
PROBLEM STATEMENT

**REFUGEES DO NOT OWN
THEIR OWN IDENTITY**

By BUET GRC

Problem

Solution

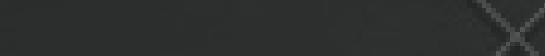
Technical

Business Model

ATK

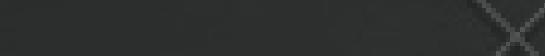
Impact & Risks

PRESENT TECHNOLOGY FOR REFUGEE IDENTITY MANAGEMENT SYSTEM (BIMS) PROCESS



BIOMETRIC SCAN

Fingerprints, facial, iris and other unique physiological characteristics



BASIC BIODATA

Basic biodata and other information, including on family links is registered

Problem

Solution

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PRESENT REFUGEE IDENTITY MANAGEMENT SYSTEM (BIMS)

MAJOR PROBLEMS

Problem

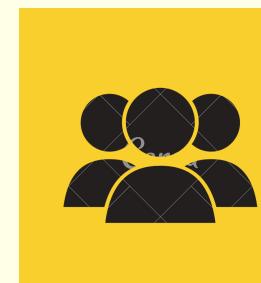
Solution

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Identity Theft (Database can be hacked or sold to outsiders)



Lack of awareness of risks



No consent (Luxury, obligation for Survival)



Costly (Both Time consuming and Expensive)



Restricted Access (Cannot update Info)

MOST TYPICAL APPROACH: Swapping the Database system with Blockchain Technology



WHY THIS APPROACH WILL NOT WORK?

Problems with swapping the database system with
blockchain technology

Problem

Solution

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IMMUTABILITY

To rewrite and potentially reverse all transactions on the public blockchain, 51 percent or more of the network's mining power is necessary. 400 million dollars will buy enough mining equipment for a state actor to equal the total mining power existing on the bitcoin network. This is a small cost to destabilise a public blockchain.



IDENTITY

Problem

Solution

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VULNERABLE SECURITY

Because blockchain technology needs the database to be spread over several computers, hackers may simply attack any one of them and have access to all the data.

IDENTITY VERIFICATION

Blockchain enthusiasts will almost certainly refer to the popularity that a public-private key pair representing an identity may develop over time, however this capability is not novel, does not require blockchain, and can be achieved today with a hashing repository. What happens if the user loses their phone/private key or obtains a new phone? Of course, they will have to start all over again, going through identity proofing – validation, resolution, and verification – from the beginning in order to reclaim their identity on the blockchain as the owner of the private key that represents the identity.



Problem

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STANDARDIZATION

Many organisations do not trust other organisations to follow approved processes and procedures. The demographic constraints of identity proving and verification make credential issuing uniformity challenging. It is necessary to re-verify the identity of lost authenticators to the network. If something goes wrong, there is no legal framework in place to regulate culpability on a large scale.

BIG IDEA

ASTHA

ENSURING THE I IN IDENTITY

Problem

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THE STRUCTURE OF IDENTITY SYSTEMS



STEP 1

The user presents a set of attributes to a third party



STEP 2

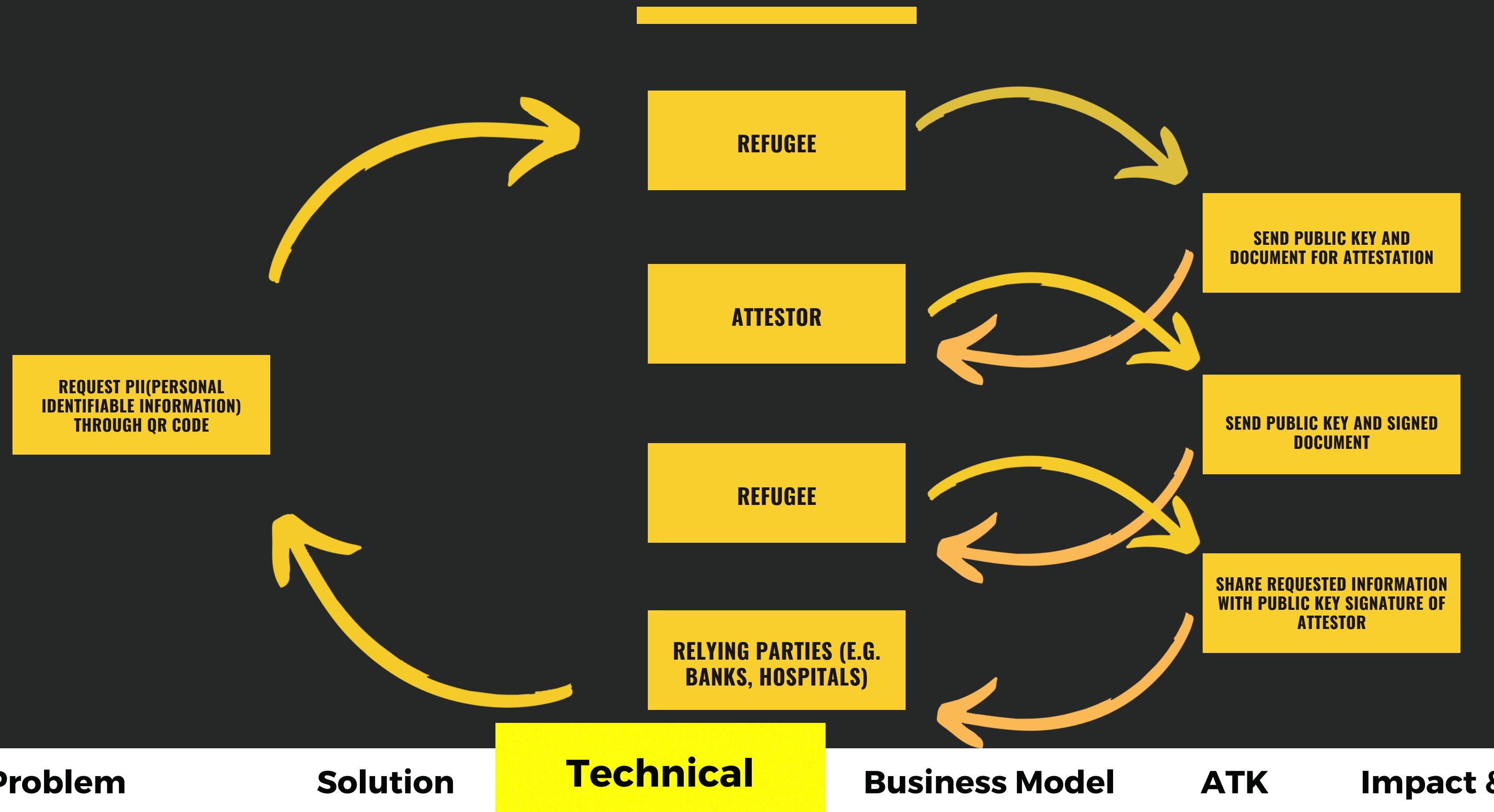
The attestor verifies the attributes and attaches its attestation to the attributes, becoming an identity provider for the user



STEP 3

The user then uses the credential from the identity provider in transactions with relying parties

How ASTHA Works



Features of ASTHA

MAINTAINS REFUGEE STATUS IN
BLOCKCHAIN

DOES NOT STORE ANY PERSONAL
IDENTIFIABLE INFORMATION(PII) OF
THE REFUGEES

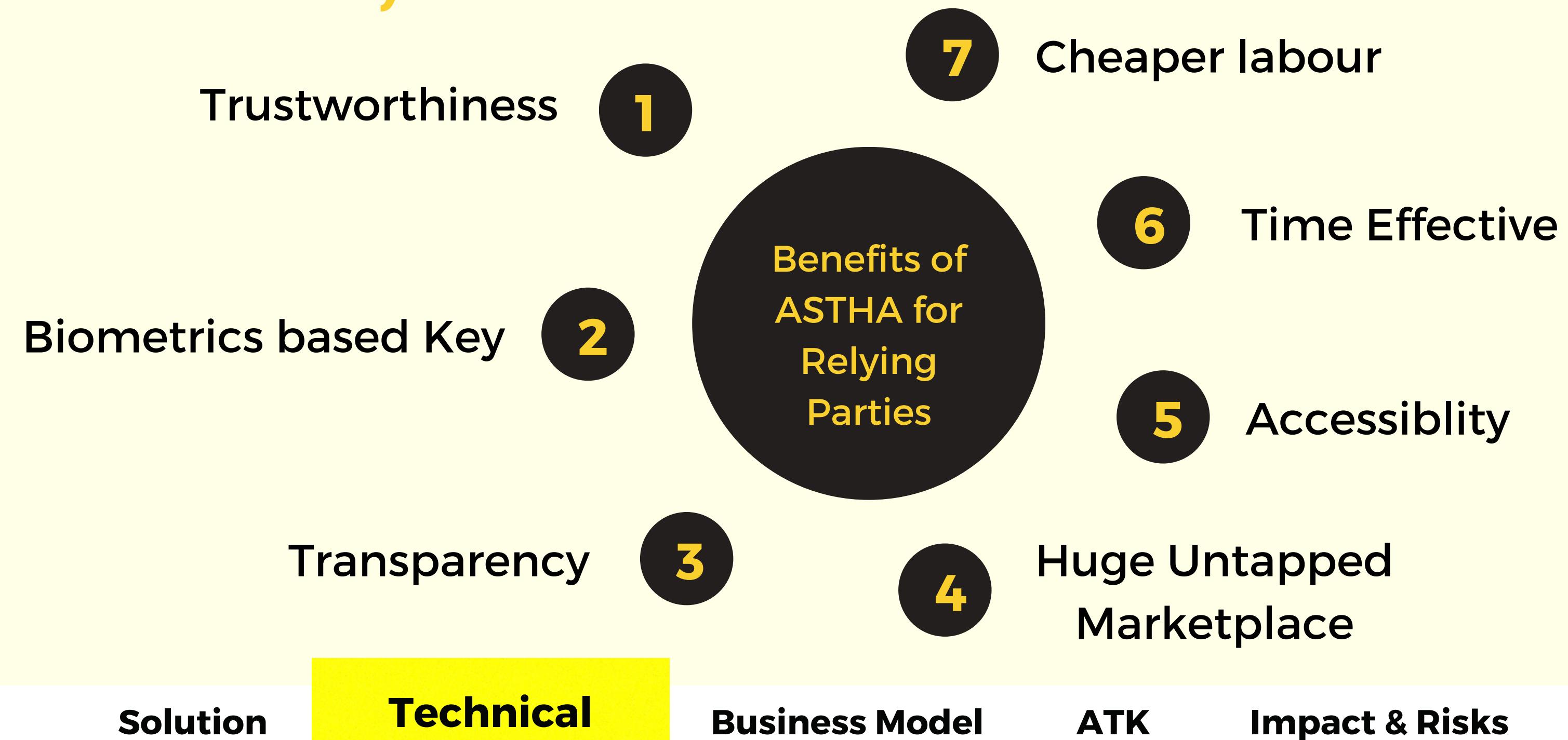
REFUGEES MANAGE THEIR
OWN PIIS

KEEPS A LEDGER OF ATTESTATION
LINKED TO REFUGEES' DOCUMENTS
WHICH IS UNBACKTRACKABLE

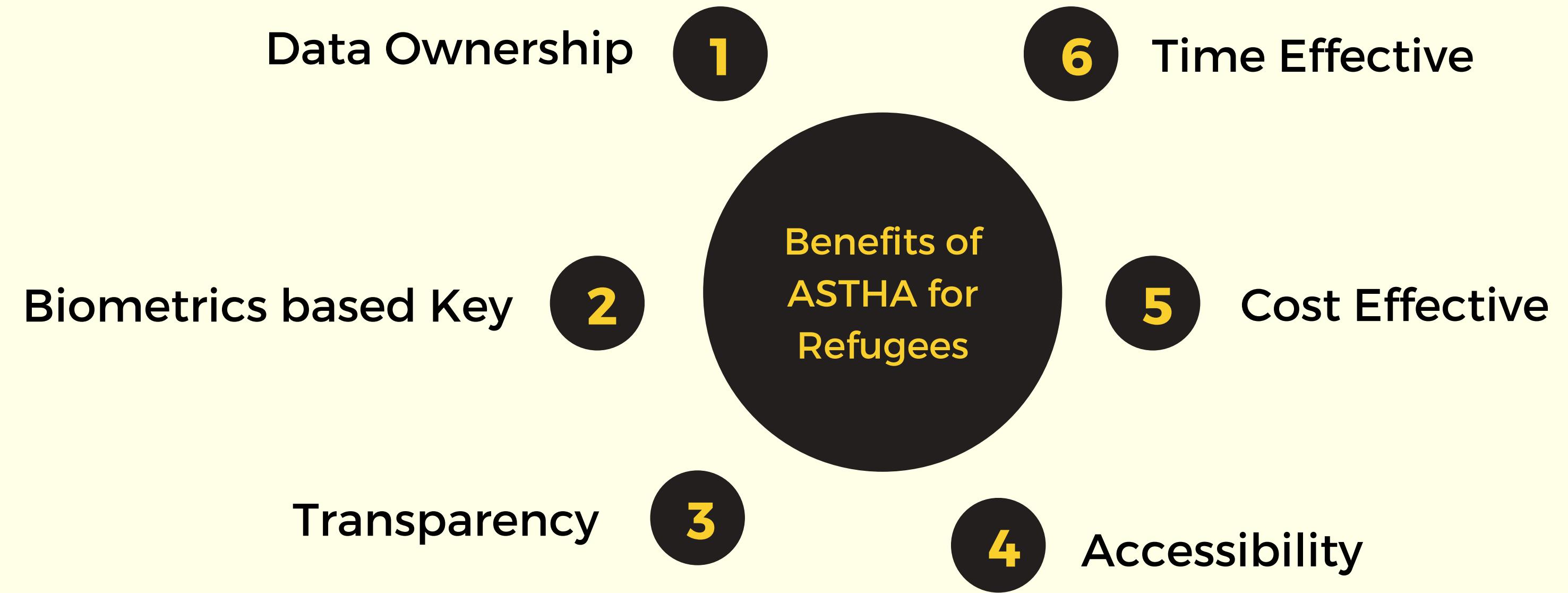
REFUGEES CAN REQUEST
ATTESTATIONS ON ANY PII AT THEIR
WILL AND SEND SIGNED
INFORMATION TO RELYING PARTIES

