

SHOTTYOBONDHU

REAL-TIME FAKE NEWS DETECTION USING
ANDROID ACCESSIBILITY SERVICES

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O1

PROBLEM STATEMENT

- Fake news spreads rapidly on social media platforms
- Elderly and non-technical users are highly vulnerable
- Existing fact-checking tools are:
 - **Time-consuming**
 - **App-specific**
 - **Not integrated into daily usage**

Core Problem:

Users consume misinformation before realizing it is false

WHY THIS PROBLEM MATTERS?



- Causes panic, misinformation, and social harm
- Affects public health, politics, and trust
- Bangladesh context: Facebook, WhatsApp, YouTube dominance

Design Challenge:

Detect misinformation in real time
without disrupting user experience

02

PROPOSED SOLUTION

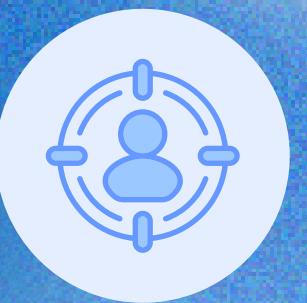
**Sottyo
Bondhu**
TruthMate

An Android-based misinformation assistant that

- 01 Works across apps
- 02 Detects suspicious content on-screen
- 03 Warns users instantly using visual overlays
- 04 Encourages critical thinking before sharing

