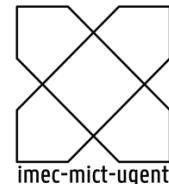




SHARCS

WP4: Effective user empowerment for personal data

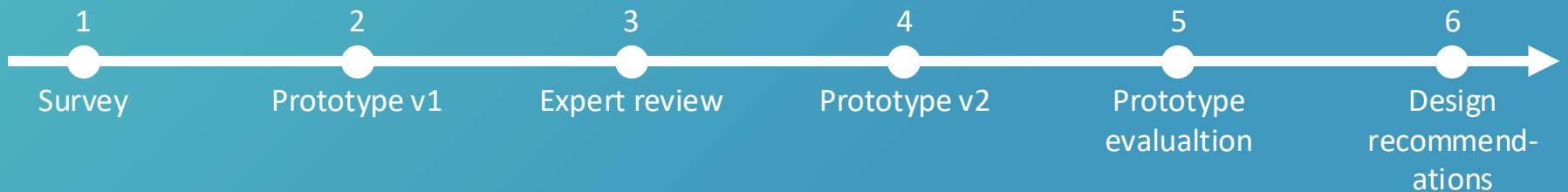


Research questions

How do users evaluate the use of a data vault during the job application process (compared to other data vault applications)?

How can the user experience be optimized?

Methodology



Survey

HR

Data vault help career platforms **match job seekers with positions** by sharing qualifications and interests, allowing companies to contact suitable candidates.

Media

Data vault enables sharing of media preferences across platforms, enhancing **personalized recommendations**.

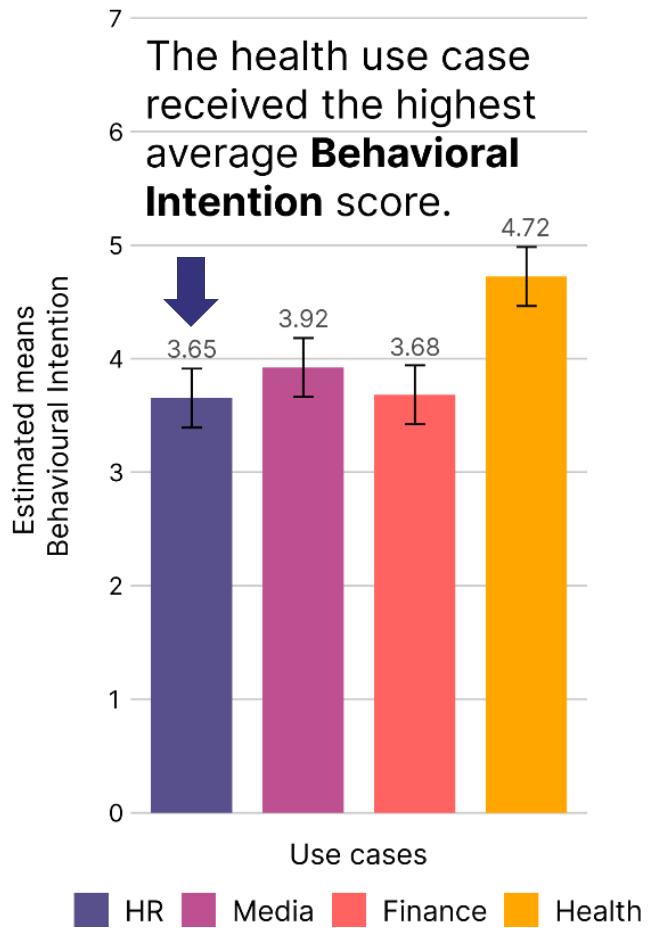
Finance

Data vault **consolidates financial data**, offering insights into income, expenses, and assets.

Health

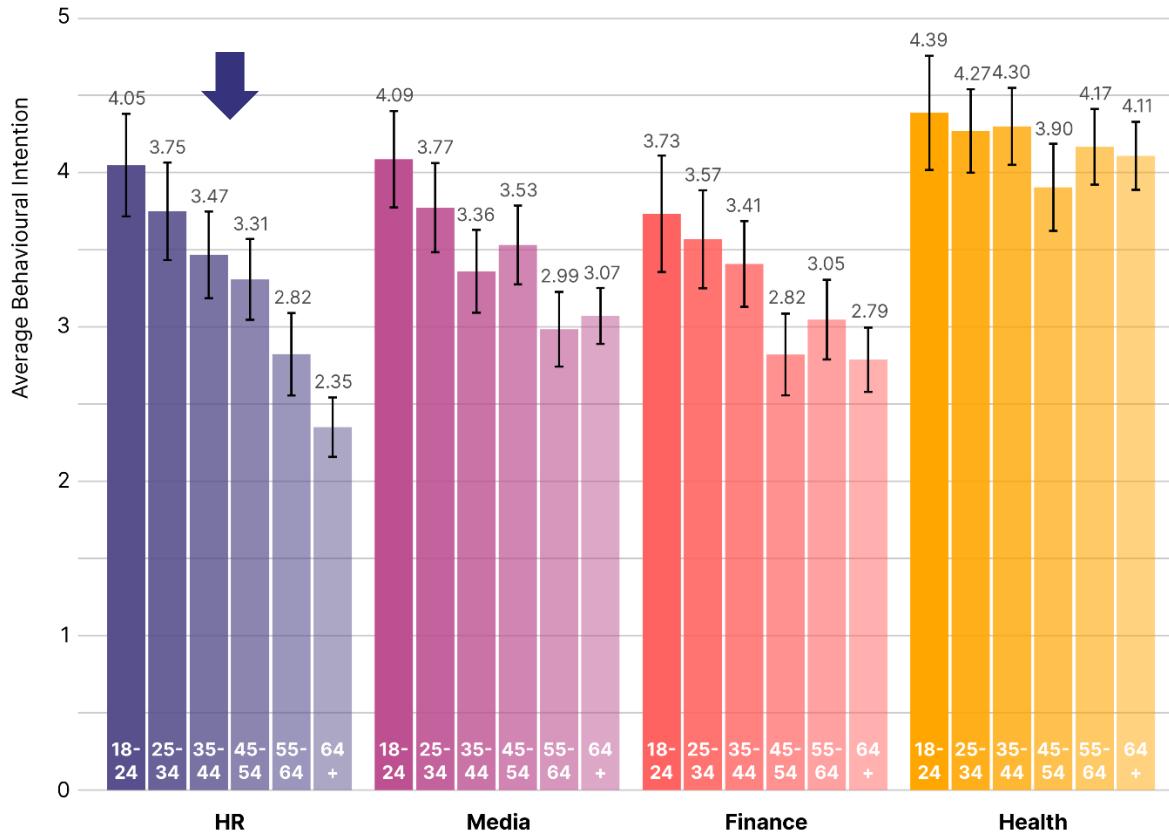
Data vault stores medical, fitness and wearable data which can be shared with a doctor for more **personalized health monitoring**.