REFUGEES CAN REVEAL ONLY
THE REQUIRED PII FOR
CERTAIN SERVICE

BENEFITS OF ASTHA (RELYING PARTIES)



BENEFITS OF ASTHA (REFUGEES)



Problem

Solution

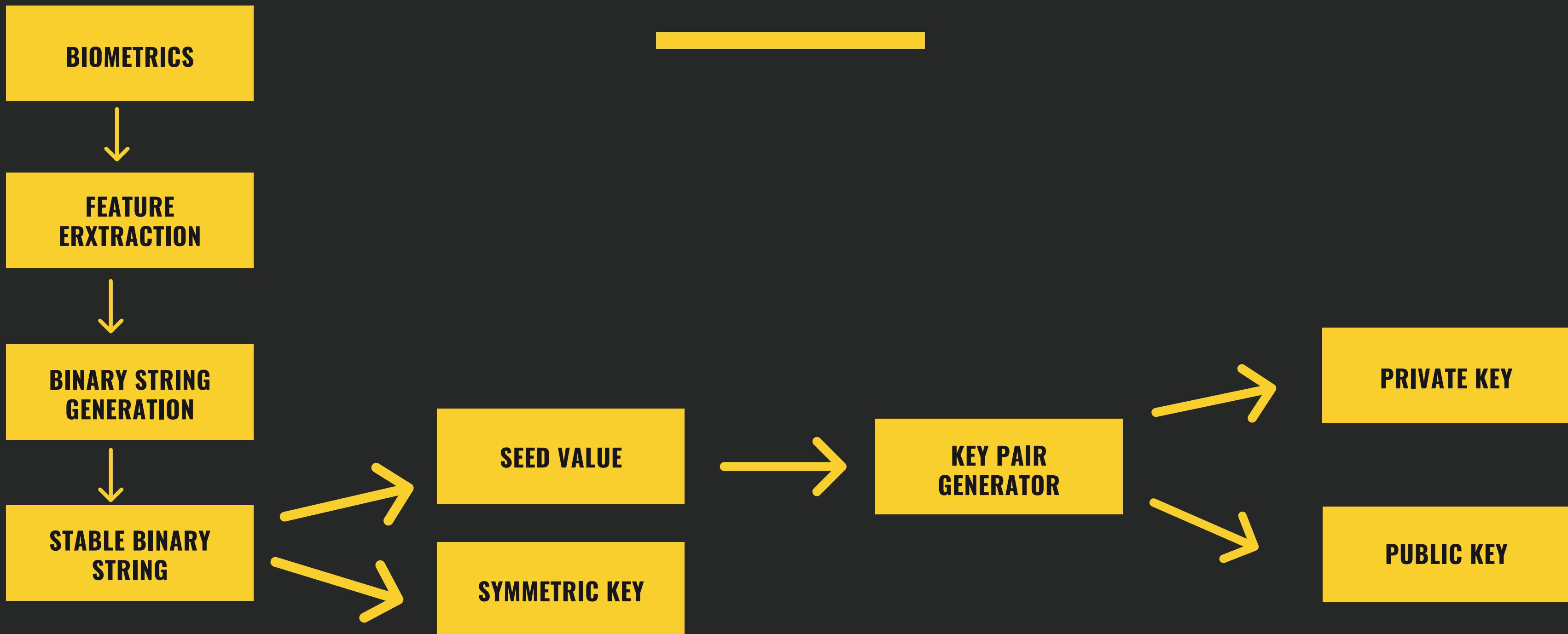
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Our X Factor



Problem

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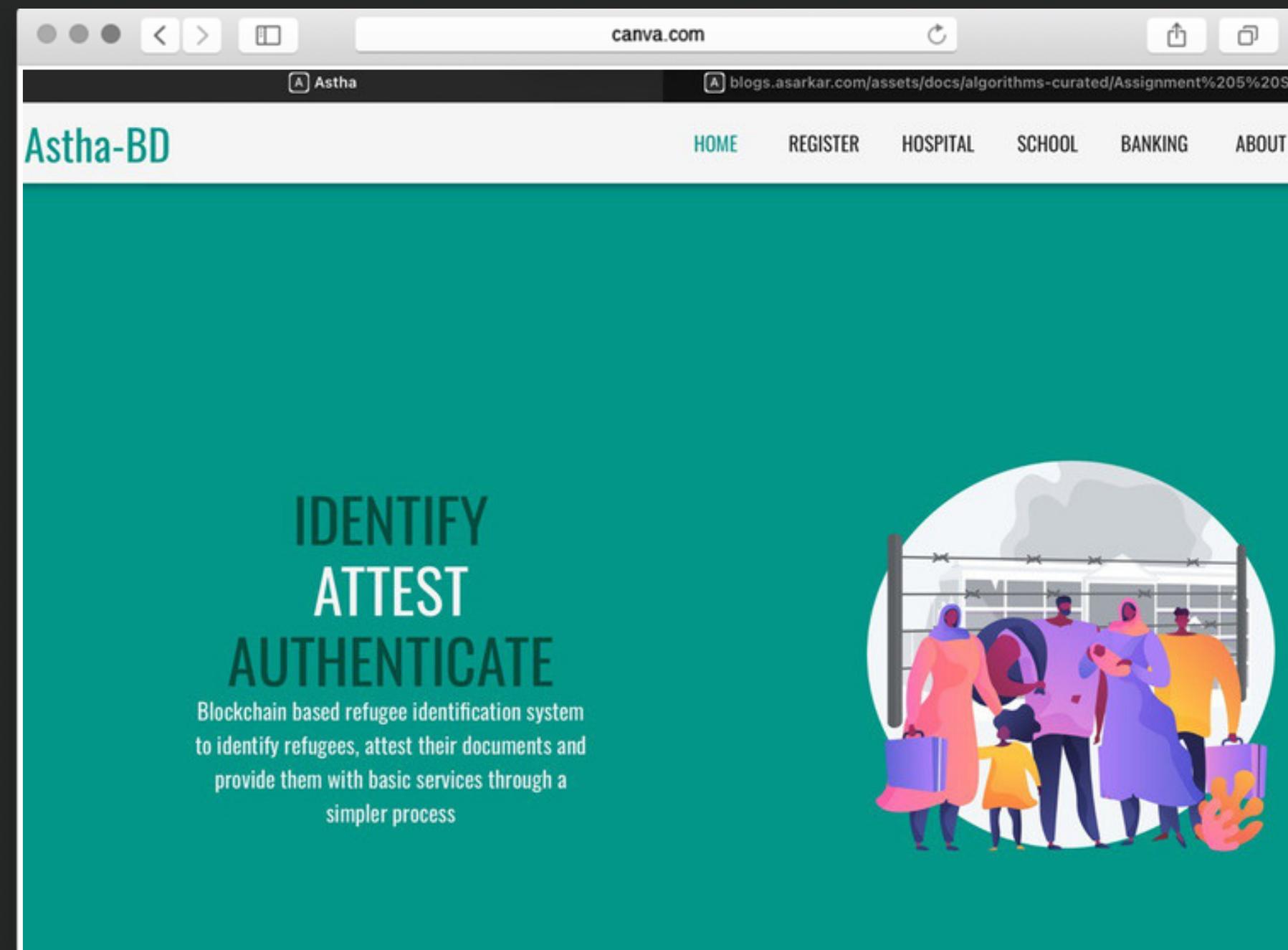
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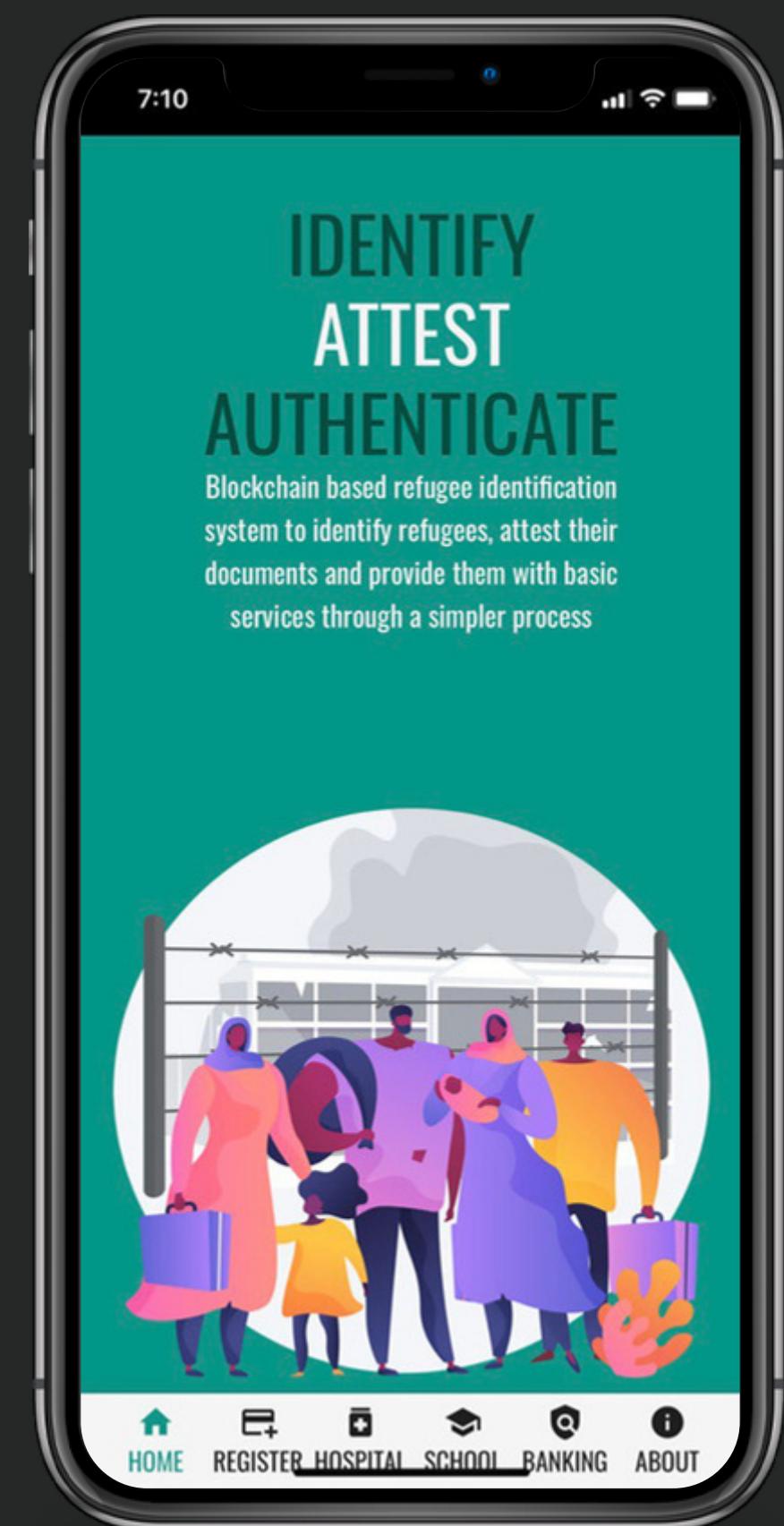
Impact & Risks

Astha Homepage



Website

Mobile App



Problem

Solution

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Impact & Risks

Astha Process

The website interface features a header with 'Astha-BD' and navigation links for HOME, REGISTER, HOSPITAL, SCHOOL, BANKING, and ABOUT. The main content area is titled 'HOW ASTHA WORKS' with the subtitle 'The methodology that our state of the art system follows'. It lists five steps: 1. Biometric-Authentication (fingerprint icon), 2. Refugee Registration (key icon), 3. Document Attestation (magnifying glass icon), 4. Service Registration (plus sign icon), and 5. Service Acquire (graduation cap icon). Each step includes a brief description: 'Every user gets authenticated by their biometric features. E.g fingerprint, iris scan'.

