How identity works: a day in a life Across borders and virtual worlds

Grig Bilham

MSF Ecosystem Working Group

24 September 2026

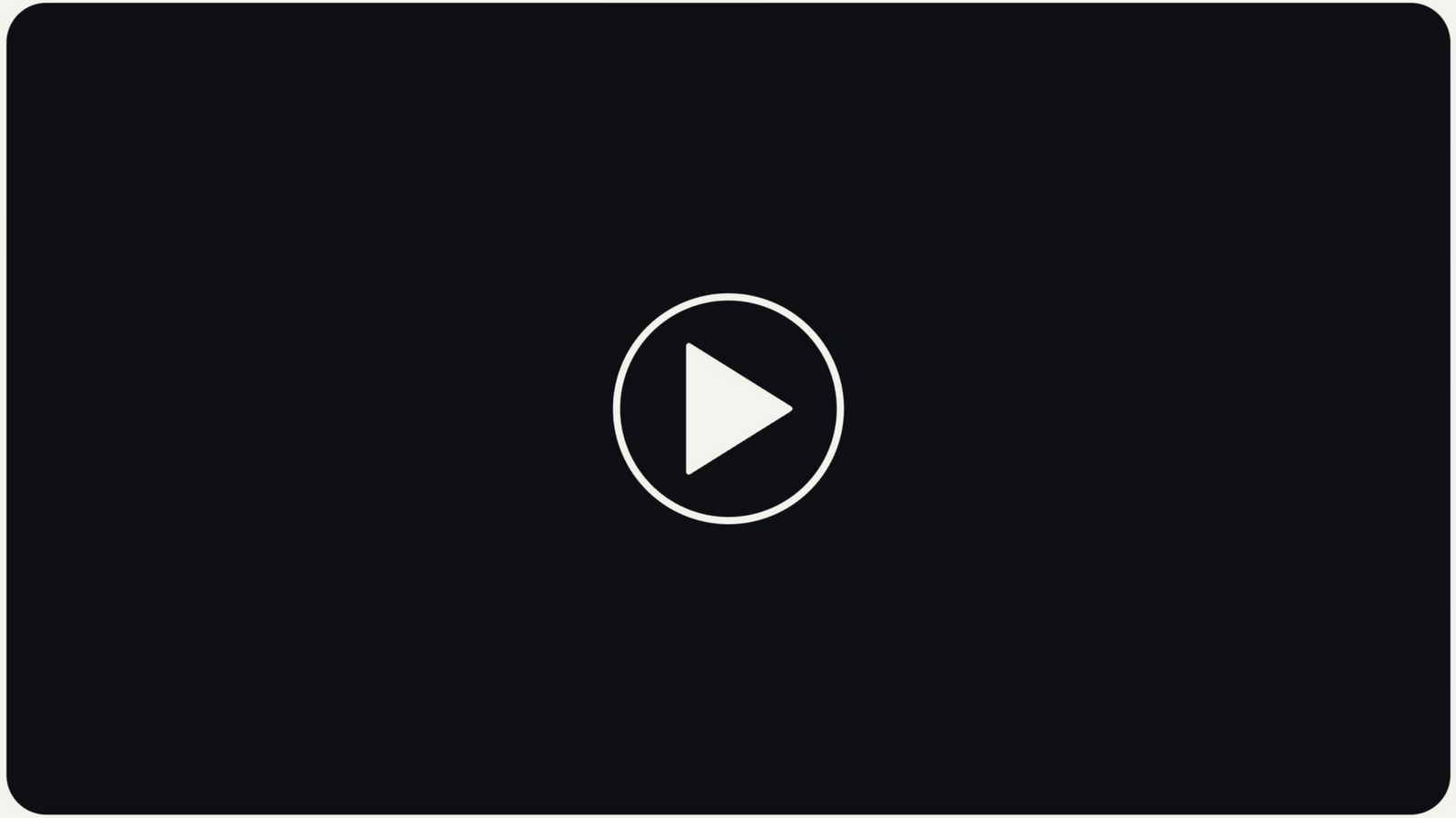
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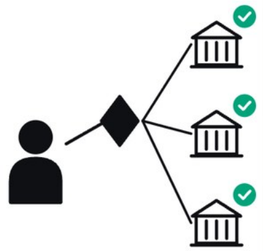
24 September 2026

One weekend, and what came after

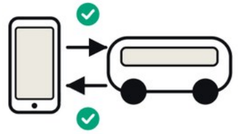


Every moment in that weekend was an identity moment

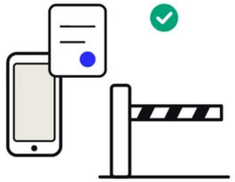
- **The question** How did all of that work, safely, for everyone?
- **Who was asking** People, software acting for them, companies and a government, two virtual worlds, and machines with nobody at the controls.
- **Who was answering** The same ones. Each was asked a question about identity, and each asked one back.



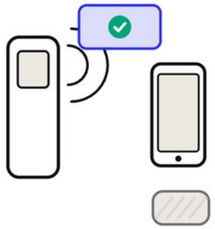
The booking



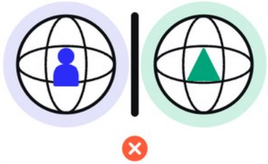
The shuttle



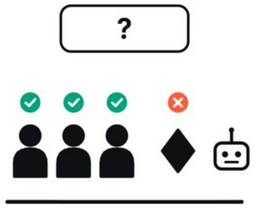
The border



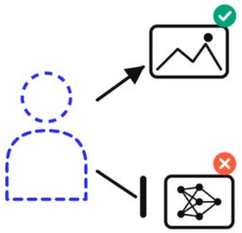
The gate



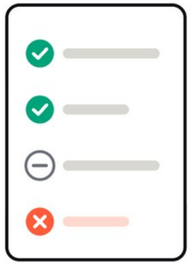
The two worlds



The vote



The singer's double



Monday's list

Universal Manifest: how identity works between people, their agents, organizations, worlds and machines

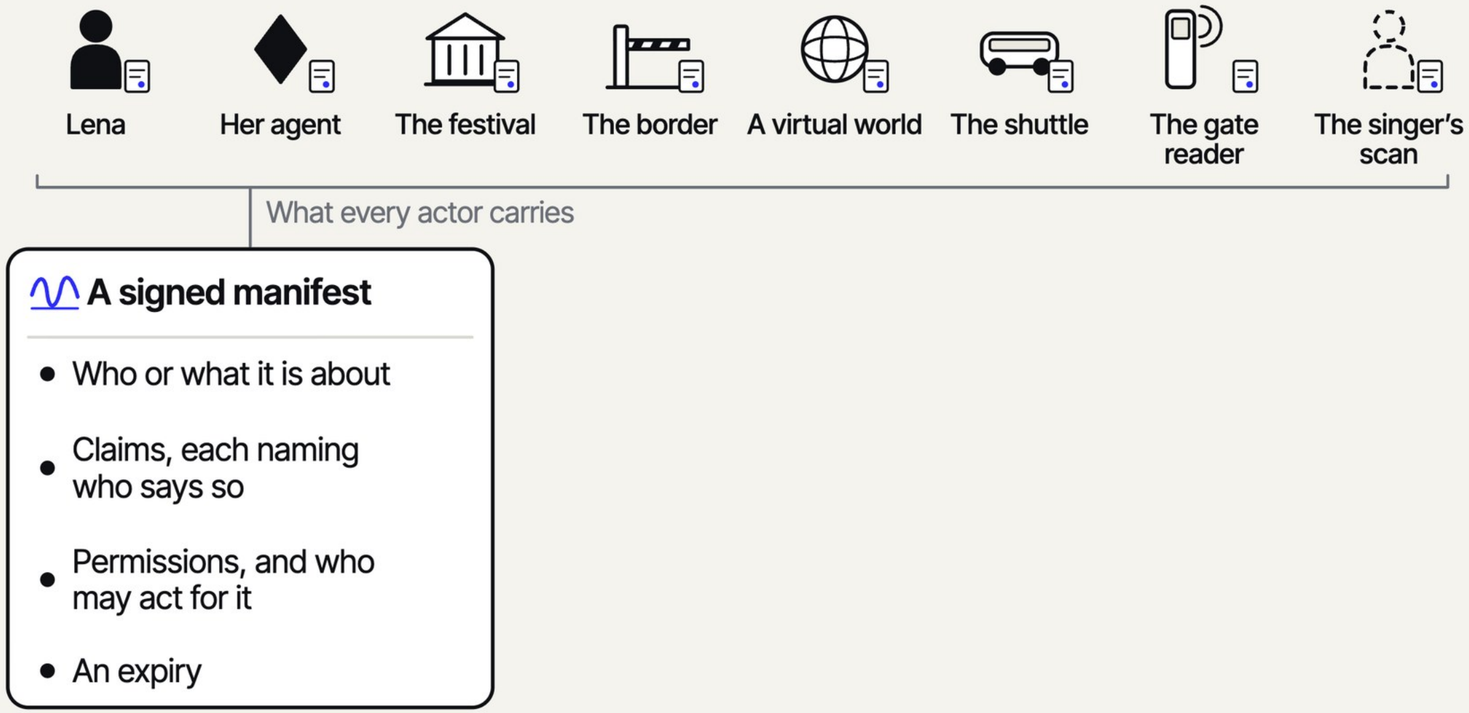
- **Adopted by OMA3** OMA3 has adopted Universal Manifest and is reviewing it.
- **This talk** The whole system in one picture, then eight moments from the weekend, then back out.

