



IRMA signatures: sign-by-QR and sign-by-mail

Use your IRMA attributes to sign contracts and statements

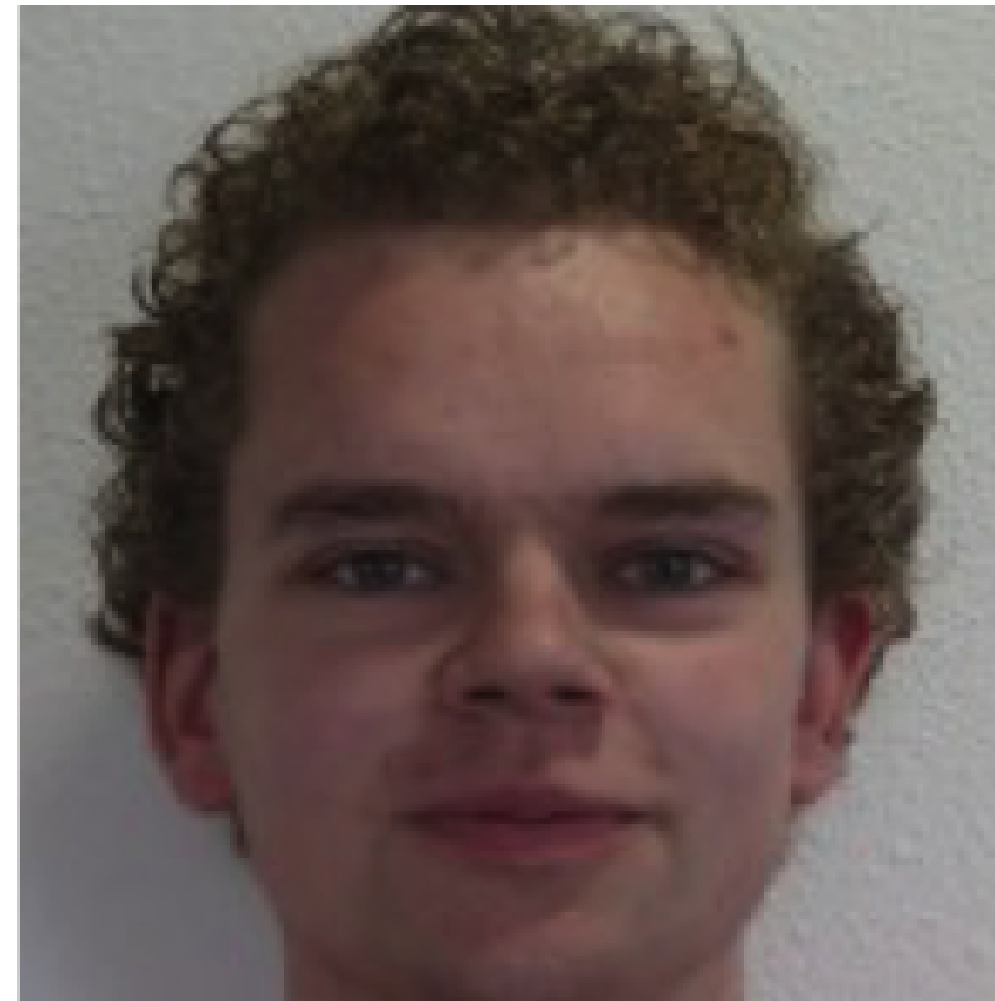
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Koen van Ingen



Who am I?

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Koen van Ingen
Alliander New Business & R&D



IRMA and Alliander?

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NEW BUSINESS &
RESEARCH & DEVELOPMENT



IRMA and Alliander?









A quick IRMA recap


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97% 12:27

Your attributes IRMA

-  **IRMATube membership** Expires on 9 Aug 2018 >
-  **iDIN** Expires on 15 Nov 2018 >
-  **Email address** Expires on 15 Nov 2018 >
-  **Age limits** Expires on 15 Nov 2018 v

