



COMPRISE: Cost-effective, Multilingual, Privacy-driven voice-enabled Services

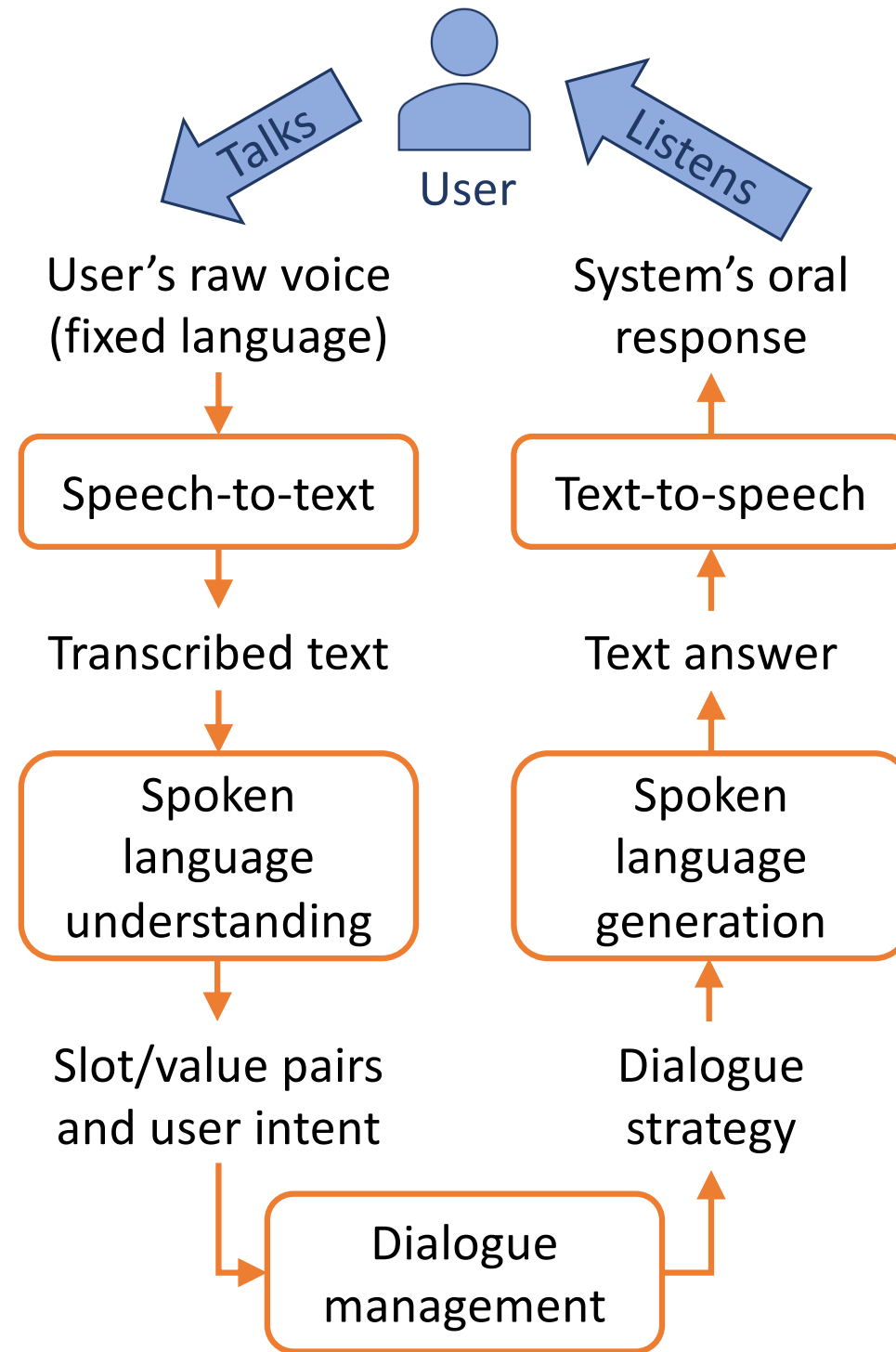
Emmanuel Vincent

Inria

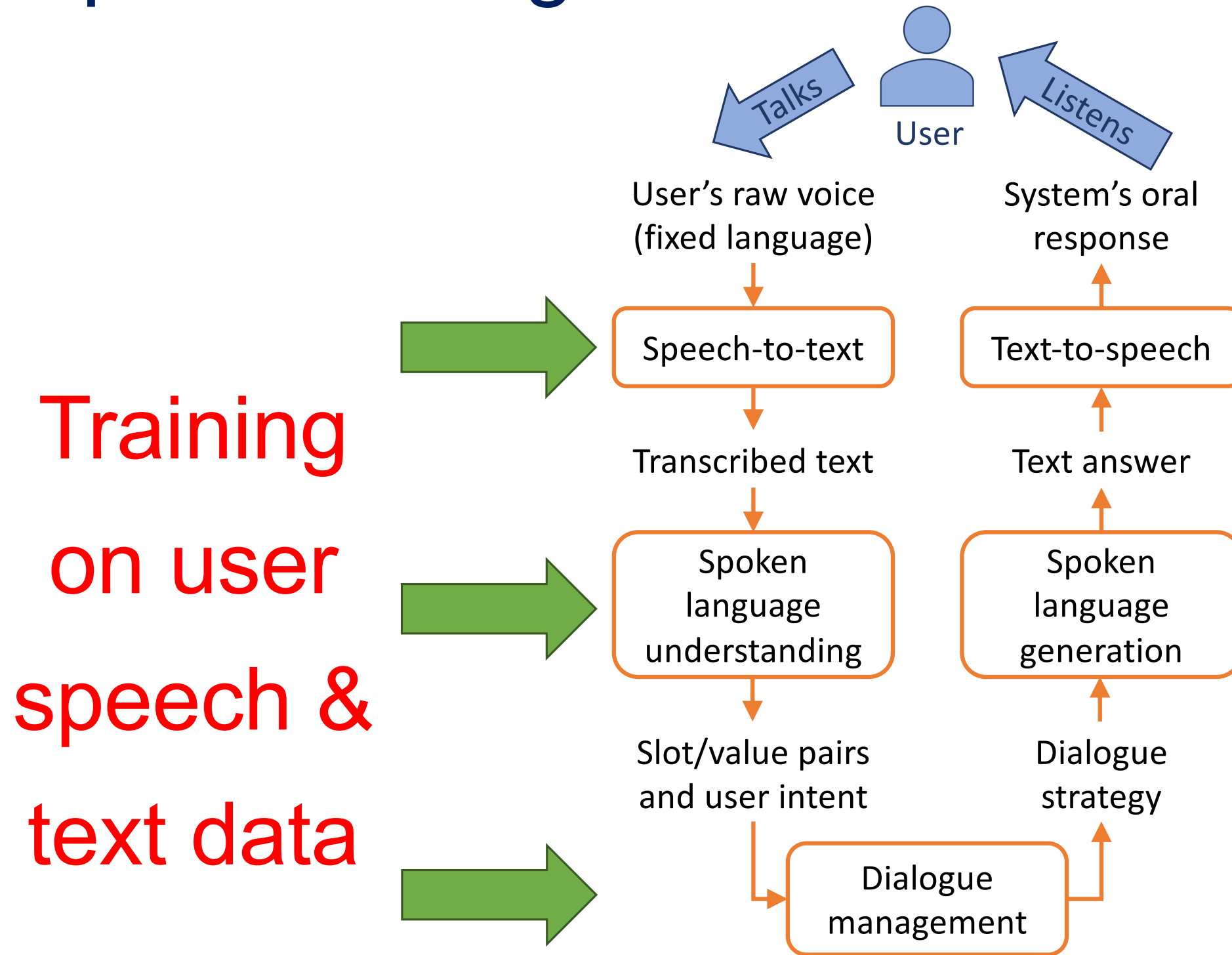
Joint work with



Spoken dialogue



Spoken dialogue



Tackled issues

Issue 1: Privacy



Speech & text data reveal private information about the user/company.

Risks:

- identity theft (deepfakes)
- blackmailing
- business competition
- unsolicited ads, etc.

Issue 2: Cost



Human labelling of training data is very costly.

App developers can only work with the languages they know well enough.

Issue 3: Non-inclusiveness



Users can only interact with assistants in their own language.

Some users (e.g., elderly, accented) may also suffer from a poorer quality of experience.

Overall objective

Define a fully **private-by-design methodology and tools** that will **reduce the cost and increase the inclusiveness** of spoken dialogue systems.

Detailed objectives

Objectives	Solutions
Privacy-by-design	Privacy-driven data transformation
Cost-effectiveness	Weakly supervised learning + cross-platform SDK
Inclusiveness	Machine translation + user personalization
Sustainability	Cloud-based platform
Real-world applicability	Demonstrators

Demonstrators

COMPRISE demonstrators	Provides
Smart Consumer Apps	<ul style="list-style-type: none">• Cooking support app for smart assistants• Presentation control app for smart glasses• Note taking app for smartphones
E-commerce	<ul style="list-style-type: none">• Drive-thru demonstrator platform
E-health	<ul style="list-style-type: none">• Medical record app for medical staff• Registration desk app for patients

COMPRISE & ELG



In the short term, following interest from other ICT-29-2018 projects, planned integration in the ELG platform of:

- privacy-driven speech transformation
- privacy-driven text transformation.

Probably more in the longer term.

Thank you for your attention

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