(n=2335, Flanders)



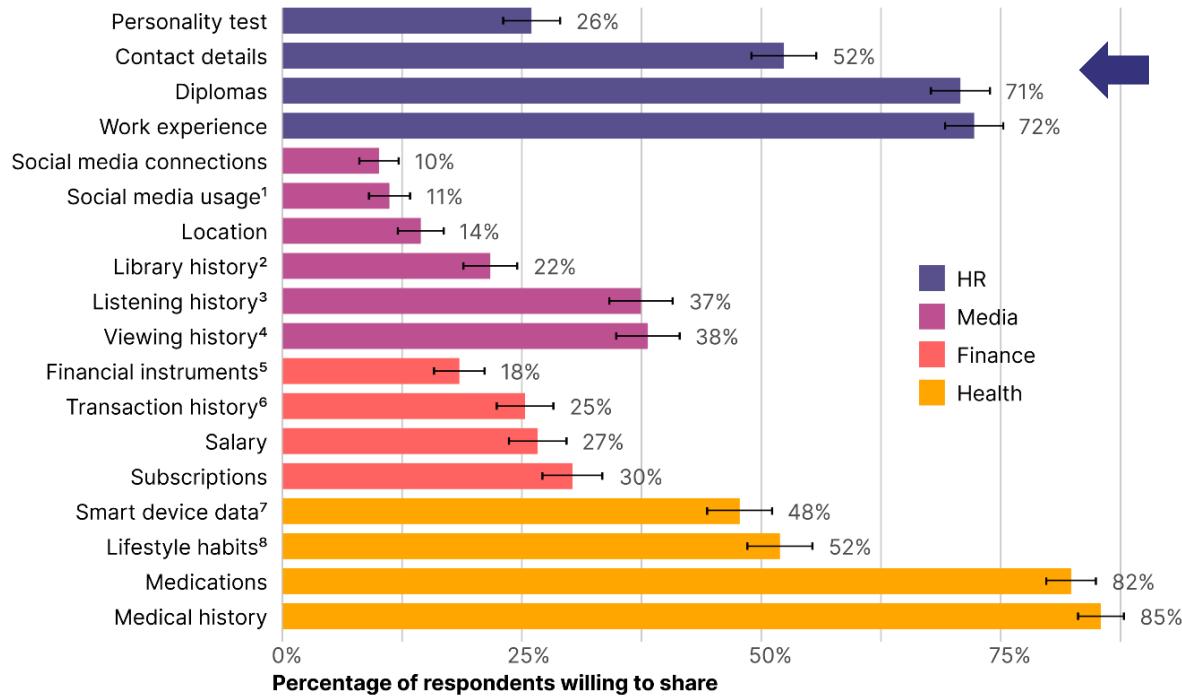
Survey

Average **behavioural intention** across use cases **decreases with age**



Survey

Willingness to share data varies significantly across different use cases.



¹following pages and saved posts; ²books borrowed; ³music and podcasts listened to; ⁴series/films watched online;

⁵stocks, funds, crypto, etc.; ⁶purchases, expenses; ⁷heart rate, weight, sleep measurements; ⁸workouts, smoking, alcohol consumption

Prototype v1

HR

The screenshot shows a web-based HR platform for Randstad. At the top, there's a navigation bar with links like 'Home', 'Randstad', 'VRT MAX', 'WealthWise', 'MyHealth', and 'Instructions'. Below the navigation, there's a search bar with placeholder text 'samen vinden we werk dat goed' and filters for 'functielocaties', 'stad of postcode', and 'range'. A large button says 'Let's find your perfect jobmatch in just 2 clicks'. To the right, a modal window titled 'Randstad requests access to the following data' lists several items: 'Diploma' (BSc. Business Administration), 'Work experience' (Past and current jobs), 'Personality test results' (Katz career interests scan), and 'City of residence' (Ghent). A 'Share the data' button with a 'Share' icon is at the bottom of the modal.