03

04



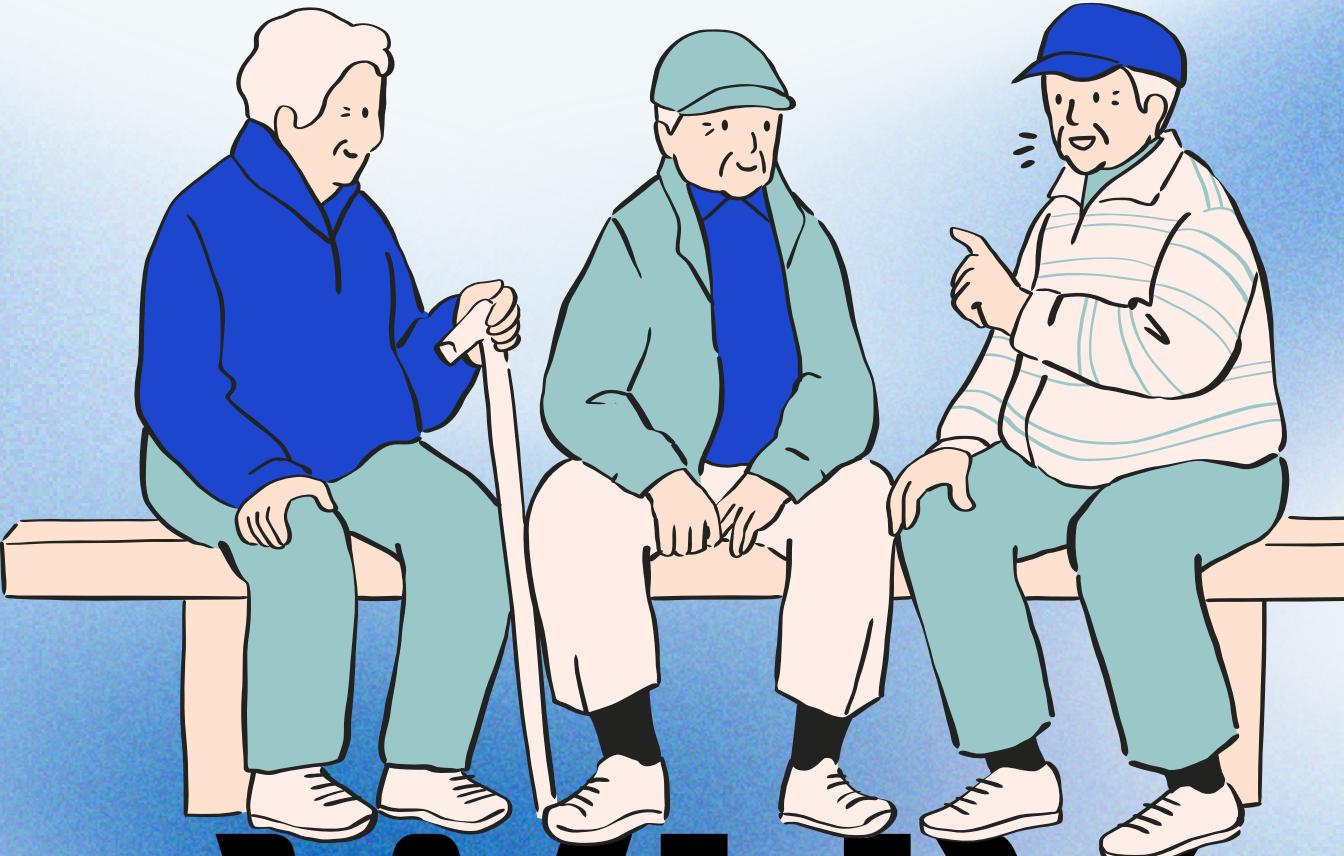
User Group

Target Group:

- Elderly internet users
- Active on Facebook, YouTube, and WhatsApp

Why We Chose Them:

- most affected groups by misinformation
- Easily influenced by emotional or misleading content
- Limited access to fact-checking or verification tools
- Lower digital literacy



**WHY
WE CHOSE
THEM?**

HCI FOCUSED DESIGN APPROACH

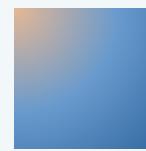
BRAINSTORMING TO BRILLIANCE

01



Human-centered design

02



Accessibility-first interaction

03



Minimal cognitive load

04



Non-intrusive alerts

Guided by:

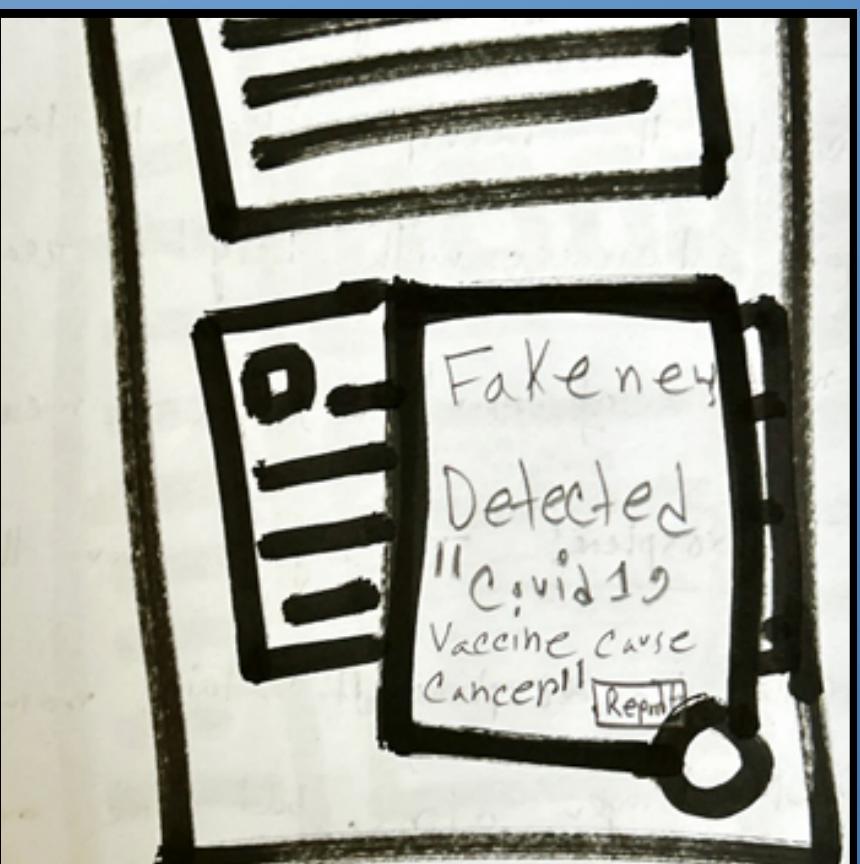
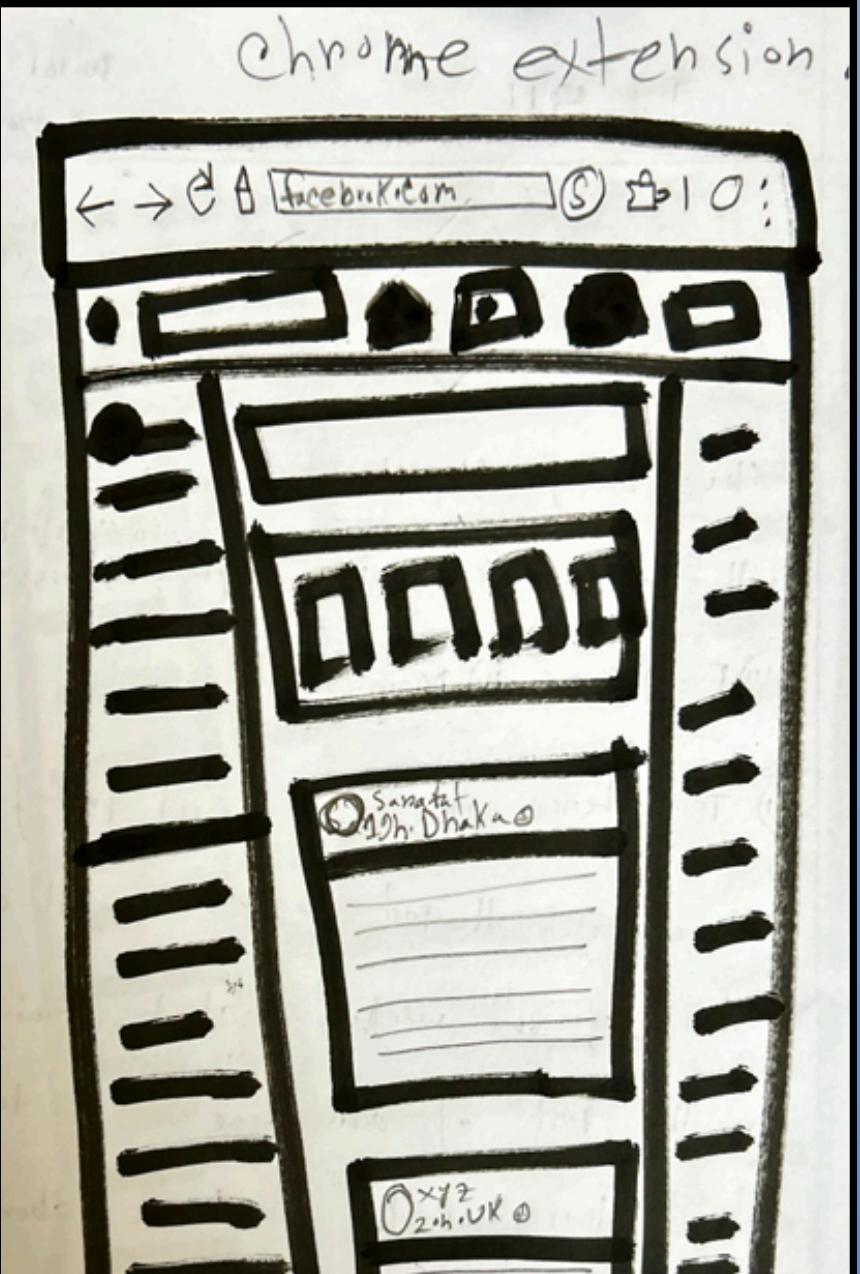
- ✓ **Nielsen's Usability Heuristics,**
- ✓ **Graphic Design Principles,**
- ✓ **User research & surveys**

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LOW-FIDELITY DESIGN (LO-FI SKETCHING)

- ✓ Mobile app bot concept
- ✓ Chrome extension concept
- ✓ Website-based verification
- ✓ Overlay warning concept