Over 12	yes
Over 16	yes
Over 18	yes
Over 21	yes
Over 65	no

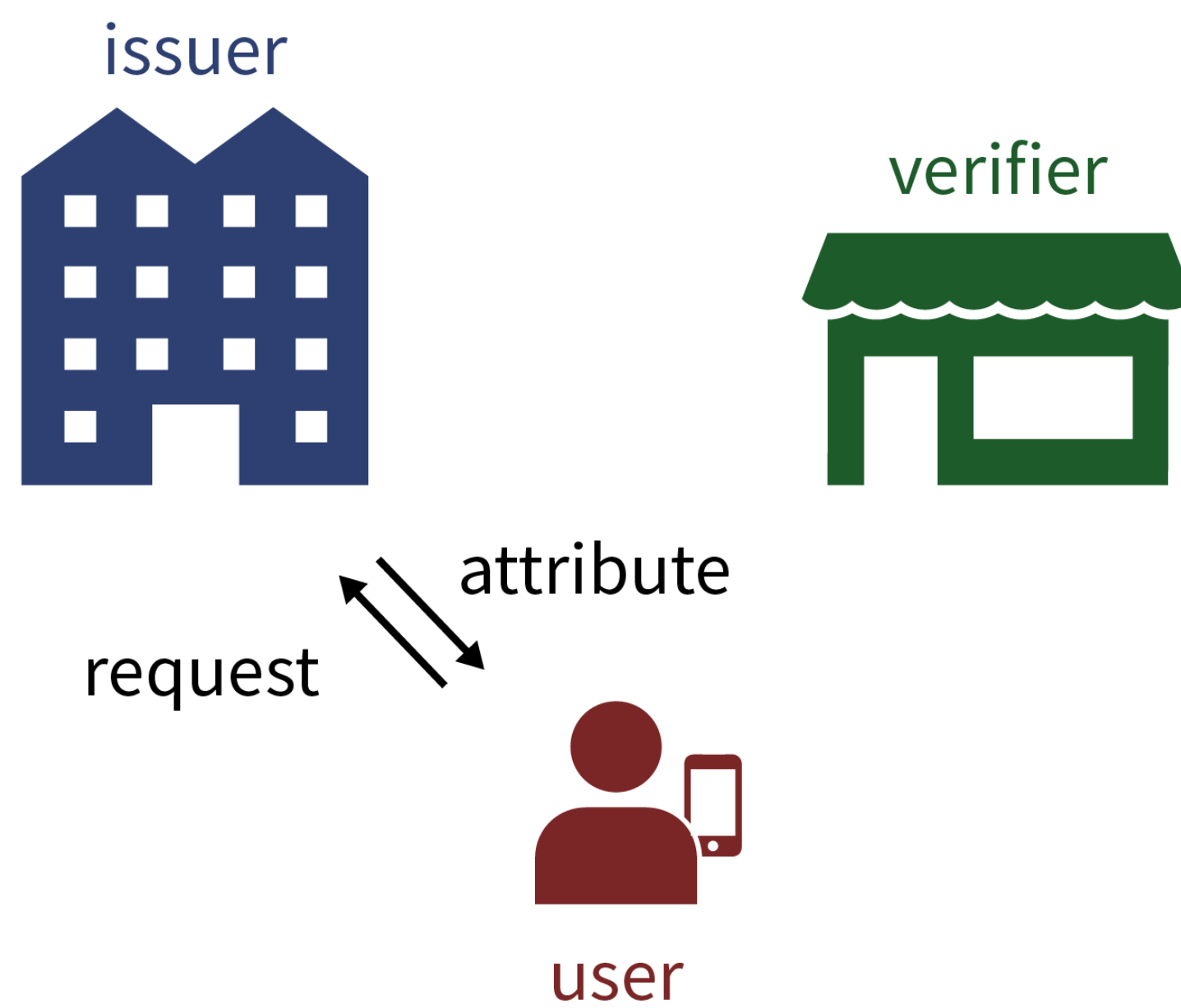
 **SCAN QR CODE**



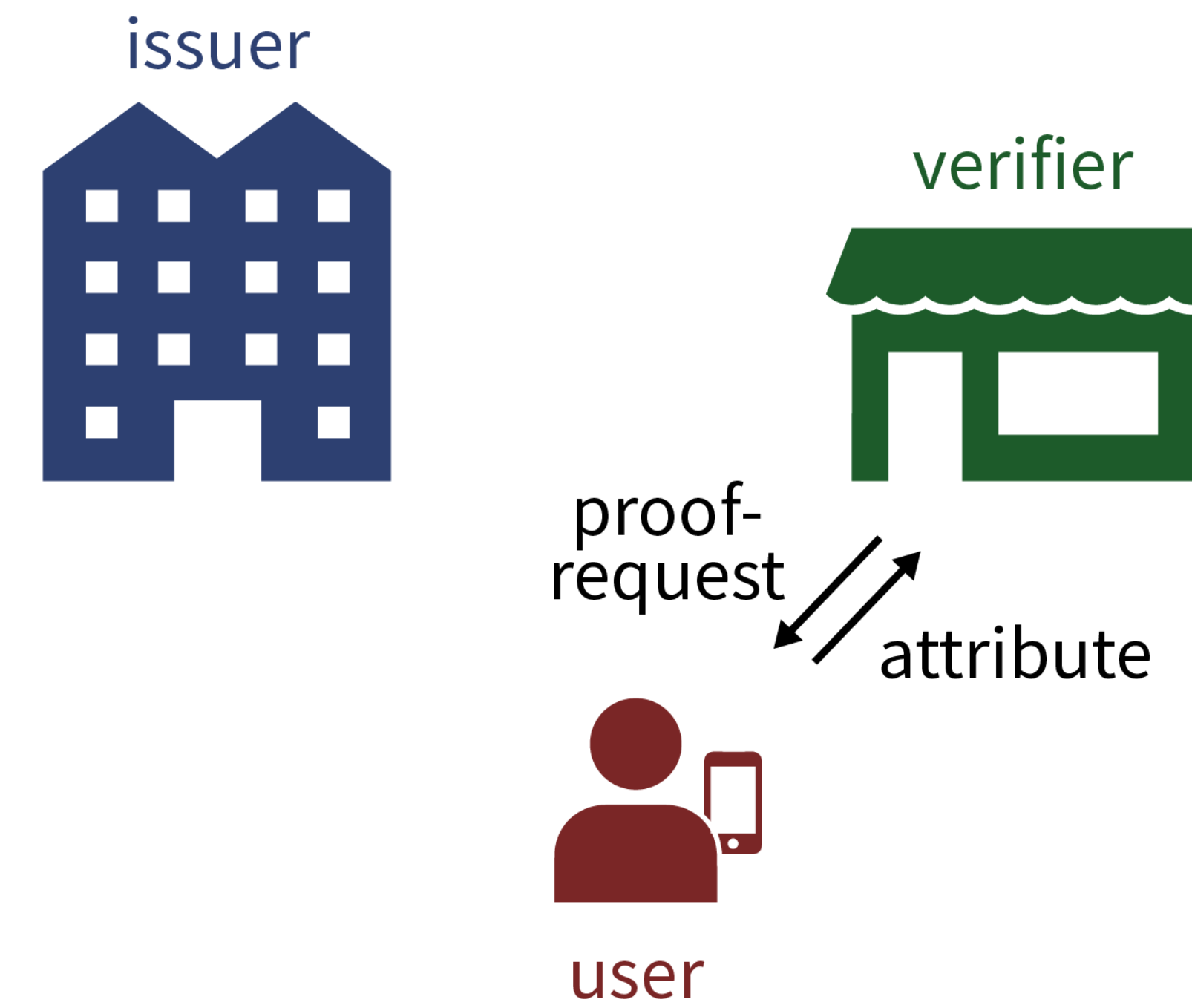
IRMA protocol

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Issuance



Disclosure





IRMA disclosure in detail

User



Challenge: 34235
Name?, City?

Verifier



34235
Koen
Utrecht



Giving consent: an example

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ODA VERKLARING

Met het voltooien van deze inschrijving machtig ik Oblivion bv, gevestigd Mr. van Rhemenslaan 3, 7316 AJ te Apeldoorn, tot het opvragen van meetdata, aansluiting informatie en andere energiegerelateerde informatie van de genoemde EAN aansluiting(en) bij het desbetreffende meetbedrijf / netbeheerder. De meetdata wordt door de netbeheerder dagelijks uitgelezen en beschikbaar gesteld aan Oblivion bv. Het betreft de dag- en intervalwaarden.

Voor elektriciteit zijn dit kwartierwaarden en voor gas zijn dit uurwaarden.

Ondergetekende verzoekt betrokken partijen al hun medewerking te verlenen.

Tevens verklaar ik toekomstige verhuizingen aan Oblivion bv te melden. Deze machtiging is onvoorwaardelijk en opzegbaar met inachtneming van 2 maanden opzegtermijn.

