inclusion+

FACTSHEET · MOBILE APP PROTOTYPE

Designing & Scaling an Accessible Mobile App for International Students with Disabilities

The Inclusion+ prototype is the product of an Erasmus+ co-design project that treats accessibility as a fundamental right — building one tool that unifies mobility, campus support, community, and verified data into a single experience that scales across countries.

PROJECT CONSORTIUM & FUNDER

Project Number: 2023-1-PT01-KA220-HED-000160391. Funded by the European Union. Views and opinions expressed are, however, those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

01 — OVERVIEW & RATIONALE

Why the world needs another accessibility app — and why this one is different

Existing accessibility apps too often offer inaccurate data, fail to interoperate with assistive technologies, or trap information in isolated silos. The Inclusion+ prototype was developed to overcome these deficits by integrating public-space accessibility, campus navigation, educational support and social connectivity into a single, user-centered system. Its primary objective is to increase student autonomy — replacing dependence on companions, guesswork, and outdated information with verified, real-time data the student controls.Inclusion+ was designed with them — through structured co-design labs across three countries — and the principles you see in this factsheet reflect what students themselves identified as essential.

Before initiating the Collaborative Design Workshops (Collabs), the development team established a foundation by utilizing the project's earlier research outputs. The app's framework was heavily informed by the Storytelling Report, which provided deep qualitative insights into the lived experiences and specific barriers of our target students, alongside the Online Inventory, which mapped existing promising practices for inclusive mobility across institutions. Together with the Synthesis Report that consolidated cross-country insights into clear priorities, these foundational documents ensured that the Collabs were deeply grounded in real-world evidence.

~5%

Of Erasmus+ mobility participants are students with fewer opportunities — including disability, caring responsibilities, and socioeconomic barriers.

4	5	≥70%
COUNTRIES	FUNCTIONAL DOMAINS	USER TEST SCORE

What is Design Thinking?

In user experience (UX) studies, design thinking is a human-centered problem-solving approach. Rather than starting with a technical solution, the designer starts with the person — understanding their context, motivations, and constraints, then iterating quickly toward a working answer.

It typically moves through five non-linear phases: **Empathize → Define → Ideate → Prototype → Test**. Inclusion+ followed this loop directly, with disabled students leading each phase rather than being researched *about*.

02 — SIX FOUNDATIONAL PRINCIPLES

The non-negotiables of the prototype

Co-Designed

Built directly with disabled students, treated as experts by experience — not as an abstract demographic to be served.

Verified Data

Prioritizes real-time, institutionally sourced accessibility information over unverified crowdsourcing.

Comprehensive Coverage

Unifies mobility, academic infrastructure, communication, and community support into one ecosystem — not five disjointed apps.

Accessibility-First

Out-of-the-box compatibility with assistive tech (VoiceOver, TalkBack, switch controls) — never an opt-in layer.

Global Scalability

Modular architecture, local data integration, and linguistic localization allow new countries to adopt the framework while maintaining region-specific accuracy.

Privacy by Design

Sensitive accessibility and biometric data is processed on-device wherever possible; disability status is never shared with third parties, and GDPR compliance is the floor, not the ceiling.

PART 1 · 03 — DESIGN PROCESS

From lived experience to working prototype, in six steps

Each step was led by the same students who would ultimately use the app. The role of UX researchers was to facilitate, prototype, and synthesize — not to dictate the design.