MEDIA

The screenshot shows a media recommendation interface from VRT MAX. It features a sidebar with categories like 'Home', 'Mijn lijst', 'VRT Radio en TV-gids', 'Zomerhit', 'Paralympische Spelen', 'KANALEN', 'VRT 1', 'VRT CANVAS', 'ANM', 'Studio Brussel', 'ONTdekken', 'Podcasts', 'TV', 'Series', 'Films', 'Docs', 'Sport', and 'Muziek'. The main area displays 'Persoonlijke aanbevelingen' (Personal recommendations) for 'Gebaseerd op' (Based on) 'Streaming history', 'Music interests', and 'Following pages and accounts'. It shows four movie posters: 'MARLEY', 'Becoming', 'NASA: A JOURNEY THROUGH THE SPACESHOW', and 'TAYLOR SWIFT: THE ERAS TOUR'. Below this, there are sections for 'Series die je vrienden leuk vonden' (Series your friends liked) and 'zomerhit' (Summer hit).

FINANCE

The screenshot shows a financial management interface from WealthWise. It includes a header with 'Hello Alex' and a date 'Aug 27, 2024'. The main sections are 'Total Balance' (\$18,399), 'Monthly fixed costs (e.g. rent)' (\$827.32), 'Upcoming Bill' (Netflix - Monthly \$9.99), 'Recent Transaction' (e.g., Pizza Barnaby, Amnesty Int., Marthe Tjits), 'Income/expenses' (Montly Comparison chart), and a 'BMI Calculator' section.

HEALTH

The screenshot shows a health overview interface from MyHealth. It includes a 'Health Overview' section with a date 'August 27, 2024', a 'BMI Calculator' (Height 178 cm, BMI 22.7, Weight 72 kg), and a 'Body Measurements' section with a 3D human body model. Other sections include 'Blood Sugar' (90 mg / dL, Normal), 'Resting Heart Rate' (58 bpm, Normal), 'Blood Pressure' (140 / 90 mmHg, Higher than usual), 'Activity' (Run, Ride, Walk), 'Your doctor' (Dr. Zoe Fee, contact info), and 'Upcoming consult' (August 29, 2024, June 14, 2024).

Expert review

Expert number	Field of expertise	Professional experience with personal data stores	Goal of the review
1	Product design	No	Optimizing the UI/UX of the prototype.
2	UX design	Yes	
3	Data visualisation	No	
4	Legal	Yes	Evaluating legal compliance of the data requests with European law.
5	Privacy	Yes	
6	Privacy	Yes	Evaluating the implemented privacy controls.
7	Privacy	Yes	
8	Technical development	Yes	Evaluating the technical feasibility of the prototype.
9	Technical development	Yes	
10	Governance	Yes	Evaluating the feasibility of with the existing governance frameworks.

Prototype v2

The screenshot shows the Randstad homepage. At the top, there is a navigation bar with links for 'werknemers', 'werkgevers', 'mijn carrière', 'workforce360', 'over ons', and 'kantoren'. Below the navigation, there is a search bar with fields for 'functietitel, trefwoord' (function title, keyword), 'waar?' (where), and 'range' (10 km). A button labeled 'zoek 4499 jobs' (search 4499 jobs) is visible. A call-to-action bubble says 'Start the job search' and 'Click on "Share data and get matched".' Below the search bar, there is a section titled 'Let's find your perfect **jobmatch** in just 2 clicks' with four small images of people.

1. Homepage Randstad

The screenshot shows the same Randstad homepage as the first one, but with a large modal window overlaid. The modal is titled 'Randstad requests access to the following data' and contains several items with checkboxes: 'Diploma BSc. Business Administration' (checked), 'Work experience Past and current jobs' (checked), 'Personality test results Kazi talents expectations scan' (unchecked), and 'City of residence Ghent' (checked). At the bottom of the modal, there is a 'Share the data' button with a 'Share' link and three time options: '1D', '1M', and '1W'. A call-to-action bubble at the bottom right of the modal says 'Click on the "Share"'.

2. Data request matching

Prototype v2

This screenshot shows the Randstad job search interface. At the top, there's a navigation bar with links for 'werknemers', 'werkgevers', 'mijn carrière', 'workforce360', 'over ons', and 'kantoren'. Below the navigation is a search bar with fields for 'trefwoord of titel' (search term or title), 'locatie of postcode' (location or postcode), a dropdown for '10 km', and a button to 'zoek 272 jobs' (search 272 jobs). There's also a link to 'opslaan als job alert' (save as job alert). The main content area displays three job listings:

- administratief bediende** (93% Match)
 - zele, oost-vlaanderen
 - tijdelijk met uitzicht op vast
 - E2,200 - E3,000 per maand
 - 93% Match**
 - Diploma requirements
 - 3+ years work experience
- account payable officer** (87% Match)
 - Gent, oost-vlaanderen
 - tijdelijk
 - deme dredging
 - 87% Match**
 - Diploma requirements
 - 1+ years work experience
- bank officer** (82% Match)
 - Gent, oost-vlaanderen
 - tijdelijk
 - 82% Match**
 - Diploma requirements
 - 3+ years work experience

A callout box highlights the first listing with the text: "Get more information about this match. Click on 'administratief bediende'".

