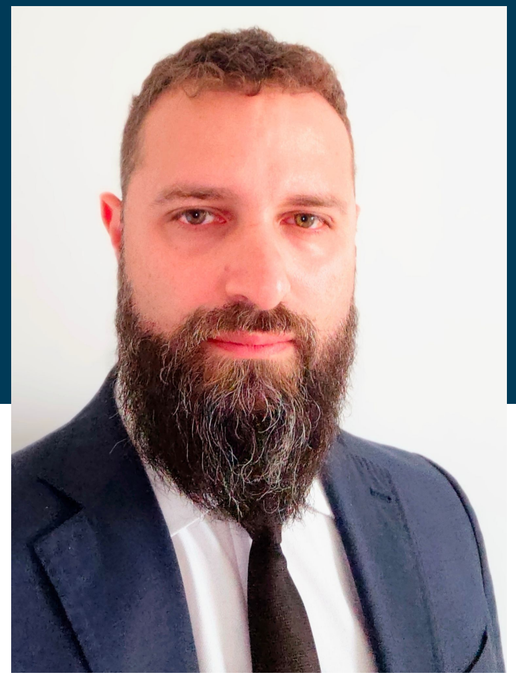
UNGUESS

BE SMART FROM THE START

Validating Digital Onboarding solutions through CrowdTesting: the phygital case in CRIF

The Speakers

Filippo Leccardi
Senior CSM @UNGUESS



Dario Carmignani
Director @CRIF

UNGUESS

Agenda

01 UNGUESS

The crowdsourcing platform for effective testing and real insights

02 CRIF & Phygital solutions

In a nutshell

03 Roadmap Test

Understanding the needs to define the best solutions

04 Solution & Results

Summarizing Crowd-based results

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01 UNGUESS

The crowdsourcing platform for effective testing and real insights

What we do and How

WHAT: UNGUESS is the crowdsourcing platform for effective testing and real insights. Fast and at any time needed.

HOW: Unleashing the power of our engaged crowd* (tryber.me)

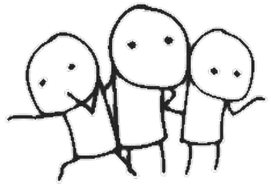
*: global online communities of real humans.

What we do **and How**

We are a network of **ENGAGED COMMUNITIES** at your disposal, not a random panel.

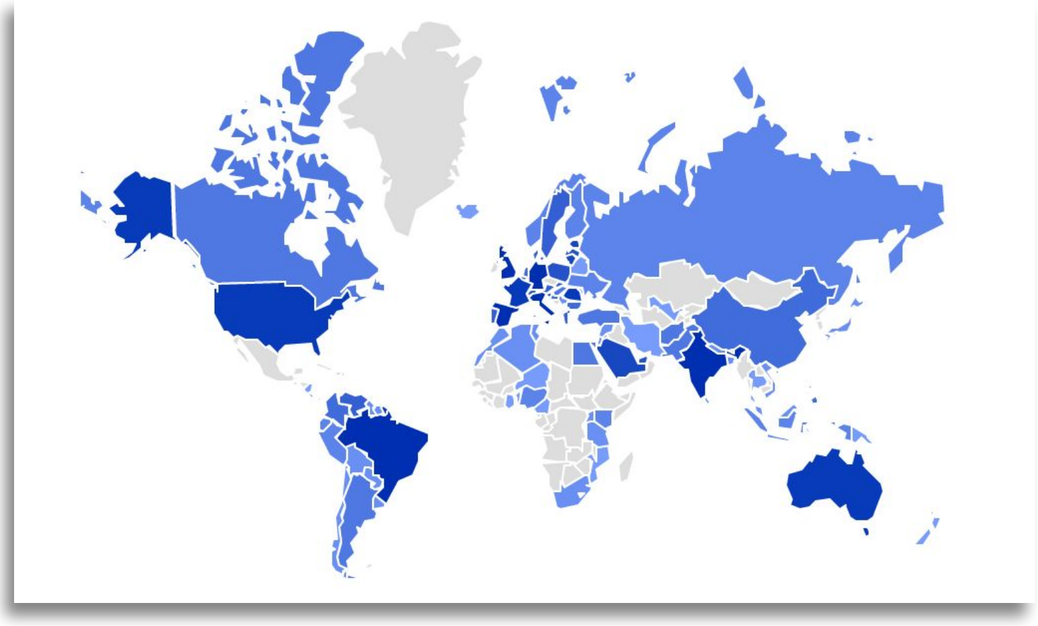
Thanks to our **DIGITAL PLATFORM**, we optimize how to find the **RIGHT PEOPLE** to answer your needs.