1

CONTEXTUAL RESEARCH & PREPARATION

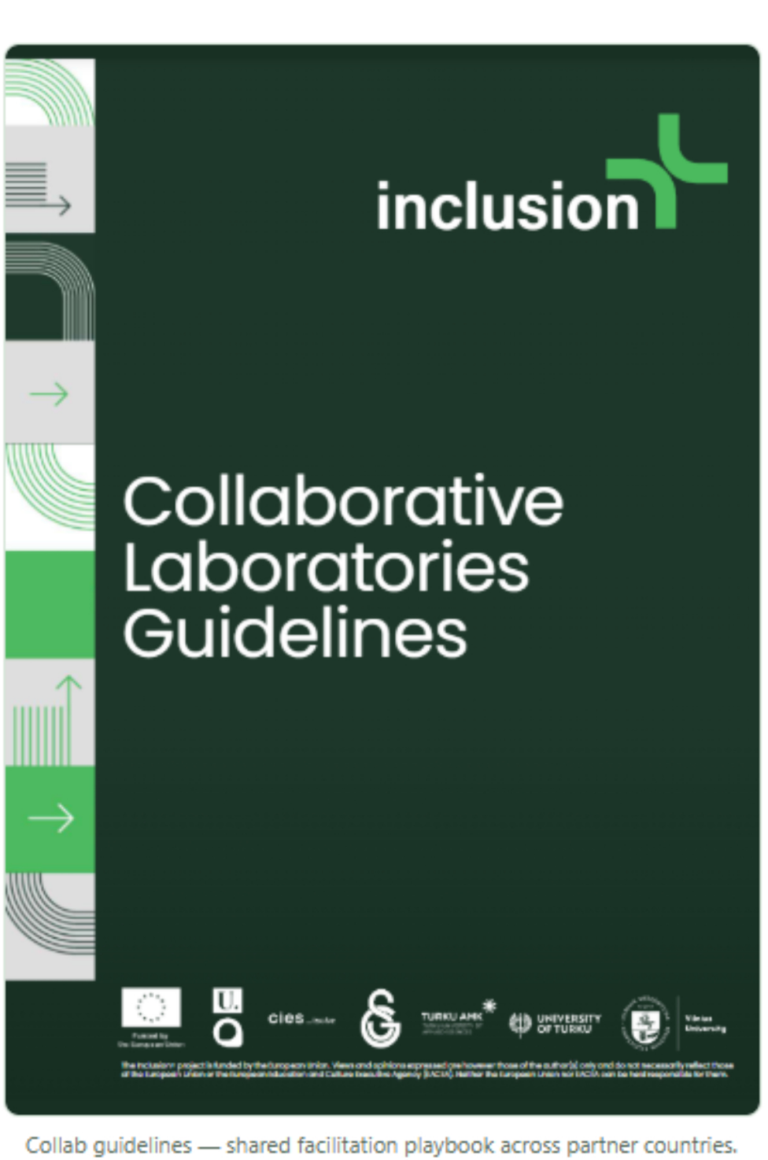
Build the field evidence — and write the playbook

Before convening any students, researchers travelled across host cities to document accessibility conditions firsthand — public transport, urban infrastructure and university facilities — and recorded structured observations against a shared rubric. In parallel, a written set of *Collab guidelines* was prepared so every partner country could run sessions consistently, and a pre-Collab checklist was built to ensure no operational detail was missed before students arrived.

Researcher field observations — public transport, infrastructure & campus accessibility.

inclusion+
Collabs Checklist
Mobility

Pre-Collab checklist used by organizers to prepare each session. It guided facilitators in structuring the discussions to thoroughly map the users' international mobility journey, from pre-departure planning and urban transit to daily academic and social life .



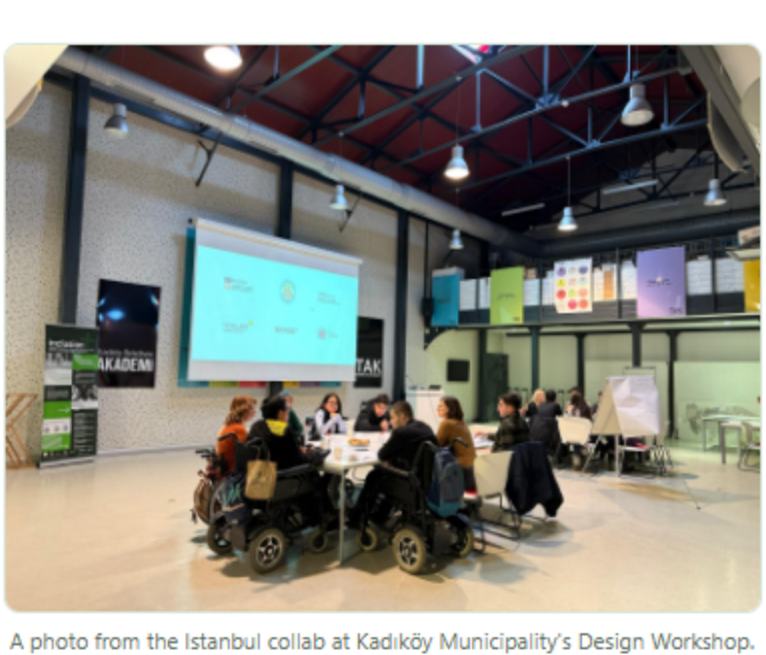
Collab guidelines — shared facilitation playbook across partner countries.