The Universal Manifest specification



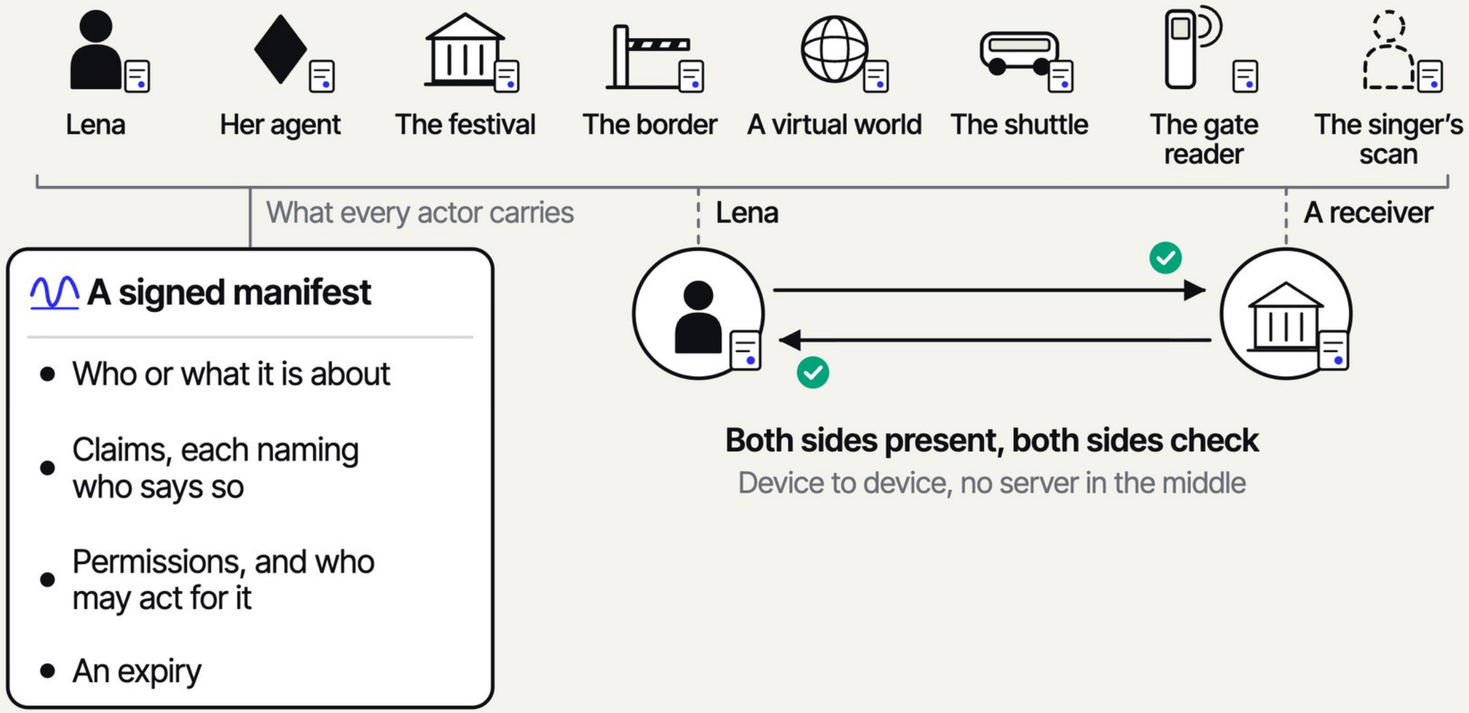
Every actor carries a signed manifest, and every exchange runs the same checks

- **What each carries** Who or what it is about, claims that name who says so, permissions, any authority given to an agent, and an expiry.



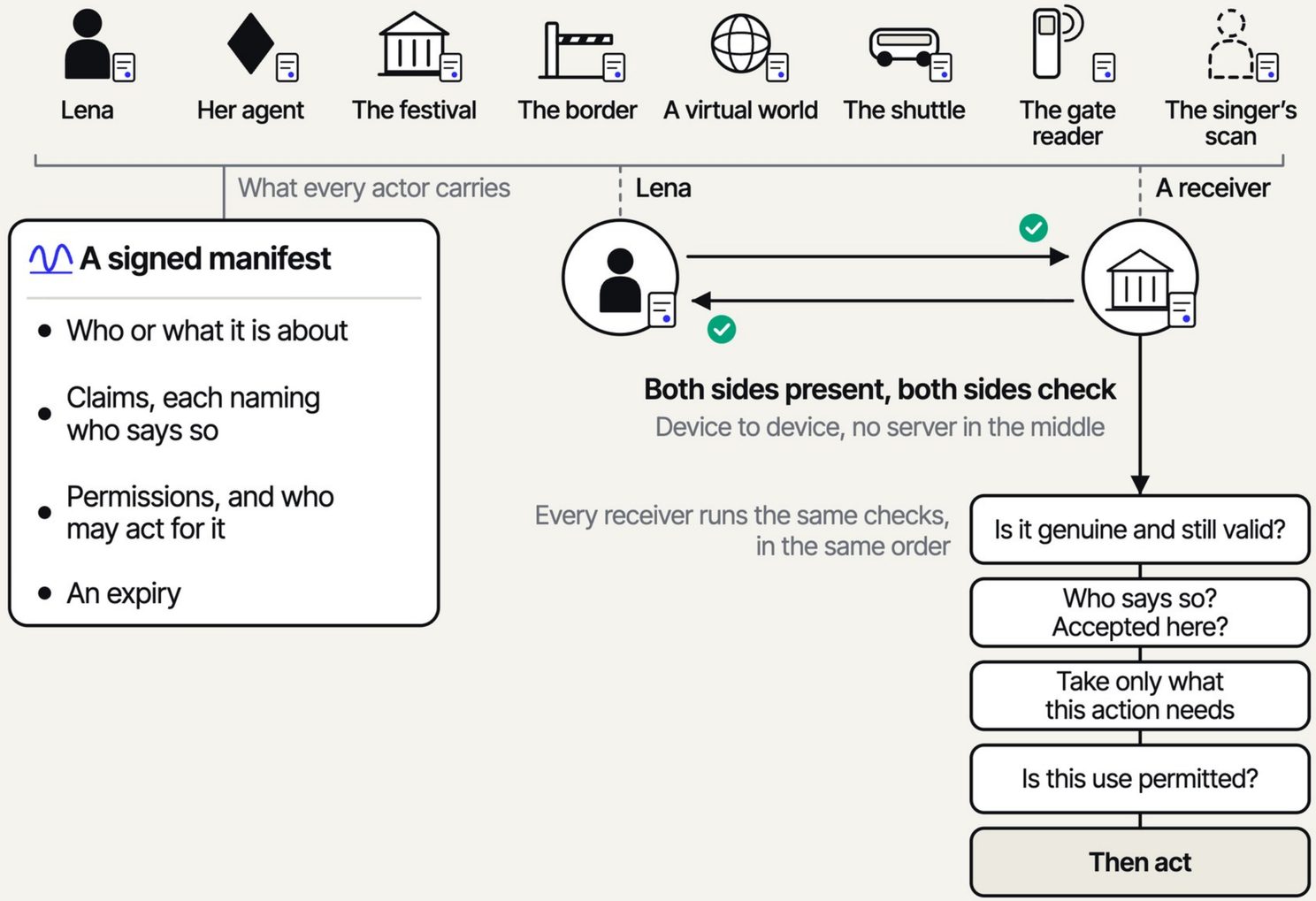
Every actor carries a signed manifest, and every exchange runs the same checks

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- **The exchange** Two actors present their manifests to each other, and each checks the other's, with no server in between.