Website

Problem

Solution

Technical

The mobile app interface shows two screens. The first screen displays the 'HOW ASTHA WORKS' methodology with five steps: 1. Biometric-Authentication, 2. Refugee Registration, 3. Document Attestation, 4. Service Registration, and 5. Service Acquire. The second screen is a detailed view of 'Refugee Registration' with a key icon, showing the same authentication details as the website. Both screens include a bottom navigation bar with links for HOME, REGISTER, HOSPITAL, SCHOOL, BANKING, and ABOUT.

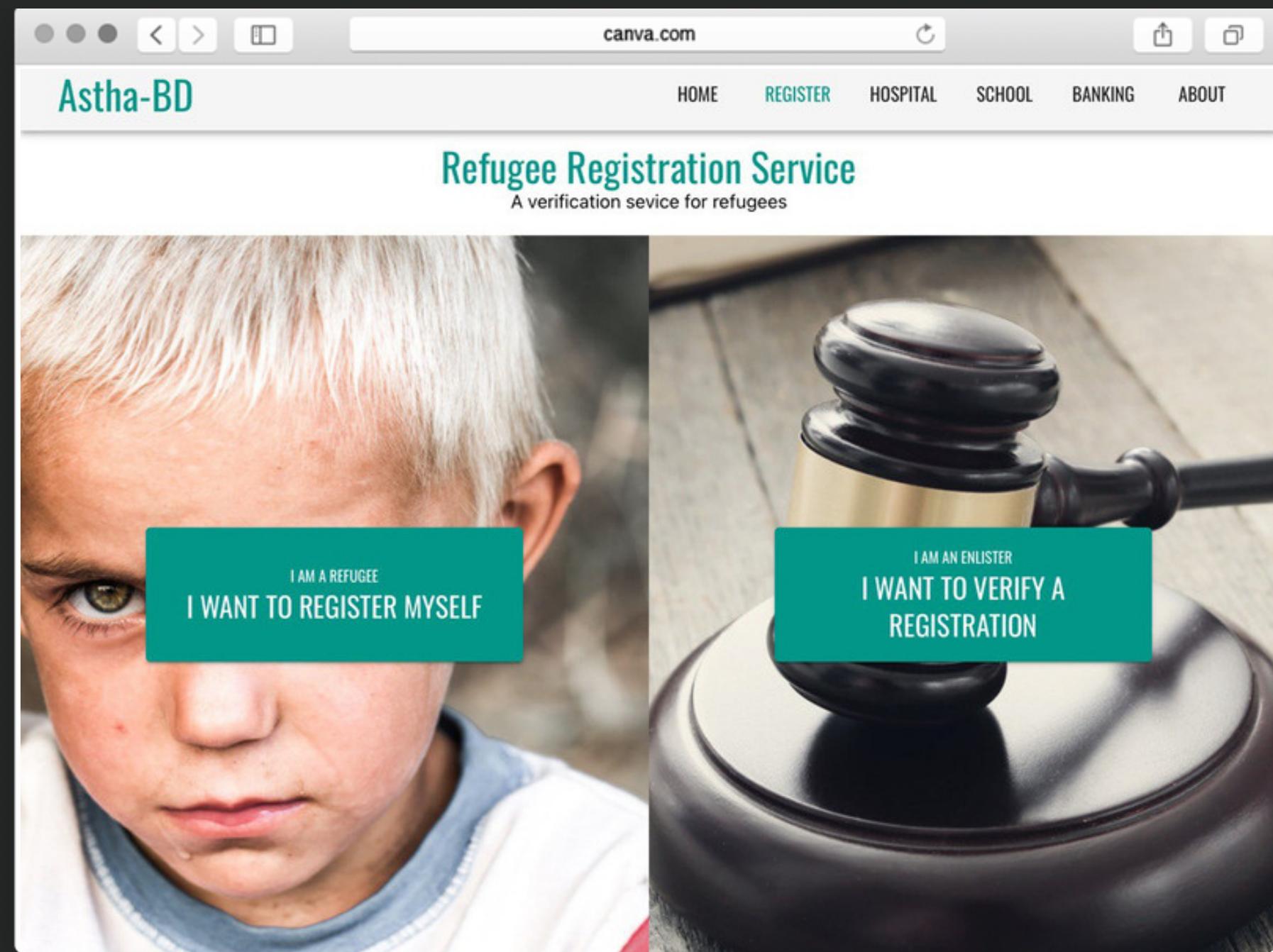
Mobile App

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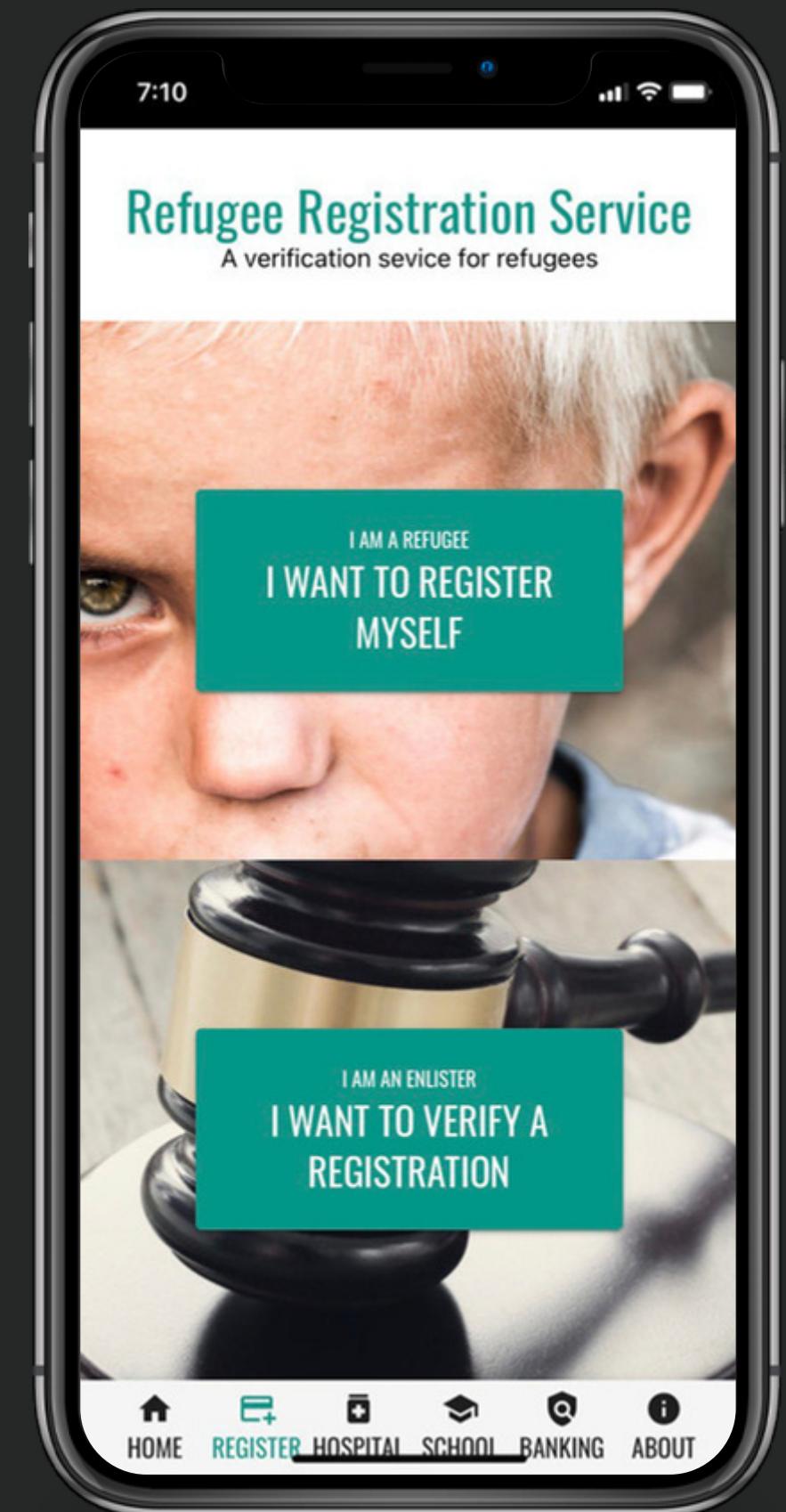
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Astha Registration Home



Website

Mobile App



Problem

Solution

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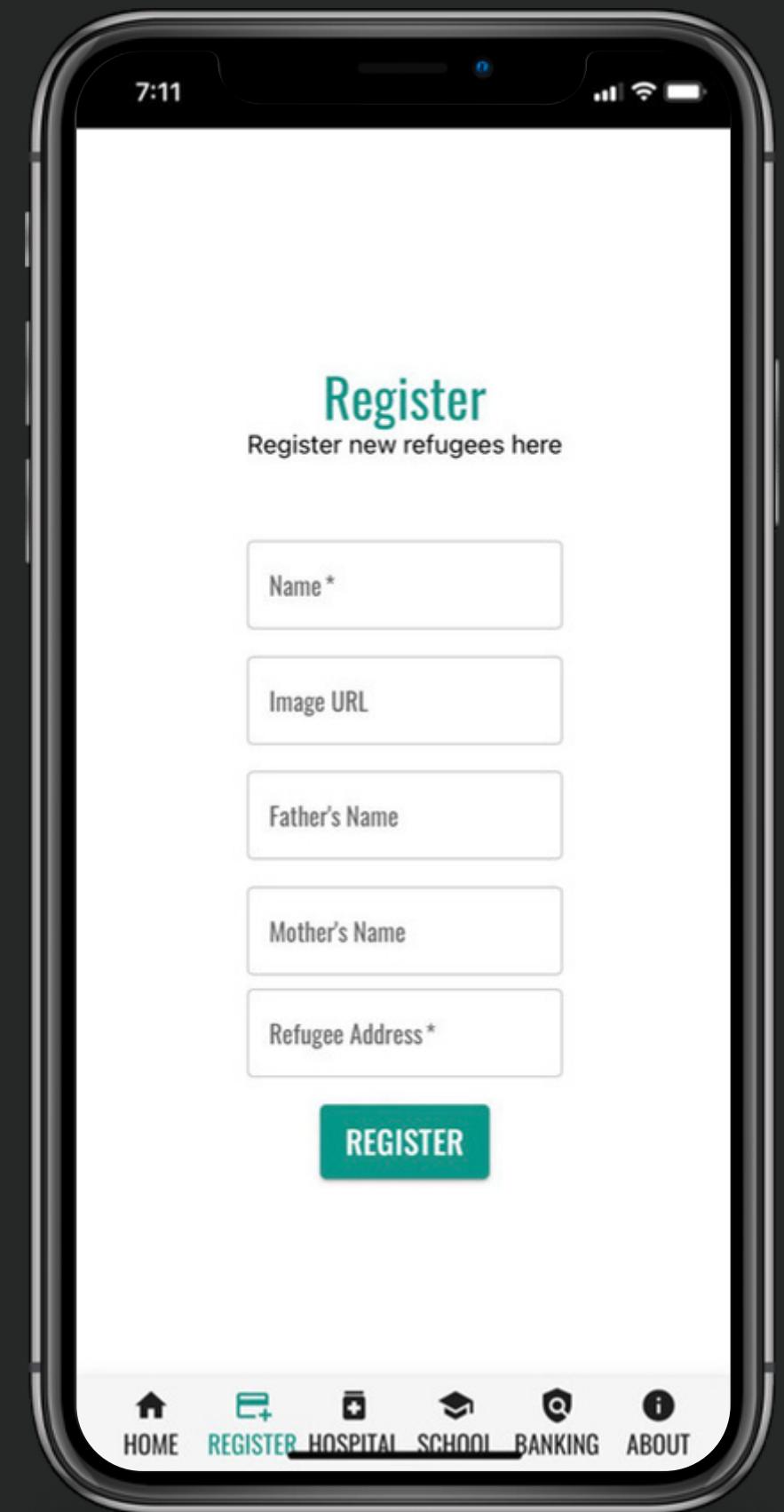
Impact & Risks

Astha Registration Request

The screenshot shows a web browser window with the URL "canva.com". The main content area is titled "Astha-BD". A navigation bar at the top includes links for HOME, REGISTER, HOSPITAL, SCHOOL, BANKING, and ABOUT. Below this, a section titled "Register" with the subtitle "Register new refugees here" contains five input fields: "Name *", "Image URL", "Father's Name", "Mother's Name", and "Refugee Address *". A green "REGISTER" button is located at the bottom of this form.