Ik ga akkoord met de ODA verklaring *

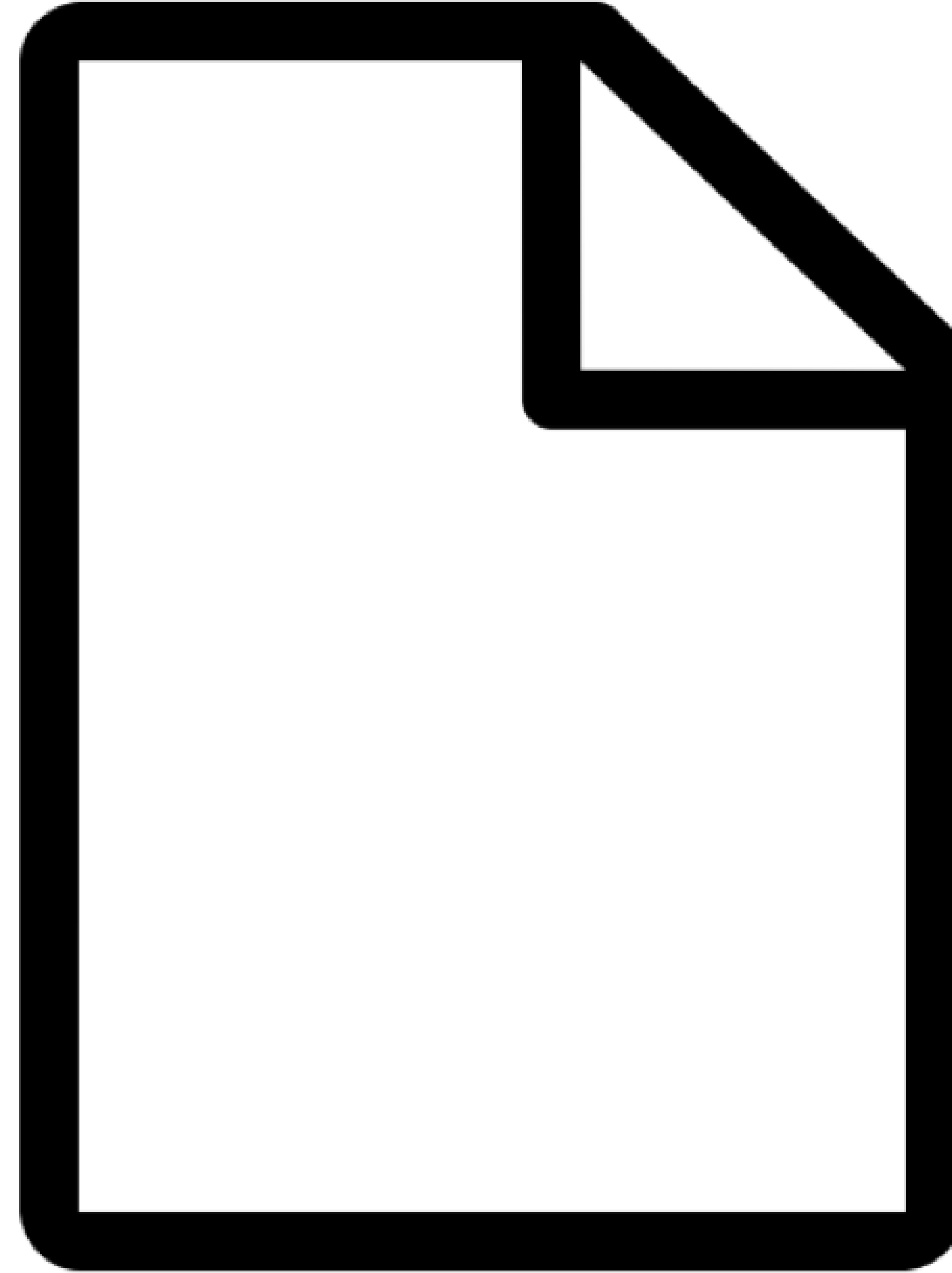
INSCHRIJVEN

* verplichte velden



IRMA Signatures

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IRMA Signatures

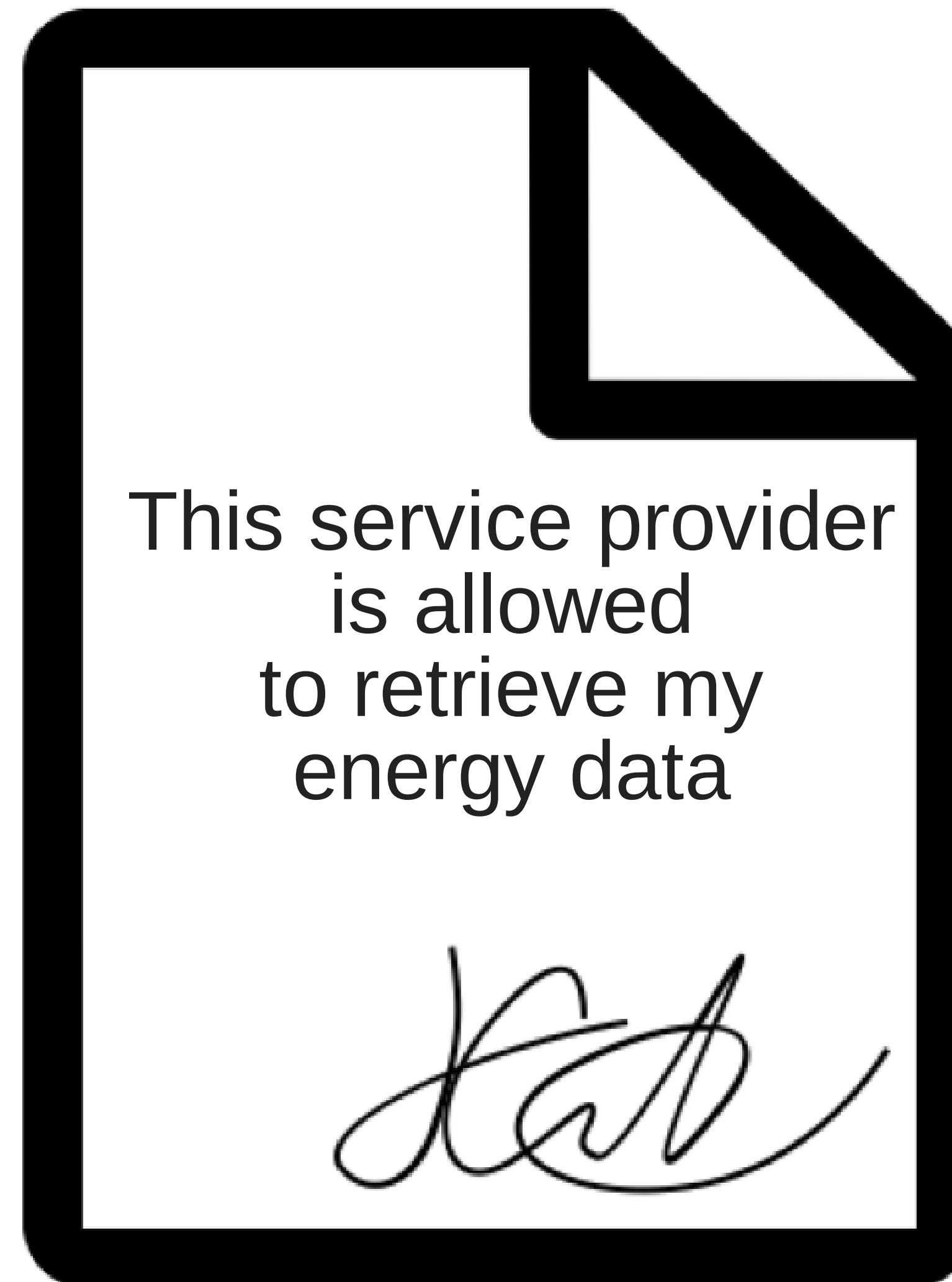
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This service provider
is allowed
to retrieve my
energy data



IRMA Signatures

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IRMA Signatures

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This service provider
is allowed
to retrieve my
energy data

0x01 0xff 0x12 0x63
0x87 0x52 0xab 0xdc



IRMA Signatures

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This service provider
is allowed
to retrieve my
energy data