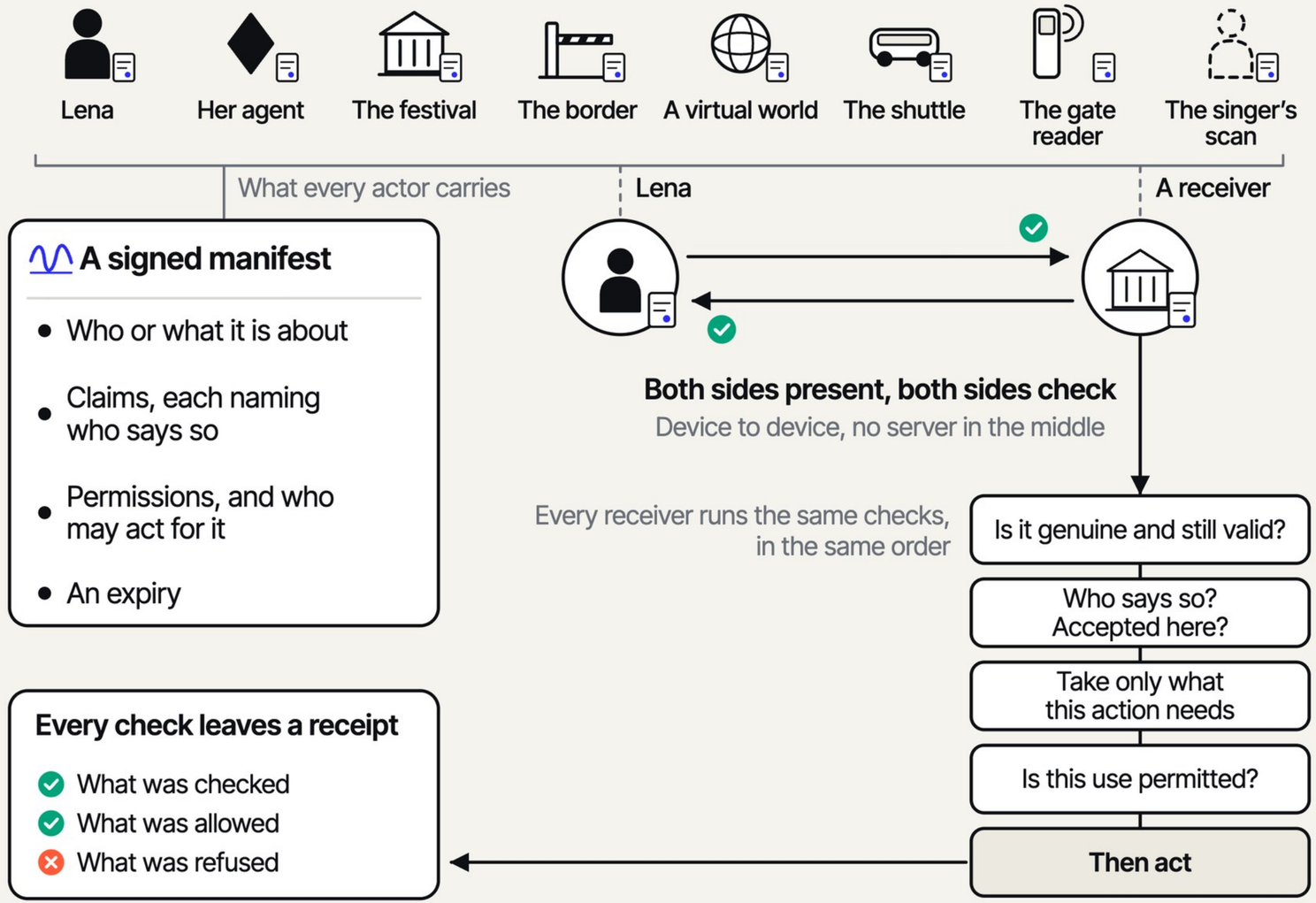
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- **The checks** Genuine, who says so, only what is needed, permitted; then act.



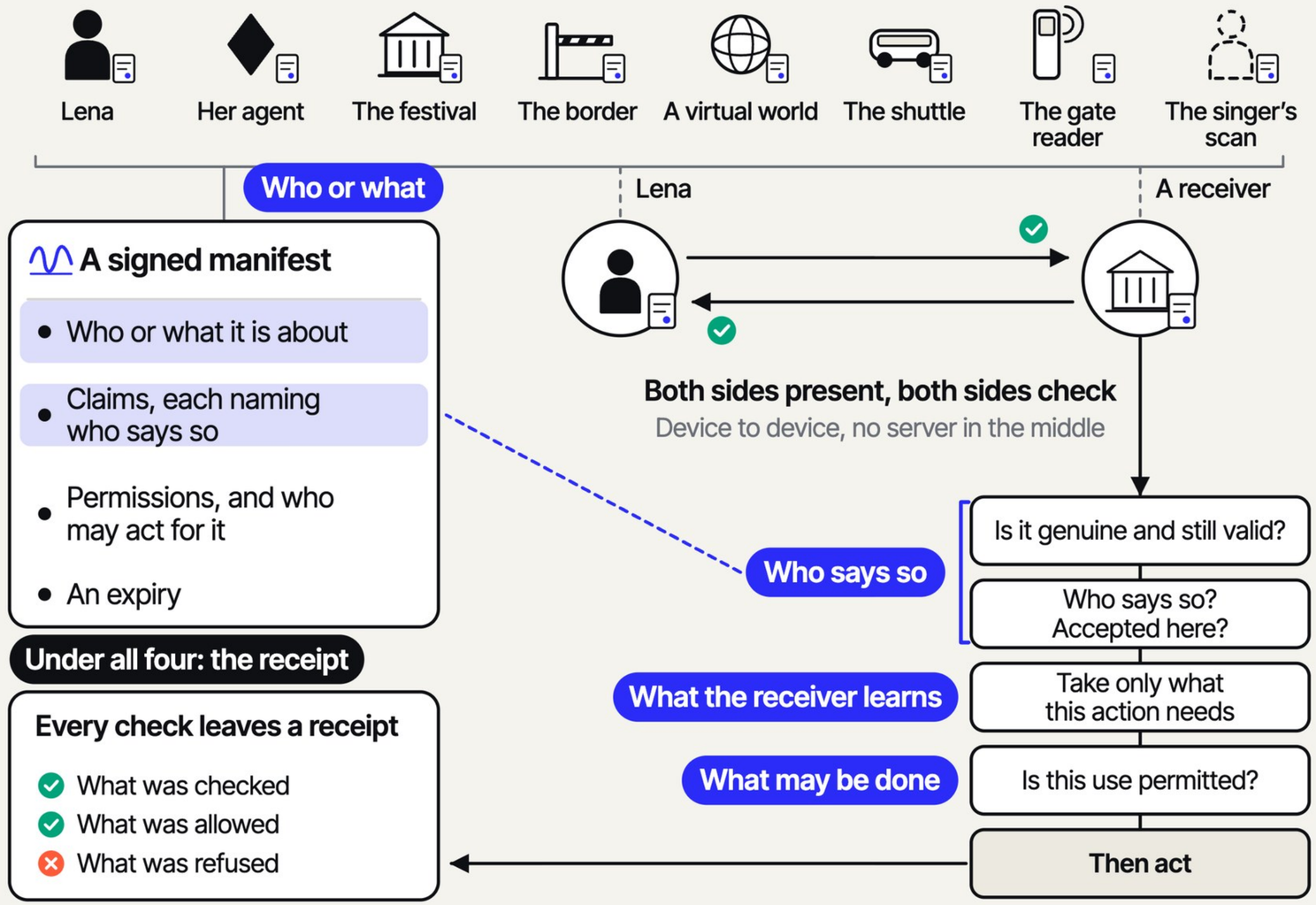
Every actor carries a signed manifest, and every exchange runs the same checks

- **What each carries** Who or what it is about, claims that name who says so, permissions, any authority given to an agent, and an expiry.
- **The exchange** Two actors present their manifests to each other, and each checks the other's, with no server in between.
- **The checks** Genuine, who says so, only what is needed, permitted; then act.
- **The receipt** Every check leaves a receipt: what was checked, what was allowed, what was refused.