Leveraging our **BUSINESS EXPERIENCE** we master how to find the **SOLUTIONS** you are looking for.



TRYBER.

Thousands of highly engaged humans.
Thousands of different devices available.
Active presence in **more than 100 countries.**



Agenda

02 CRIF & Phygital solutions

In a nutshell

OUR MISSION AND VISION

MISSION / The mission that drives CRIF is to create value and **new opportunities** for consumers and businesses by providing reliable information and solutions, allowing more powerful decisions and accelerating digital innovation.

VISION / Since 1988, we have been responsibly supporting our clients locally in their everyday financial journey, through **trusted information**, advanced **cutting-edge solutions, and unique expert knowledge.**

CRIF
Together to the next level

CRIF AT A GLANCE

40 Country-based operations

80+ Subsidiary companies

4 Continents

6,200 Professionals at your service

10,500+ Financial institutions

600 Insurance companies

82,000+ Business clients

1,000,000+ Consumer clients

use CRIF services in **50** countries

TOTAL REVENUES (millions of Euro)

CRIF
Together to the next level

CRIF GLOBAL TECHNOLOGIES IS THE IT ENGINE OF CRIF, YOUR TRUSTED FINTECH PARTNER

CRIF Global Technologies is able to serve all organizations, responding to their needs by combining the **reliability**, **compliance**, and **global approach** of a large trusted company with the **innovation**, **scalability**, and **flexibility** typical of Fintech companies

CRIF GLOBAL TECHNOLOGIES

CRIF Digital Customer Journey
Digital onboarding

COMPONENTS

- Biometric remote Identification
- Digital Document Acquisition
- KYC & Anti-money Laundering
- Electronic Signature
- Remote collaboration/selling (Digital & Human touch)
- Digital Footprint

BENEFITS

- 80% conversion rate in 24 hrs
- Time to complete end–to-end process: < 5 mins
- > 75% accuracy fo liveness detection and document detection
- -60% dropout rate pending video identification;
- -70% impersonation fraud thanks to #ANTITAMPERING & #ANTISPOOFING measures
- - 40 % recycling of the practice thanks to KYC controls

CUSTOMERS

- 20+ players

PARTNERSHIP

FOCUS ON:
enabling technologies

LIVE ACQUISITION

AUTOMATIC ACQUISITION & ANTI-TAMPERING

Identification document images. **Advanced algorithms** are applied to validate security markers (logos, positions of characteristic elements, on the plastic), as defined by the **PRADO standards** (Public Register Of Authentic Identity And Travel Documents Online of the Council of the European Union).

ENHANCED DATA EXTRACTION

OCR processing of images of identity documents to extract the information contained in them.

CONTENT ANALYSIS

COHERENCE CHECKS

performed on the OCR reading result, between release and expiry dates, between data contained in the ICAO code and check digit in MRZ (Machine Readable Zone)

VIDEO SELFIE

VIDEO SELFIE & ANTISPOOFING

validation through Liveness Detection and PAD (Presentation Attack Detection) measures, to reject "attack" attempts aimed at deceiving the system by replacing the real person with a photo, a video or a mask as per ISO / TEC 30107 standard

AUTOMATIC FACE COMPARISON

AUTOMATIC COMPARISON

between the image of the face on the acquired identity document and the image of the subject's face captured during the videoselfie

Agenda

03 Roadmap Test

Understanding the needs to define the best solutions

Three Needs
for an optimal solution

Quality

The solution must work well, without showing or creating problems to the user that expects to be driven through the process.

Ethics

The solution can't be biased, the algorithms must perform well with every Ethnicity, even if not very represented in Europe.

Security

The algorithms must detect a spoofing tentative, even if perpetrated with different techniques.

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How did CRIF approach Quality to be ready for Crowd validation?

A dedicated QA team is part of the project team
Every product release or delivery is comprehensively tested under many aspects

- **Testing of new features and releases**
- **Compatibility testing for new beta releases of the Mobile operating systems**
- **Device compatibility testing via the internal mobile lab**
- **First internal check on antispoofing algorithms**

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BUG FIXING & UX/UI ADJUSTMENTS

TRAINING OF THE ALGORITHMS

TRAINING OF THE ALGORITHMS

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04 Solution & Results

Summarizing Crowd-based results

Quality
Bug Hunting & Customer Feedback

- Testers were asked to leave **Usability feedbacks** during the **first attempt to complete the process**

- Testers identified:

	BUGS accepted	Duplicated Bugs	Unique Bugs
iOS	45	14	31
Android	41	21	20
MacOS	6	2	4
Windows	4	1	3
	96	**38**	**58**