IRMA

Name: Koen
City: Utrecht



IRMA disclosure recap

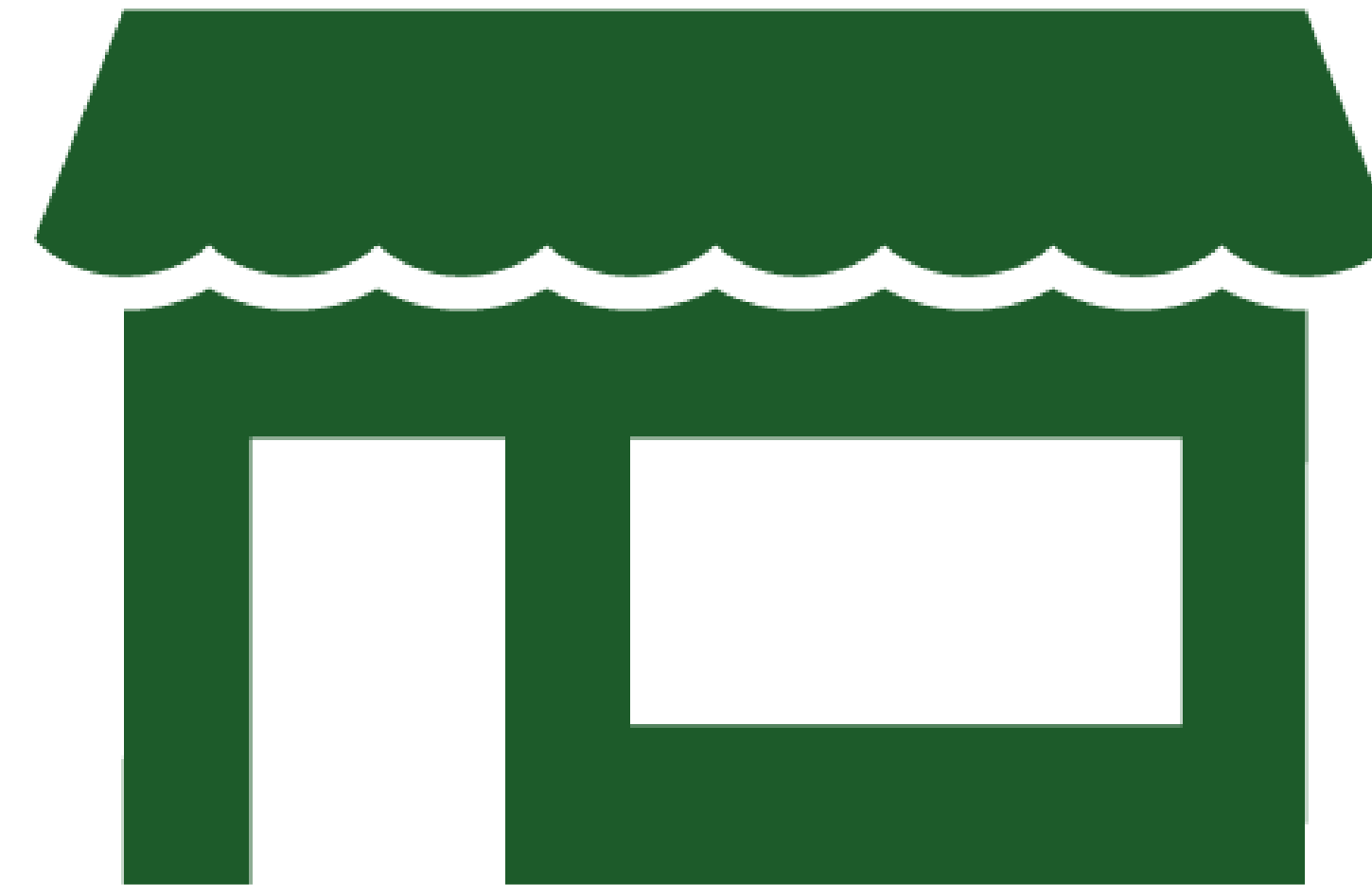
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User



Challenge: 34235
Name?, City?