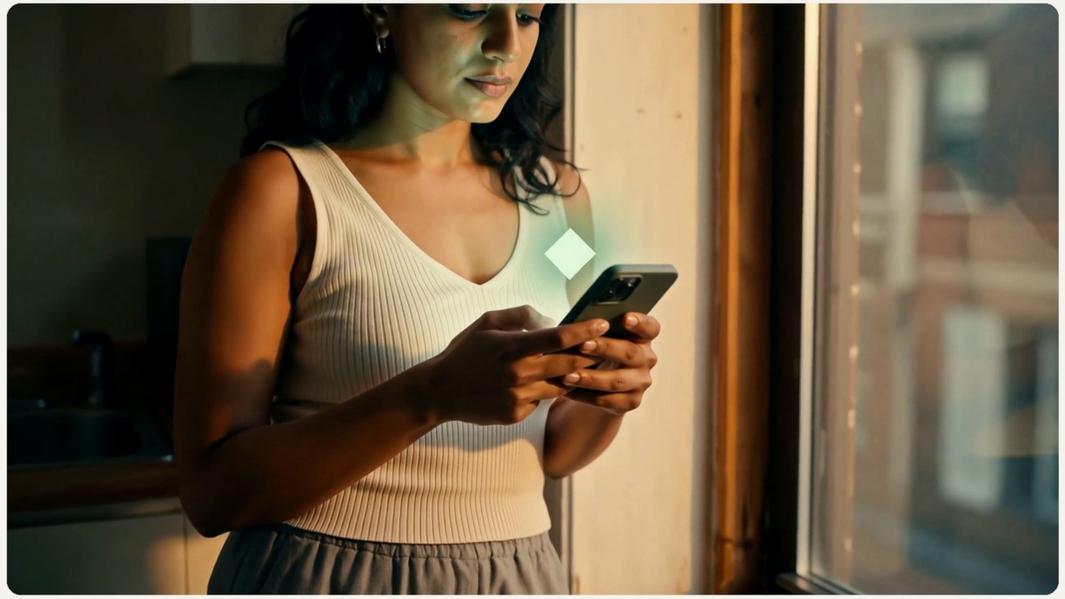


Identity is four separate questions

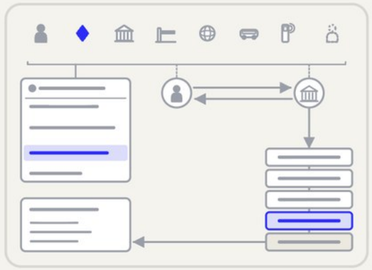
- **Who or what** The subject a manifest names, and the roles around it: who it is about, who put it together, who checks it.
- **Who says so** The source of each claim, and the receiver's own decision whether to accept that source.
- **What the receiver learns** Only what this action needs, chosen by the holder and built for this receiver.
- **What may be done** The permission check; anything not listed is refused.



Software acting for a person carries her permission, and hands it on unchanged

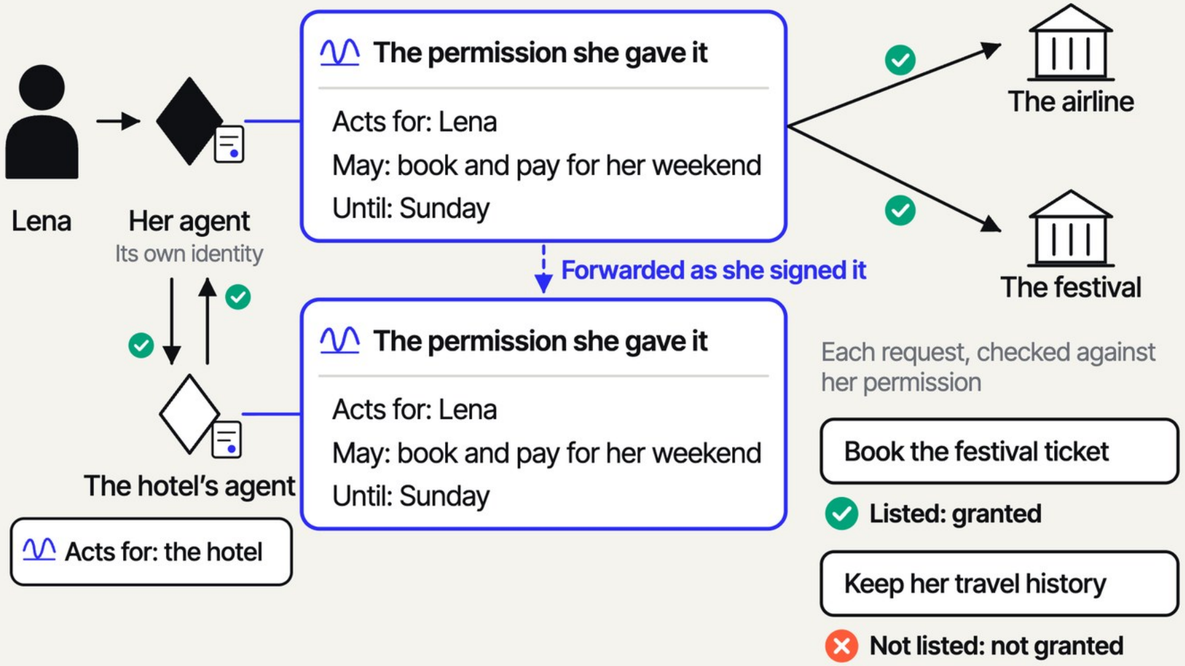


- **Its own identity** An actor of its own, with its own identifier, whose manifest names Lena as the one who gave it authority.
- **What it may do** The permission lists what the agent may do; anything not on the list is not granted.
- **Until when** When the permission expires, a receiver refuses the whole manifest.
- **Handed on** Her authority travels with the work, sealed, so any receiver down the line reads who started it, what she allowed, and until when.