3. Matching results

This screenshot shows the detailed view of a job listing for an 'administratief bediende'. The top navigation bar is identical to the previous screenshot. The main heading is 'administratief bediende.' with a large 'Apply for this job' button and a 'Click on the 'Solliciteer'' link. Below the heading, it says 'vandaag gepubliceerd' (published today) and 'sluit 14 april 2024' (closes April 14, 2024). The job details include:

- Vacancy location: zele, oost-vlaanderen
- Publication date: vandaag gepubliceerd
- Closing date: sluit 14 april 2024
- Job title: administratief bediende.
- Match percentage: 93% Match
- Requirements:
 - Diploma requirements: BSc. Business Administration
 - Work experience: 3+ years work experience, Work experience
 - Location: Gent, oost-vlaanderen
 - Contract type: tijdelijk
 - Salary: E2,200 - E3,000 per maand
- Description:

Voor een onderneming in Lokeren, is Randstad op zoek naar een bediende in de voedingssector.

Binnen dit bedrijf zal je een zeer gevareerde functie hebben:

 - administratie rond kwaliteit en voedselveiligheid zoals bijvoorbeeld de kwaliteitsdocumenten ophalen in de productie en analyseren waar er problemen zijn geweest.
 - diverse personeelsadministratie zoals hijs voorbeeld.

4. Job details

Prototype v2

je gaat solliciteren voor:
administratief bediende

aanmelden om te solliciteren
Vul onderstaande gegevens aan om te sollicitatie te kunnen vervolledigen.

Skip the form and have your data collected automatically
Click on 'Automatically collect data'

Automatically collect data

of

profielinformatie
e-mail
paswoord

A tooltip box highlights the "Automatically collect data" button with the text: "Skip the form and have your data collected automatically Click on 'Automatically collect data'".

5. Application form

Randstad requests access to the following data

Select all

Personal email: alexwilder@email.com

Digital ID
Provided by Mijn Burgerprof...
Name: Given names Alex Wilder
Sex: V Nationality: BEL Date of birth: 25/11/1998
National register N°: 23.11.88-293.28
Profile creation, Identity check

BSc. Business Administration
Provided by LED database
Degree: Field of study Bachelor: Business Administration
To verify job requirements