06

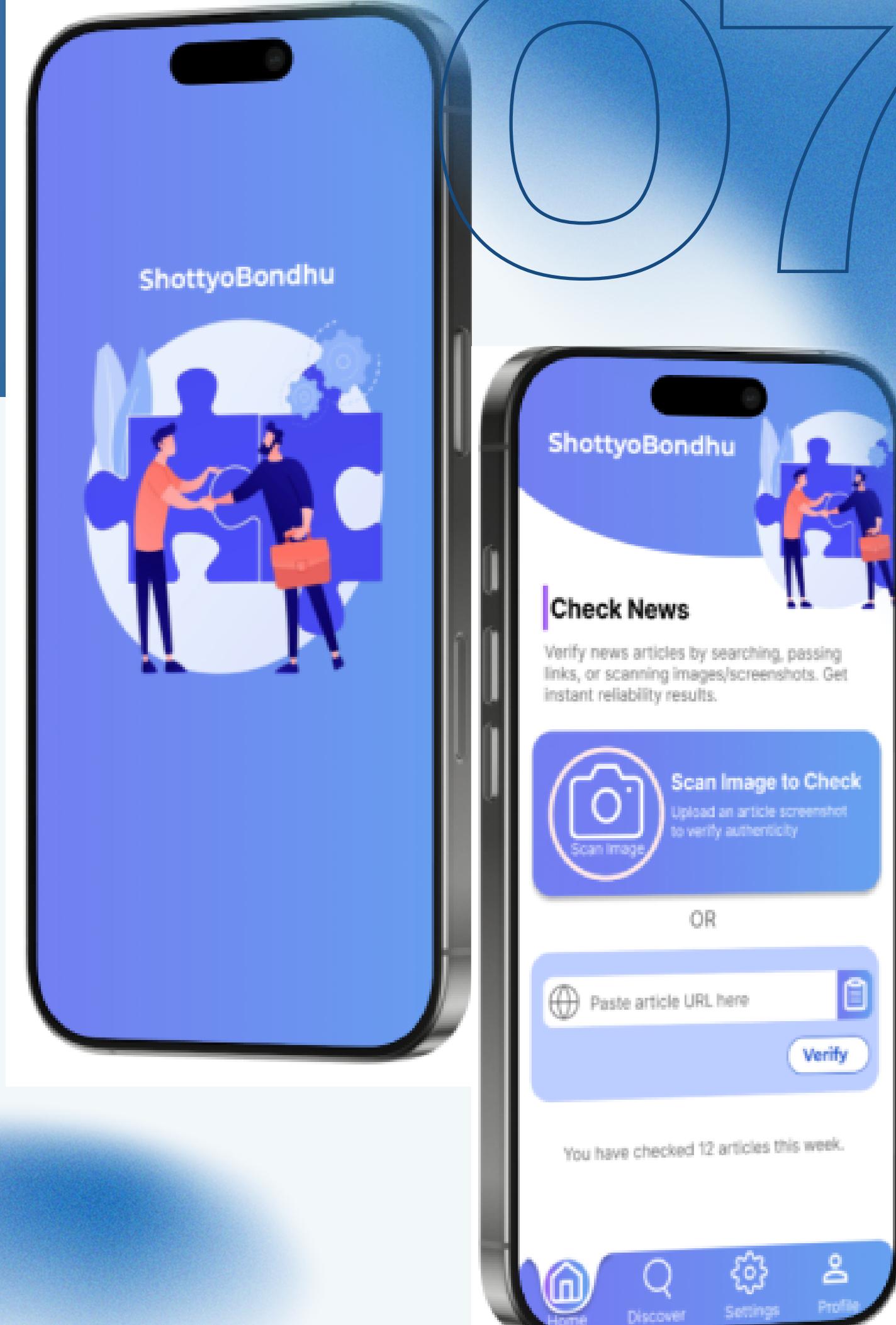


HIGH FIDELITY PROTOTYPE

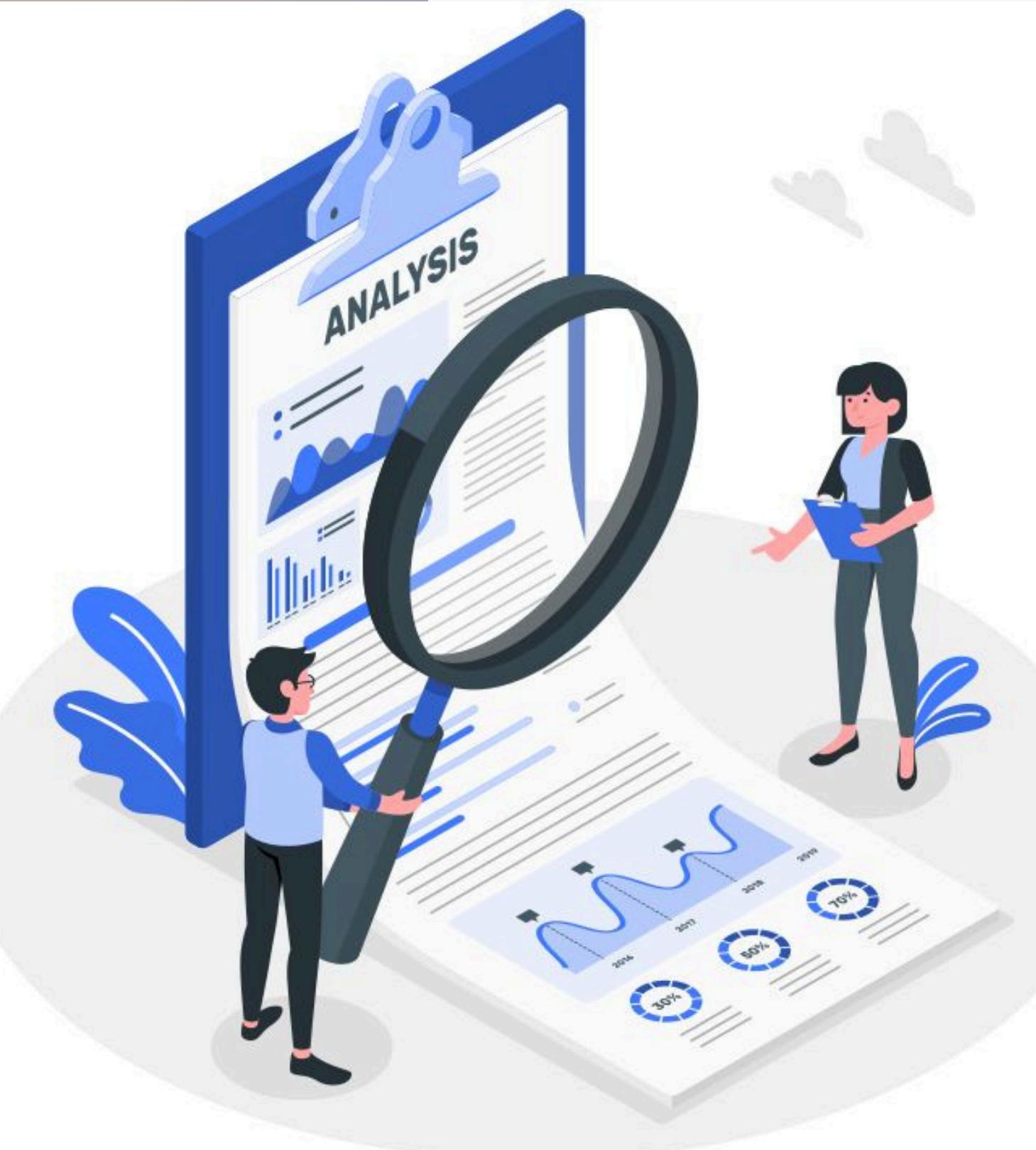
Figma Interactive Prototype [🔗 link](#)

Includes:

-  **LOGIN & ONBOARDING**
-  **FAKE NEWS ALERT UI**
-  **ACCESSIBILITY & PERMISSIONS**
-  **EXPLORE NEWS**
-  **QUIZ SECTION**



USER RESEARCH OVERVIEW



Methods Used

- Semi-structured interviews
- Online survey (38 participants)

Participant Focus

- Majority users: 18–40 years
- Insights extended for elderly & low digital literacy users

Research Goal

- Understand why users fail to verify information
- Translate behavior into human-centered design decisions