On the map

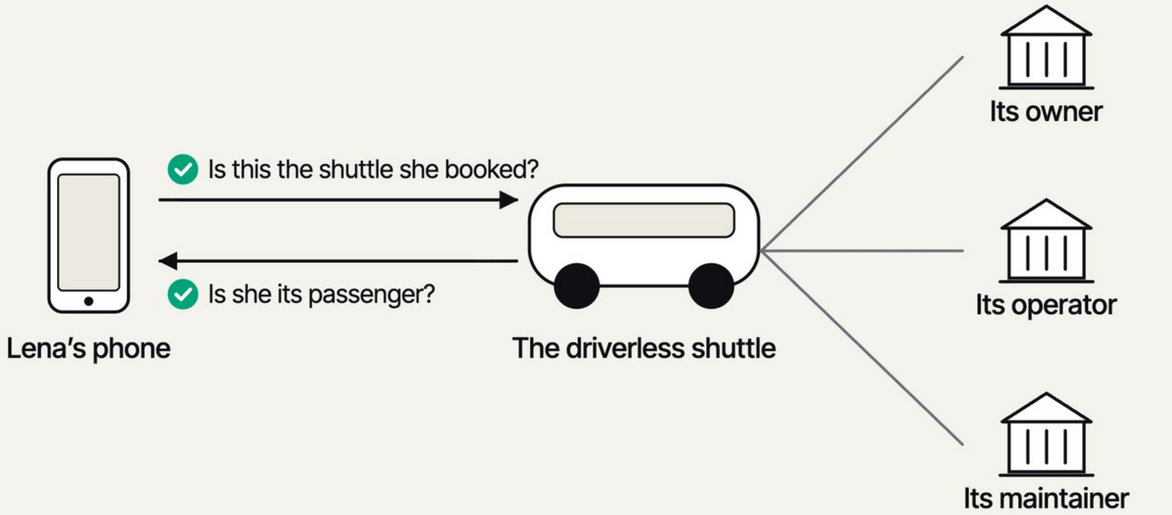
Her agent, and the permission check



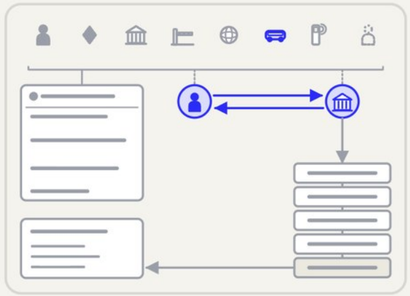
A machine is an actor in its own right, apart from whoever runs it



- **Subject: the shuttle** Its manifest is about the shuttle; the company that runs it, whoever maintains it and whoever owns it are separate actors.
- **Both sides check** Her phone checks the shuttle, the shuttle checks its passenger, at the kerb, with nobody in the middle.
- **One rule for all** Person, machine, place or thing: whatever a manifest is about is its subject, with the same checks.



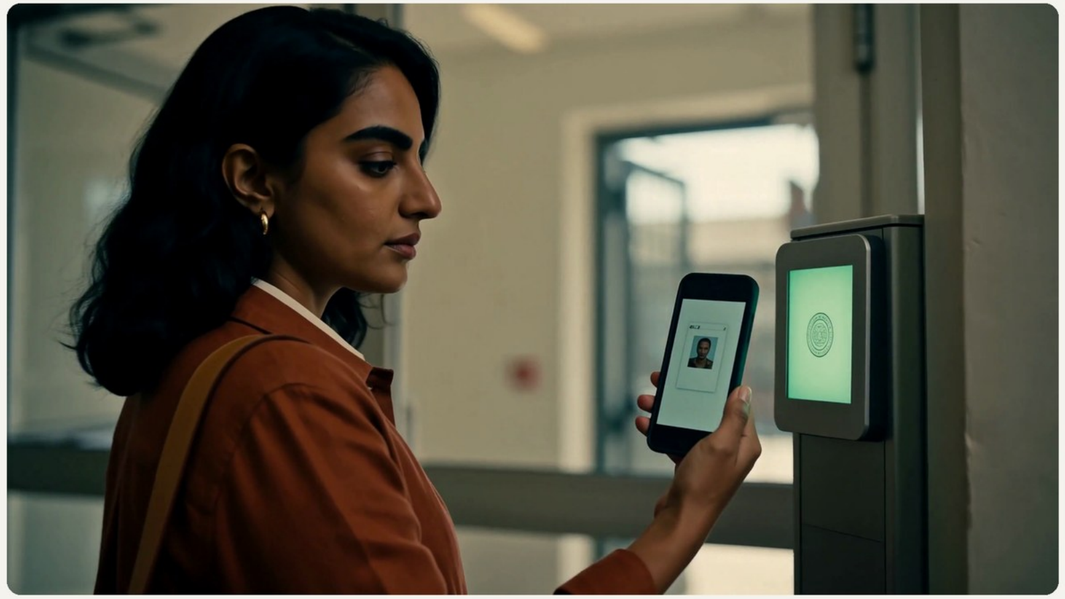
Three separate actors



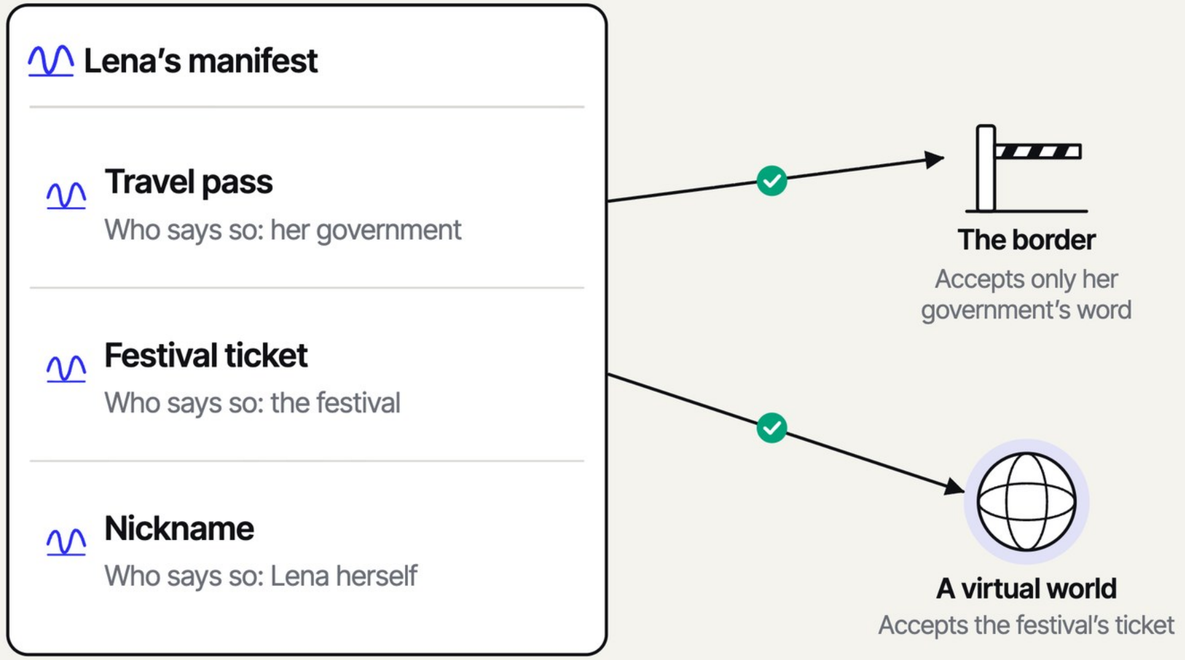
On the map

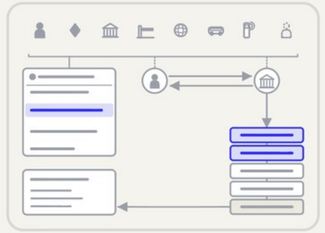
The exchange, with a machine on one side

Every claim names who says so, and each receiver decides whose word it accepts



- **Three claims, three sources** Her government's travel pass, the festival's ticket and her own nickname, side by side in one manifest.
- **The border accepts one** It takes the government's word and none of the others; a world that night takes the ticket.
- **A signature's limit** It proves who signed, not that the claim is true; that is a separate check against the source's own signature.
- **No central list** No single gatekeeper decides who is trusted; each receiver keeps its own.