BUG FIXING & UX/UI ADJUSTMENTS

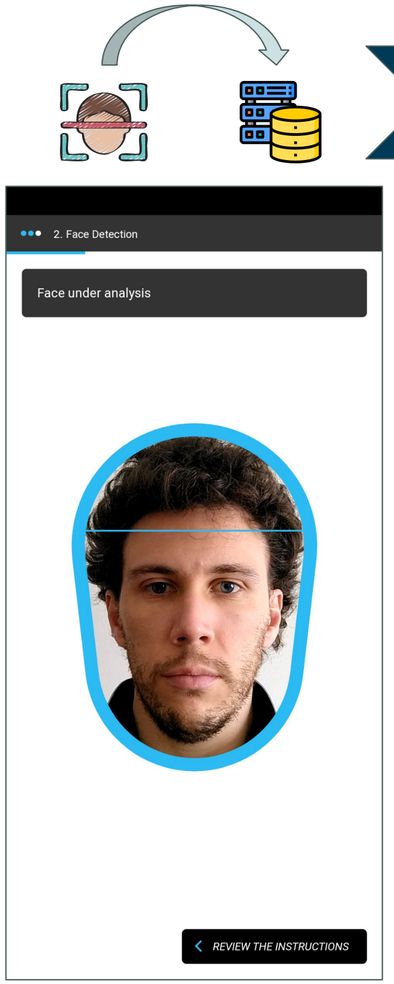
50 testers

- **75% Smartphone**
  - 50% Safari
  - 40% Chrome
  - 10% Samsung Browser
- **25% PC**
  - 50% Safari
  - 30% Chrome
  - 10% Firefox
  - 10% Edge

Tester Counter: **50**

Ethics
Data Collection

- Testers were asked to go through the process **at least 20 times** by **changing** as much as possible the **following combinations**:
  - Outfit or hairstyle
  - Brightness: High, Medium, Low
  - Environment: indoor / outdoor
  - Moment of the day: day / night
  - Background



TRAINING OF THE ALGORITHMS

50 testers

- **100% Smartphone**
- **40% Female**
- **40% non-Caucasian**
- minimum **20%** from each group of **age (18-35, 36-53, 54-70)**

Tester Counter: **100**

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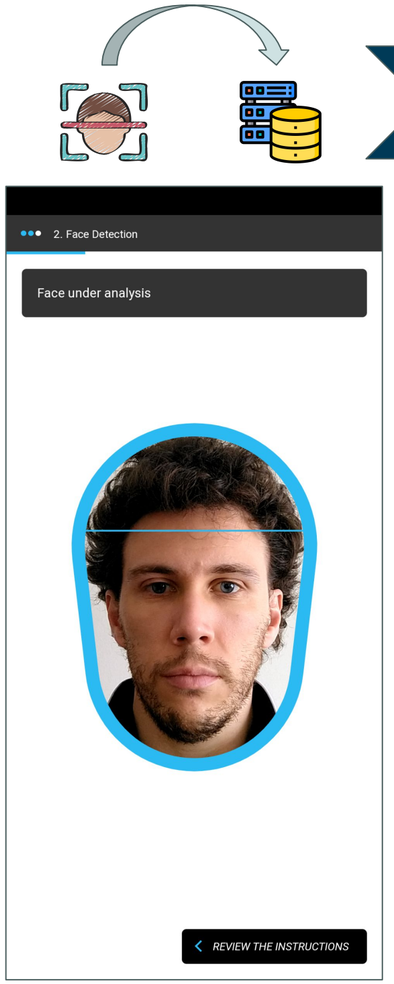

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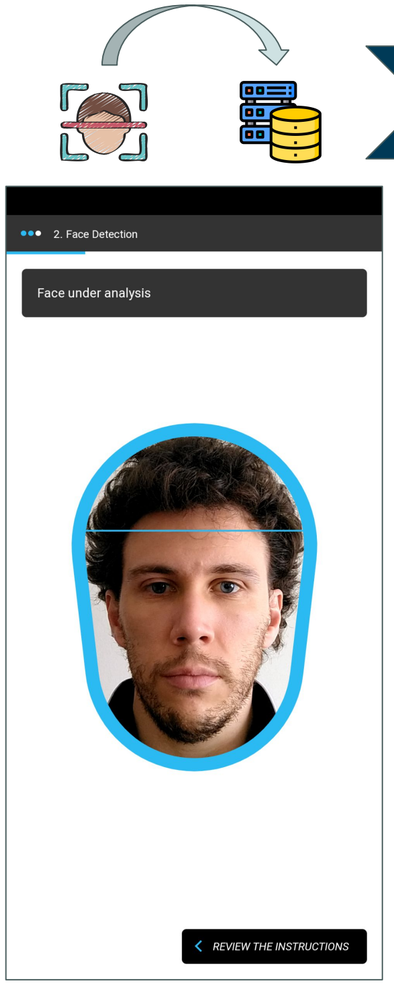