Website

Mobile App



Problem

Solution

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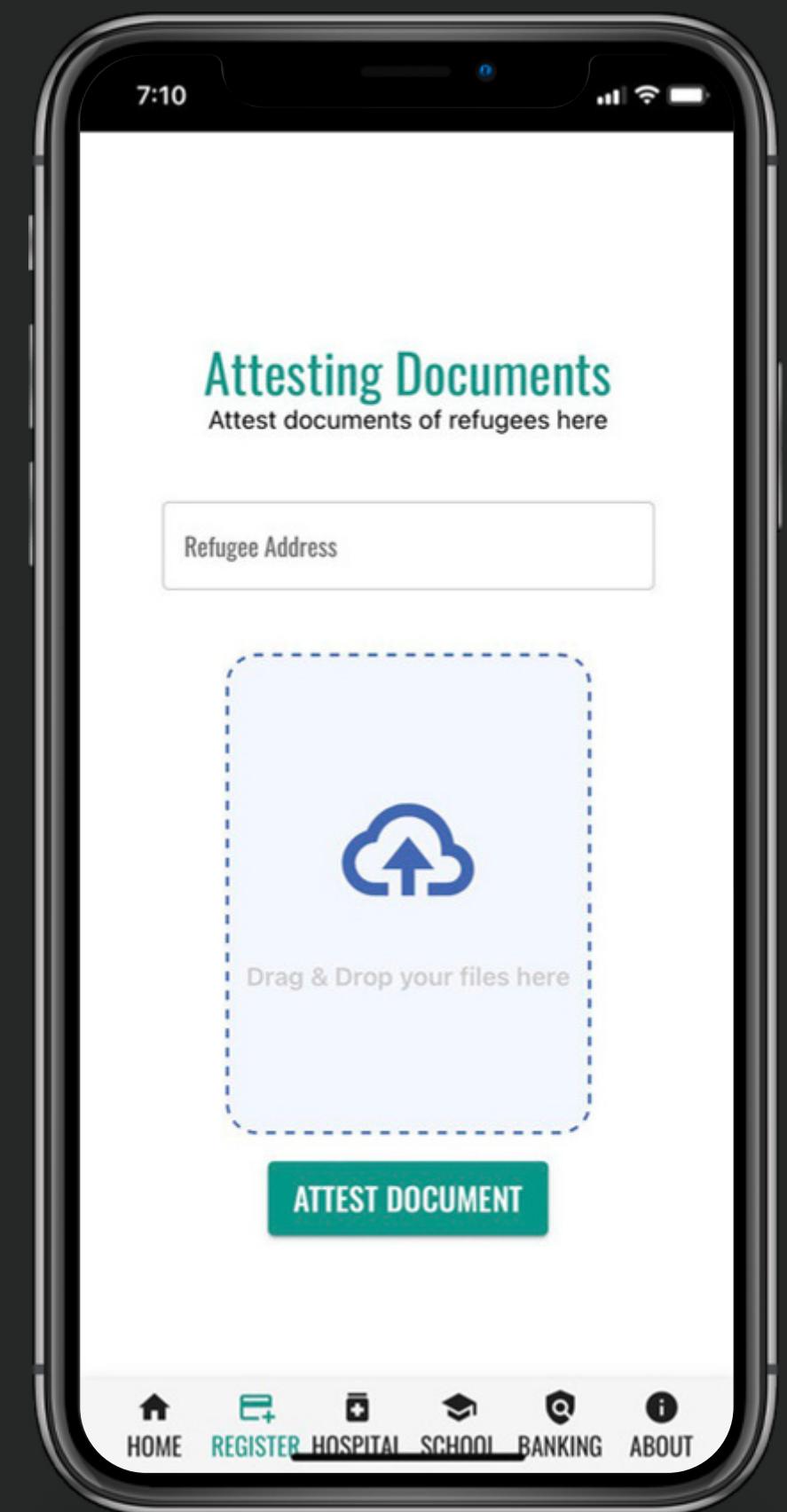
Impact & Risks

Astha Verification

The screenshot shows a web browser window with the URL 'canva.com'. The main content area is titled 'Astha-BD' and features a navigation bar with links for HOME, REGISTER, HOSPITAL, SCHOOL, BANKING, and ABOUT. Below this, a section titled 'Attesting Documents' contains the sub-instruction 'Attest documents of refugees here'. It includes a 'Refugee Address' input field and a large dashed-dotted rectangular area for file uploads, which contains a blue cloud icon with an upward arrow. Below this area is the text 'Drag & Drop your files here'. At the bottom is a green 'ATTEST DOCUMENT' button.

Website

Mobile App



Problem

Solution

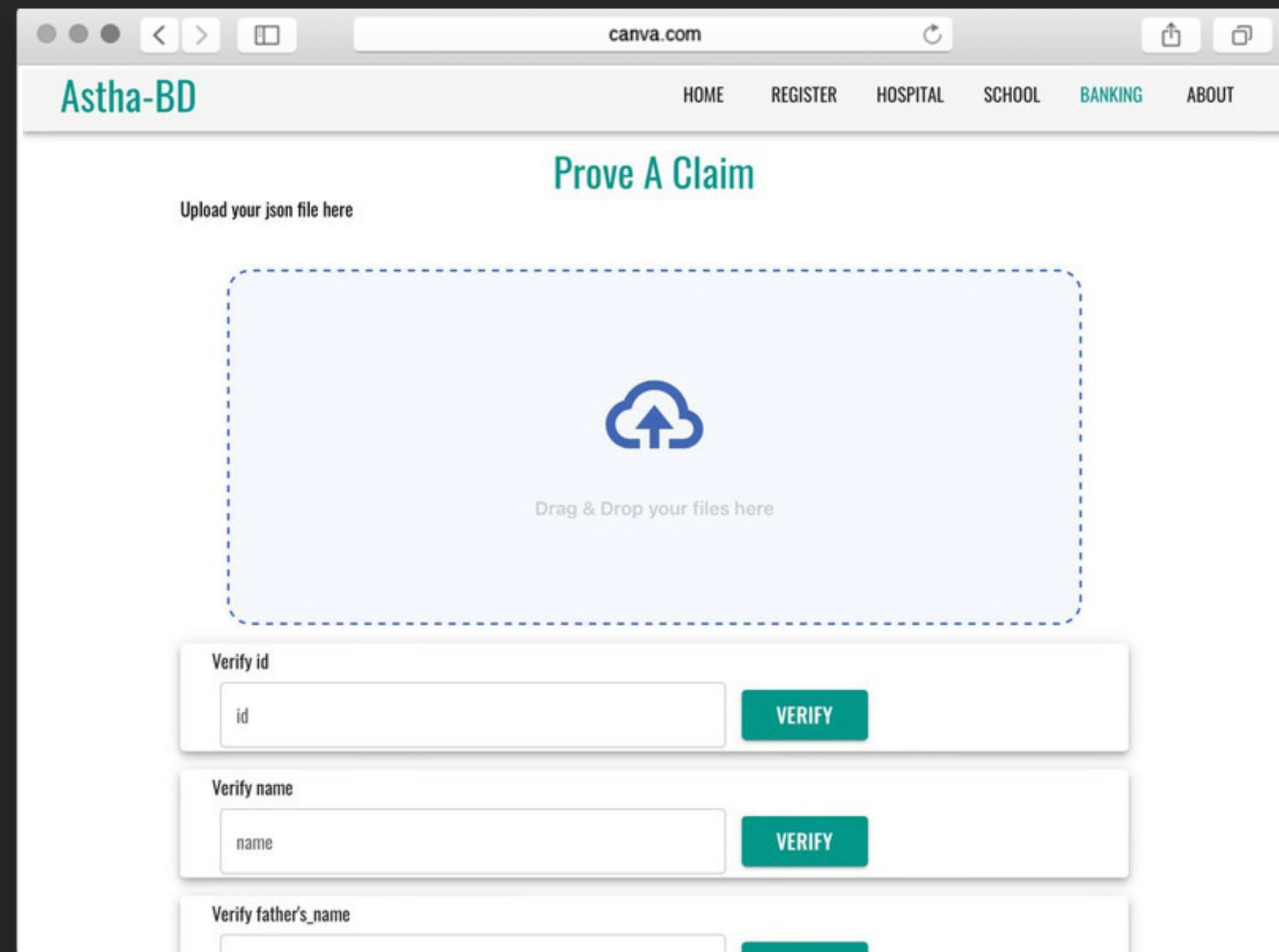
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Business Model

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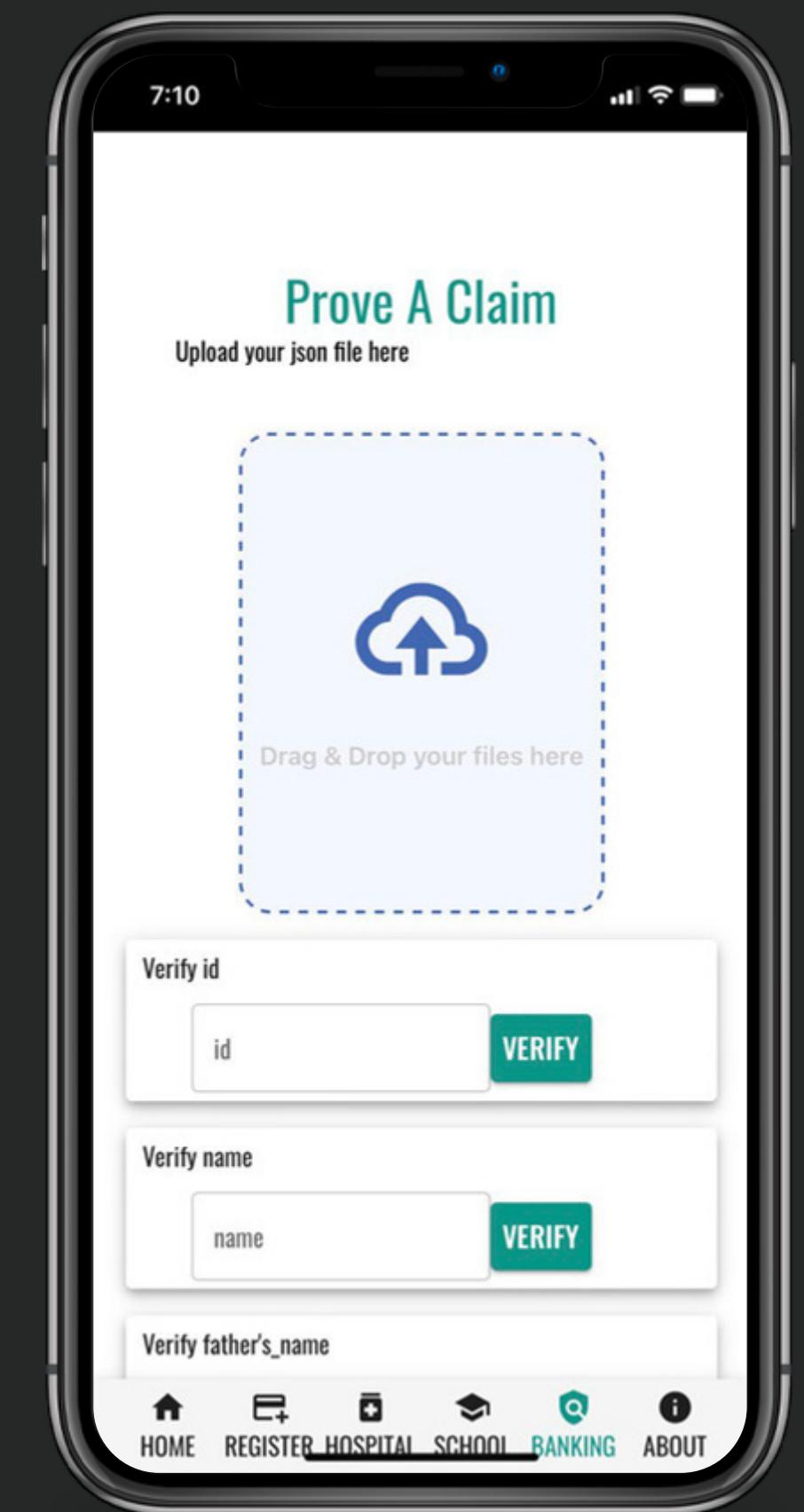
Impact & Risks

