# ConTra – Unified Privacy Preferences

Motivation

- Most web services require user data to function properly.
- Users have to allow the collection and processing of their data by accepting the privacy policy.
- Plain text privacy policies are too complex for users.
- Also, users might have preferences regarding policy actions.
- **Privacy languages and preference languages are technical representations of privacy policies and user preferences.**
- Preference rules defined by users are matched against privacy policies based on privacy languages.
- The matching outcome summarises on which parts of the policy the user agrees or disagrees based on his preferences.
- Therefore, the process of customising and accepting privacy policies can be eased and partially automated.
- **The big problem: Multiple preference setups are needed because every preference language complements one specific privacy language.**

User

Company

Privacy Policy
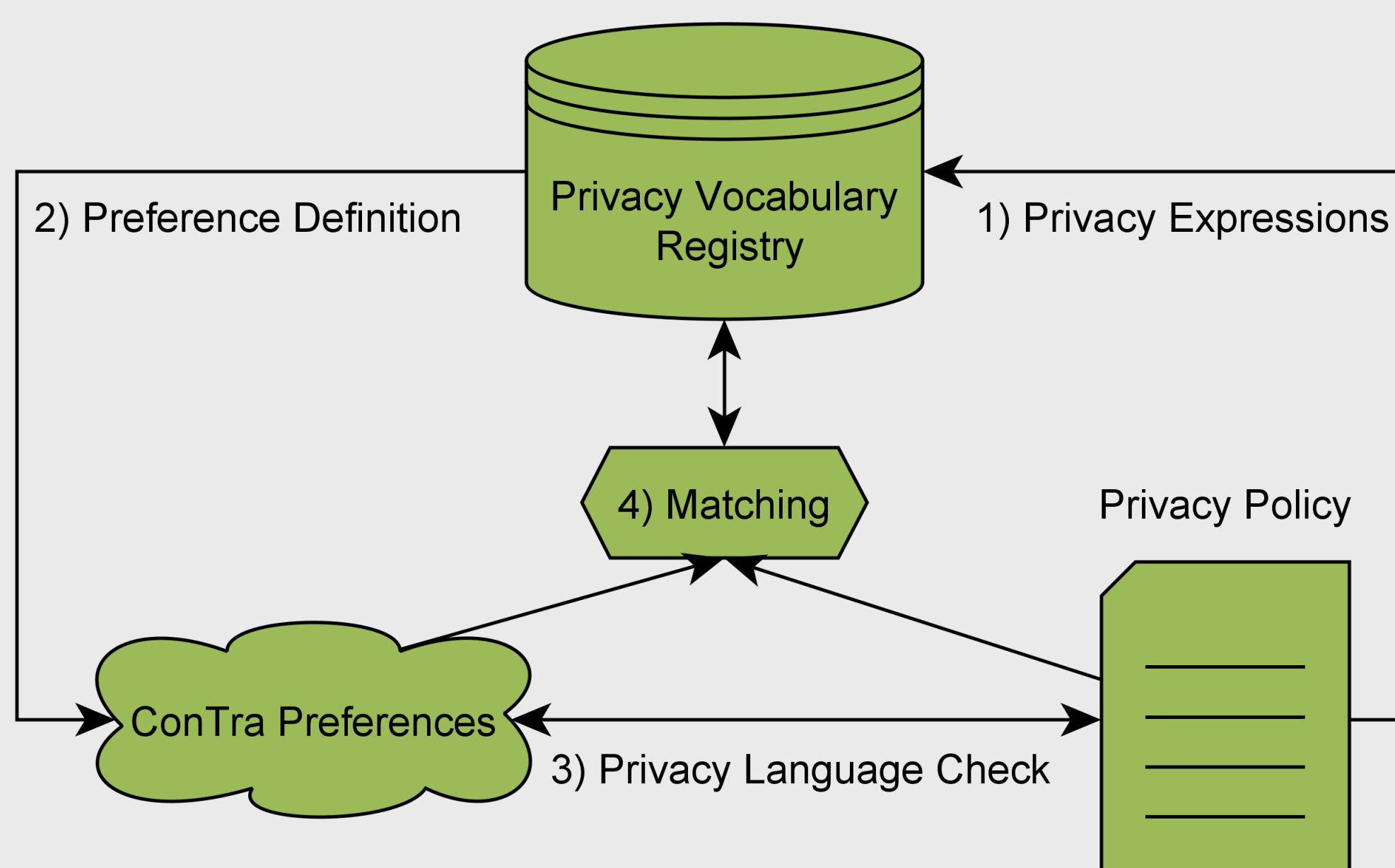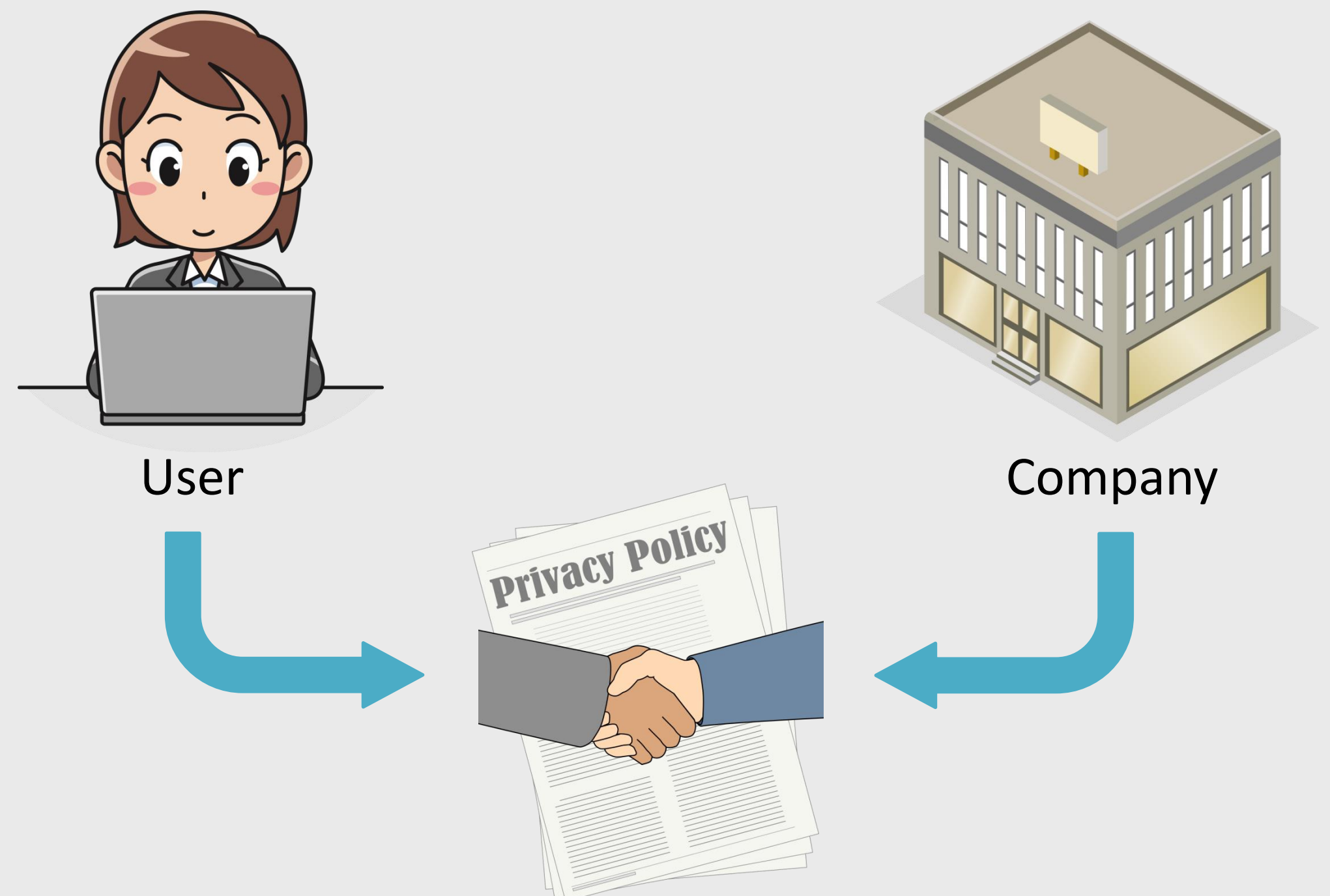
Preference Language

