



The W3C Multimodal Architecture and Interfaces Specification

Get Smart: Smart Homes, Cars, Devices and the Web

W3C Workshop on Rich Multimodal Application Development

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Deborah A. Dahl

Conversational Technologies

Chair, W3C Multimodal Interaction Working Group



Opportunities: New ways of interacting with mobile devices

- Talking
- Moving the device
- Writing on the screen

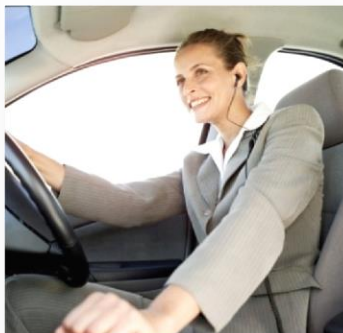


Opportunities: New ways of using mobile devices to interact with the world

Smart Homes



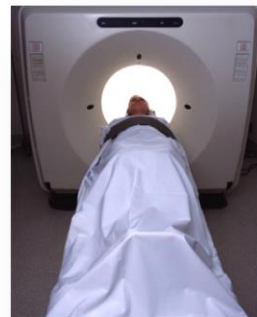
Smart Cars



Public Spaces

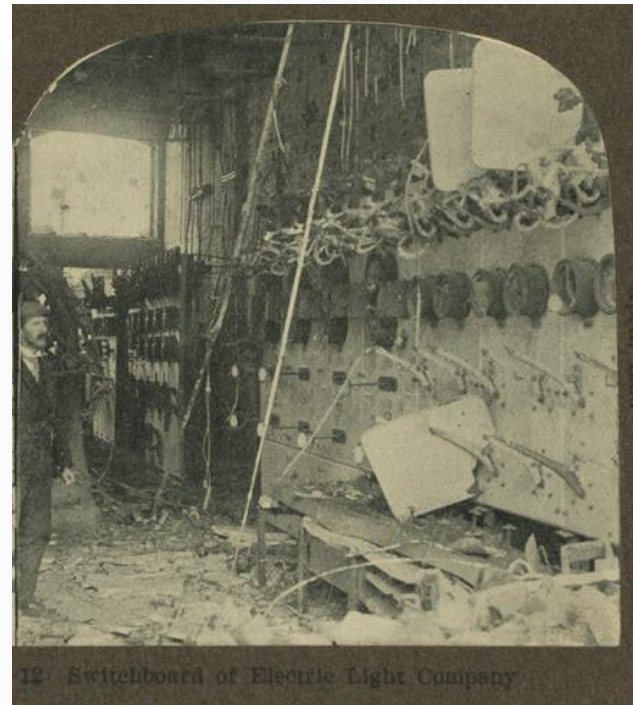


Medical devices



But today we have...

- Proprietary interfaces to system components
- Unstructured, ad hoc, communication techniques
- Complex interfaces
- Lack of interoperability across vendors



12. Switchboard of Electric Light Company

Developing applications requires learning and using many proprietary and idiosyncratic interfaces





A standard for architecture and communication can

- Improve vendor independence
- Reduce the learning curve for developers
- Promote extensibility to new devices, modalities and sensors