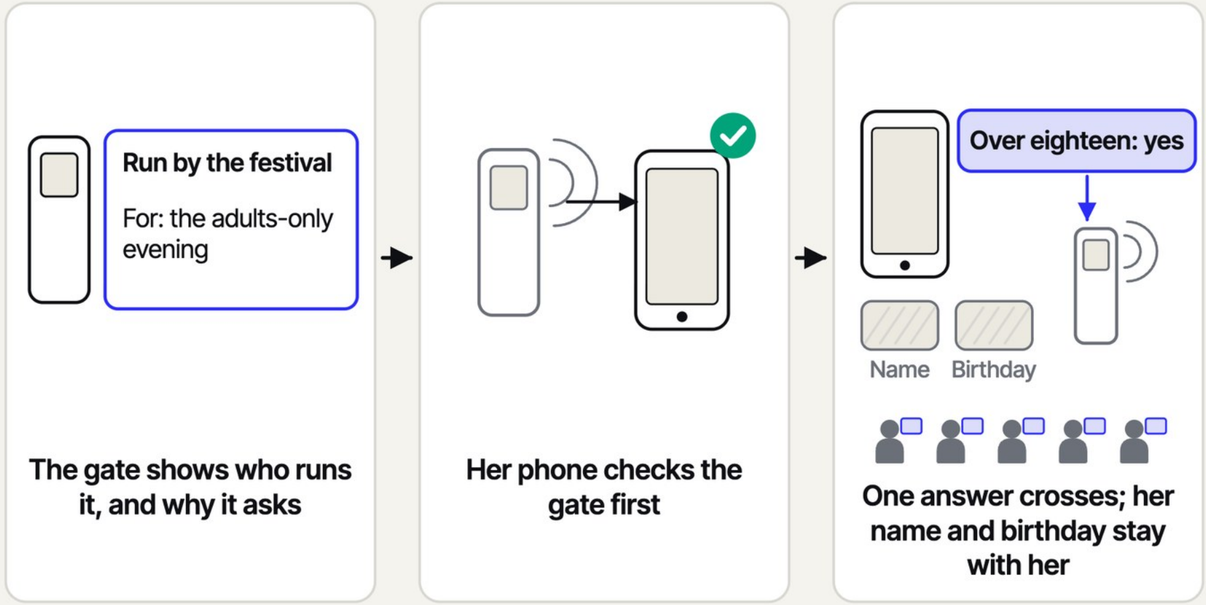
On the map

Who says so, and whether this receiver accepts it

The gate shows who it is and why it asks, and learns one answer

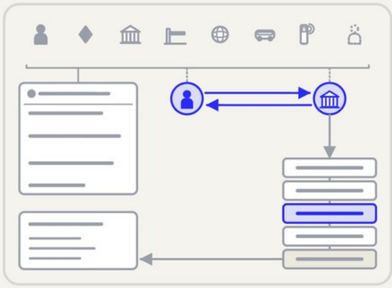


- **The gate goes first** It states who it is, what it asks for, why, and what it will keep, before she answers anything.
- **One answer** Over eighteen: yes. No birth date, no name.
- **Entry, tonight** Her permission covers this use only; passing her age to a sponsor is refused.
- **Everyone looks the same** Every "yes" in the queue is identical to the gate; on its own, a "yes" identifies nobody.



On the map

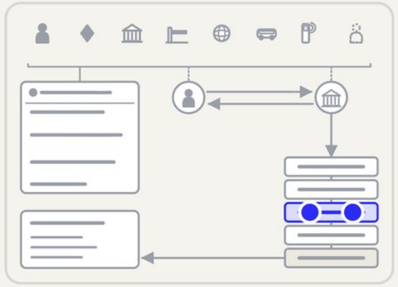
The exchange, then only what this action needs



Each place gets its own small manifest, so her personas stay apart unless she links them



- **Built per receiver** One small manifest for each world, assembled from a store she controls, never a profile gathered from everywhere.
- **Against fingerprinting** A fresh identifier each time, no hardware identifiers, keys that live for one exchange, and small receipts; reduced and resisted, not promised away.
- **Left out** What she does not send is simply not there, and its absence proves nothing.
- **Separation is the default** No trust passes between her identifiers unless she proves the link herself.

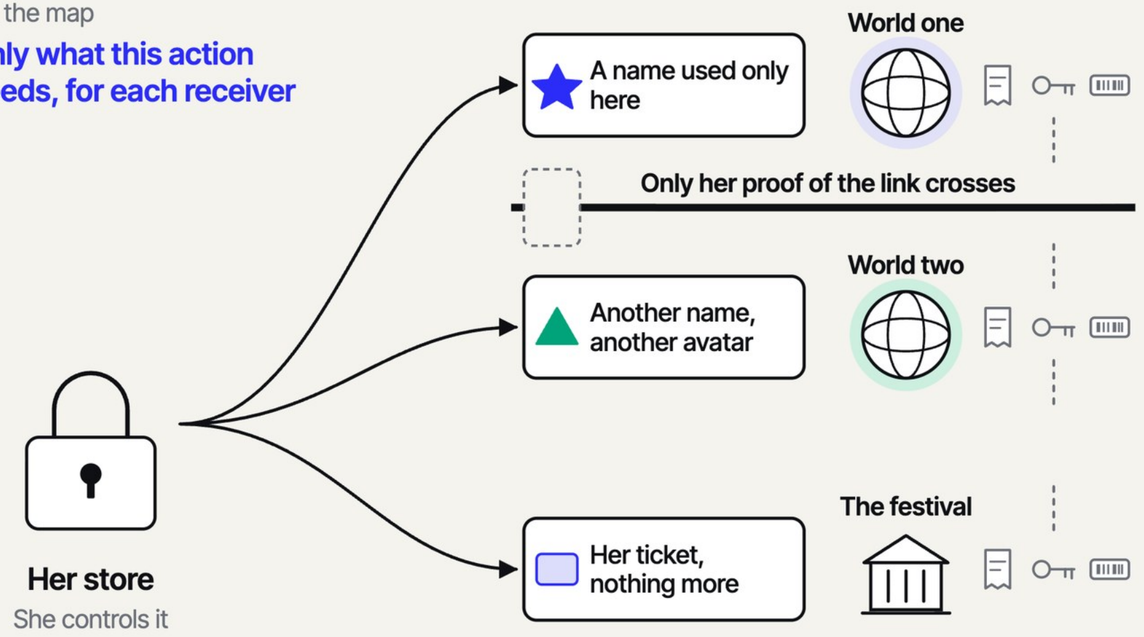


On the map

Only what this action needs, for each receiver

The trail her checks leave, broken at each receiver

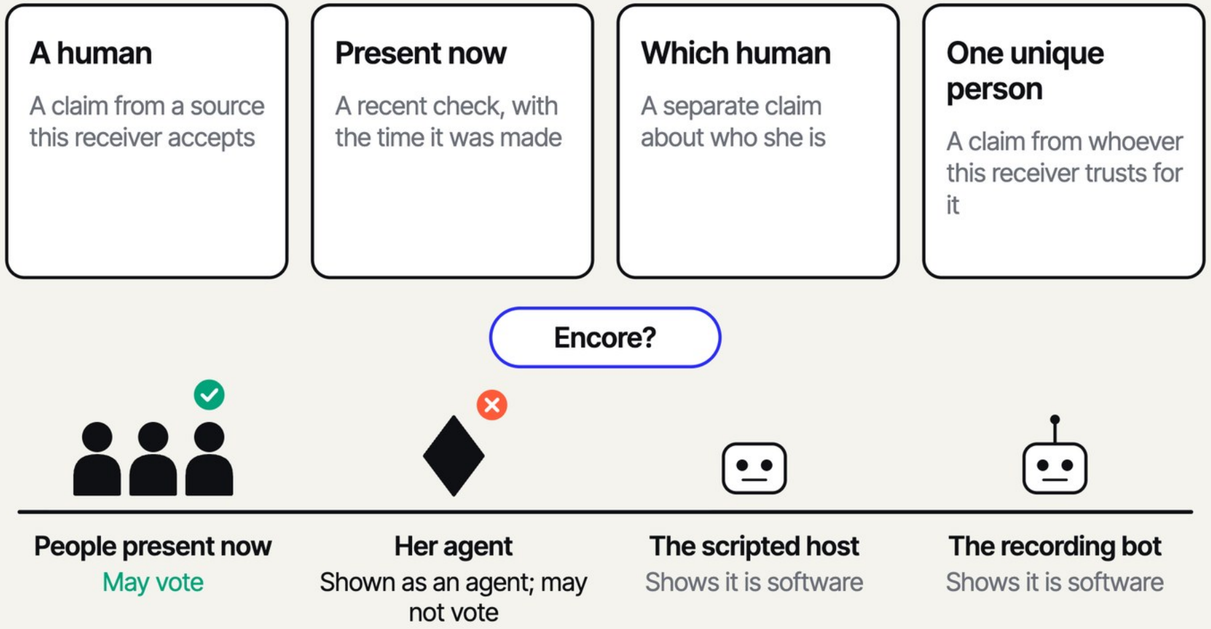
- A small receipt, kept briefly
- A key that lives for one exchange
- A matching code that names neither side



A human, present now, which human, and one unique person are four separate questions

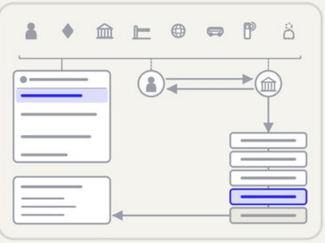


- **A human** A claim from a source the receiver accepts.
- **Present now** A recent check with a time on it, not a permanent label.
- **Which human** A separate claim, asked only when the action needs it.
- **One unique person** A separate question again, answered by whoever the receiver trusts for it, carried as a claim with its source.