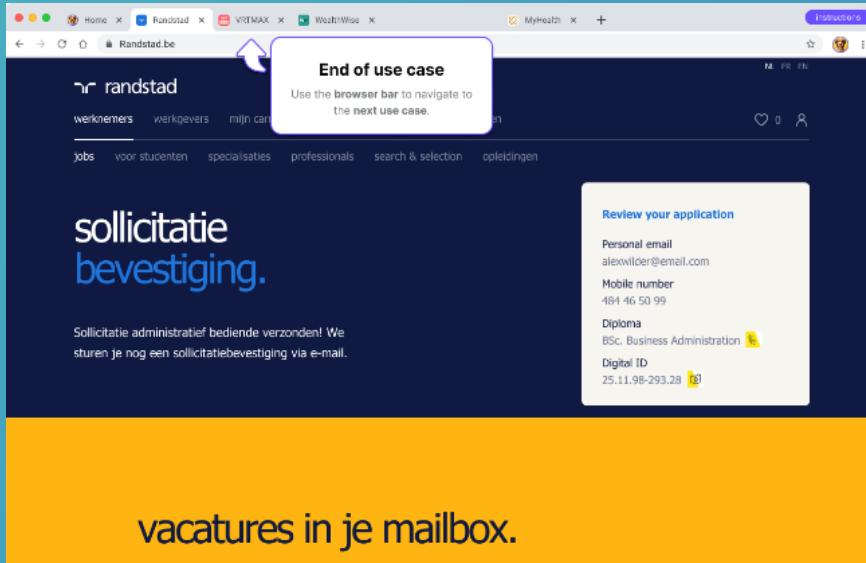
Until revoked: 1D, 1M, 1W, 1Y

€2,200 - €3,000 per maand
tijdelijk met uitzicht op vast

Cancel Share

6. Data request to autocomplete form

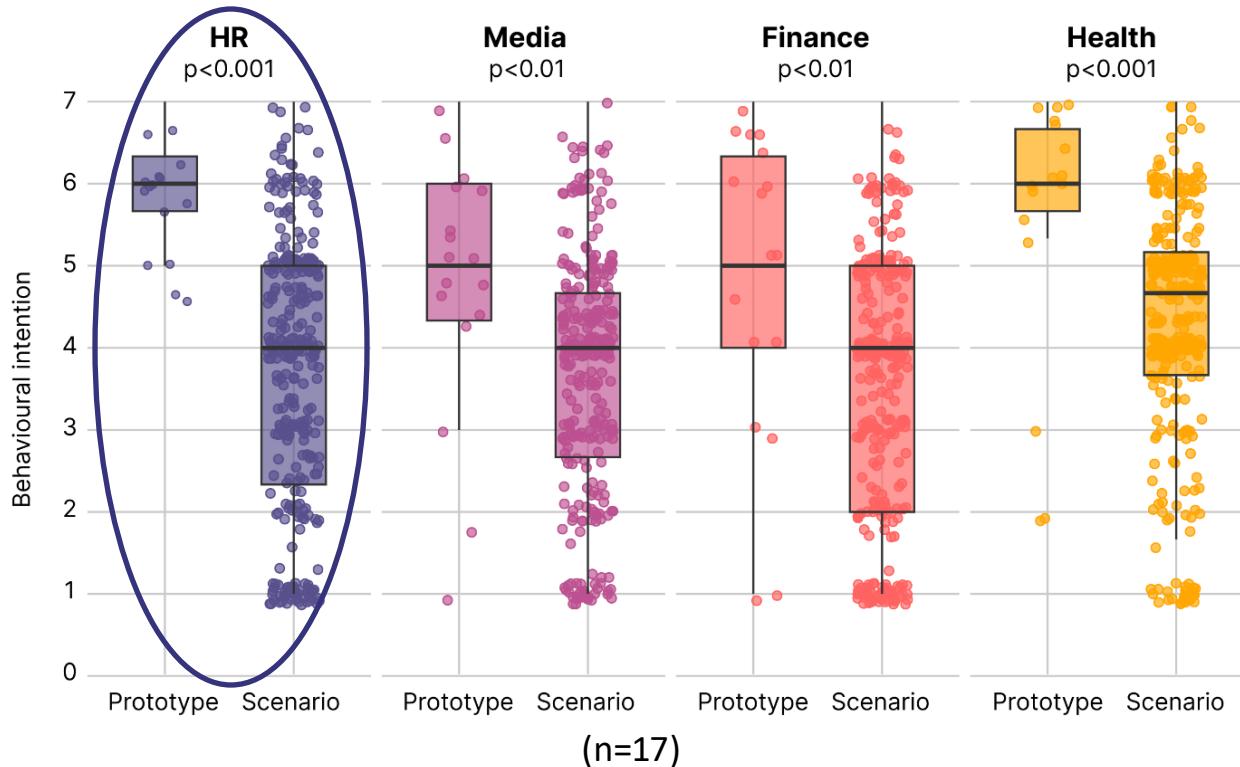
Prototype v2



7. Successful application confirmation

Prototype evaluation

Participants who interacted with the **prototype** report **higher behavioral intention** scores across all use cases compared to those who evaluated the written scenarios.



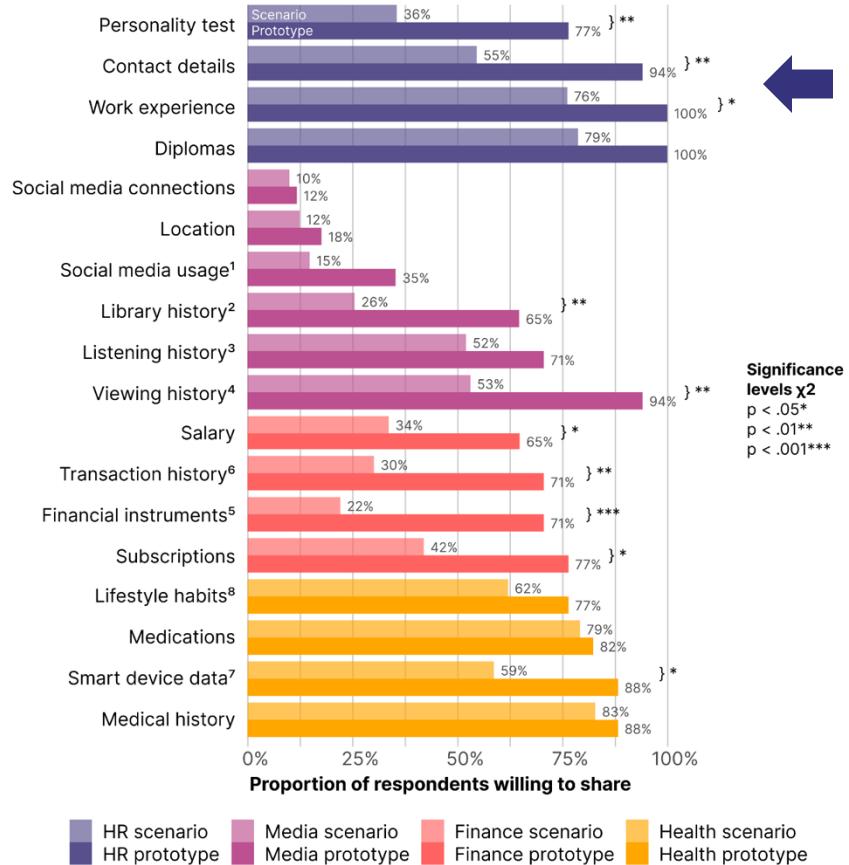
Prototype evaluation

Participants who **interacted with the prototype** generally report a **higher willingness to share data** compared to those who evaluated the written scenarios.

“Misschien twijfel bij die persoonlijkheidstest, maar. Ja, nee, eigenlijk alles wat hierop staat zou ik wel kunnen delen.”

“Als je vroeger naar een interim bureau ging, moest je gewoon op papier schrijven.”

“Ja, ik vind alles ook trouwens **prima om te delen**. Ja, en dat is ook vooral omdat **Randstad** en VRT makers dat zijn ook wel sites die ik vaak gebruik en die ik wel enigszins vertrouw.”





Prototype evaluation



- Time saving
- Ease of use
- Relevant job openings

Demand for additional filter options

“Het grootste voordeel? Dat je niet alles zelf hoeft in te geven.”