2

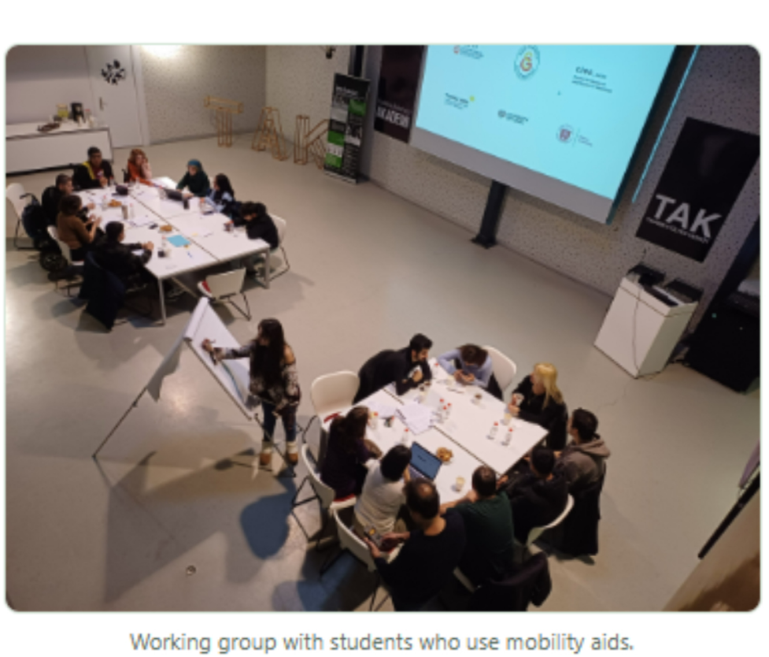
COLLABORATIVE DIALOGUES

Run co-design labs across countries

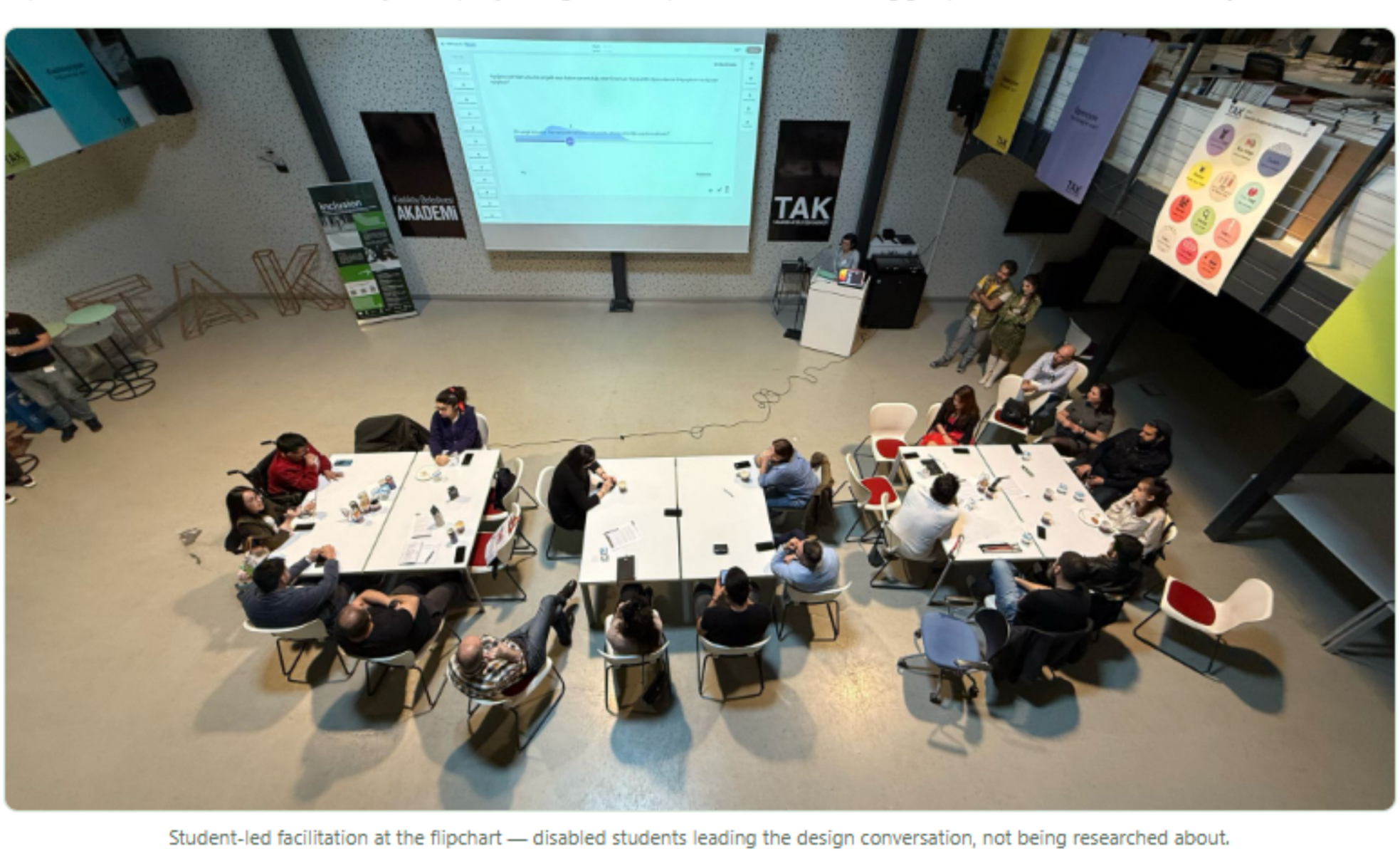
Collaborative Laboratories — what we call *Collabs* — were held in Turkey, Finland, Portugal and Lithuania. Researchers designed alongside students with visual, physical, and hearing impairments. Each session was grouped by disability type so participants could speak from shared experience, then paired with UX designers and researchers. Students mapped their mobility routines, technological barriers, and personal narratives of international study.