On the map

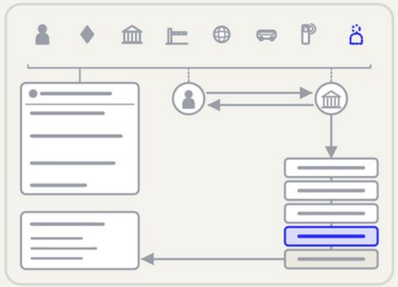
Who or what, and the permission check



A likeness carries the permission of the person in it, one use at a time

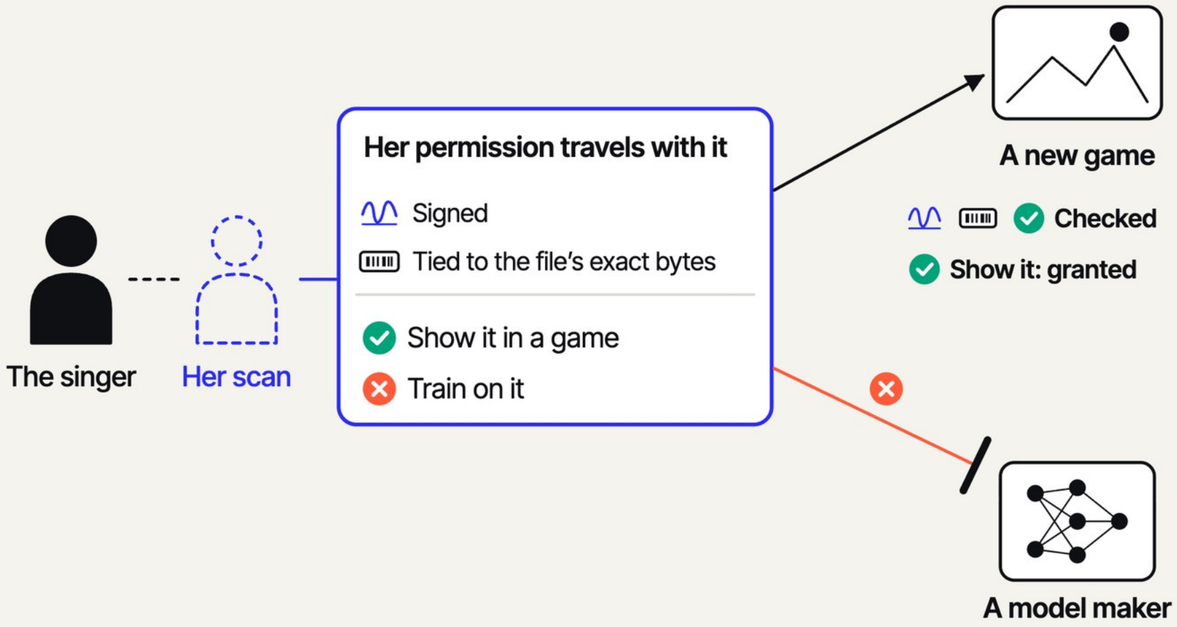


- **Signed and bound** Her permission travels with the scan, signed and tied to its exact bytes; a receiver checks who signed and that nothing changed.
- **Use by use** Show it, move it, change it, train on it, use it to make money: each granted or not, and can be withdrawn.
- **Owning is not permission** The file's owner, the rights holder, the platform and the person depicted are separate actors.
- **Display is not training** A permission to show it never stretches into a permission to train on it.



On the map

The permission check, for an asset with a person in it



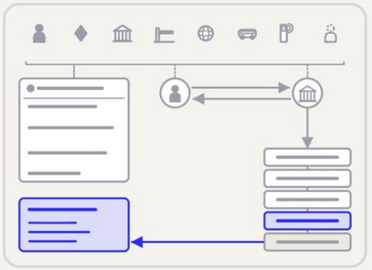
Every check leaves a receipt of what was checked and what was not



- **Item by item** Used, not asked for, refused for lack of permission, could not be checked; and she can ask to see it.
- **Nothing left out** A receipt may not hide a refusal or a check that could not be run.
- **Accepted in part** Reported as accepted in part, never rounded up to accepted.
- **Withdrawn** After she takes back a permission, every later check finds none and stops.

The festival's receipt

- Ticket: checked
- Over eighteen: yes
- Name: not asked
- Sponsor's request: refused



