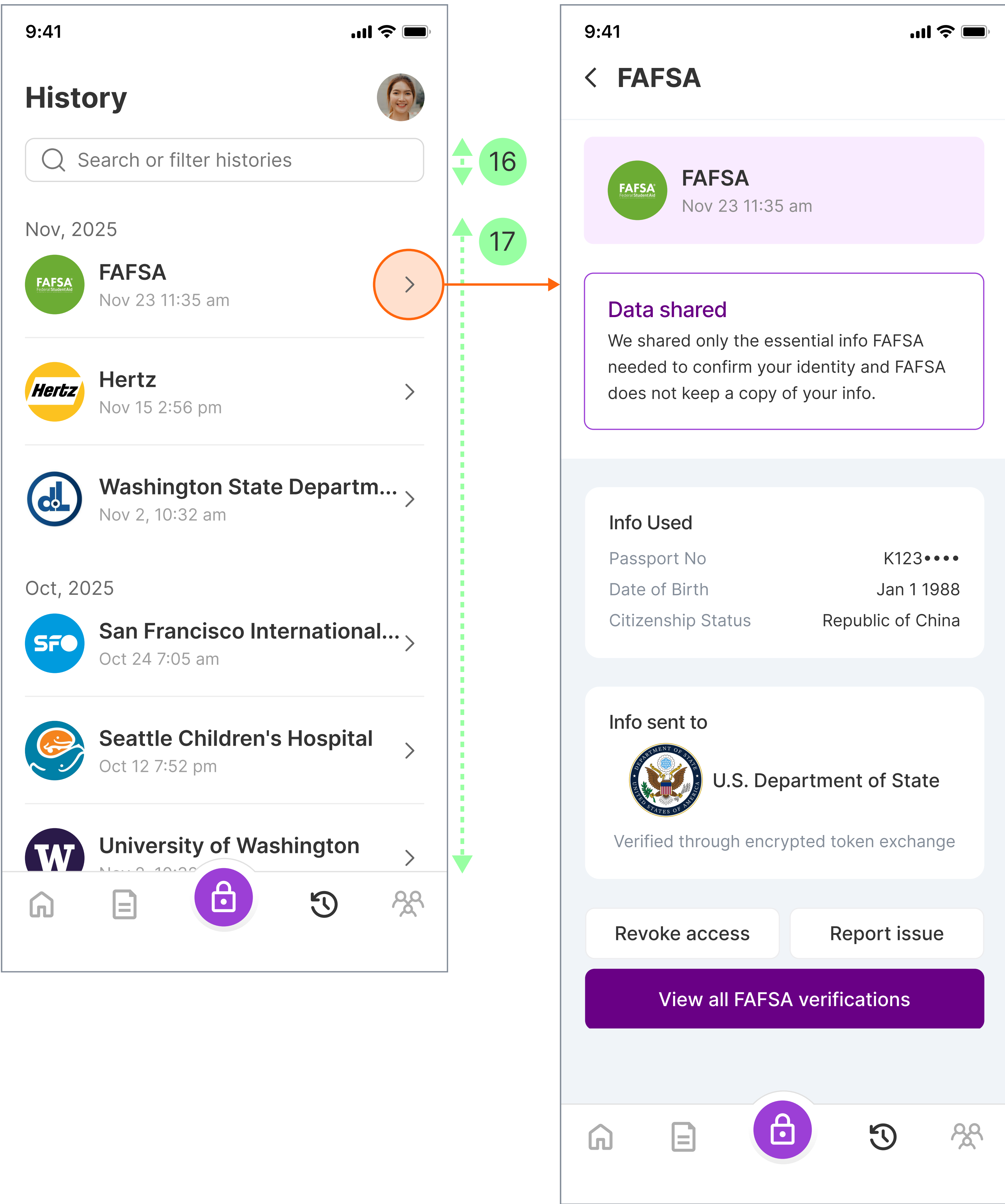
14 Document details section

This section provides comprehensive information related to the document, including verification status, document details, and a full history of where and when it has been used for identity verification.