Astha Bank Attestation



Website

Mobile App



Problem

Solution

Technical

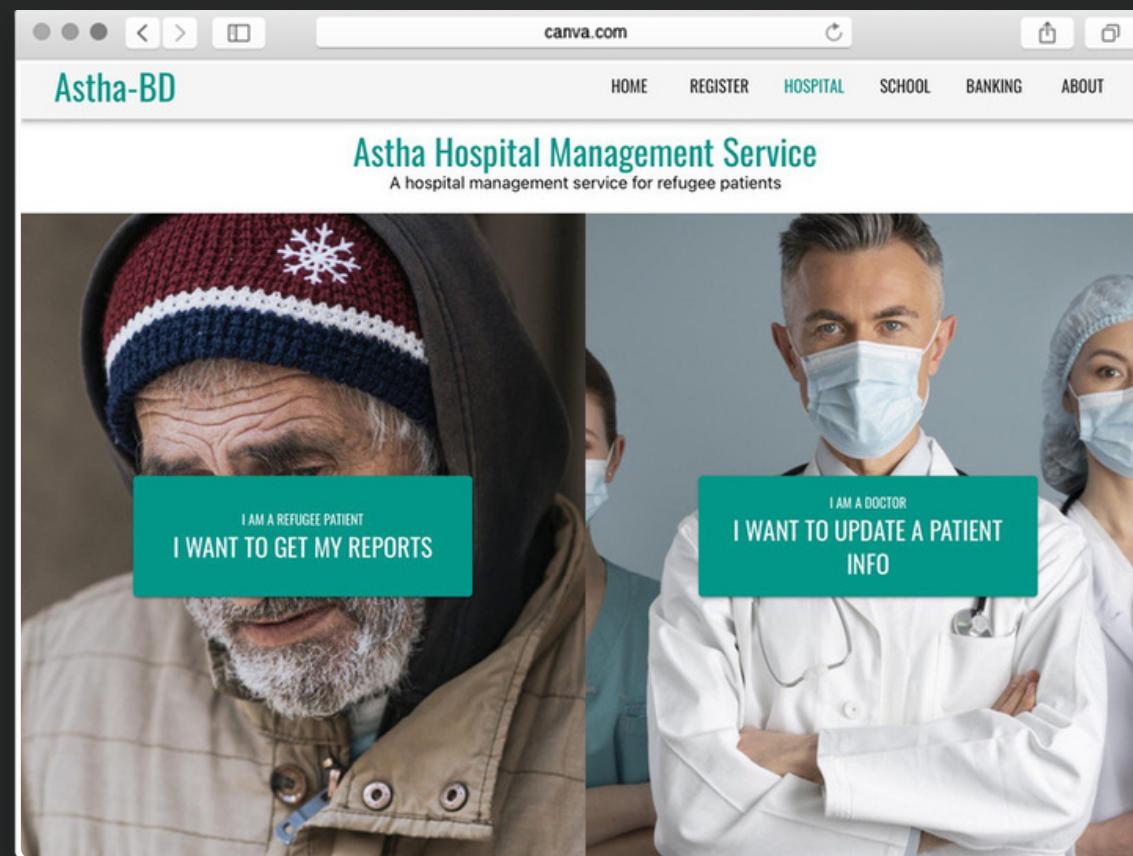
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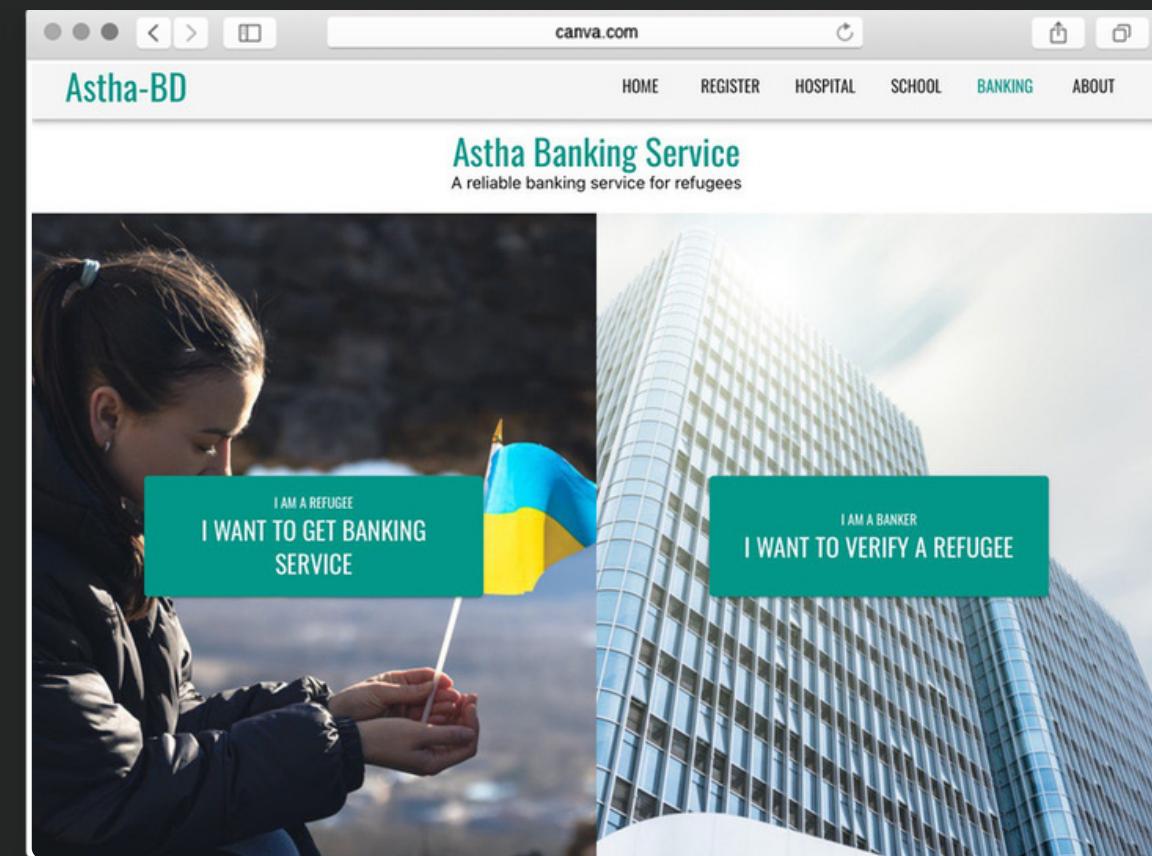
Astha Service Homepage