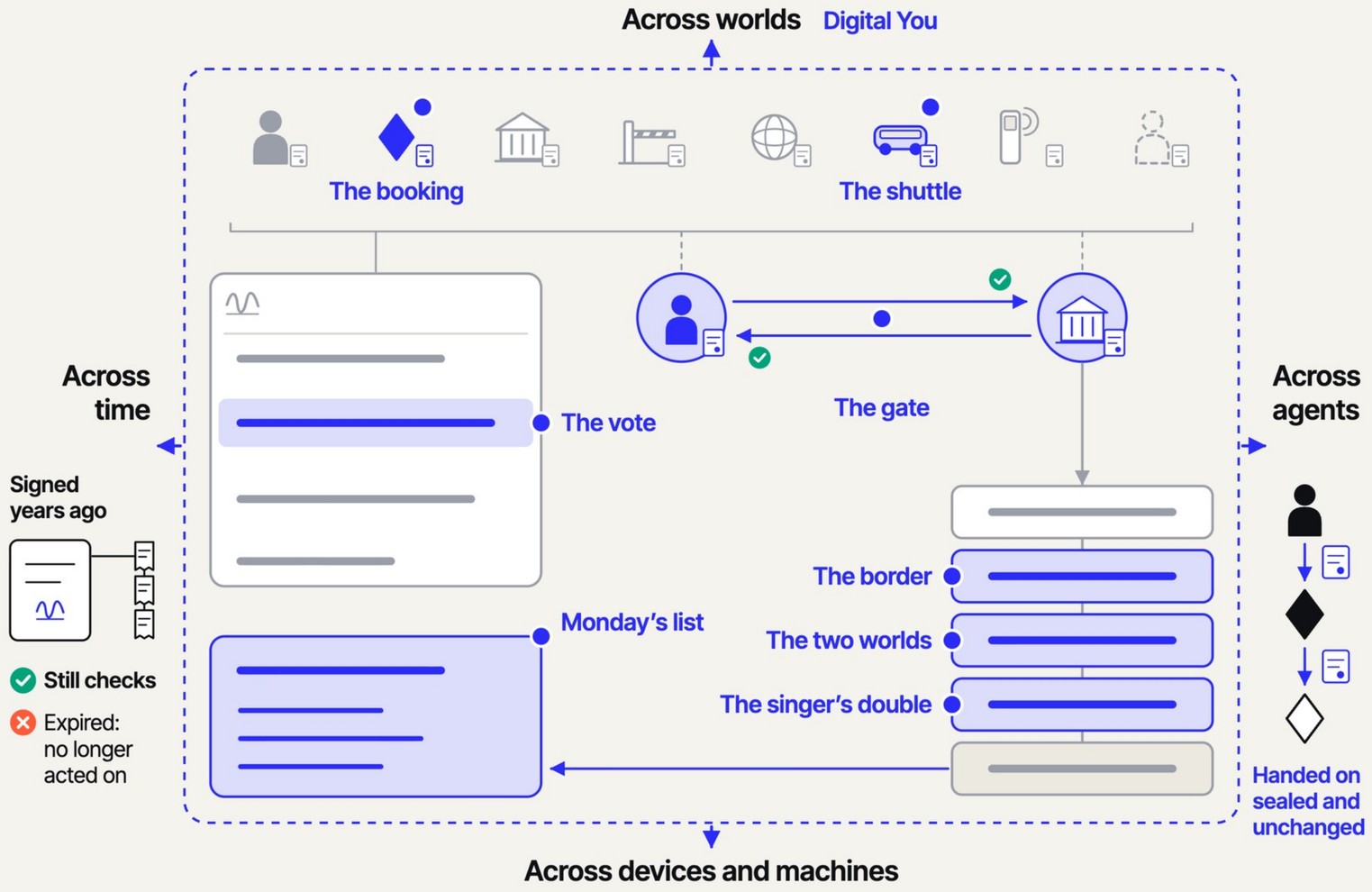
On the map

The receipt, and the permission check over time



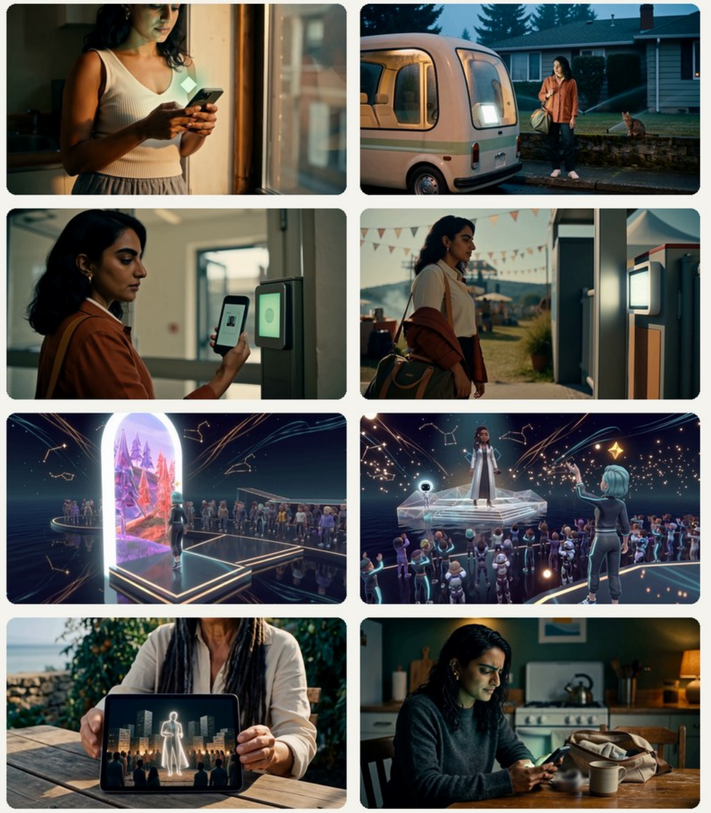
The same checks reach across worlds, agents, devices and time

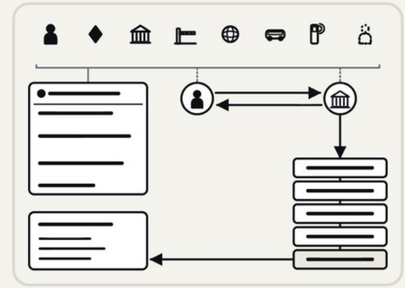
- **Across worlds** What travels is evidence, and the destination decides what it accepts; portability never forces acceptance.
- **Across agents** Every agent answers to whoever delegated to it, and when work is handed on, that authority travels unchanged, traceable to whoever started it.
- **Across devices and machines** One rule for every actor, with or without a person inside it.
- **Across time** Manifests expire and permissions can be withdrawn, but what was signed years ago still checks: who signed it, and that nothing changed.



Identity is four separate questions, and Universal Manifest keeps them apart for every kind of actor

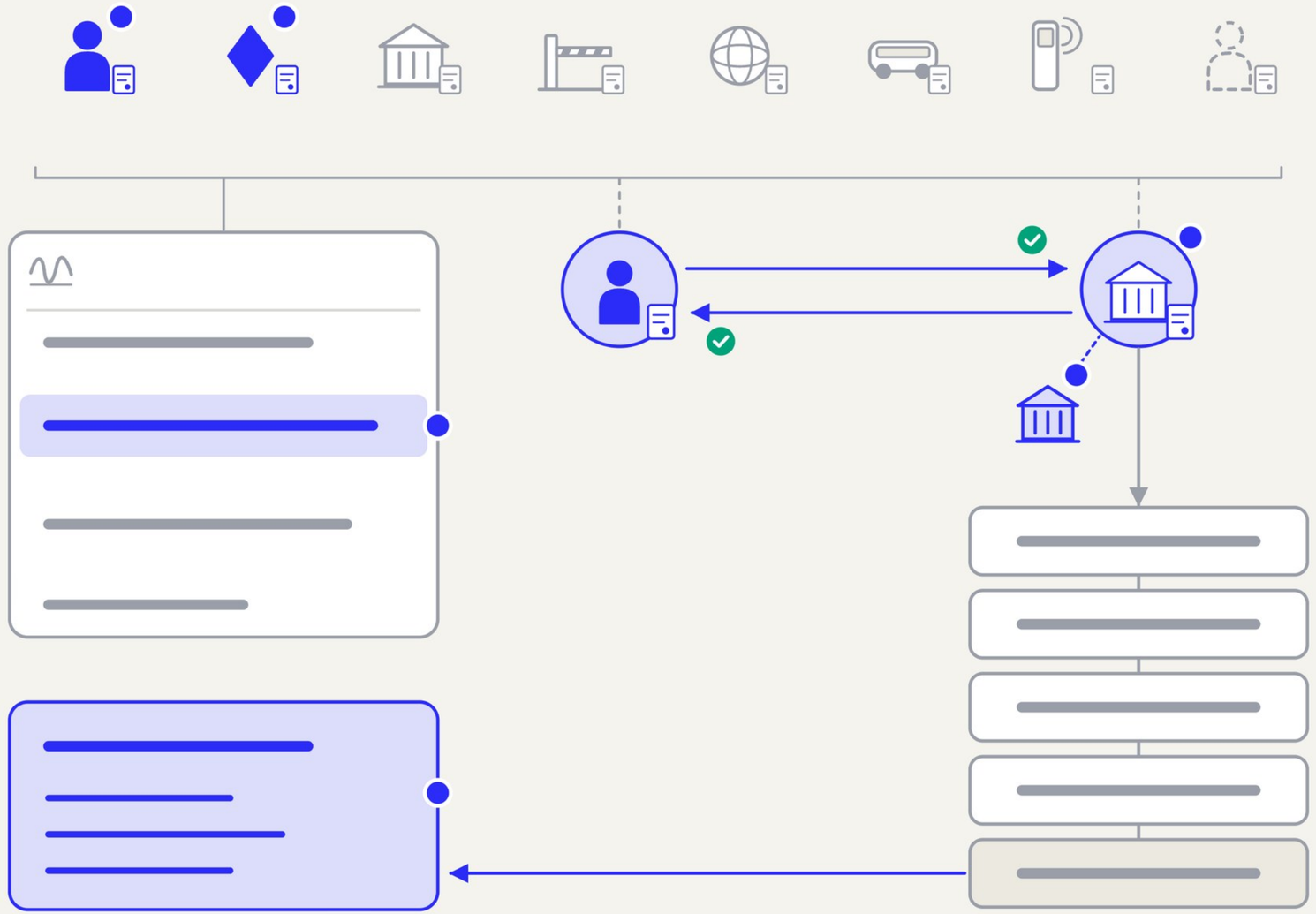
- **Who or what** The gate never needs to know who.
- **Who says so** The border needs a government's word; a world needs the festival's.
- **What the receiver learns** Over eighteen, yes, and nothing else.
- **What may be done** Show the double; never train on it.





The next step: the humanity-attestation use case, on this picture, through the four questions

- **A worked example** The six actors of Humanity Attestation in Metaverse Environments, placed on this picture and each asked the four questions.
- **For any use case** Brought to a later meeting, to cite when a use case needs to say what it asks of identity.





Thank you

How identity works: a day in a life
Across borders and virtual worlds

The Universal Manifest specification

Slides and downloads