The W3C Multimodal Architecture

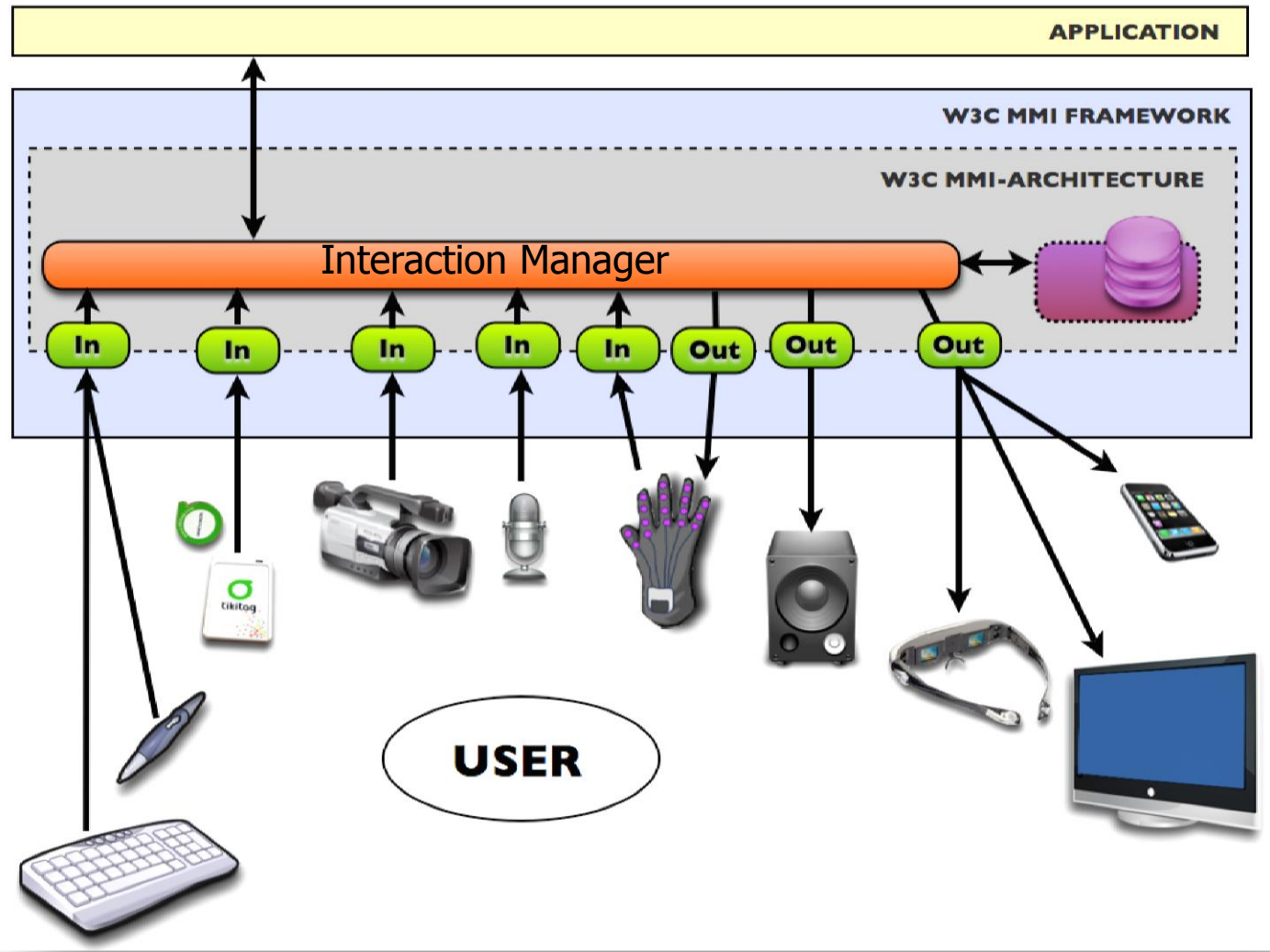
- An integration standard from the World Wide Web Consortium
- Three major components