15 Document management buttons

Action buttons allow users to manage their documents—such as replacing, deleting, or sharing a document for verification—making it easy to maintain or update their digital identity records.

History



16 Search and filter

Users can search or filter their verification history by category, helping them quickly locate past identity verification events. (Refer to the orange text on the right.)

17 Verification history list

A chronological list of identity verification records is displayed. Each module shows the service name, date, and time, allowing users to quickly review where their identity was used.

18 Data shared explanation

This section clearly explains what information was shared with the selected organization. The message reinforces transparency by clarifying that only the minimum required data was provided.

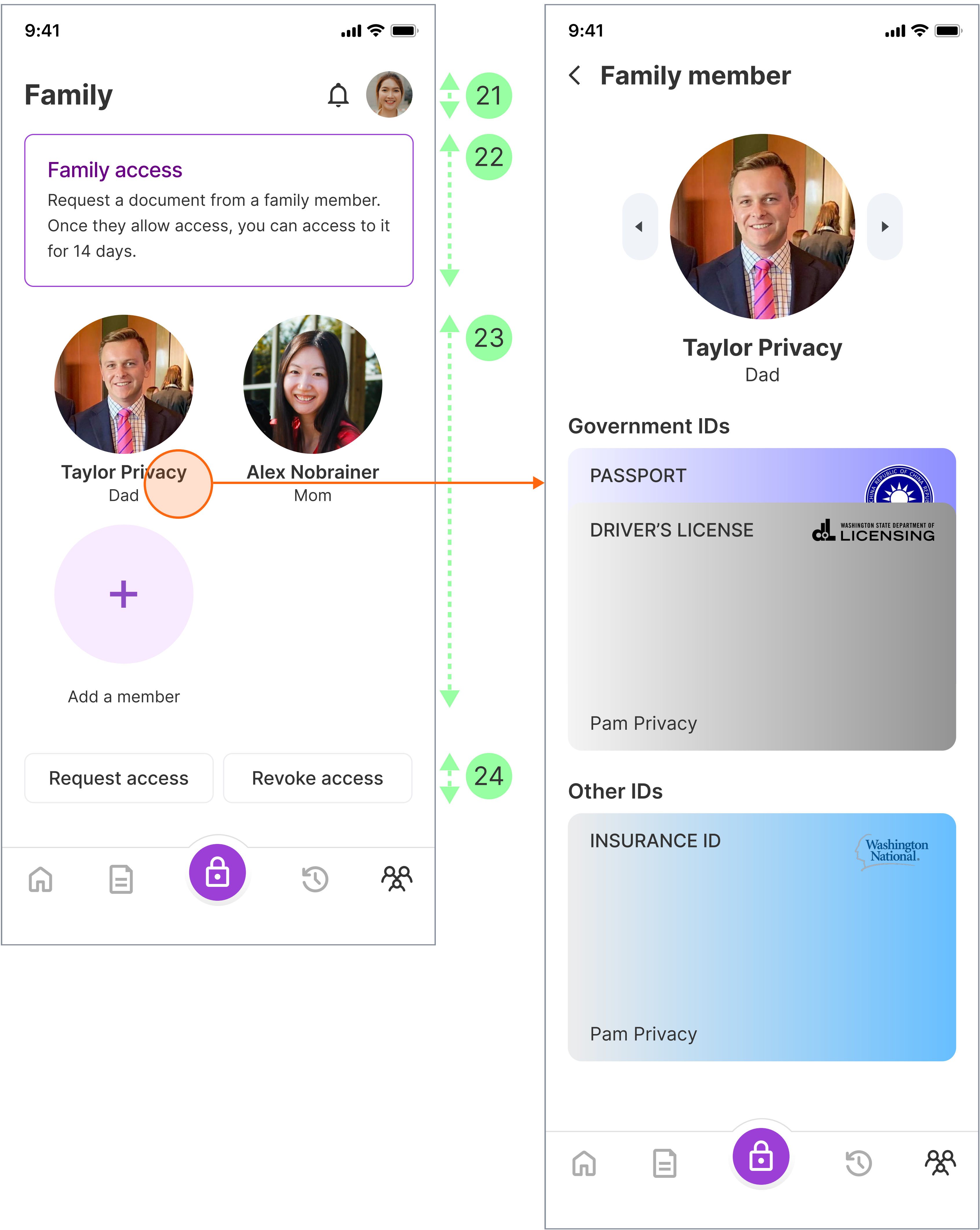
19 Personal information details

This section shows which personal information was used for the verification and clearly indicates the organization it was shared with, giving users full transparency over how their data was utilized.