Verifier



34235
Koen
Utrecht



Disclosure vs Signing

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Disclosure

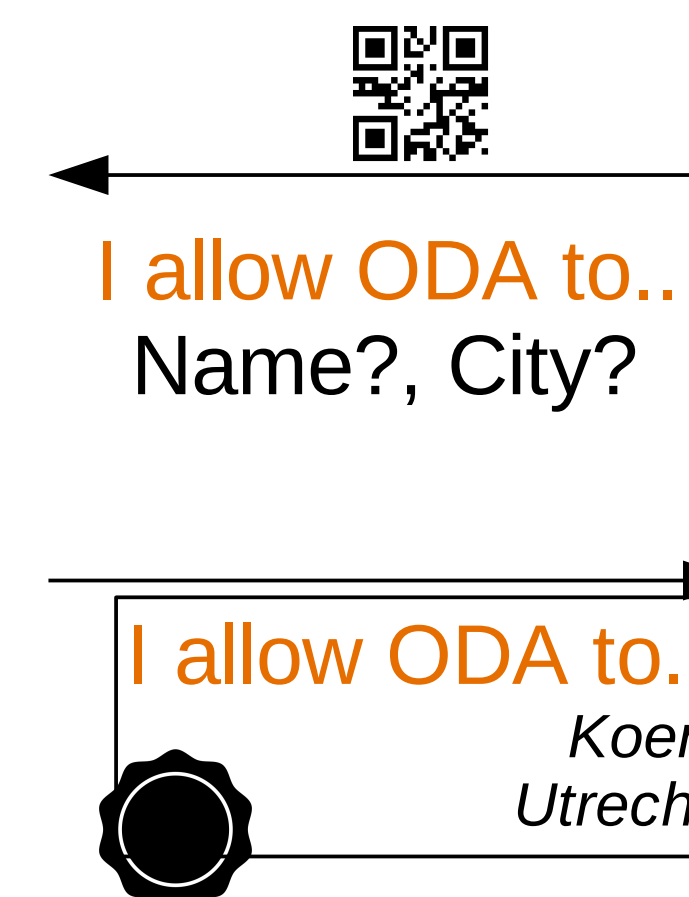
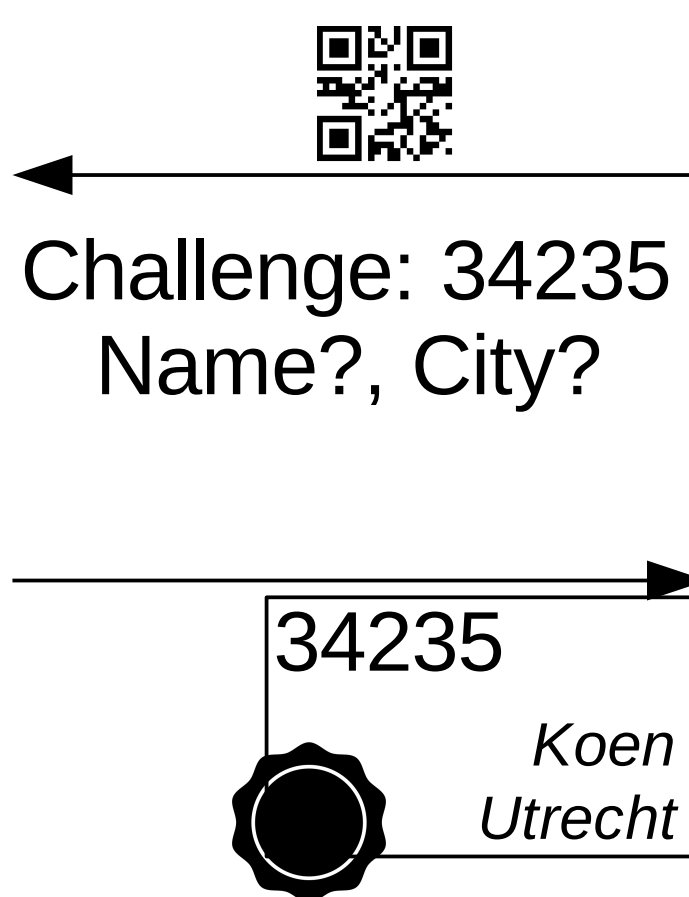
Signing

User

Verifier

User

Signature requester





Version 1: signing by QR



Example case: Give consent for advertisements

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LTE+



97

10:45



Sign with attributes

Hereby I explicitly grant consent to company X to use the email address below for mailing me a weekly list of advertisements about topics that X thinks are interesting for me. This consent is valid for one year, until 31 / 5 / 2019, and holds also for all partner companies of X.

with the following attributes:

email:



REFUSE



ACCEPT



Signing by QR is from 'server' to user, in one session

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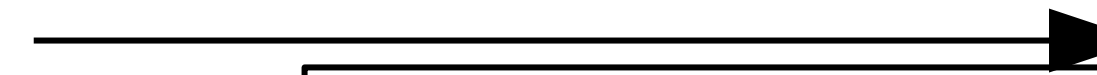
User



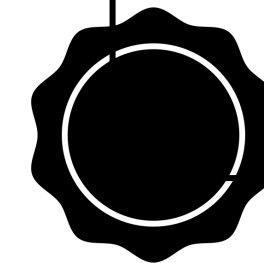
Signature requester



Message
Name?, City?



Message



*Koen
Utrecht*



Version 2: sign by e-mail



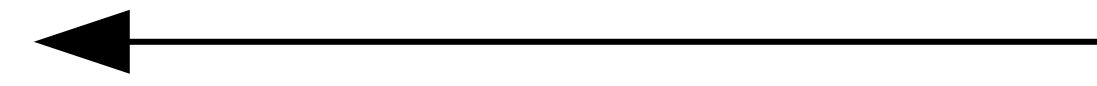
Sign by mail is 'user to user', asynchronous

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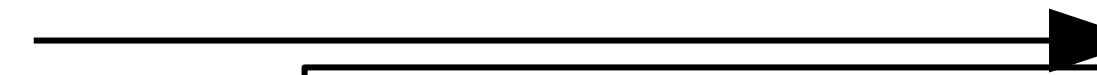
User



Signature requester



Message
Name?, City?