Webpage View



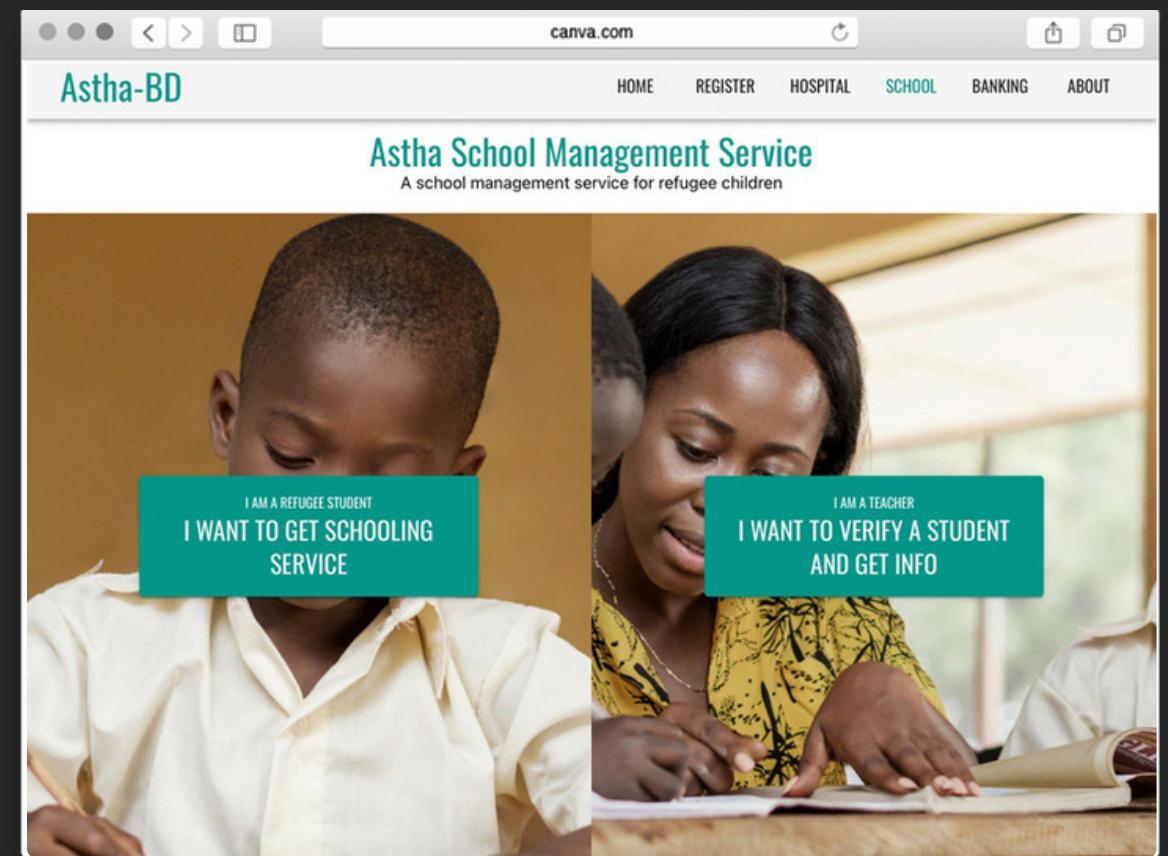
Hospital

Problem



Bank

Solution



School

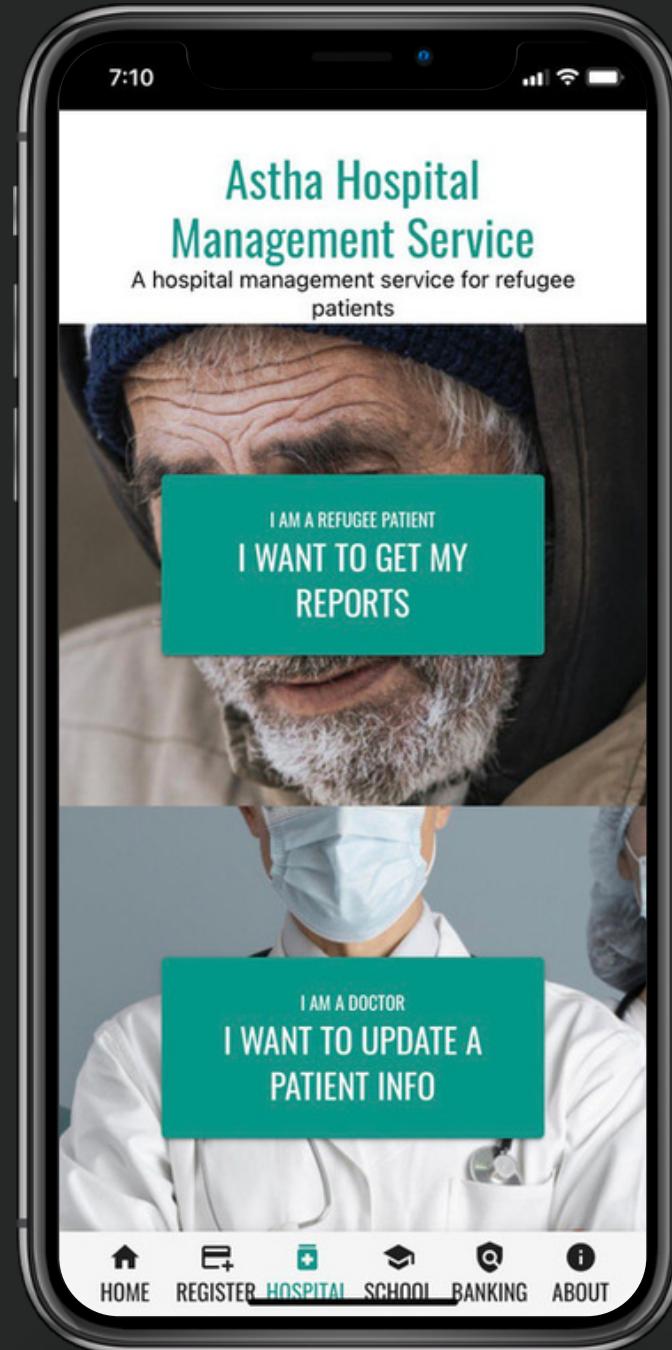
Technical

Business Model

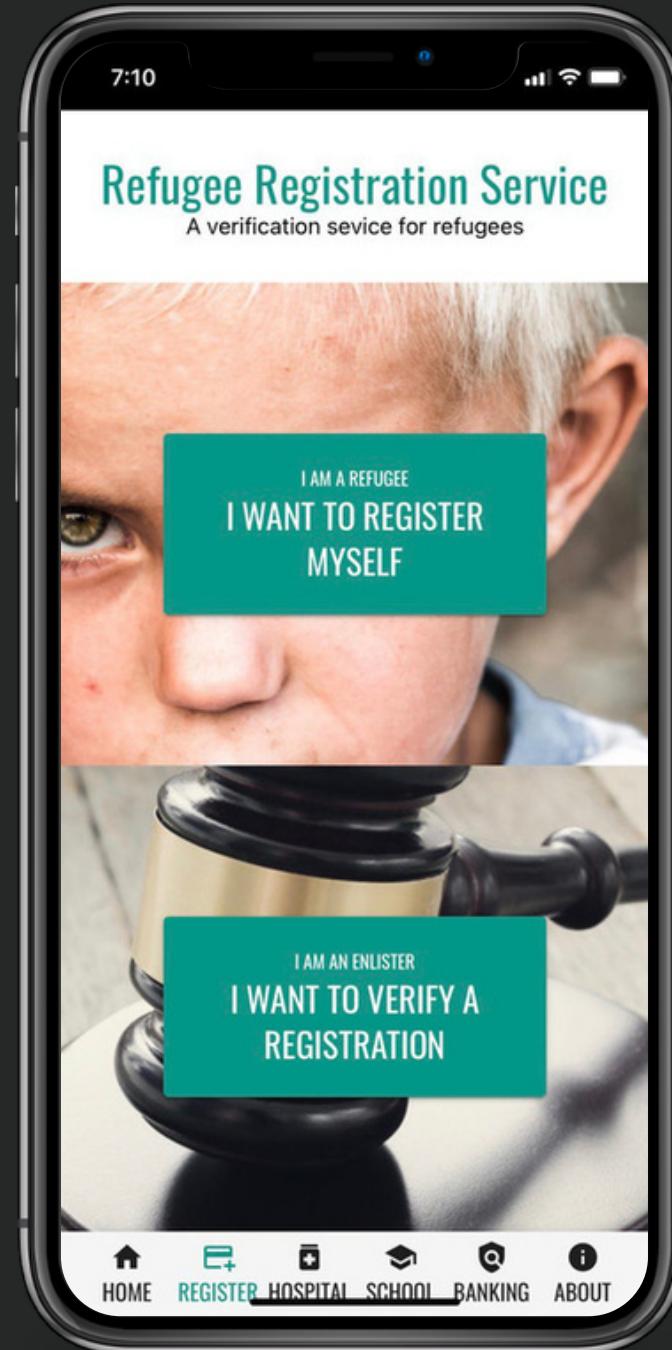
ATK

Impact & Risks

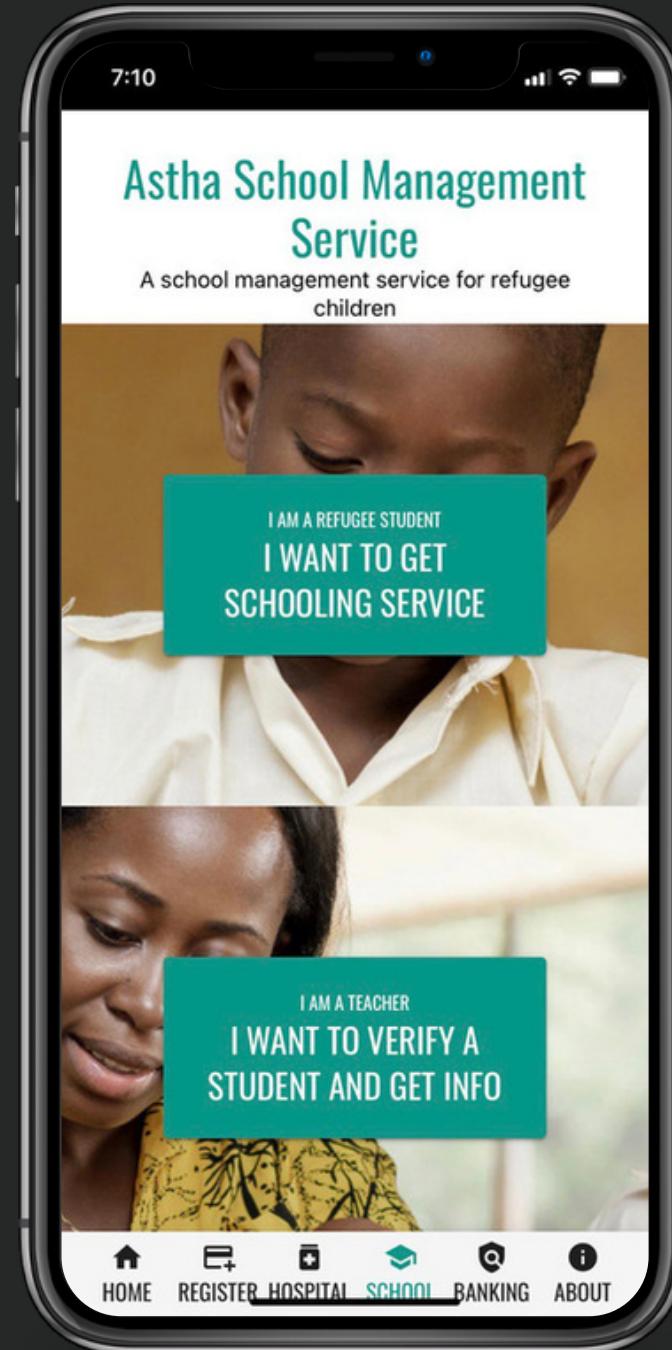
Astha Bank Attestation Mobile App View



Hospital



Bank



School

Problem

Solution

Technical

Business Model

ATK

Impact & Risks

Astha Website QR CODE



Problem

Solution

Technical

Business Model

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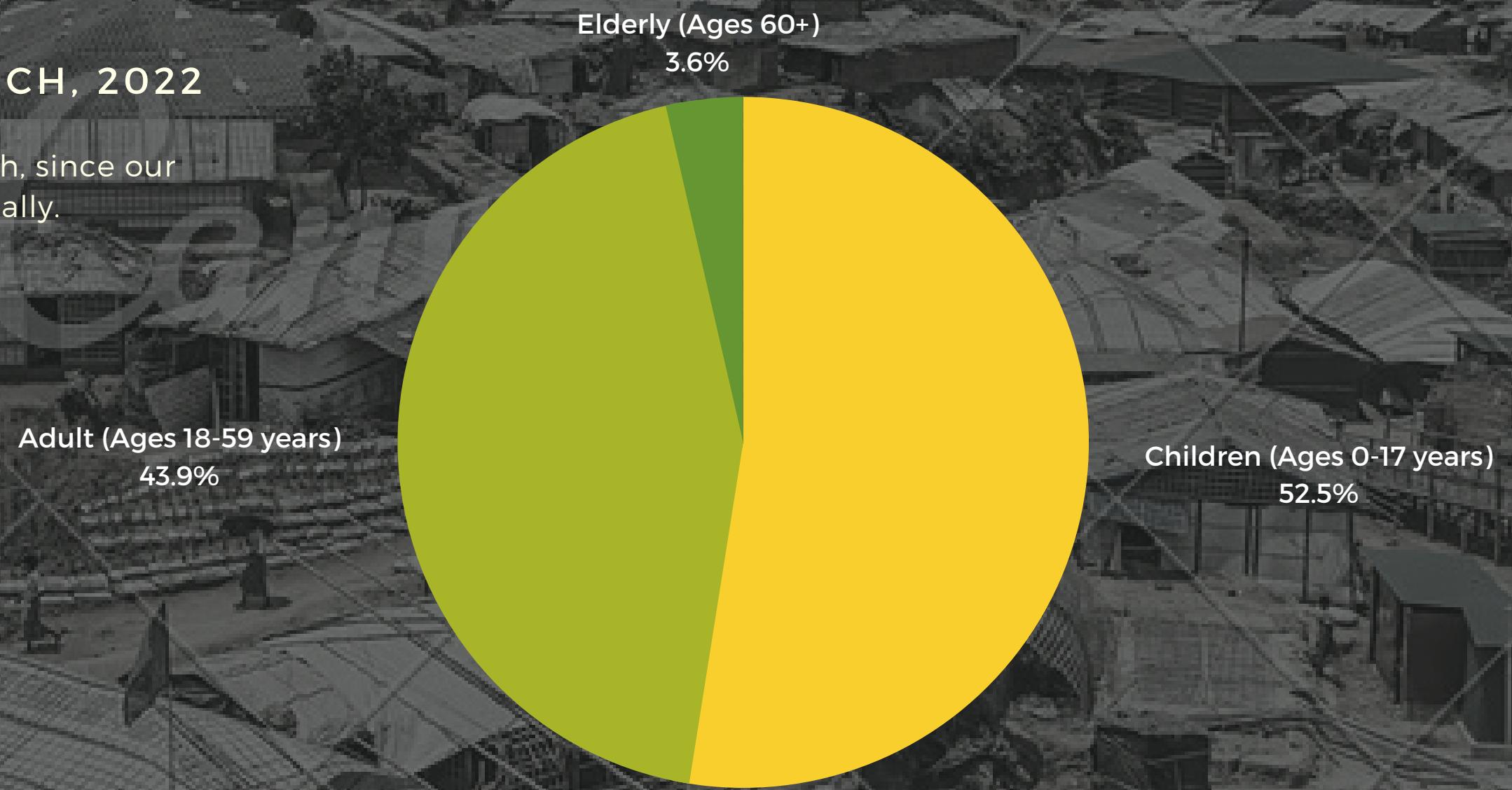
Impact & Risks

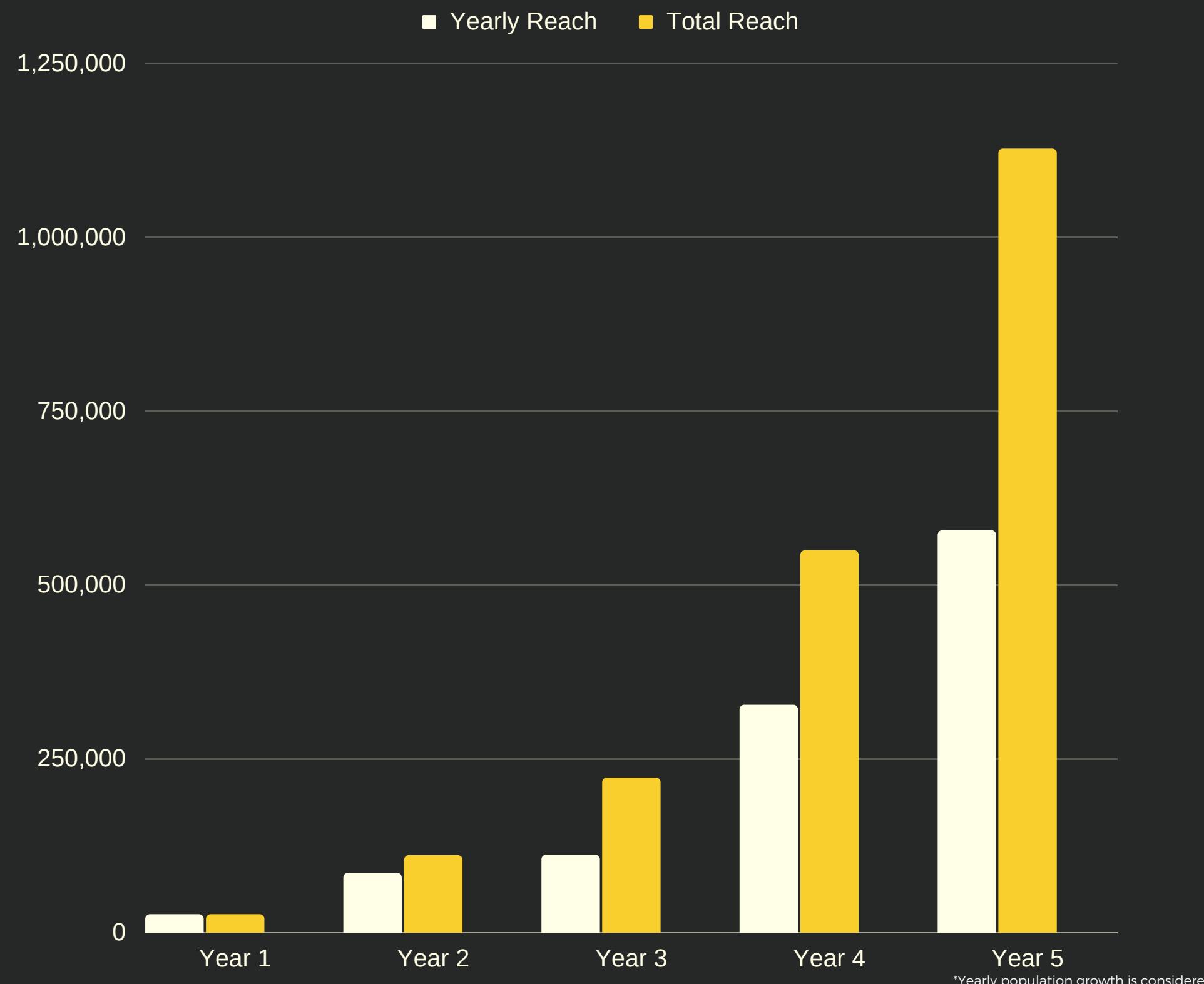
TARGET GROUP

926,561 REFUGEES

AS PER UNHCR STATISTICS TILL 31 MARCH, 2022

The data displayed is for Rohingya refugees in Bangladesh, since our project primarily focuses on them before expanding globally.