20 Action buttons for shared data

Users can take further actions on the verification event, including revoking access, reporting an issue, or viewing all past verifications with the selected organization.

Family



- 21 Family access notifications**
Users can view notifications related to family data sharing, including incoming requests, pending approvals, and updates on whether a family member has granted or denied access.
- 22 Family access explanation**
A brief message explains how family access works, clarifying that users can request a family member's document and, once approved, retain access for a limited period.
- 23 Accessible family members and add-member option**
This area displays family members whose information the user can access. An "Add a member" button allows users to invite or connect new family members.

- 24 Family access action buttons**
Users can request access to a family member's documents or revoke previously granted access directly from this section.
- 25 Selected family profile with swipe handle**
The selected family member's profile is shown at the top, along with a swipe handle or control that allows users to switch between different family members easily.
- 26 Documents shared by the family member**
Documents that the selected family member has chosen to share are displayed here, categorized similarly to the main Documents section for easy navigation.

Visual Design System of Nox+ App

Gradient



24C0E9



2135AA

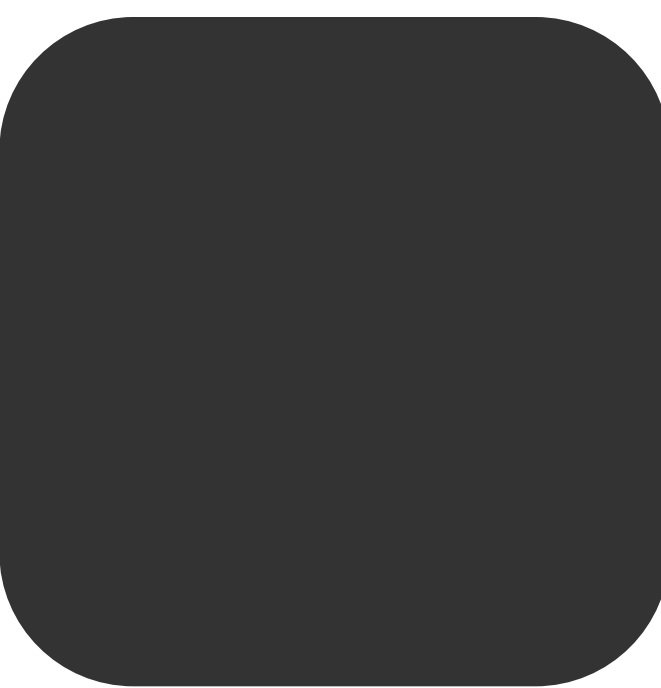


7944B7

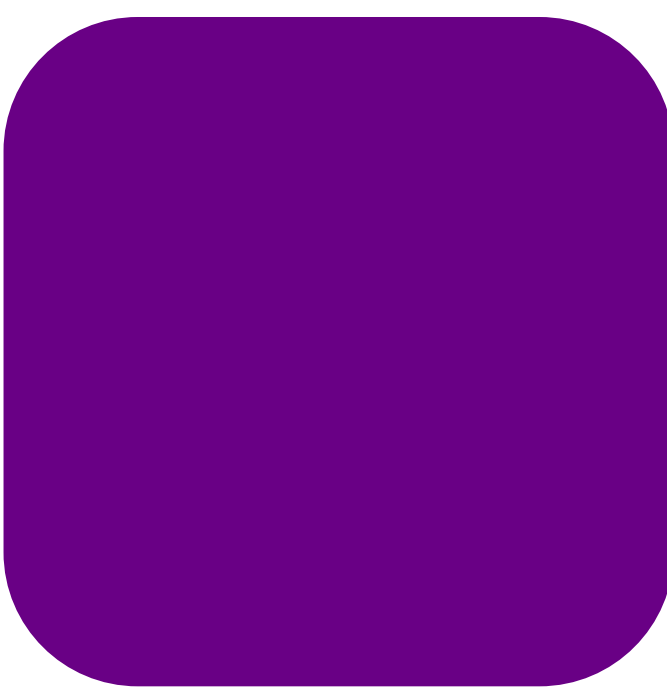


F6BDFF

Colors



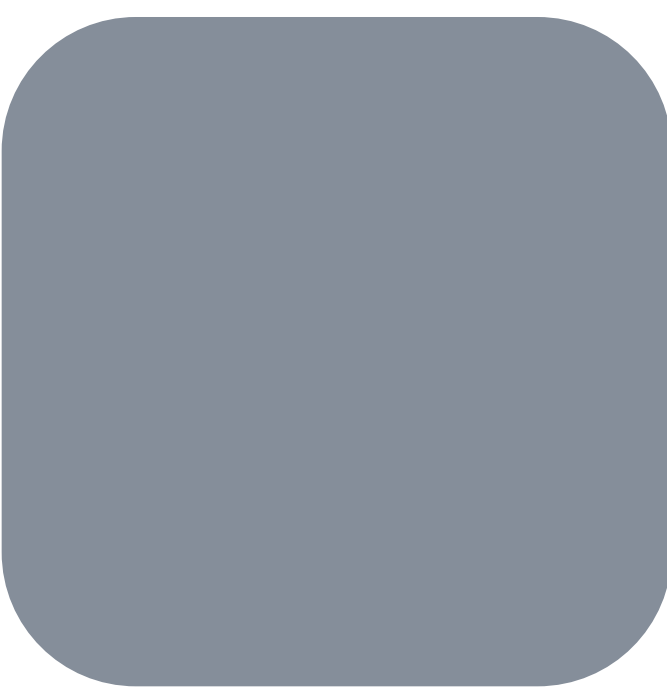
333333



6A0085



9C40D6



858F9B

App Icons



Mock up



Typography

Style

FUTURA
Bold

Inter
Bold

Inter
Semi Bold

Inter
Medium

Inter
Light

Content

Used for logo font.

Used for app page headings.

Used for labeling on history page.

Used for subheadings in pages and button CTAs.

Used for paragraph text.