A photo from the Istanbul collab at Kadıköy Municipality's Design Workshop.



Working group with students who use mobility aids.



Student-led facilitation at the flipchart — disabled students leading the design conversation, not being researched about.

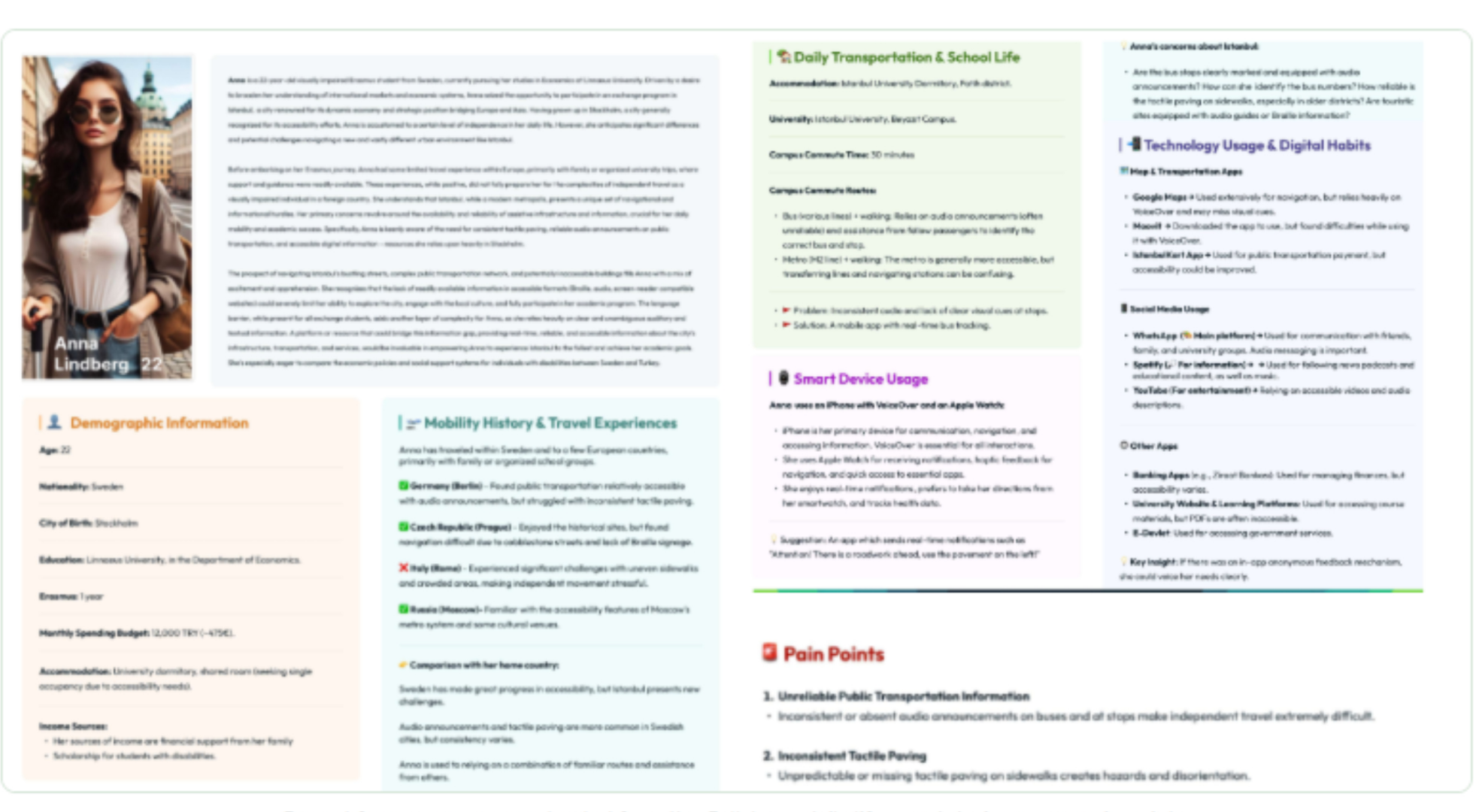
3

PERSONAS & REQUIREMENTS

Translate the Collabs into personas and design requirements

Structured discussions deconstructed international mobility into four distinct phases: pre-mobility transit, urban obstacles, academic life, and social well-being. The team then constructed *personas* — composite portraits of international students with disabilities — to keep design decisions anchored in concrete user reality. From the mapping, four strict design requirements emerged:

- **Reliability —** information must be regularly verified for real-world practicality.
- **Accessibility —** screen readers, voice inputs and contrast controls must be supported by default.
- **Personalization —** users must be able to adapt the tool to their specific impairment and environment.
- **Interoperability —** the app must connect to existing municipal and university infrastructure.


Anna Lindberg, 22
Demographic Information
Mobility History & Travel Experiences
Daily Transportation & School Life
Smart Device Usage
Technology Usage & Digital Habits
Pain Points
1. Unreliable Public Transportation Information
2. Inconsistent Tactile Paving

Excerpt from a persona constructed from the Collabs — daily life, smart device usage, pain points.

4

FUNCTIONAL DOMAINS

Define the five domains that form the "super app"

Insights from the Collabs synthesized into the functional blueprint of the prototype:

