

Standards for Virtual Agents

Deborah Dahl, Ph.D.

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Virtual Agents

Virtual agents help users with:

- Getting information – weather, traffic, sports scores...
- Managing daily life – making lists, ordering, shopping, reminders, exercise
- Playing music
- Interacting with the Internet of Things
- Enterprise agents help with customer support or shopping

Interactions are based on spoken natural language

Examples

Apple Siri

Amazon Alexa

Google Assistant

Microsoft Cortana

SoundHound Hound

Samsung Viv

Semantic Machines

Application Development

Apple SiriKit

Amazon Alexa Skills kit

Actions on Google

Microsoft Cortana Skills Kit

SoundHound Houndify

Api.ai (Google)

Wit.ai (Facebook)

Microsoft LUIS

Nuance Mix

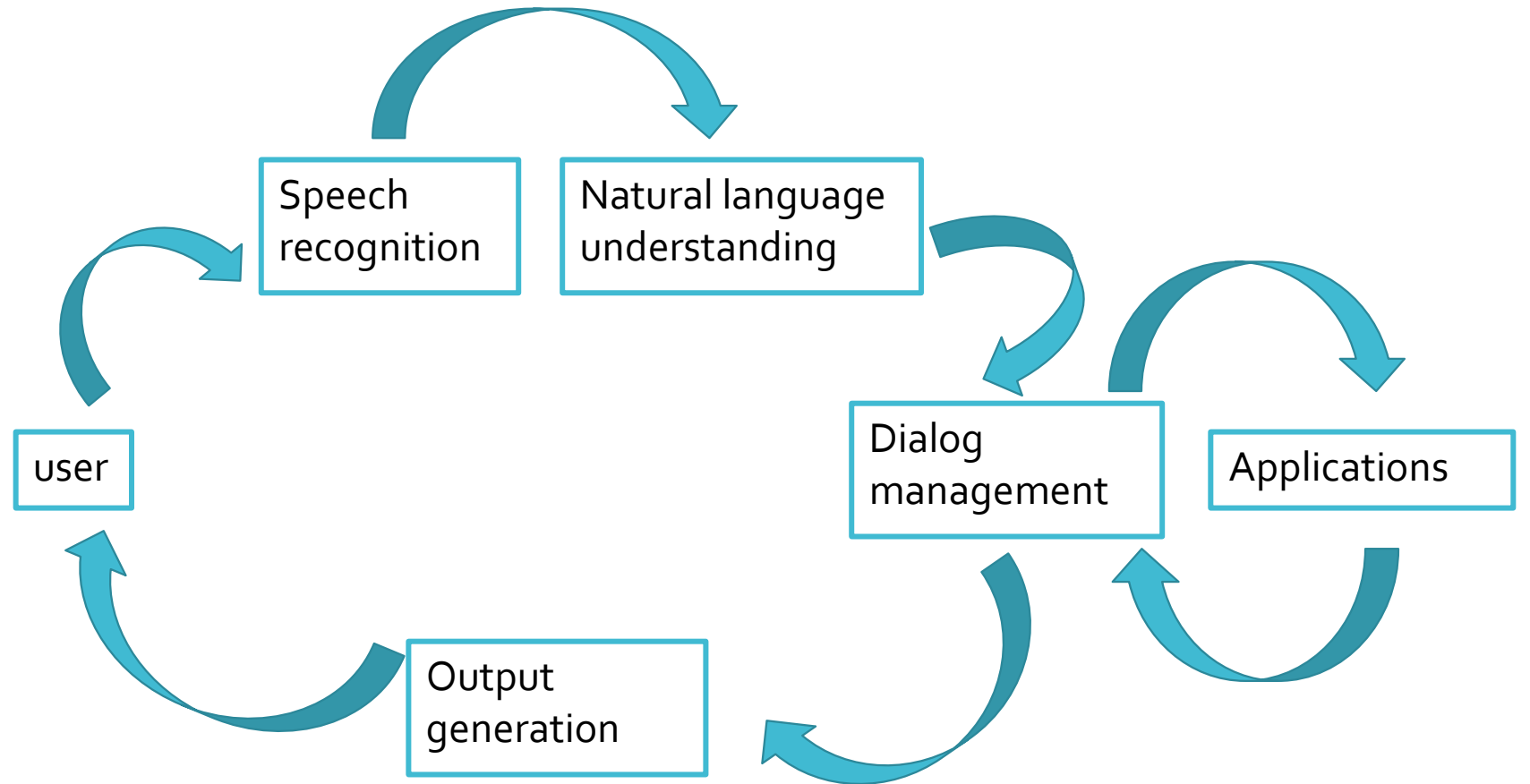
Recast.ai

RASA (open source)

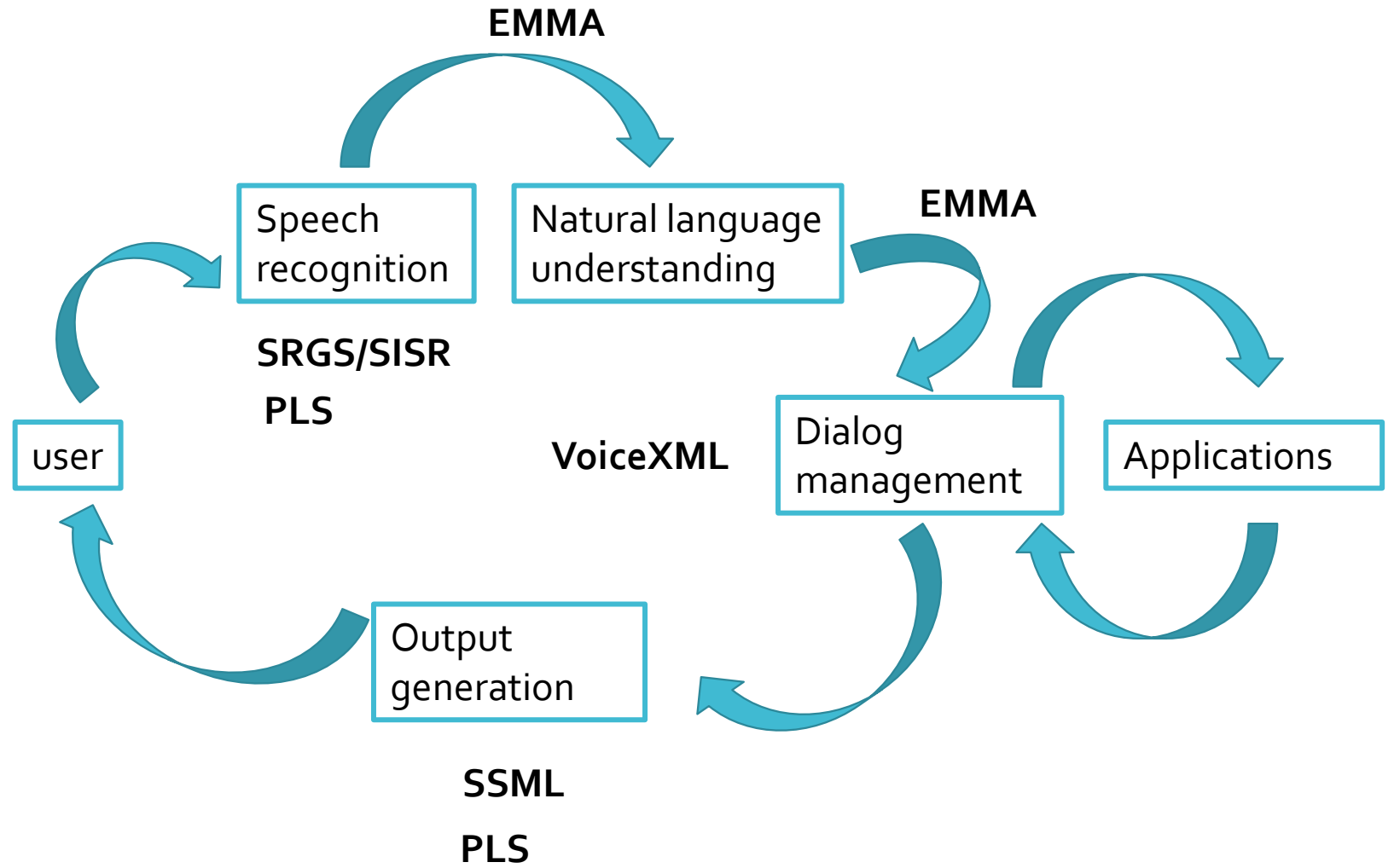
MITIE (open source)