“Vooral het zien van **is die job geschikt of niet** en dat dat zo al filtert lijkt mij wel praktisch. En ook ja, **gegevens invullen. Niemand doet dat graag hè.**”

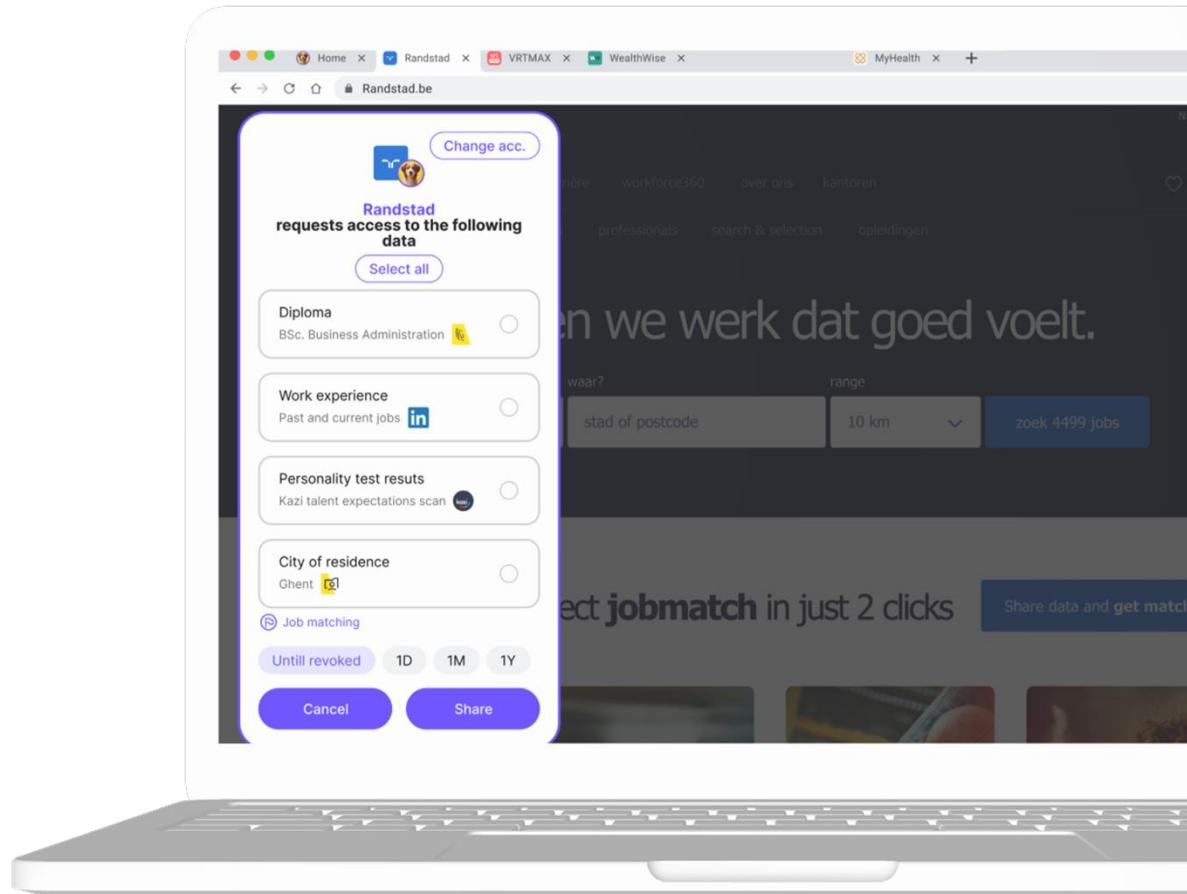
“Ik vind het gewoon **heel snel gaan** en het gaat gewoon **super simpel** zo. **Check, check, check.** Voilà. Hup. Komaan, we starten ermee en we zijn weg. [...] **Simpeler dan dit kan het volgens mij niet.**”

“Ergens zou ik er nog wel wat **persoonlijke voorkeur** of iets van misschien **trefwoorden** van ik ben graag met data bezig. [...] Ja, want ik vind ook dat **uw diploma zegt ook niet alles.** Of uw werkervaring zegt niet alles.”

Conclusion

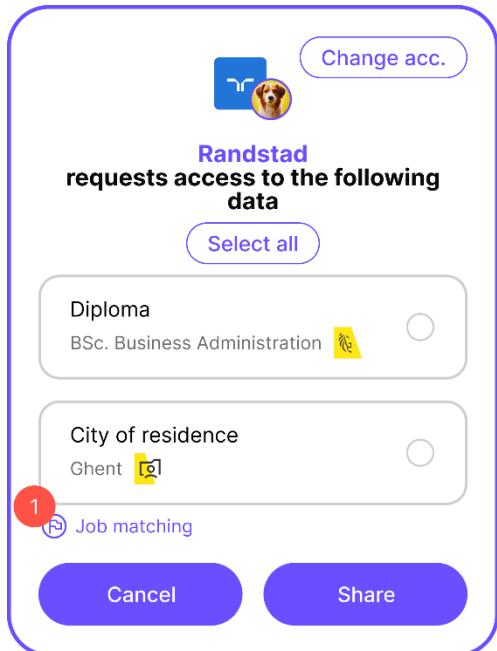
Show don't tell

- Data vaults are a **complex concept** for users
- Prototypes make this concept **tangible**
- Increases intention to use and **willingness to share data**