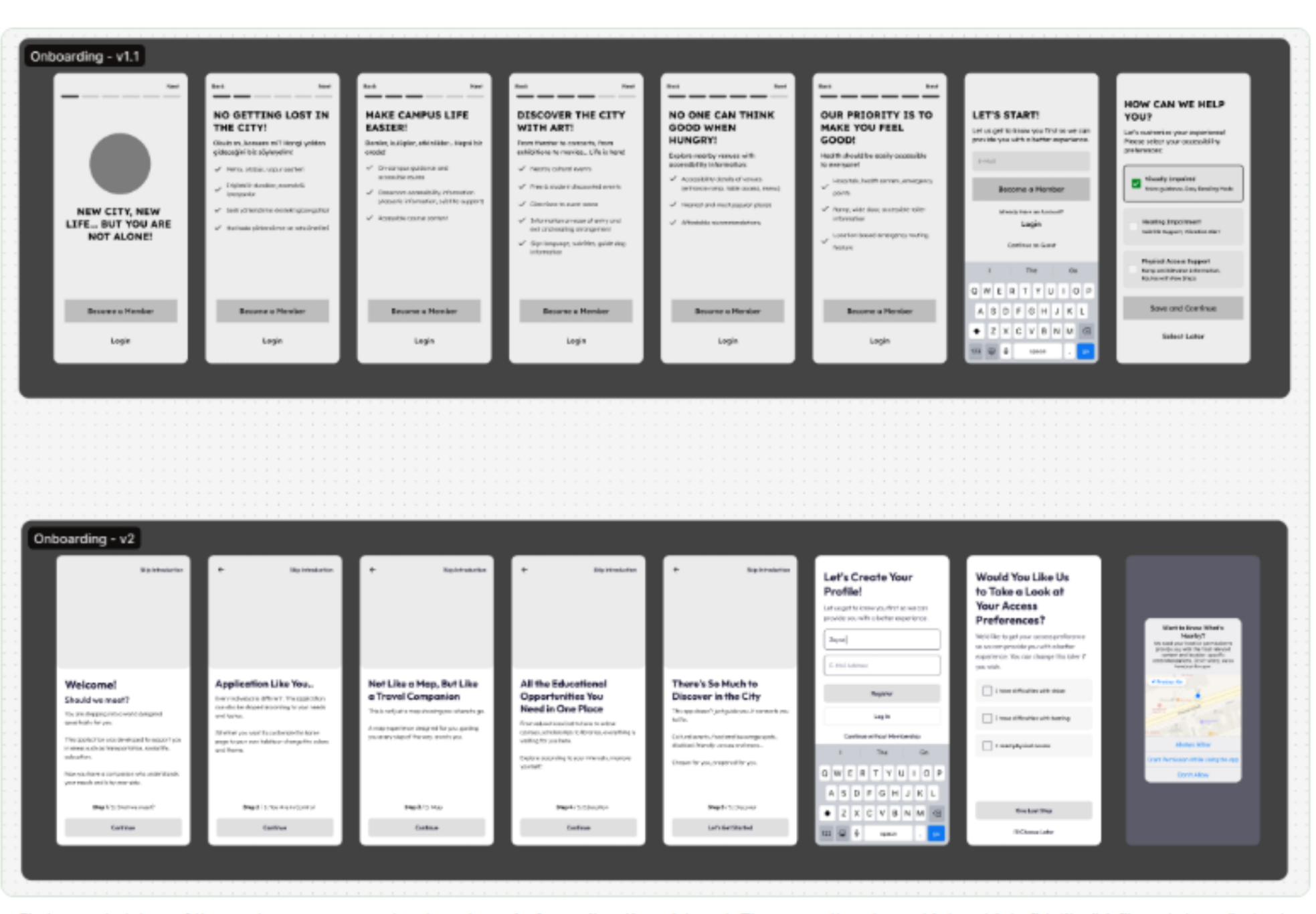
- **Mobility & Navigation —** real-time routing, indoor navigation, verified location accessibility.
- **Education & Campus Support —** accessible course materials, university floor plans, direct line to disability units.
- **Communication & Assistance —** direct messaging with service providers and anonymous feedback channels.
- **Community Participation —** peer-support forums ("Let's Grow Together") designed to reduce isolation.
- **Customization & AI —** multilingual support, variable UI settings, AI-driven environmental descriptions.