Visual Design System of Nox+ App

Buttons

Button Layouts

1 Button



2 Button



Button Priority Levels

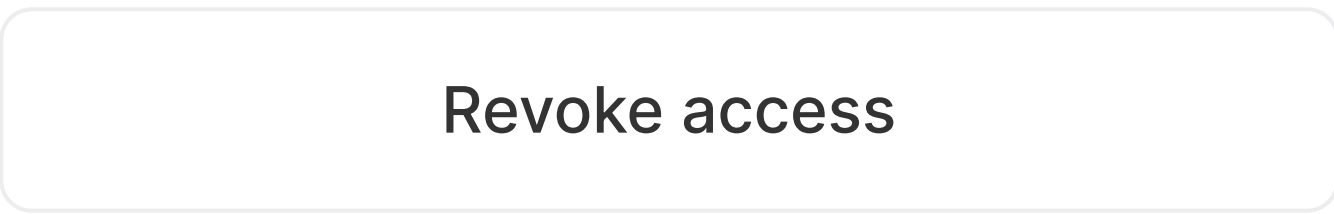
Primary Buttons



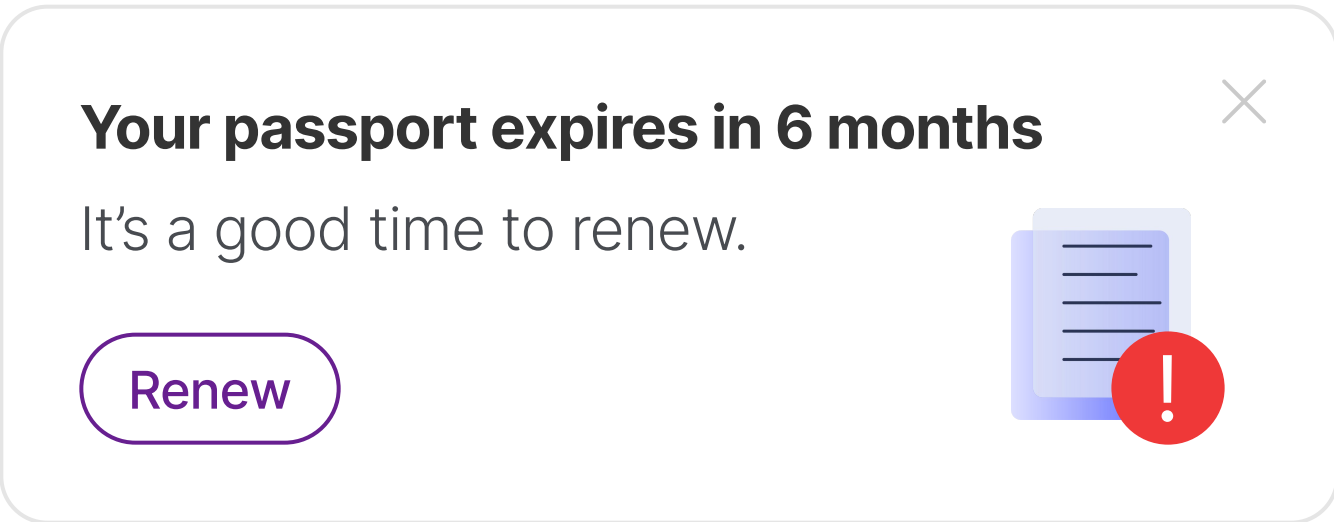
Secondary Buttons



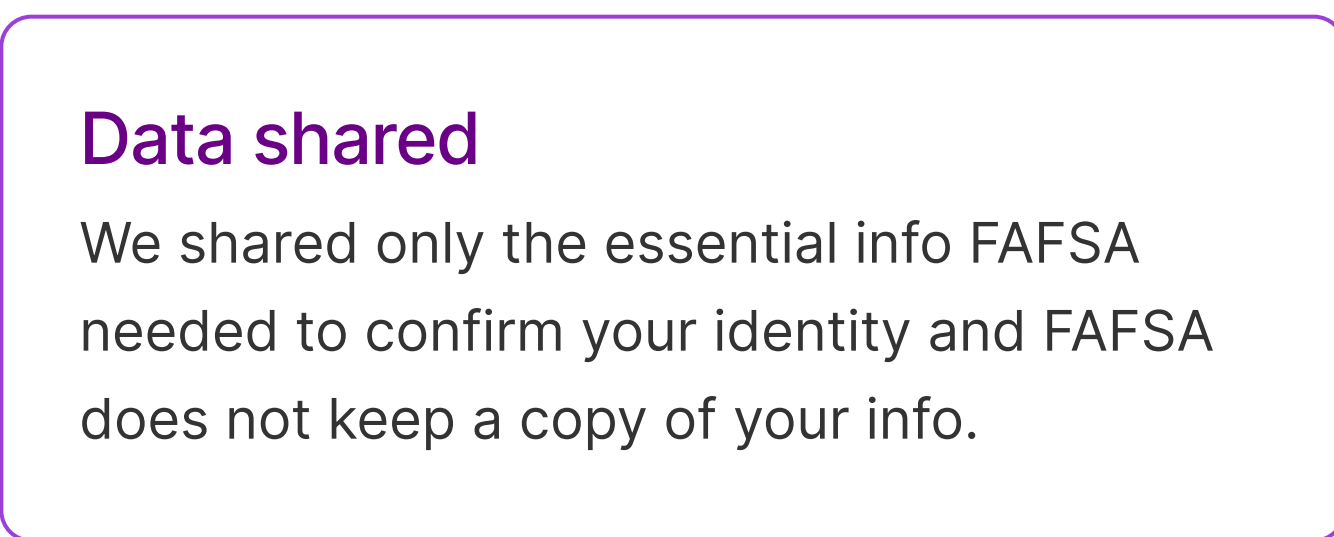
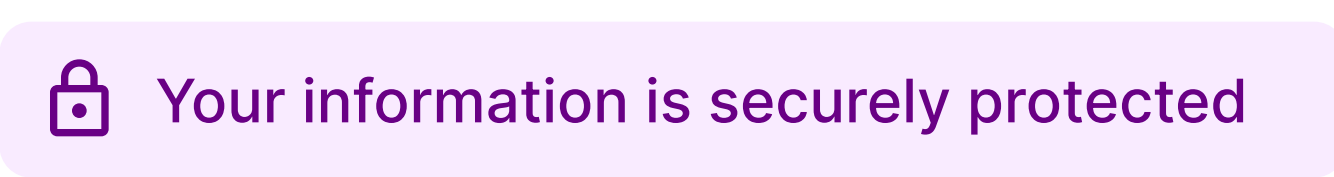
Tertiary Buttons