KEY RESEARCH INSIGHTS

**"Users don't fail at detecting fake news
— the interface fails them."**

Users Struggle With –

- Verifying source credibility
- Conflicting information across platforms
- Verification is time-consuming & confusing

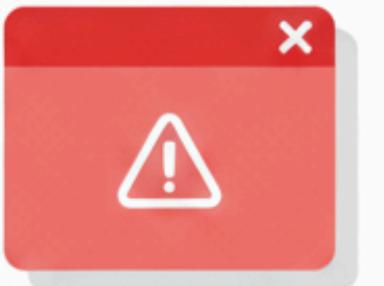
What Users Prefer

- Short, non-intrusive pop-ups
- Red / high-visibility warning indicators

Williness to Use AI-Based Detection



AI-Tool Use



09

DESIGN DECISIONS FROM RESEARCH

10



Research → UI Translation



Short, high-contrast warning alerts

Minimal text to reduce cognitive load



Color-coded trust signals (Green / Yellow / Red)

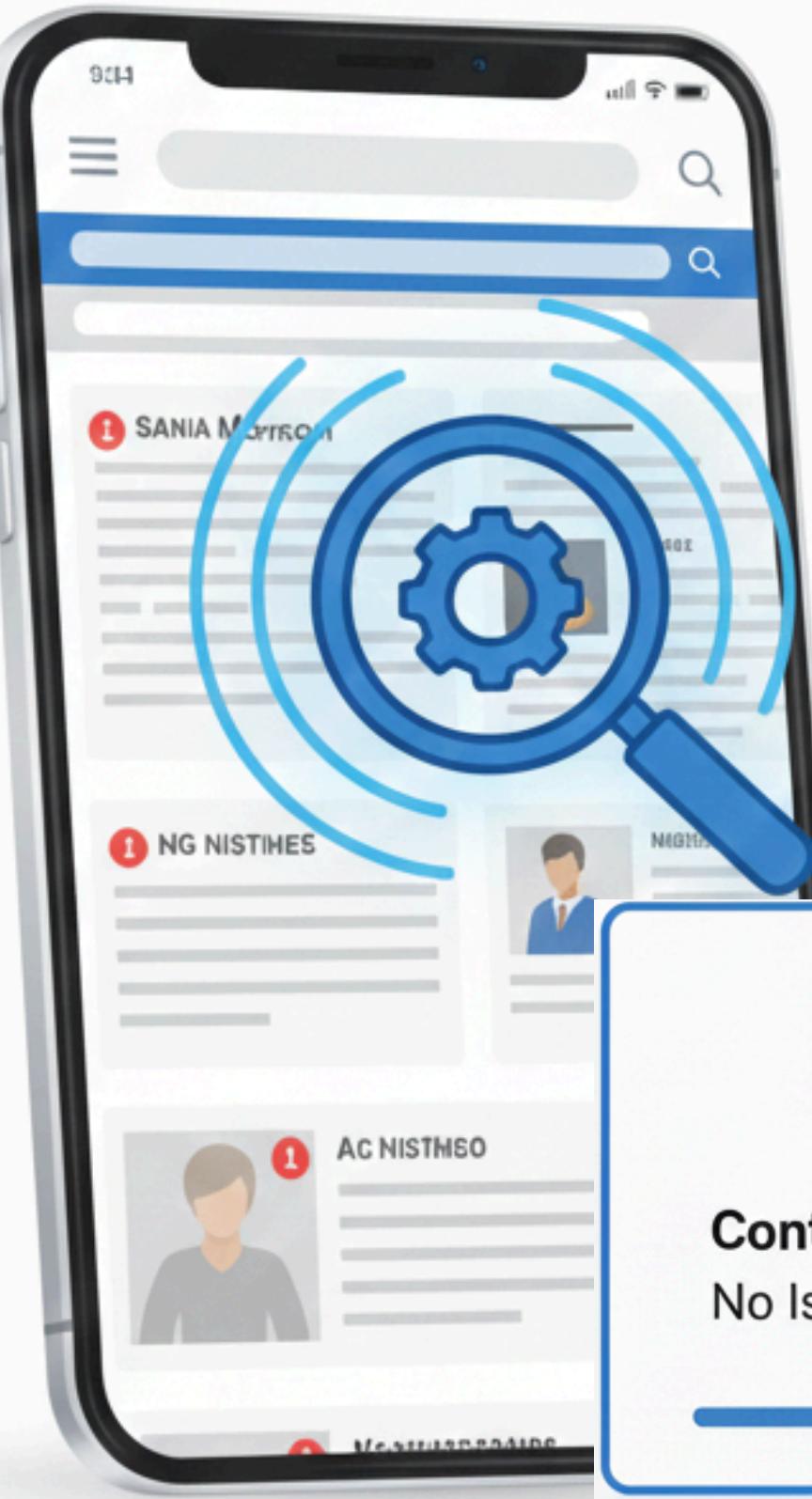


No forced blocking – user stays in control



Design Philosophy- User don't fail, interfaces do

KEY FEATURES



- ✓ Real-time screen scanning
- ✓ Floating fake news alerts
- ✓ Highlight overlay for suspicious content
- ✓ Clear permission & privacy transparency
- ✓ Explore section with quizzes for awareness

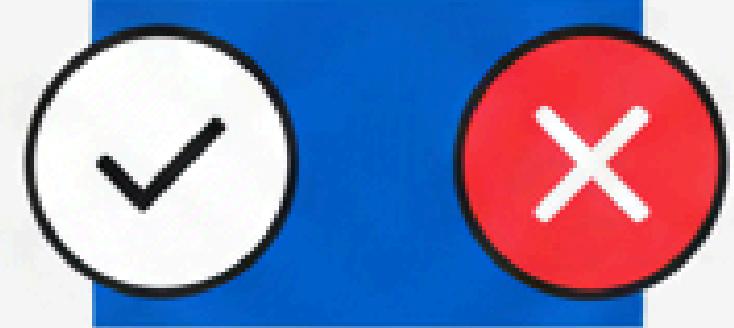
CORE IDEA

DETECT • INFORM • EDUCATE
— WITHOUT DISRUPTING USERS

Accessibility Considerations

1

**High-contrast UI
for readability**