5

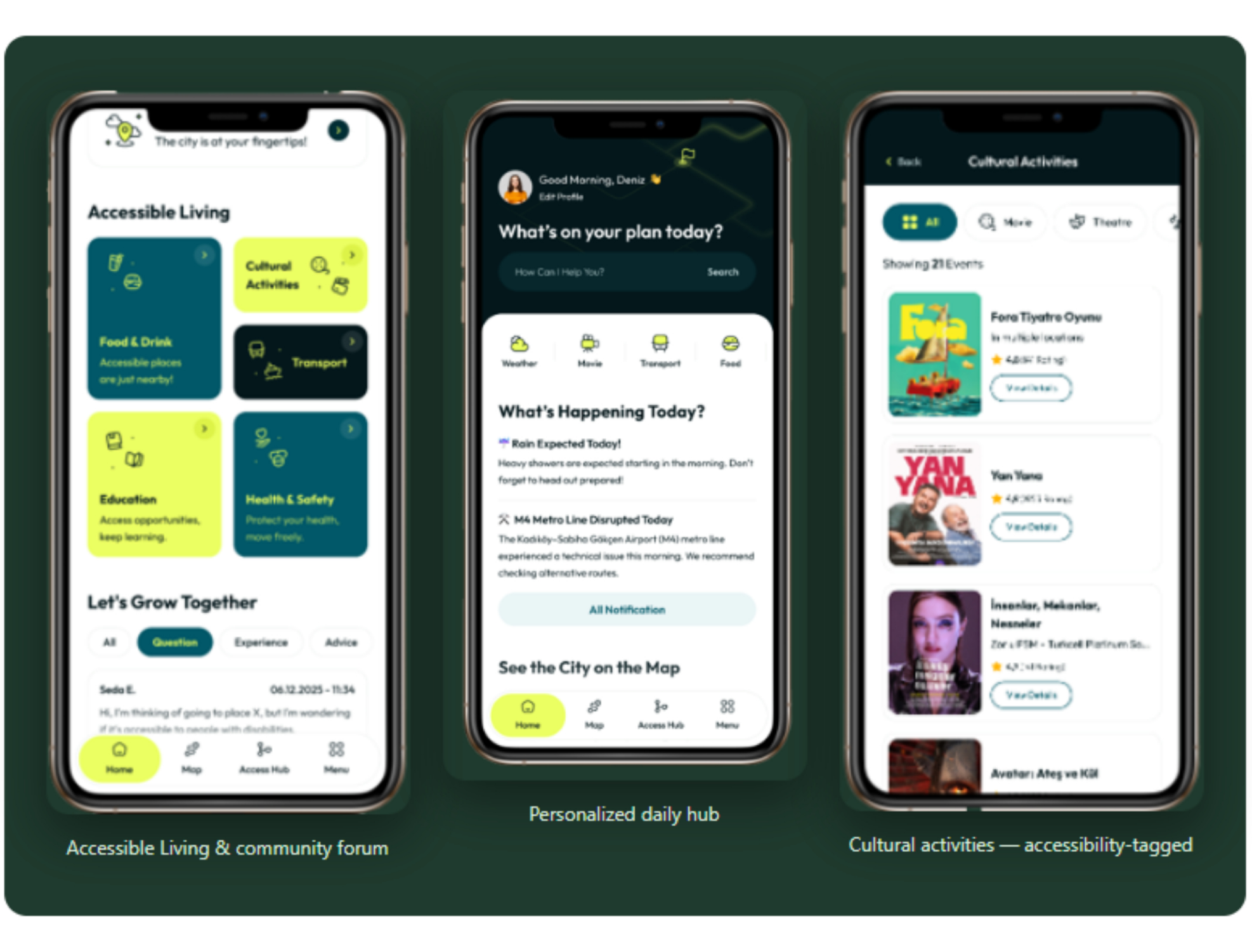
WIREFRAMING & HIGH-FIDELITY PROTOTYPING

From low-fidelity sketches to an interactive Figma prototype

The team designed the interface iteratively. Low-fidelity wireframes mapped the full onboarding and screen flow before any visual design was applied — this allowed us to test structure with students in an affordable way. Once the flow stabilized, the wireframes were translated into a high-fidelity, branded prototype in Figma, ready for testing with the same Collab participants who shaped the requirements.


Onboarding - v1.1
NEW CITY, NEW LIFE... BUT YOU ARE NOT ALONE!
NO GETTING LOST IN THE CITY!
MAKE CAMPUS LIFE EASIER!
DISCOVER THE CITY WITH ART!
NO ONE CAN THINK GOOD WHEN HUNGRY!
OUR PRIORITY IS TO MAKE YOU FEEL GOOD!
LET'S START!
HOW CAN WE HELP YOU?
Onboarding - v2
Welcome! Should we meet?
Application Like You...
Not Like a Map, But Like a Travel Companion
All the Educational Opportunities You Need in One Place
There's So Much to Discover in the City
Let's Create Your Profile!
Would You Like Us to Take a Look at Your Access Preferences?

First, raw sketches of the app's screens were developed as wireframe iterations (above). They were then turned into a high-fidelity (hi-fi) prototype (below), which is a realistic, interactive, and polished model of what the final app will look and feel like. Designers build such prototypes for several reasons. Hi-fi design prototypes let people try out the app to see if it makes sense before the team spends months writing expensive software code. It is much faster and cheaper to change a design in a graphics program than it is to rewrite thousands of lines of actual code. It also gives the creators a realistic preview to demo before the heavy lifting begins.