Clarity Labs Lucida (open source)

What's inside? components of a generic spoken language system

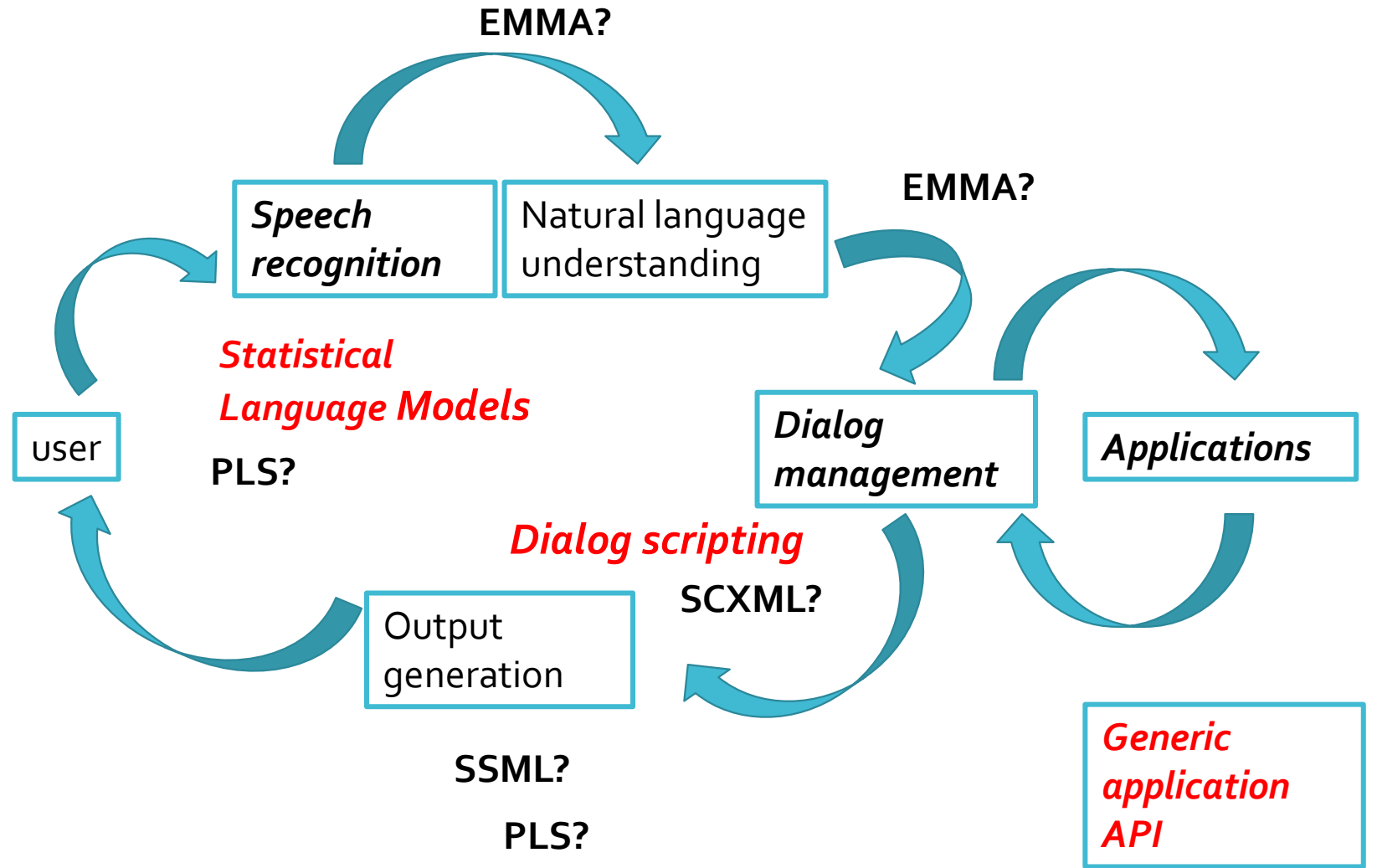


IVR standards

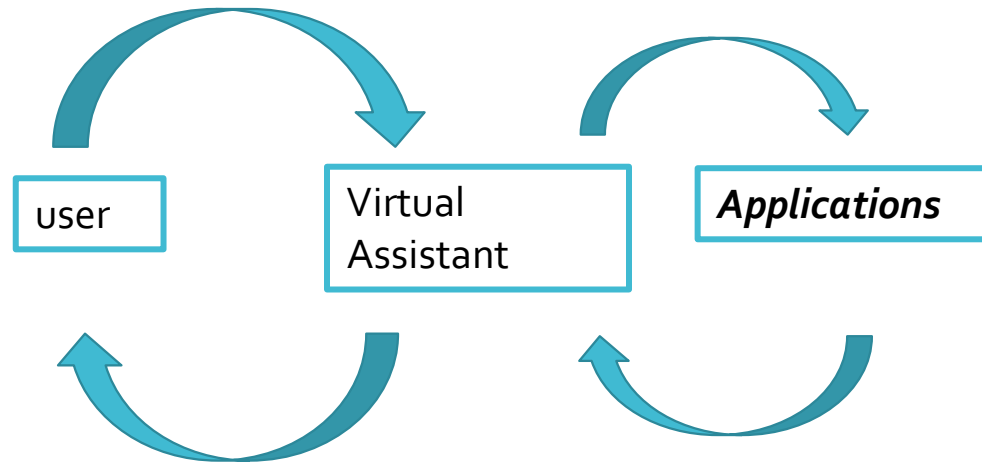


Can we also use these for virtual agents?

Potential common formats and protocols



Interacting with applications



How to find, access, and communicate with other virtual agents?

- Daily life
- News
- Sports
- Fitness
- Customer support
- Shopping
- Restaurants
- ? E-learning, education
- Entertainment
- Web search
- Internet of things
- Transportation/Travel
- Healthcare
- Games
- Financial
- Events, activities
- Food and cooking
- City information
- Accessibility

Potential common formats for tools

- Application design
- Development tools
- Annotation formats
- Visualization tools
- Testing and Logging
- Analysis and reporting

Voice Interaction Community Group

A Community Group at the W3C

Exploring new ideas for standard formats and protocols

- <https://www.w3.org/community/voiceinteraction/>
- Develop proposals for new standards
- Speech recognition
- Structured formats for commonly used concepts – time, location, a person
- Dialog
- Interoperability between virtual agents
- Chairs are: Brian Susko, Marco Kerwitz, and Deborah Dahl
- 16 more participants – join!
- Sunrise session Tuesday at SpeechTEK



Voice Interaction Community Group

About Community Groups at the W3C

- Easy to explore ideas with lightweight process
- Open to everyone
- No fee
- Public
- Balanced IPR policy



Summary

- There are currently many virtual agents and virtual agent development tools
- All with their own formats and API's
- Development effort will be reduced if the communities agree on formats for scripting components and component output
- Voice Interaction Community Group talking about ideas