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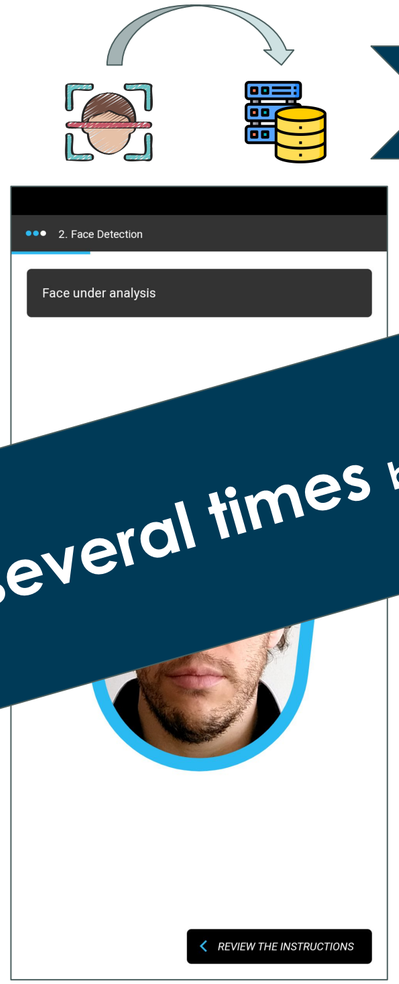

Run Again

We ran this activity **several times** by changing testers involved

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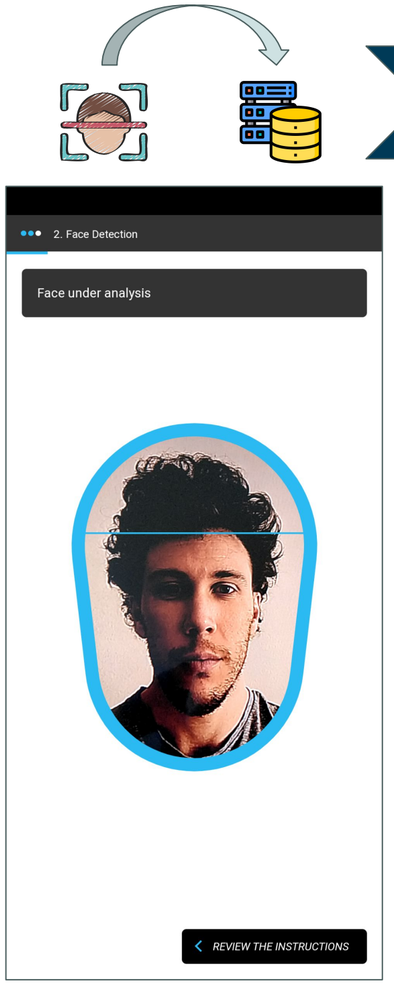
Tester Counter: **200**

Security
Data Collection - Spoofing

- Testers were asked to go through the process **at least 20 times** by putting in front of the camera an image of them displayed on **different supports** such as:
  - PC
  - Tablet
  - Smartphone
  - TV
  - Paper and Photographic Paper
  - Passport Photo
  - Photo on an ID Document

2-3 times per support!



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Tester Counter: **250**

Summarizing
crowd-results obtained

Does it work? Is the process clear and simple?

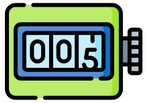
58 Unique bugs discovered
50 testers tried the process and **shared their first thoughts and impressions**

5Vs of Data of people trying the process

2.000 tentatives were made by our tester, for each one we collected **at least 30 seconds of images at 30 fps**

5Vs of Data of people making spoofing attempts

Around **1.000 attempts** were made by our tester, for each one we collected at least **120 seconds of images at 30 fps**



#COUNTERS

250 combinations of devices-browser

over 1 million images collected

at least 2.700 onboarding made

Summarizing
crowd-results obtained

1. **Volume**
2. Velocity
3. Variety
4. **Variability**
5. **Veridicity**

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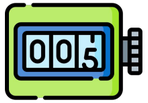

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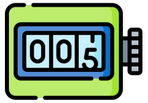

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Enabling factors
It’s always a team work

Coordination

Timings and activities must be planned together in order to reduce complexity and inefficiencies.

Instruments

CRIF created an ad hoc version of the digital product to collect all the images with metadata associated.

Communication

The process of describing needs and discussing solutions is fundamental to providing value.

Let’s keep in touch!

BE SMART FROM THE START

UNGUESS

CRIF

Together to the next level

ANY QUESTIONS?

https://unguess.io