Parts of The MMI Architecture (1): Interaction Manager

Coordinates interaction among components

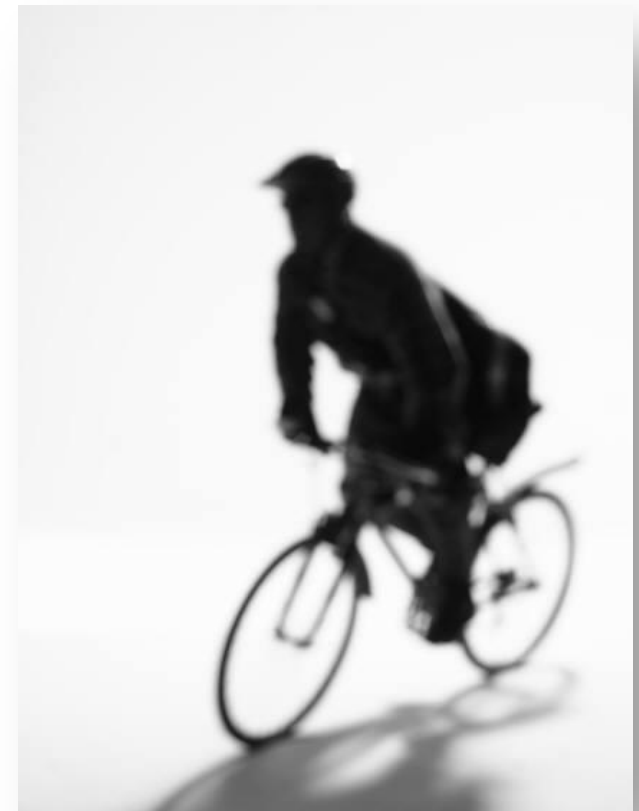


Parts of the MMI Architecture (2): Modality Components



Parts of the MMI Architecture (3): Life Cycle Events

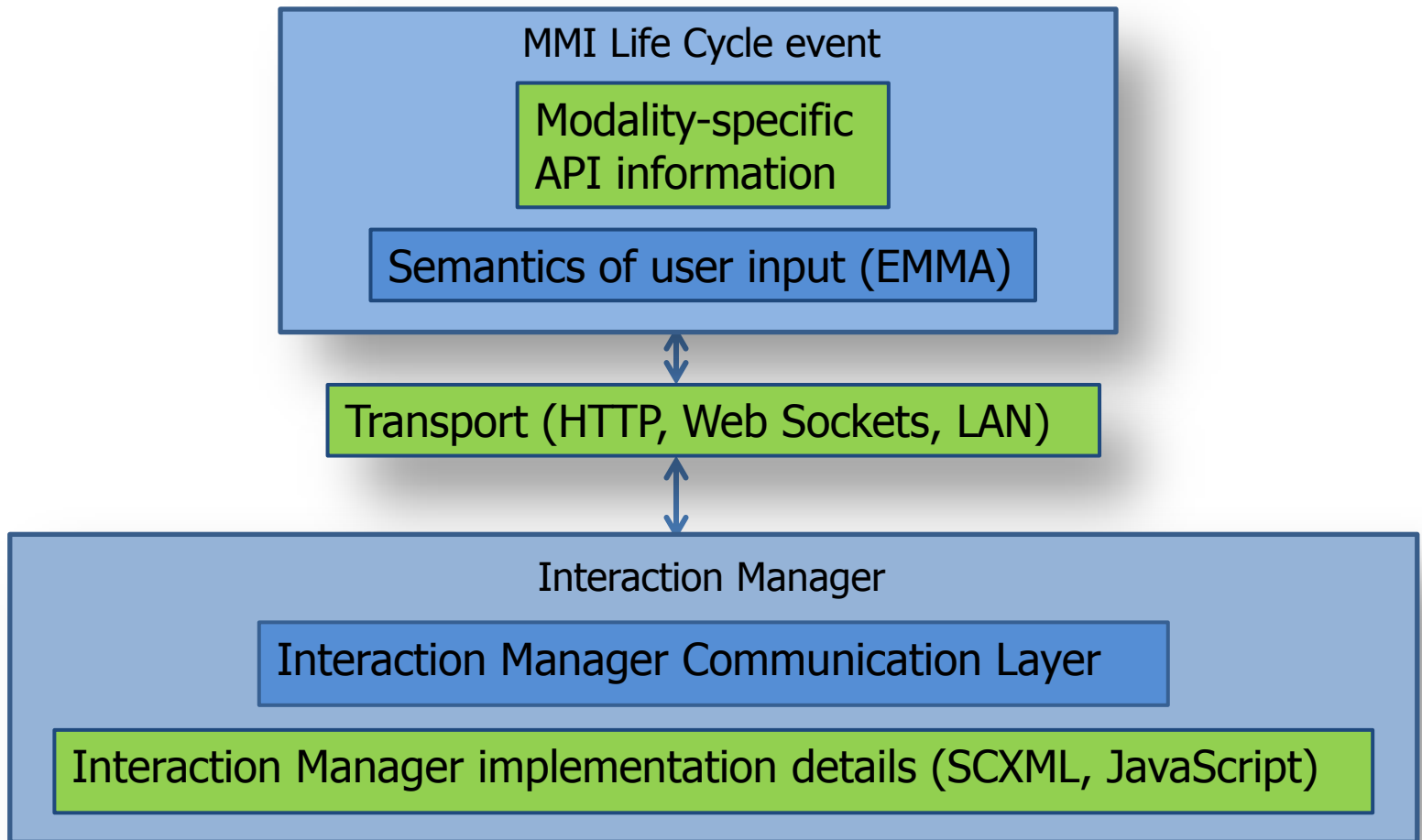
- High level messages to modality components to prepare, start, stop, pause resume, send data, check status...
- Transport of events is not standardized, but an HTTP example is provided



