

Multimodal Interfaces for Internet

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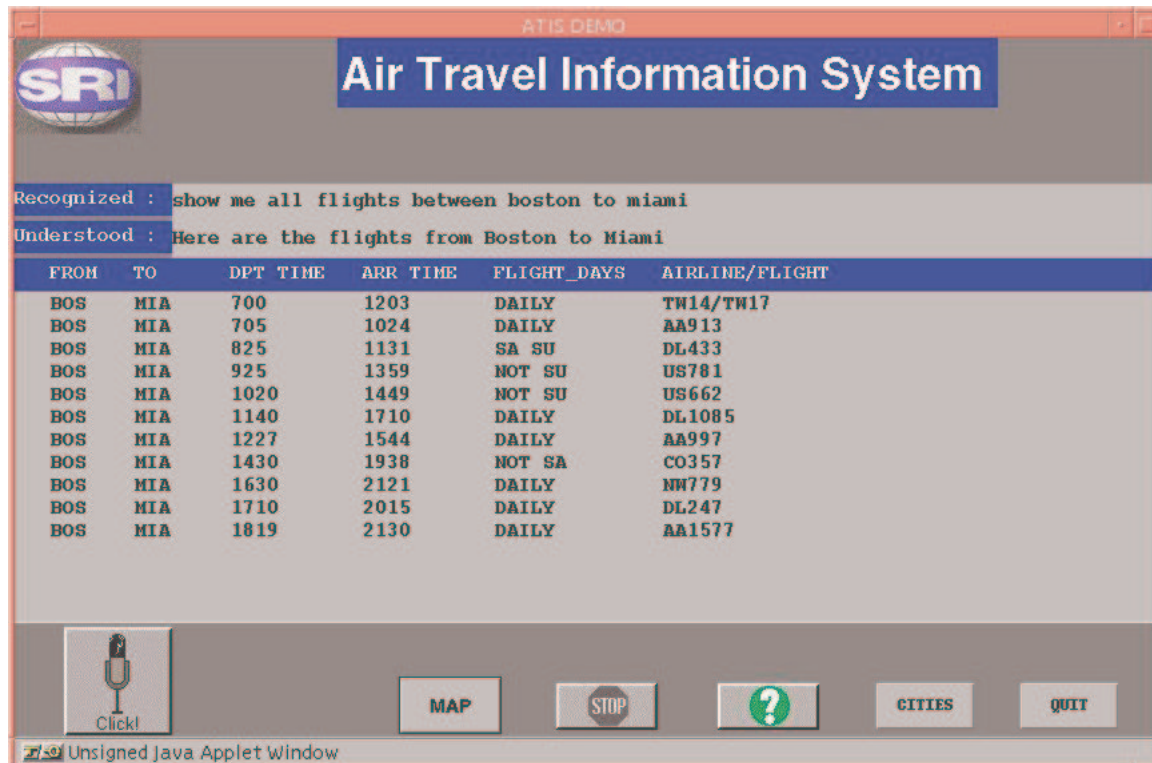
Open Agent Architecture (OAA)

OAA is a framework for integrating a community of heterogeneous software agents in a dynamic distributed environment

- Runs across platforms, multiple architectures
- Supports many computer languages
 - C, C++, Java, Lisp, Prolog, Pascal, Basic, etc...

<http://www.speech.sri.com/demos/atis.html>

- Continuous Speech Recognition over the telephone (Nuance)
- Java Implementation of the Open Agent Architecture (OAA)



The screenshot shows a Java applet window titled "ATIS DEMO" with a sub-header "Air Travel Information System". It features the SRI logo and a microphone icon labeled "Click!". The interface displays a recognized user query and the system's understood response, followed by a table of flight data.

Recognized : show me all flights between boston to miami
Understood : Here are the flights from Boston to Miami

FROM	TO	DPT TIME	ARR TIME	FLIGHT_DAYS	AIRLINE/FLIGHT
BOS	MIA	700	1203	DAILY	TW14/TW17
BOS	MIA	705	1024	DAILY	AA913
BOS	MIA	825	1131	SA SU	DL433
BOS	MIA	925	1359	NOT SU	US781
BOS	MIA	1020	1449	NOT SU	US662
BOS	MIA	1140	1710	DAILY	DL1085
BOS	MIA	1227	1544	DAILY	AA997
BOS	MIA	1430	1938	NOT SA	CO357
BOS	MIA	1630	2121	DAILY	NW779
BOS	MIA	1710	2015	DAILY	DL247
BOS	MIA	1819	2130	DAILY	AA1577

Buttons: MAP, STOP, ?, CITIES, QUIT

Unsigned Java Applet Window

Java Interface - Natural Language Understanding - more than 4000 hits in one year