- **ConTra is a preference language which supports multiple privacy languages as the first of its kind.**
- This is achieved by the principle of privacy interfaces.
- Unique constructs of privacy languages are integrated in a registry and linked to a standardised vocabulary which serves as a basis of the registry.
- Also, ConTra preferences are based on the same vocabulary.
- ConTra preferences can match every integrated privacy language by using the registry as middleware.
- The integration of privacy languages in the registry has to be conducted by the companies.
- On side of the user one single preference setup is enough to cover a broad amount of services.
- **The important change: Huge parts of the workflow are shifted from the users to the experts with much more domain knowledge.**

2) Preference Definition

Privacy Vocabulary Registry

1) Privacy Expressions

4) Matching

Privacy Policy

ConTra Preferences

3) Privacy Language Check

Application

- Privacy preferences are based on formal language rules which are too complex for average users.
- **Therefore, clear user interfaces are mandatory.**
- ConTra comes with two UIs to support the user.
- The Preference Definition UI (shown by the pictures) provides a quick selection of profiles in beginner mode and enables detailed definition of preferences in expert mode.
- The Matching Status UI briefly summarises the matching outcome and lets the user investigate mismatches by digging deeper into the policy categories layer by layer.
- Both UIs follow the principle of skill levels which means that more or less information and options are shown based on the knowledge of the user.
- **The result: ConTra supports all user groups when negotiating privacy policies by providing both quick and detailed information.**

Override settings for current page

Medium Privacy

Access to your personal data is only allowed for security purposes and the fulfillment of services you explicitly ordered. Your highly personal data are strictly protected.

Preferences   Settings

Rule 1

You consent to the use of
all
except
Specially Protected Data

for the purpose of
Security   Service Provision

by the following recipients:
all
except
example.org

Your consent from above is valid
within Passau, Germany

You allow your data to be transformed by anonymization

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