Alarm module



Guide module



Nox+ Digital Card

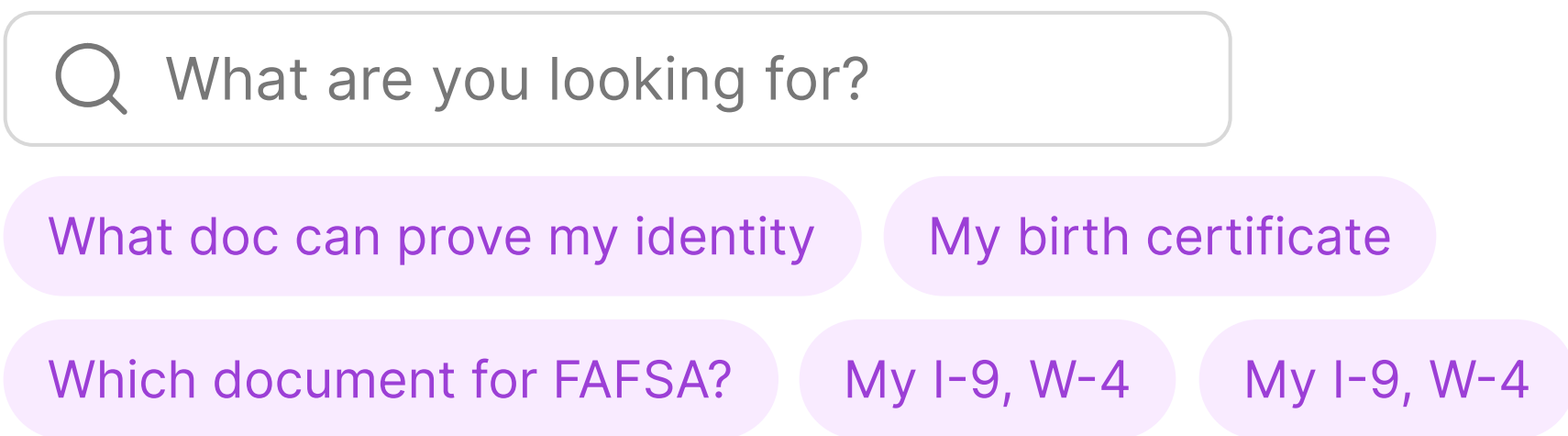


Product explanation

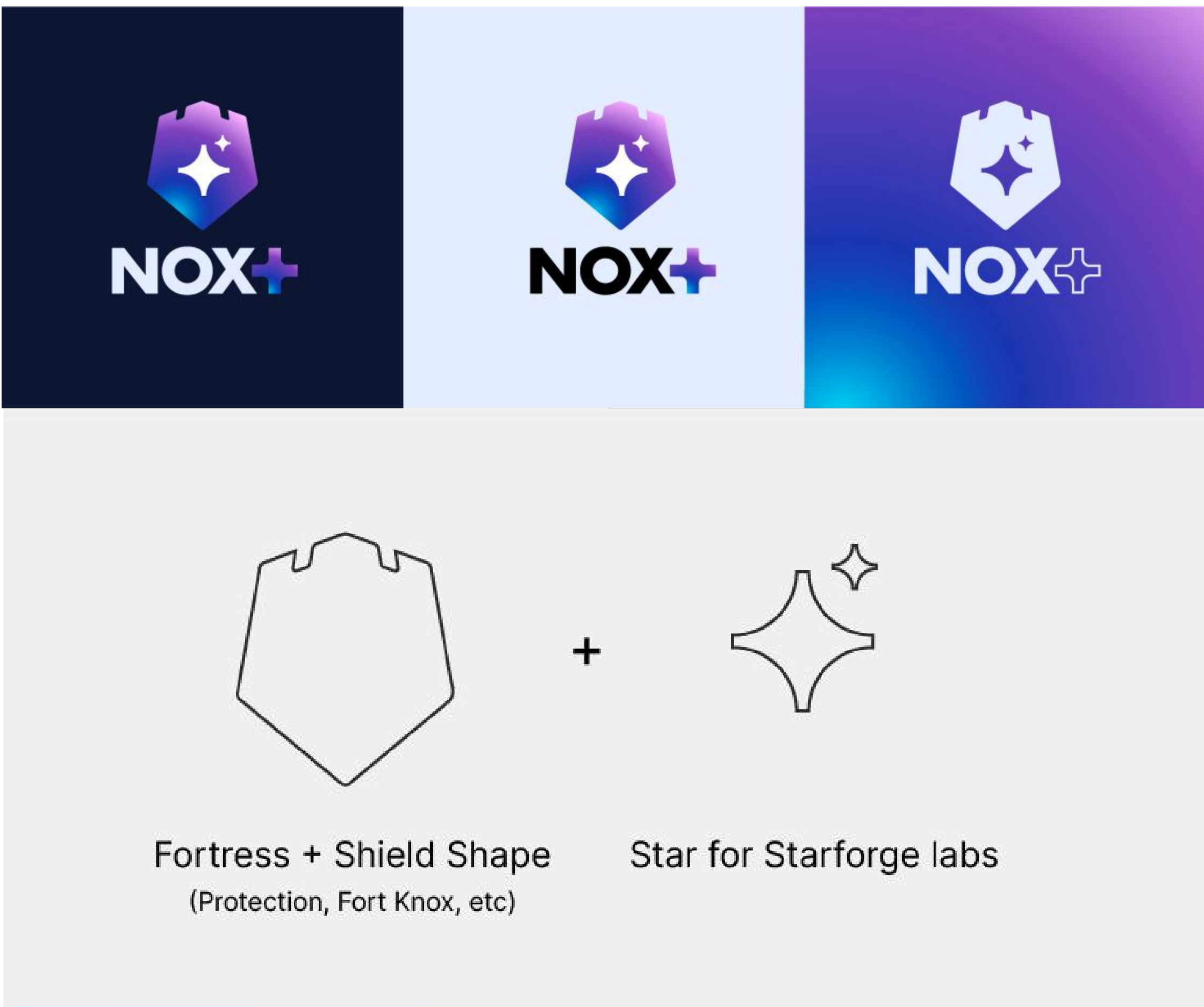
Verify anywhere,
share only what's necessary



Search bar, AI recommendations



Logo



6. Appendix

Please click the links below:

[Poster](#)

[Elevator pitch](#)