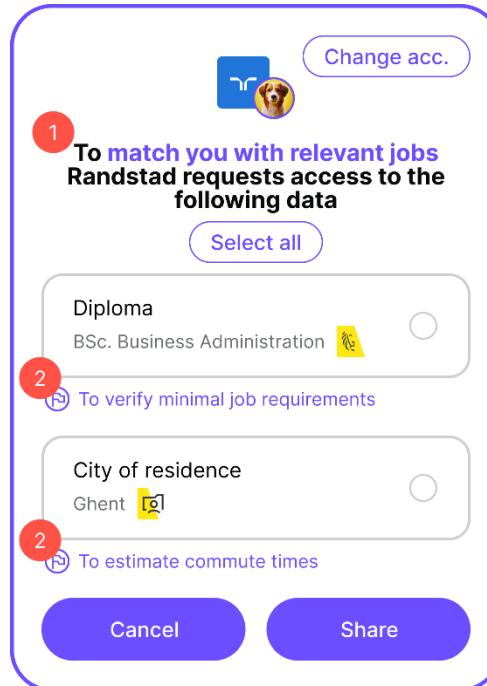


Design recommendations

Clearly communicate the **purpose of each requested data type**



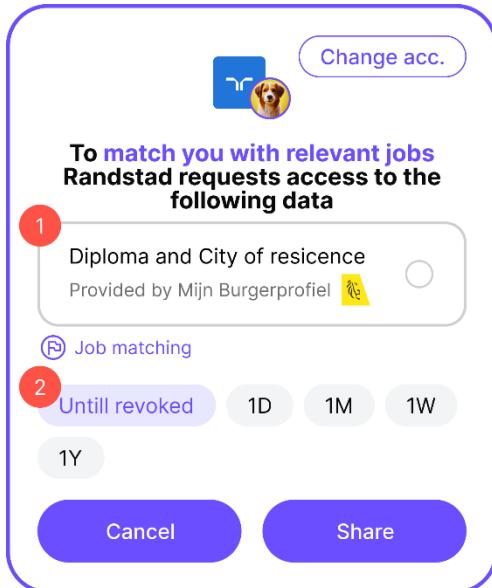
Avoid: (1) hiding the general purpose for data sharing on the bottom of the data request where it is easily overlooked.



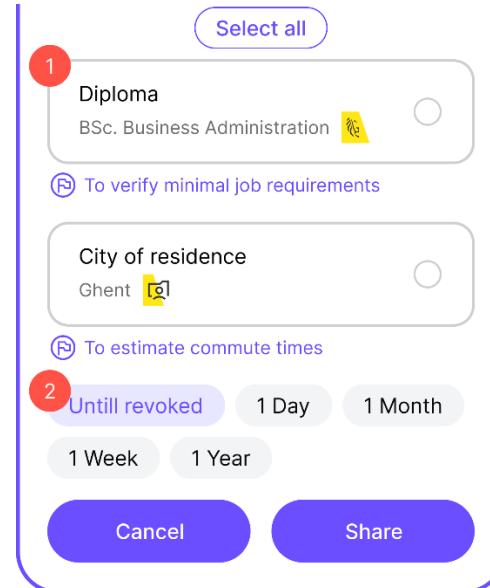
Try: (1) highlighting the general purpose in the data request header and (2) provide additional detail for each individual data type.

Design recommendations

Offer granular control



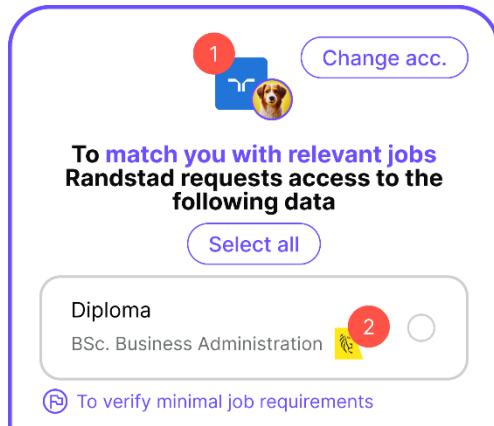
Avoid: (1) Grouping different data types in one field and (2) Using ambiguous abbreviations such as "1D" and "1M".



Try: (1) Allowing users to select individual data types and (2) provide clear options for limiting data-sharing periods.

Design recommendations

Leverage **brand trust**



Use the logos of trusted partners (1) and governmental services (2) to foster trust.

Design recommendations

Minimize data requests

1

Digital ID
Provided by Mijn Burgerprof...

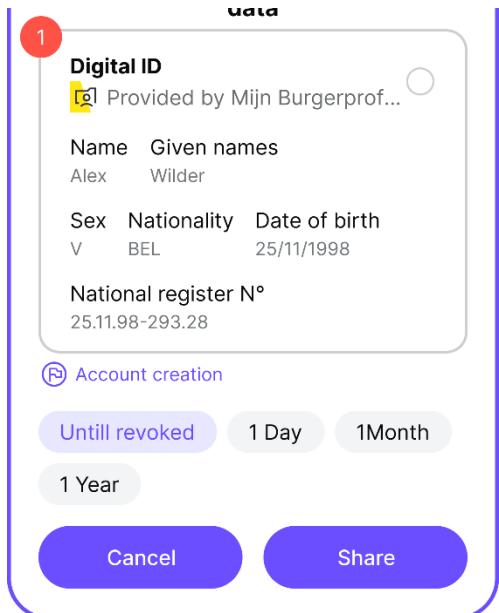
Name Given names
Alex Wilder

Sex Nationality Date of birth
V BEL 25/11/1998

National register N°
25.11.98-293.28

Account creation
Until revoked 1 Day 1 Month
1 Year

Cancel Share



Avoid: (1) Asking detailed information that is not essential and can lead to potential discrimination.