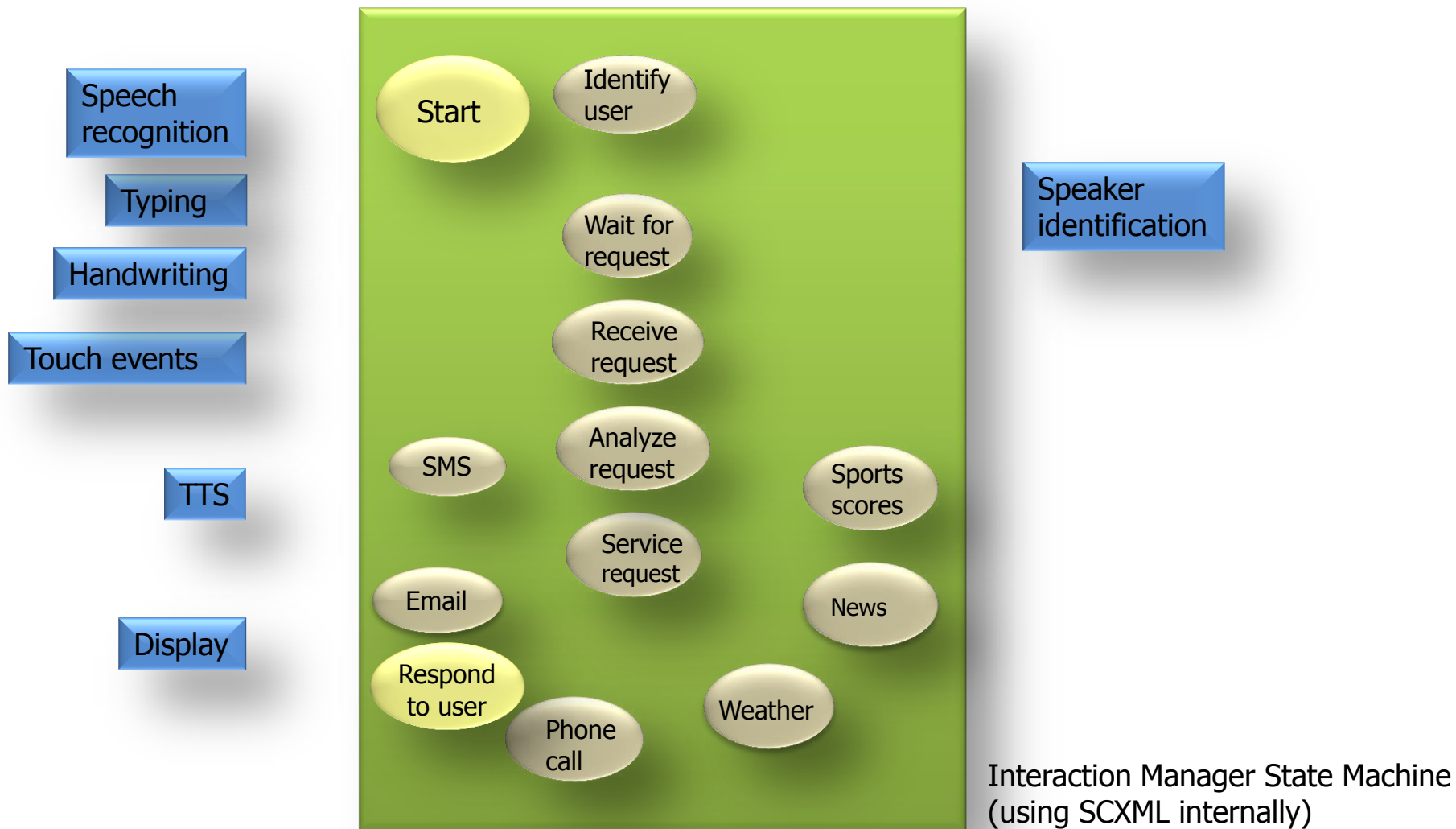
MMI Architecture Principles

- Modality components only communicate directly with the Interaction Manager, not with each other
- Modality component functionality is exposed only through Life-Cycle events
- All communication is through Life-Cycle Events
- Application-specific information is wrapped by standard events