Multimodality & Internet

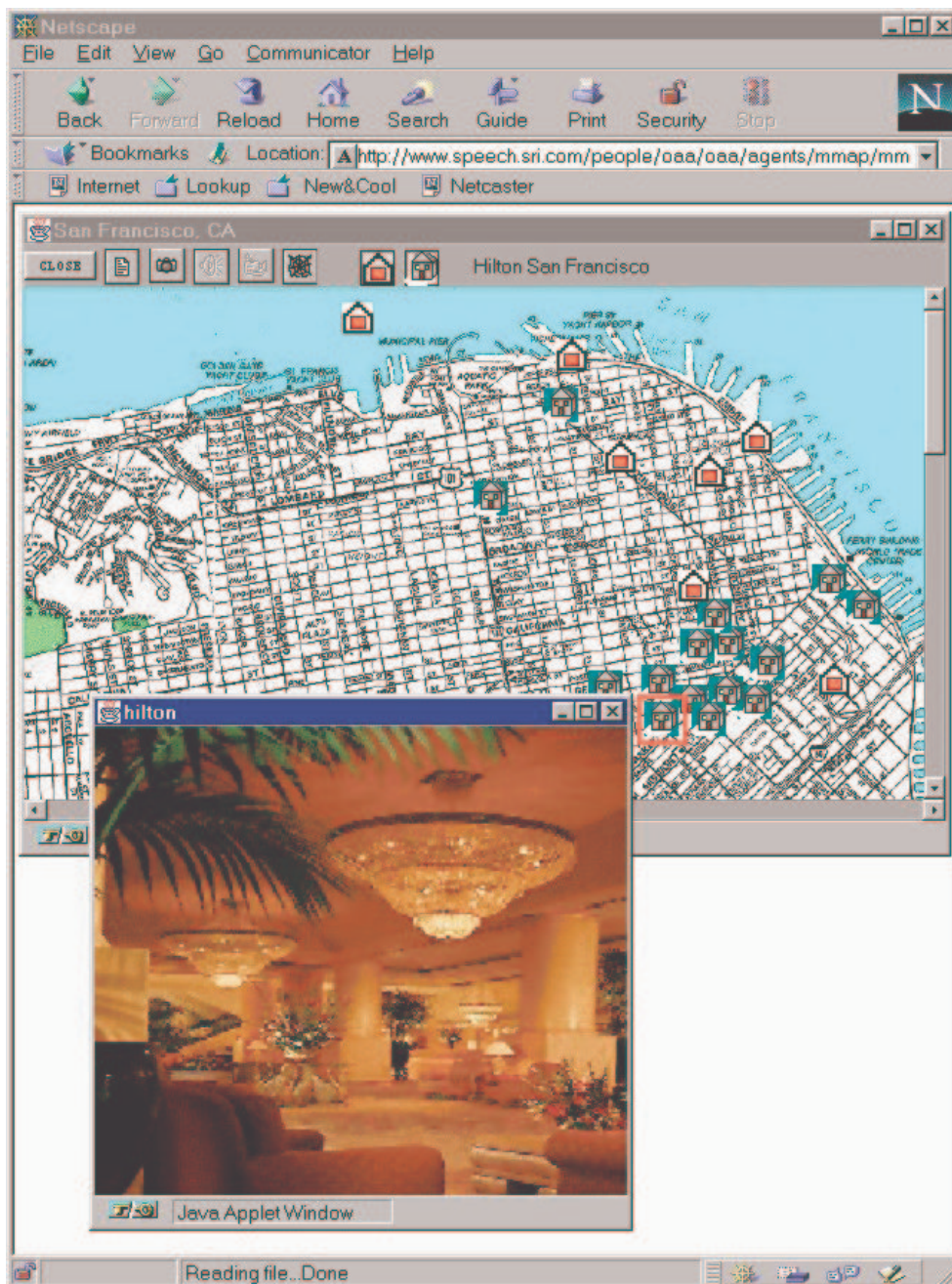


Java provides a way to create complex interfaces and run them over the net.

Java programs virtually run on any kind of platform.

- **Speech Recognition**
 - Over the phone
 - Local (IBM, Nuance...)
- **Gesture Recognition**
 - Java port
 - Any pointing device
- **Character Recognition**
 - JOT (prototype CIC)
- **Fusion + Interpretation**
 - OAA based

Multimodal Maps for Internet



- OAA concepts
 - Parallel computation
 - Distribution (lighter)
- Reference resolution
 - Competition
 - Cooperation
- Java user interface
 - Friendly
 - Multimedia

Multimodal Map Architecture