To submit your application Randstad requests access to the following data

1

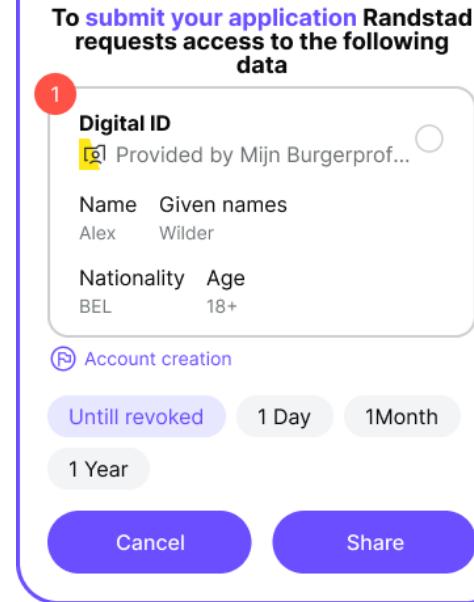
Digital ID
Provided by Mijn Burgerprof...

Name Given names
Alex Wilder

Nationality Age
BEL 18+

Account creation
Until revoked 1 Day 1 Month
1 Year

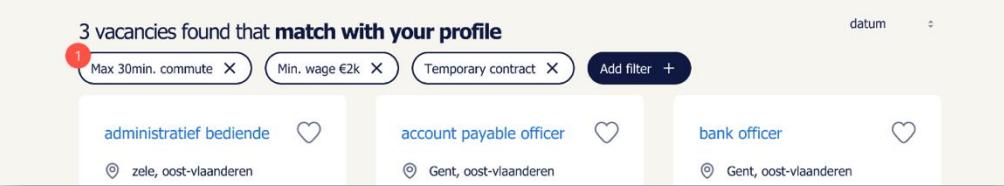
Cancel Share



Try: (1) Limiting data request to a minimum through for example zero-knowledge proof.

Design recommendations

Enable user control over the matching algorithm

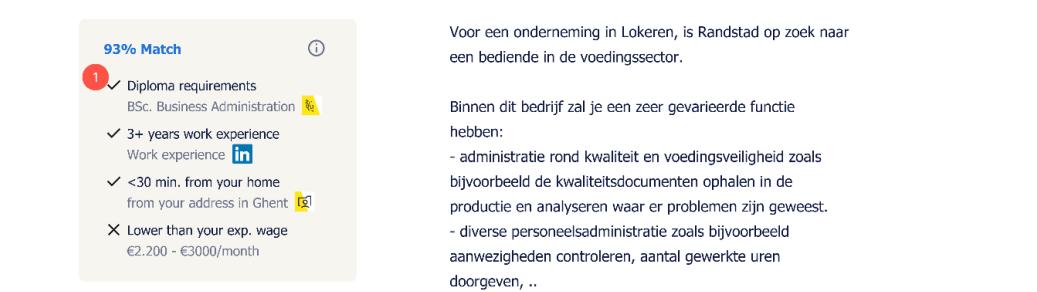


The screenshot shows a job search results page with the heading "3 vacancies found that **match with your profile**". There are three filters at the top: "Max 30min. commute" (with a red circle containing a question mark), "Min. wage €2k", and "Temporary contract". A "Add filter" button with a plus sign is also present. Below the filters, there are three job listings with heart icons for favoriting:

- administratief bediende (zele, oost-vlaanderen)
- account payable officer (Gent, oost-vlaanderen)
- bank officer (Gent, oost-vlaanderen)

Add customizable filters to give users more control over the job matching

Provide **transparency** in algorithms



The screenshot shows a breakdown of a matching score. On the left, under "93% Match", there is a numbered list of requirements:

- 1 ✓ Diploma requirements
BSc. Business Administration 
- ✓ 3+ years work experience
Work experience 
- ✓ <30 min. from your home
from your address in Ghent 
- ✗ Lower than your exp. wage
€2.200 - €3000/month 

To the right, explanatory text is provided:

Voor een onderneming in Lokeren, is Randstad op zoek naar een bediende in de voedingssector.

Binnen dit bedrijf zal je een zeer gevarieerde functie hebben:

- administratie rond kwaliteit en voedingsveiligheid zoals bijvoorbeeld de kwaliteitsdocumenten ophalen in de productie en analyseren waar er problemen zijn geweest.
- diverse personeelsadministratie zoals bijvoorbeeld aanwezigheids controleren, aantal gewerkte uren doorgeven, ..

Provide insight to users how a certain matching score is calculated by showing them which requirement match or do not match.

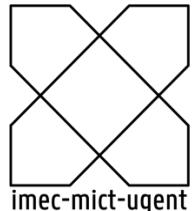
More Question?

Tim Theys

Tim.Theys@UGent.be

Peter Mechant

Peter.Mechant@UGent.be



A screenshot of a laptop screen showing a web browser with multiple tabs open. The active tab is a job application page for Randstad. The page displays a job listing for an "administratief be" position. A modal dialog box is overlaid on the page, requesting access to the user's data. The dialog lists several items with checkboxes:

- Personal email: alexwilder@email.com
- Digital ID: Provided by Mijn Burgerprof...
- Name: Given names: Alex Wilder
- Sex: V
- Nationality: BEL
- Date of birth: 25/11/1998
- National register N°: 25.11.98-293.28

Below the list, there are buttons for "Select all", "Cancel", and "Share". At the bottom of the dialog, there are time options: "Until revoked", "1D", "1M", "1W", and "1Y".