TARGET REACH

PROJECTED REFUGEES UNDER ASTHA ECOSYSTEM

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Business Model

ATK

Impact & Risks

Expansion Plan

Rejuvenate → Connect → Community Building

Provide verification services

Target
Refugees

Problem

Create a bridge between refugees and relying parties and the companies who are looking for workforce with related skillsets

Expand operations and use registered refugees as sources of inspiration for more refugees

Target
Relying parties, service providers and companies

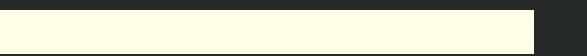
Solution

Technical

Business Model

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PHASE 1: Rejuvenate

ASTHA



Marketing Strategies

CAMP VISITS

- Setting up booths in each camp visited along with post contract service (follow-up)
- Hosting small campaigns
- Raising awareness through on-site programmes

PARTNERSHIPS

- Bangladesh Government
- UNICEF
- Multiple local NGOs
- Local Newspaper (Advertisement, Publishing success stories)
- Awareness to local businesses through seminars

WEBSITE

- Refugees we have registered
- Newsboards showing our refugees serving in different big companies
- Ticker on side of showing how much impact we have created
- Social Media (Success stories, targeted ads)

Bragging Rights

- Document as a Status Symbol
- Lucrative gifts on registration
- Free registration (Limited time period)

Problem

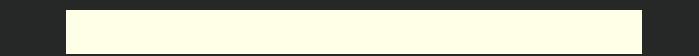
Solution

Technical

Business Model

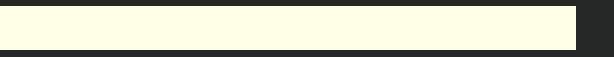
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PHASE 2: Connect

ASTHA



Problem

Solution

Technical

Business Model

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TARGET GROUP

926,561 REFUGEES

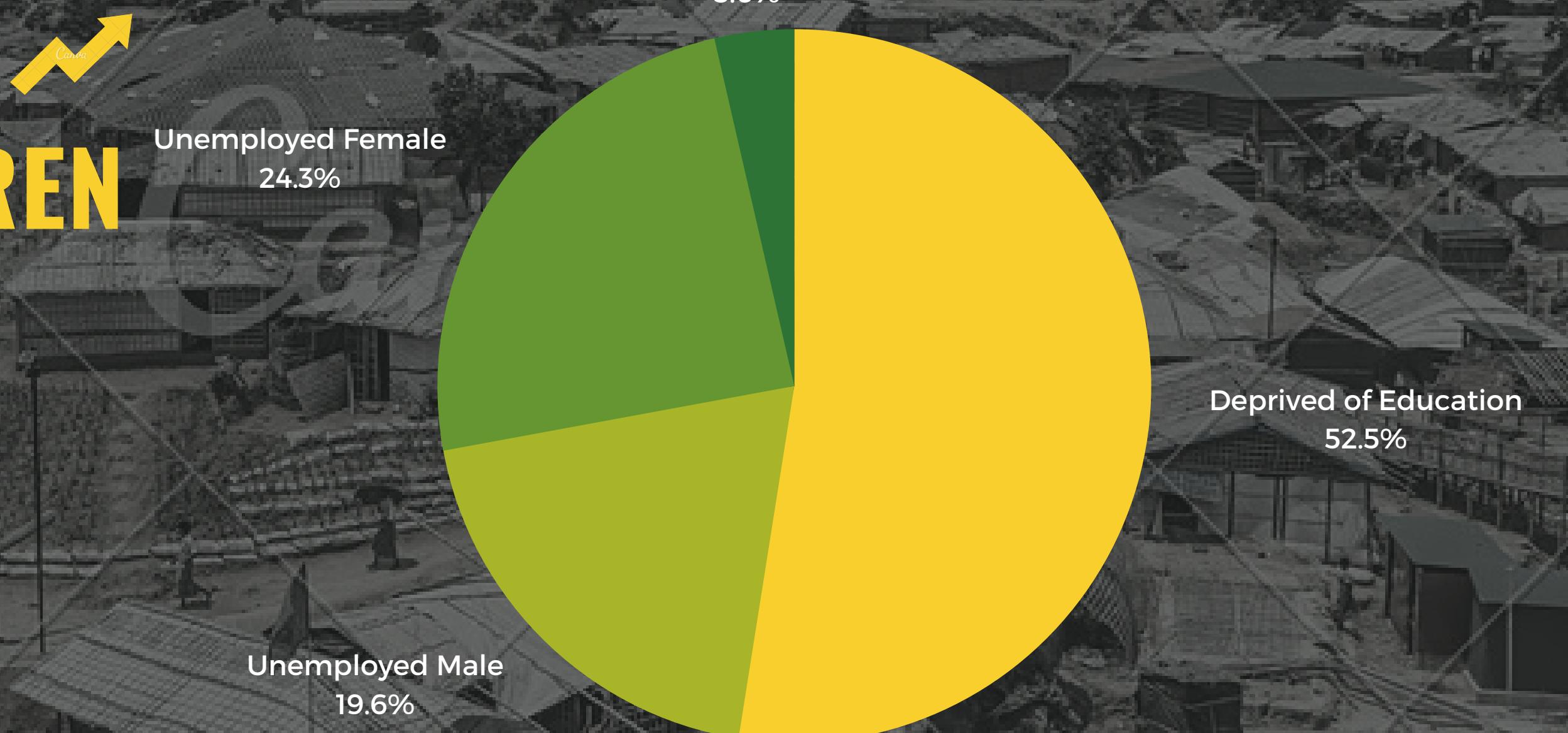
AS PER UNHCR STATISTICS TILL 31 MARCH, 2022

POPULATION GROWTH PER YEAR

35,000 CHILDREN

AS PER UNHCR STATISTICS TILL 31 MARCH, 2022

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Problem

Solution

Technical

Business Model

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Why will they Excel?

HARD WORKING

EASILY TRAINED
(LESS SKILL REQUIRED)

GREATER COMMITMENT AND
DEDICATION (LEADING TO
LOWER ATTRITION RATES)

potential

LABOUR FORCE BY LEVEL OF EDUCATION (2010)

Source: Bangladesh Bureau of Statistics. Labor Force Survey

| Level of Education | Total (%) | Male (%) | Female (%) |
|------------------------|-----------|----------|------------|
| No Education | 40.1 | 39.9 | 40.6 |
| Class I-V | 22.8 | 22.9 | 22.7 |
| Class VI-VII | 14.3 | 13.8 | 15.3 |
| Class IX-X | 9.0 | 8.3 | 10.5 |
| SSC | 6.2 | 6.5 | 5.6 |
| HSC | 3.7 | 4.0 | 3.0 |
| Bachelor or Equivalent | 2.1 | 2.5 | 1.2 |
| Master or Equivalent | 1.4 | 1.7 | 0.8 |
| Medical | 0.2 | 0.2 | 0.1 |
| Technical/Vocational | 0.1 | 0.2 | 0.1 |

Problem

Solution

Technical

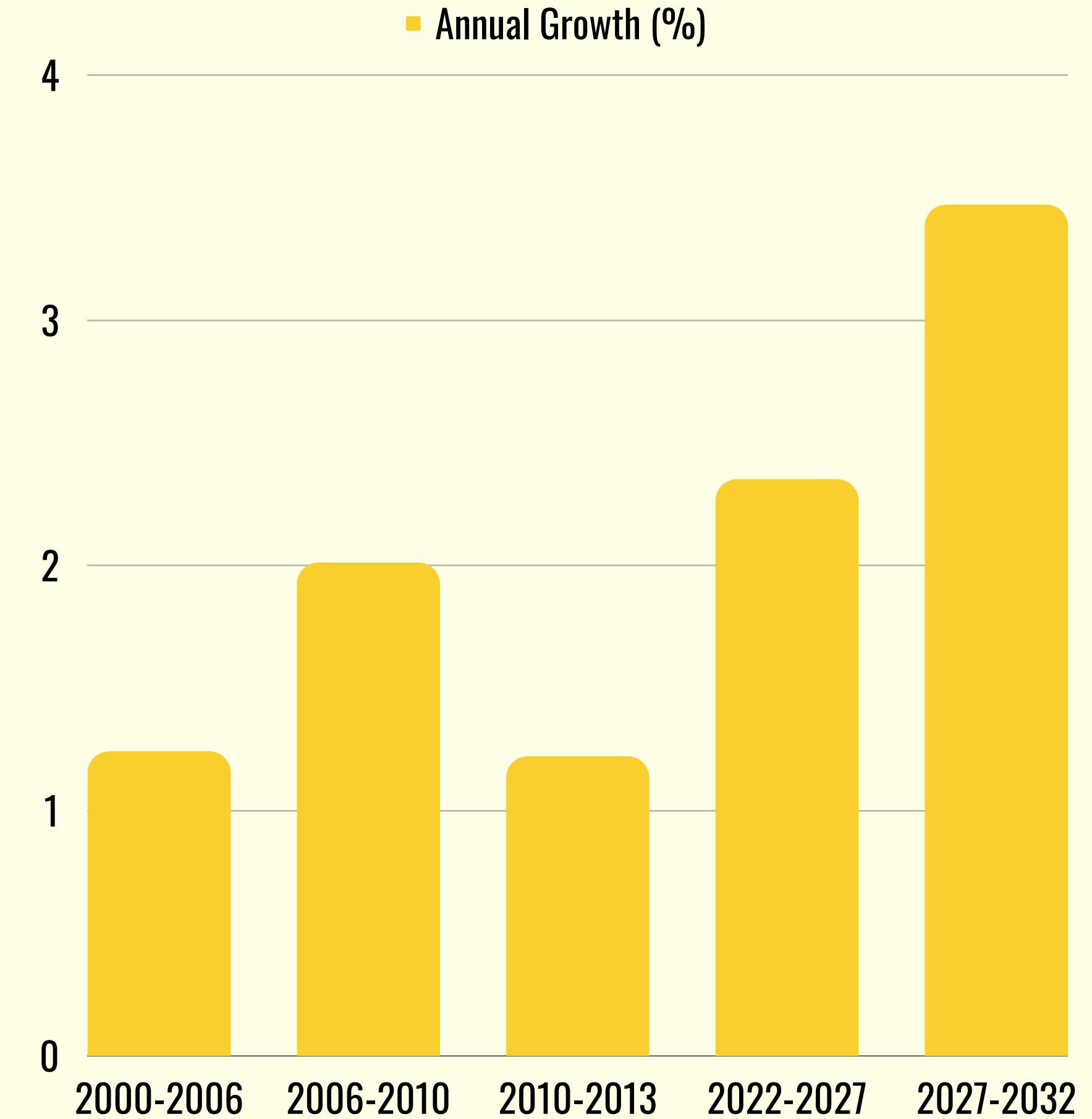
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FORECASTED LABOUR FORCE ANNUAL GROWTH (2000-2013, 2022-2032)

Source: Bangladesh Bureau of Statistics. Labor Force Survey



Problem

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COUNSELLING BY ASTHA

Special on-site maintenance booth for refugees and relying parties twice a week, as well as a 24-hour hotline for any questions or small concerns



Problem

Solution

Technical

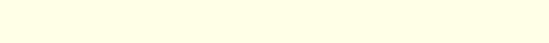
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PHASE 3: Community Building



ASTHA

Problem

Solution

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Expansion Plan



জনগণের দোরণোড়ায় সেবা

- Use trained youth in ICT but currently employed as decentralised executives

Problem

Solution

Technical

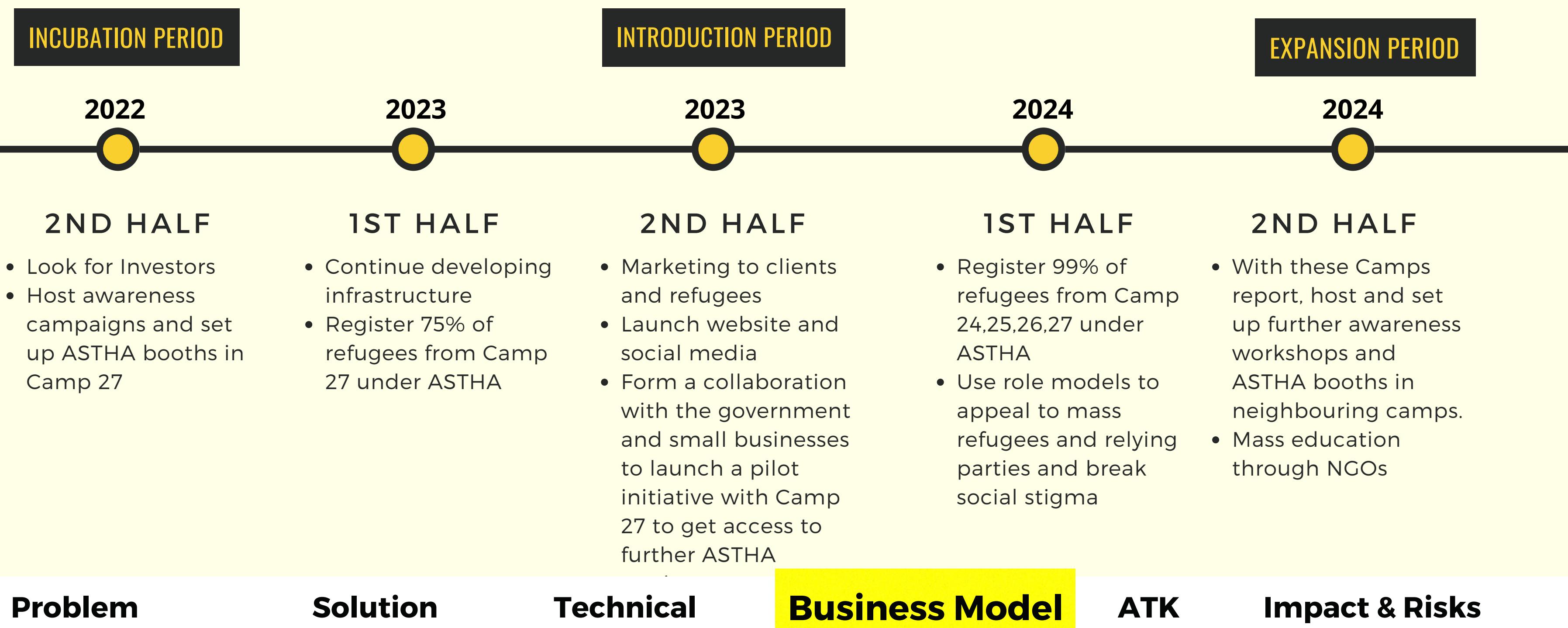
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ASTHA PROJECTED TIMELINE

A 2.5-YEAR PROJECTION



WHAT ARE

ASTHA TOKENS (ATK)