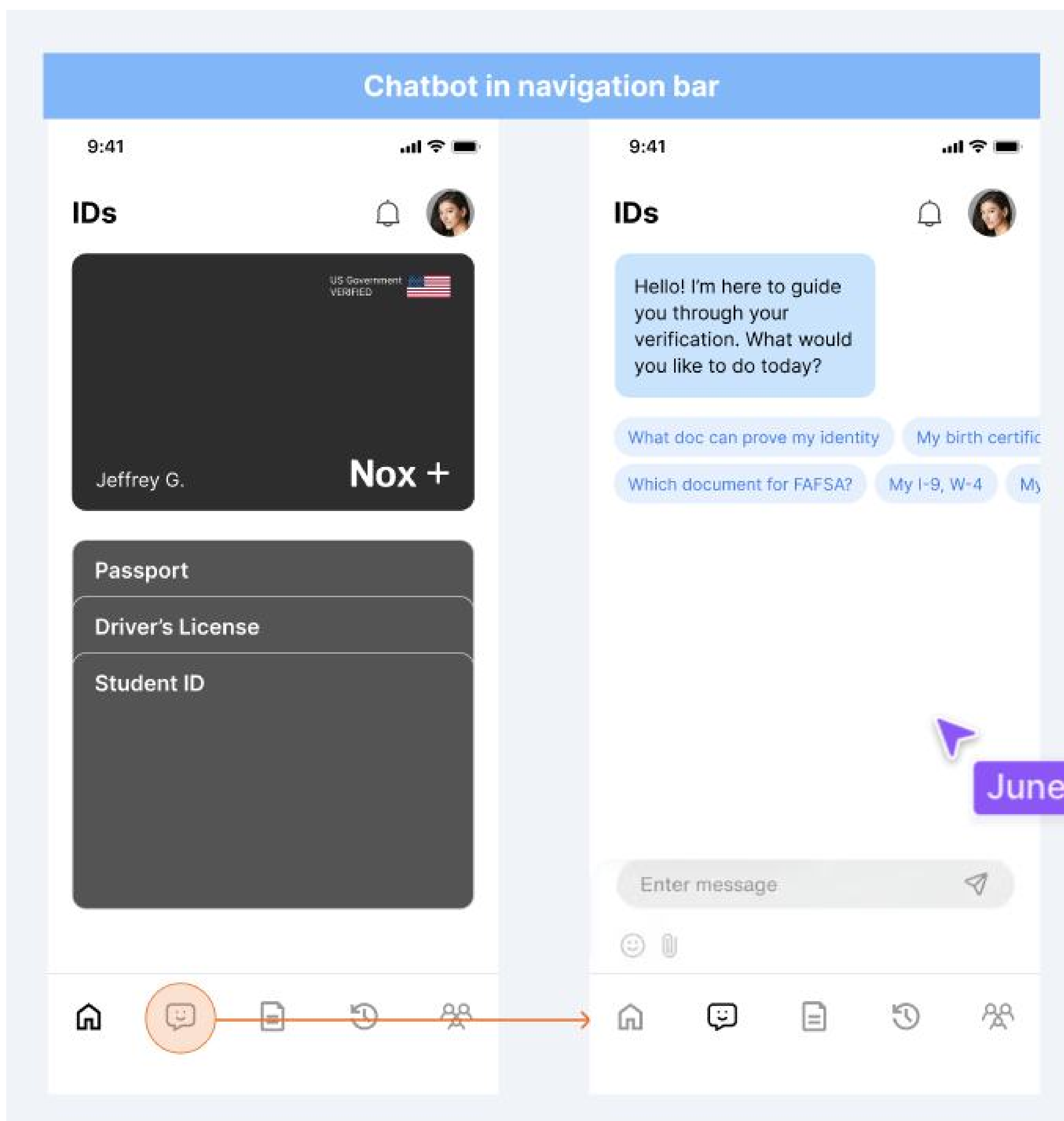
[Video demonstration](#)

[Figma prototype Nox+ app](#)

4. Design Decisions & Rationale Cont.

Search Bar

The AI- powered search bar helps students navigate confusing verification requirements by allowing them to ask natural-language questions such as “What do I need to verify my address?” or “Show me my passport.” Our research showed that 34% of students were unsure which document to use, and many described verification as “confusing” or “easy to mess up.” The AI search bar reduces cognitive load by providing clear recommendations, quick document retrieval, and guided steps for different verification scenarios. This supports both convenience-driven users and those who want reassurance and clarity.



We initially had an AI chatbot feature where users could ask about any identity verification process or any of their documents. However, we found through usability testing that users are uncomfortable with this level of AI having access to their documents. Users mentioned they did not trust this system so we instead opted for a more common search bar feature. This also has AI-powered recommendations but is less traditionally like an AI feature and thus puts users at ease.