Accessible Living & community forum

Personalized daily hub

Cultural activities — accessibility-tagged

6

TRUST, SCOPE & ACCESSIBILITY BY DEFAULT

Lock in the non-negotiables: verified data, bounded scope, accessible from launch

Participants emphasized that verified data on lifts, transport status, and room access is non-negotiable. The prototype integrates municipal data, university updates, and service provider inputs to ensure reliability. Scope is deliberately bounded: Inclusion+ is not a medical diagnostic tool, and does not replace emergency services — it surfaces the right information at the right moment.

The app must also function the moment it opens — no sighted assistance required. It guarantees compatibility with screen readers (such as VoiceOver and TalkBack) without forcing users to disable preferred assistive technologies. Core features — public transport maps, emergency routing, FAQ access — work offline for international travel where data plans and SIM cards are uncertain.

> *Our needs aren't special. They're just different.*
>
> THE SENSORY RIGHTS FRAMEWORK — INCLUSION+ DESIGN PHILOSOPHY

VOICES · THE DESIGN TEAM

From the designers

The Inclusion+ prototype was shaped by hands as well as research. Here, the three designers behind the high-fidelity prototype reflect on what the work demanded — and what they tried to leave behind.

Yeşim Yardımcı
PRODUCT DESIGNER

Elif Yardımcı
PRODUCT DESIGNER

Belgüzar Kayfeci
UI DESIGNER

> During the co-design process, we identified a key problem: students with disabilities struggle to access information, spaces, and services while on Erasmus. In this project, we developed a mobile app prototype to increase the level of accessibility for disabled Erasmus students in the countries they visit.
>
> Throughout the UX design process, we ran extensive user research and organized workshops with various disability groups in order to better understand different needs. In these workshops, students' experiences, the accessibility problems they encountered in different cities, and their needs and expectations were analyzed. Guided by the insights we gathered, we shaped the app's information architecture — every feature was determined on the basis of the pain points and requests the users themselves identified.
>
> During development, we considered both the needs of students from different disability groups and existing accessibility standards. To improve the user experience under WCAG 2, we integrated high-contrast colors, easily tappable buttons, highly readable text structures, and audio-notification features into the design.
>
> Through these features, our aim was to ensure that students can use the application independently, access information faster, and reduce the various challenges they face in cities, universities, and daily life during Erasmus. Throughout the project, an inclusive, user-centered, and accessible design approach has been adopted.
>
> — YEŞIM YARDIMCI, ELIF YARDIMCI & BELGÜZAR KAYFECI

PART 2 · 04 — GLOBAL ADAPTATION

How the prototype scales to new contexts

Scaling Inclusion+ is deliberate, not automatic. The architecture is modular by design so that local implementers can adapt navigation, education, or community features independently based on what's available in their region.

Universal Data Integration

A standardized framework for secure data sharing breaks down information silos. The app connects to local transport APIs, university systems, and municipal databases — using local sources rather than a single universal database.

Linguistic Localization

Interfaces, support content, and accessibility metadata must be translated into local languages. Live translation and AR captioning assist students in foreign academic environments where lectures aren't natively accessible.

Local Verification Loops

Global scale relies on local oversight. Each country implementation requires established verification workflows, scheduled updates, and direct feedback loops with regional transport operators and municipalities.

Modular Architecture & Digital Identity

Regional implementers can adapt navigation, education, or communication modules independently. A secure digital folder stores international documents (e-passports, academic records) using global e-signature standards and NFC.

Configurable Rights Layer

Accessibility standards and legal entitlements vary internationally. The architecture includes a configurable layer to adapt to local regulations, service pathways, and the entitlements students hold in each host country.

Capacity Building & Local Co-Design

Each new country implementation includes training for local researchers, university disability offices, and student associations to run their own Collabs — sustaining the co-design methodology beyond the software itself.

A Rights-Based Foundation

The prototype operates on the Sensory Rights framework — digital accessibility as a civil right. Adapting Inclusion+ to a new country is therefore both a technical exercise and a sustained commitment to data equity, user control, and human dignity.

05 — CLOSING

A model for accessible mobility — built with, not just built for.

Inclusion+ proposes a practical model for an international student mobility application built around access, dignity, and independence. Its primary contribution remains methodological: the prototype emerges from direct co-design with disabled students, and it treats accessibility information as a public good — one that must be current, interoperable, and locally adaptable.

The factsheet above is not a final specification. It is a working template that other partner countries, universities, and disability offices can adopt, adapt, and improve — provided they treat the students they serve as the experts they already are.

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