THE FUEL FOR RUNNING THE ASTHA
ECOSYSTEM

Problem

Solution

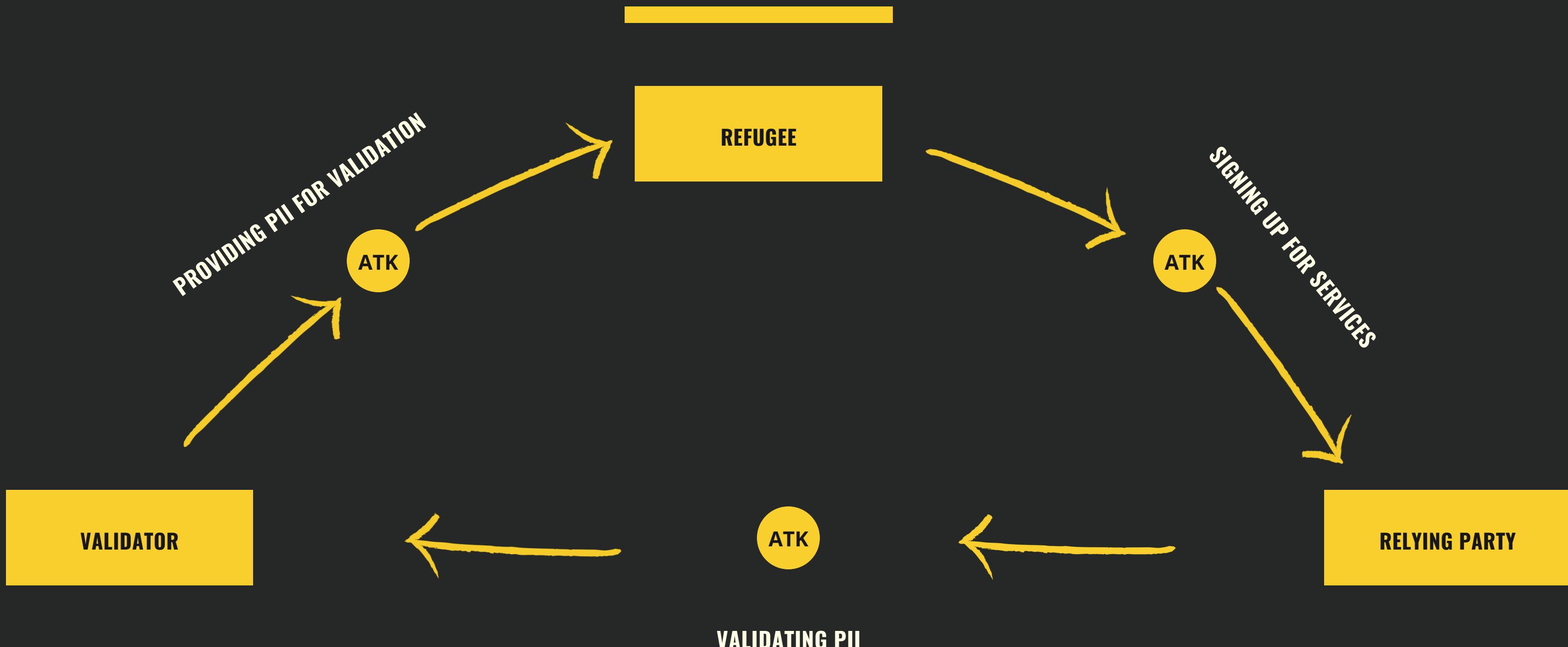
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Role of ASTHA Tokens (ATK)



Problem

Solution

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Why ATK over regular Tokens

SINGLE METHOD OF TRANSACTION

ATK provides a single and uniform method of settlement across the whole ecosystem.

PROVIDES USER INCENTIVE

ATK incentivizes the essential services in the ecosystem, ultimately increasing its value

PROVIDES STABILITY

Having a specialized, unique token for the ecosystem provides stability, preventing it from outside effects and volatility.

SEAMLESS TRANSACTIONS

Since ATK is a blockchain based ledger system, it utilizes smart contracts to make transactions seamless

Power of ATK



Problem

Solution

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ASTHA REVENUE MODEL

MAJOR SOURCES

Problem

Solution

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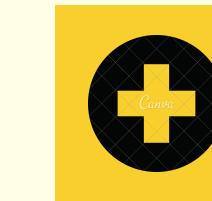
Revenue Stream



.05% Commission on Individual Transactions of ATK

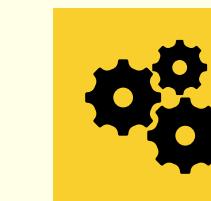


2% Commission from Relying Parties

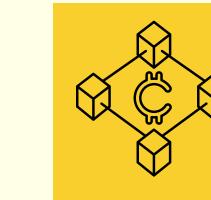


Foreign Aid

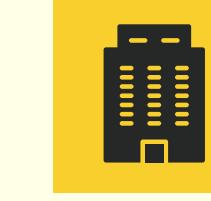
Expenditure



Running ASTHA



Managing Blockchain Technology



Overheads

ANNUAL REVENUE PROJECTION

FROM REFUGEES

| | Yearly Reach | Total Reach | Refugees(Owners) \$10 (USD) | Usage per Year (USD) (3% Commission) | Annual Revenue (USD) |
|--------|--------------|-------------|--------------------------------|--|-------------------------|
| Year 1 | 25,000 | 2,5000 | 250,000 | 56,250 | 306,250 |
| Year 2 | 85,000 | 110,000 | 850,000 | 191,250 | 1,041,250 |
| Year 3 | 111,500 | 221,500 | 1,115,000 | 250,875 | 1,365,875 |
| Year 4 | 327,000 | 548,500 | 3,270,000 | 735,750 | 4,005,750 |
| Year 5 | 578,100 | 1,126,600 | 5,781,000 | 1,300,725 | 7,081,725 |

*Usage per year has been limited to 5 transactions for 1st year of registering only

Problem

Solution

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ANNUAL REVENUE PROJECTION

FROM RELYING PARTIES (INSURANCE, BANKS, HOSPITALS ETC.)

| | Yearly Reach | Total Reach | Relying Parties (USD) (5% Commission) | Annual Revenue (USD) |
|--------|--------------|-------------|--|----------------------|
| Year 1 | 25,000 | 2,5000 | 281,250 | 281,250 |
| Year 2 | 85,000 | 110,000 | 1,237,500 | 1,237,500 |
| Year 3 | 111,500 | 221,500 | 2,491,875 | 2,491,875 |
| Year 4 | 327,000 | 548,500 | 6,170,625 | 6,170,625 |
| Year 5 | 578,100 | 1,126,600 | 12,674,250 | 12,674,250 |

*Foreign Aid has not been considered since it is subject to vary annually

Problem

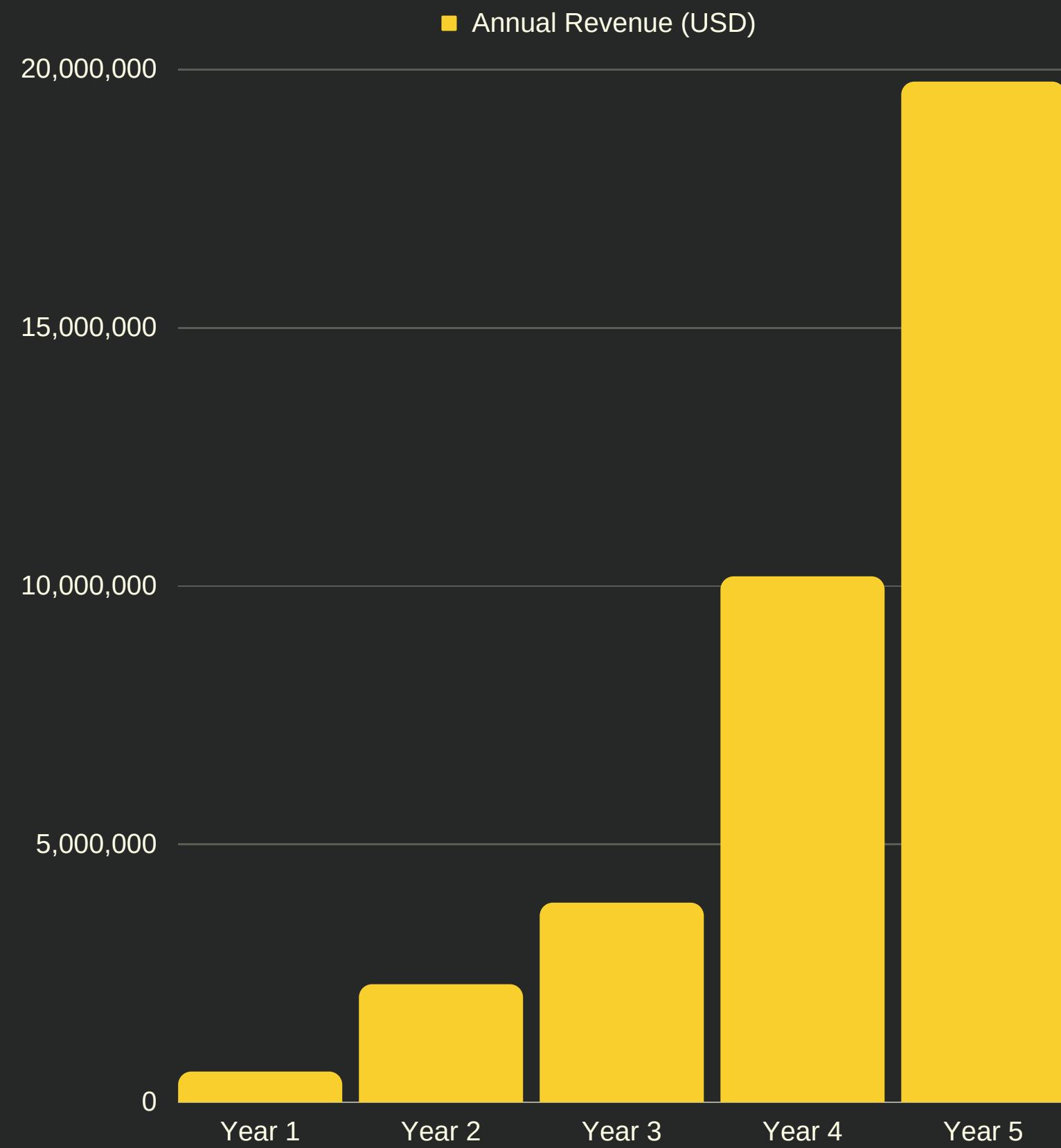
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ASTHA ANNUAL REVENUE PROJECTEION

The data displayed is for Rohingya refugees in Bangladesh, since our project primarily focuses on them before expanding globally.

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Key Performance Indicators

REFUGEES

- Number of Refugees successfully registered
- Sign-ups for jobs and banking services
- On-site visit to refugee registration conversion rate

RELYING PARTIES (BANKS, HOSPITALS, SCHOOLS ETC)

- Number of clients served
- Social Media Engagement
- On-site visit to Client conversion rate

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IMPACT GENERATION

BY ASTHA

RISE IN GDP

With thousands of new workers, the government and local businesses can gain access to a new untapped market and exploit this workforce. Higher employment means self dependency which will impact the country's economy positively.

COMPLYING DWA-SDG RELATIONSHIP

With the new ecosystem, Bangladesh government and ASTHA will aim to achieve the following SDGs:

- No Poverty (1)
- Zero Hunger (2)
- Quality Education (4)
- Gender equality (5)
- Decent work and economic growth (8)
- Reduced Inequalities (10)
- Sustainable cities and communities (11)
- Peace, Justice and strong institutions (16)

EFFICIENCY

With the new blockchain ecosystem, managing the refugees will become more efficient by achieving:

- allocative efficiency
- productive efficiency
- dynamic efficiency
- social efficiency

IMPACT CALCULATION

| Impact Basis | Total Impact (USD) |
|-------------------------------|--------------------|
| Identity Proof | 18,000,000 |
| Lifestyle Improvement | 4,250,000 |
| Crime Rate Reduction | 900,000 |
| Information Robbery Reduction | 900,000 |
| Total | 24,050,000 |
| Investment in an Annum | 4,500,000 |
| Impact for per \$1 investment | 5.34 |

Problem

Solution

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RISKS AND MITIGATION

| Risks | Mitigation |
|--|--|
| Relying parties infrastructure not being ASTHA friendly | <ul style="list-style-type: none">• Hardware has fixed cost which can be funded by the government and investments |
| Refugees feel they need a lot of Technical Knowledge | <ul style="list-style-type: none">• Awareness campaigns will be hosted• On-site registration• 24/7 hotline |
| The Blockchain is dependent on Ethereum | <ul style="list-style-type: none">• Price of Ethereum is quite stable in the global market• May shift to some other crypto token if Ethereum becomes unstable |
| Loss of AVD (ASTHA Verifiable Document) | <ul style="list-style-type: none">• Refugee has to go through the same registration process again• Make copies of the json file |
| Clients resisting to hire refugees | <ul style="list-style-type: none">• Find more refugee friendly clients• Promote with the benefits of hiring refugees• Government intervention |
| Lack of Education | <ul style="list-style-type: none">• Provide training and education to the refugees regularly |

Problem

Solution

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THANKS FOR LISTENING

By BUET GRC