2

Adjustable text size

Lorem ipsum text size



3

**Simple permission
explanations**

This app needs to
check links for your
safety.

4

**Multi-language support
(planned)**



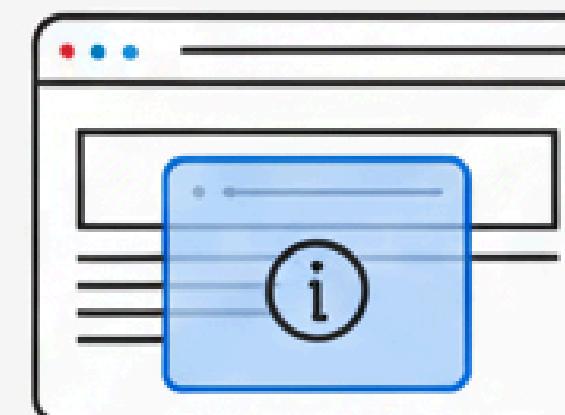
ABC

aßy
Planned



5

Non-blocking overlays



6

**Designed especially for
elderly & low digital
literacy users**



Limitations & Reflection



ML model not
integrated yet

Future WORK



14

1

Integrate TFLite
Misinformation
Classifier

2

Precise Text-
region
Highlighting

3

Credibility
Scores &
Explanations

4

Bangla
Language
Support

5

Privacy
Dashboard

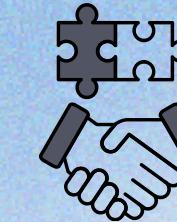
Learning

OUTCOMES

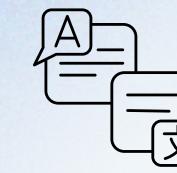
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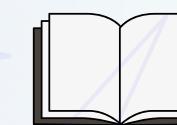
Deep understanding of Accessibility-based UX



Ethical implications of system-level permissions



Translating user research into design decisions



Balancing visibility with non-intrusiveness

CONCLUSION

How does ShottyoBondhu demonstrates?

Different approaches can be combined to fight misinformation
in real time by applying



THANK YOU

ANY QUESTION?