Sign by QR vs sign by mail



Sign by QR

Sign by mail

User



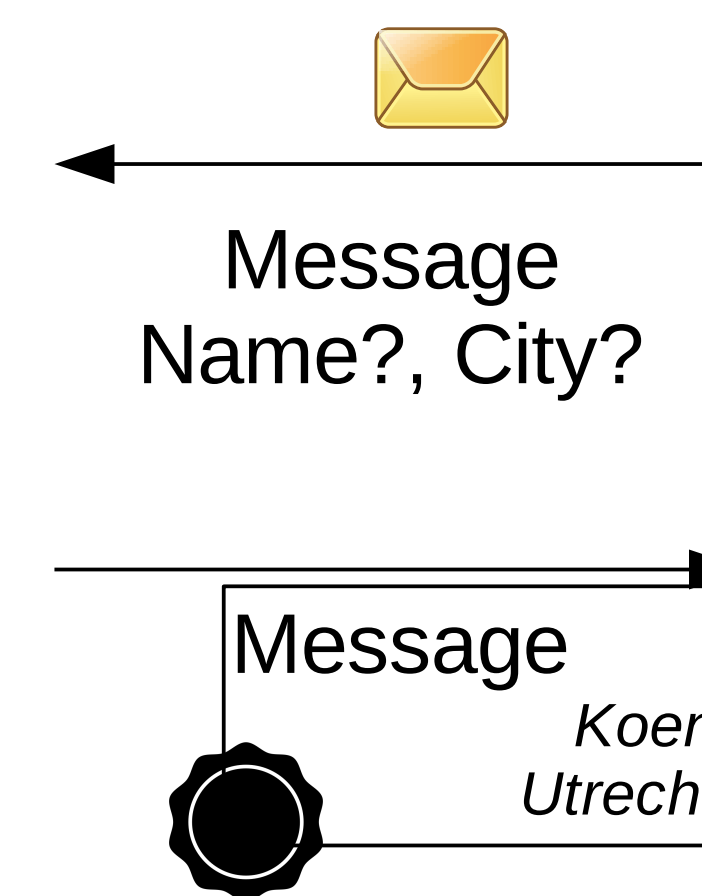
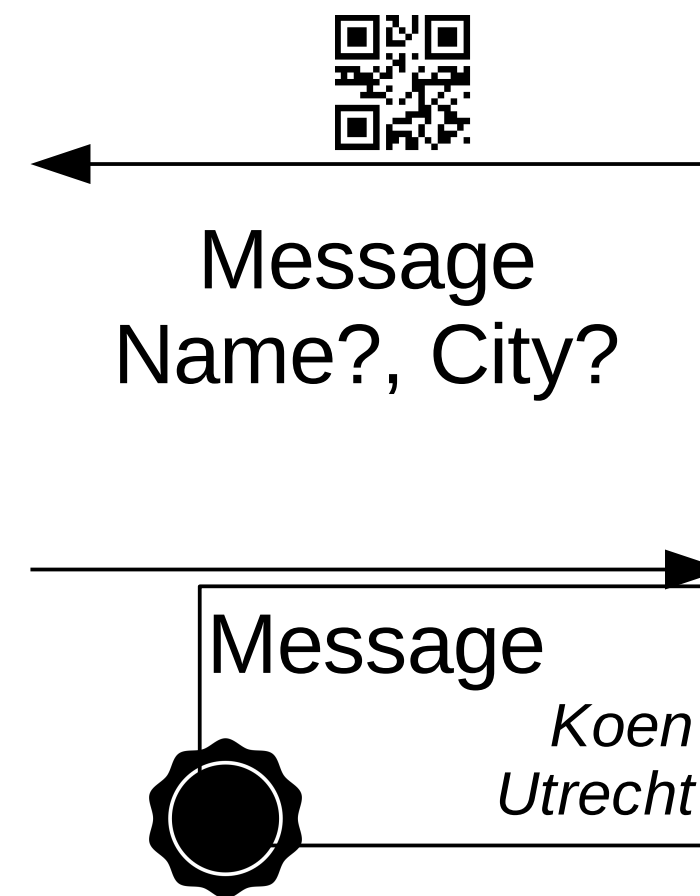
Signature requester



User



Signature requester





Example case: Request for a donation

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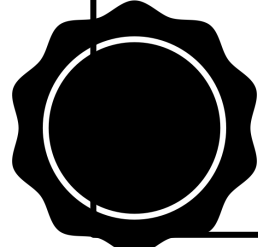
signer@example.com

requestor@example.com




←
I Donate 100BTC to pbdf
Name?, City?



→
I Donate 100
BTC to PBDF
 Koen
Utrecht



Conclusions

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- IRMA signatures are cool!
- We can use IRMA signatures in a variety of use cases
 - Also for 'anonymous' signatures!
 - Easy to verify later on
- IRMA signatures can be used both in a session as well as 'offline'



References

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- Energy transition picture: renewableenergyworld.com
- ODA statement: slimmeterportal.nl/inschrijven
- Icons: thenounproject.com
- IRMA pictures: privacybydesign.foundation