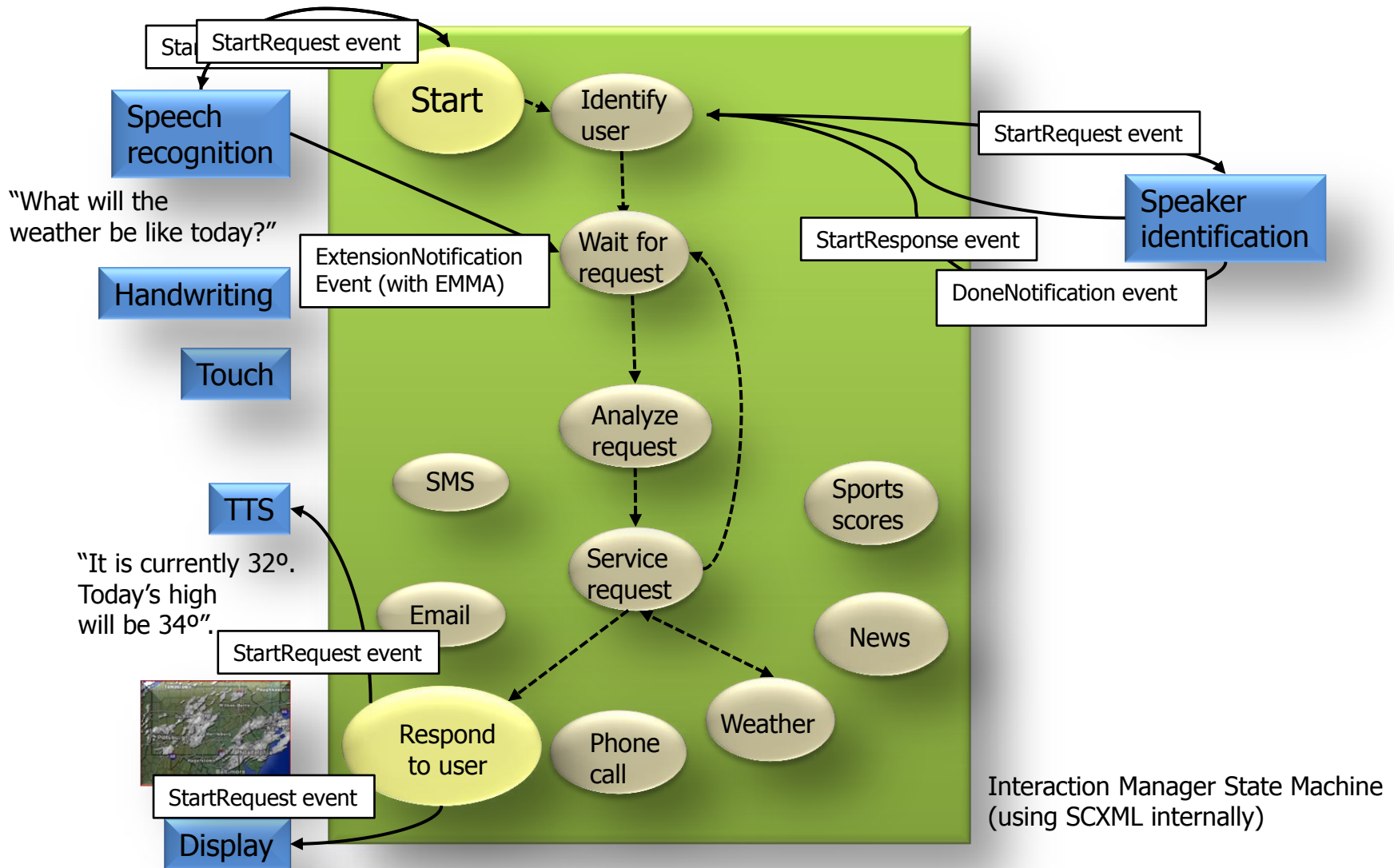
Standard and Application-Specific Information



Example: A personal assistant application



Communication for One Request: "Check Weather"





More Information

- W3C Multimodal Architecture and Interfaces
 - <http://www.w3.org/TR/mmi-arch>

Resources

- Modality Component Description Best Practices
- Interoperability Test Report



Presenter

- Deborah Dahl, Chair of the W3C Multimodal Interaction Working Group and Principal at Conversational Technologies
- Conversational Technologies
 - *Conversational Technologies provides expertise in speech, natural language and multimodal technologies and standards that empowers its clients to apply these technologies in creating compelling mobile, desktop, and cloud solutions.*