# Speech Technology Consortium

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# The Patent System: Friend or Foe?

- Huge flow of patent applications through an overburdened system
  - Many patents should never have been issued
  - Claims can be convoluted after multiple revisions through office actions
- Non-practicing entities and others see profits through the courts
- Costs of fighting even "obvious" cases are prohibitive
  - Each "success" through settlement drives more suits
  - Just being the object of a suit creates losses

# Results

- For individual companies
  - Resources that could be put into new innovations are spent defending old innovations
  - Progress is stagnated
- For the industry
  - Competition is curtailed
  - Innovations that could spur growth are put on the back burner
  - We continue to wait for speech to "Take off"

- Criteria for patentability are simple:
  - Novel
  - Non-obvious
  - Has utility
- But these simple sounding criteria are enormously complex to evaluate
  - The key to assessing the strength of a patent lies in the knowledge of other inventors who are "skilled in the art"
  - A major component is the "prior art"

# How can a Consortium help?

- An independent consortium can
  - "Spotlight" aggressive behavior
  - Identify patterns
  - Provide a mechanism for sharing knowledge
  - Track down "hard to find" materials
- Members can
  - Keep abreast of patent issues
  - Use the resources for specific cases
  - Contribute to a stronger industry

- déjà vu:  Looking at a patent and saying
  - "We did that in 1982"
  - "Didn't the Dinosaur system do that?"

- Speech is an old industry (in "internet" years)
  - Commercialization has been slow
  - Specialization keeps people in the field
  - Complexity keeps membership down

- Early prototype systems were "ahead of their time"

# Finding the "Hard to find"

- ## What can't be Googled
  - ### Many documents pre-date the internet
    - They may not ever be scanned in
  - ### Prior art is in Theses, Technical Reports, Seminars, old documentation, marketing materials
    - All public, but much of it obscure
- ## The STC can leverage individuals and organizations
  - ### With dusty bookshelves and filing cabinets
  - ### Who remember that the material is there

# Technical Reports
# Document Early Work

- 1973 Speech Understanding Research: Collected Papers 1973-74. A.I. Report no.17.
- 1974 Natural Communication with Computers. Final Rept.
- 1977 On Conversational Interaction with Computers
- 1977 Speech Understanding Systems Final Report. V.1- Introduction and Overview; V.2-Acoustic Front End; V.3-Lexicon, Lexical, Retrieval and Control; V. 4- Syntax and Semantics; V. 5- Travel Budget Manager's Asst.
- 1982 Research in Speech Understanding, Annual Report
- 1988 Combining multiple knowledge sources for speech recognition
- 1988 Statistical Modeling for Continuous Speech Recognition
- 1989 Combining multiple knowledge sources for continuous speech recognition
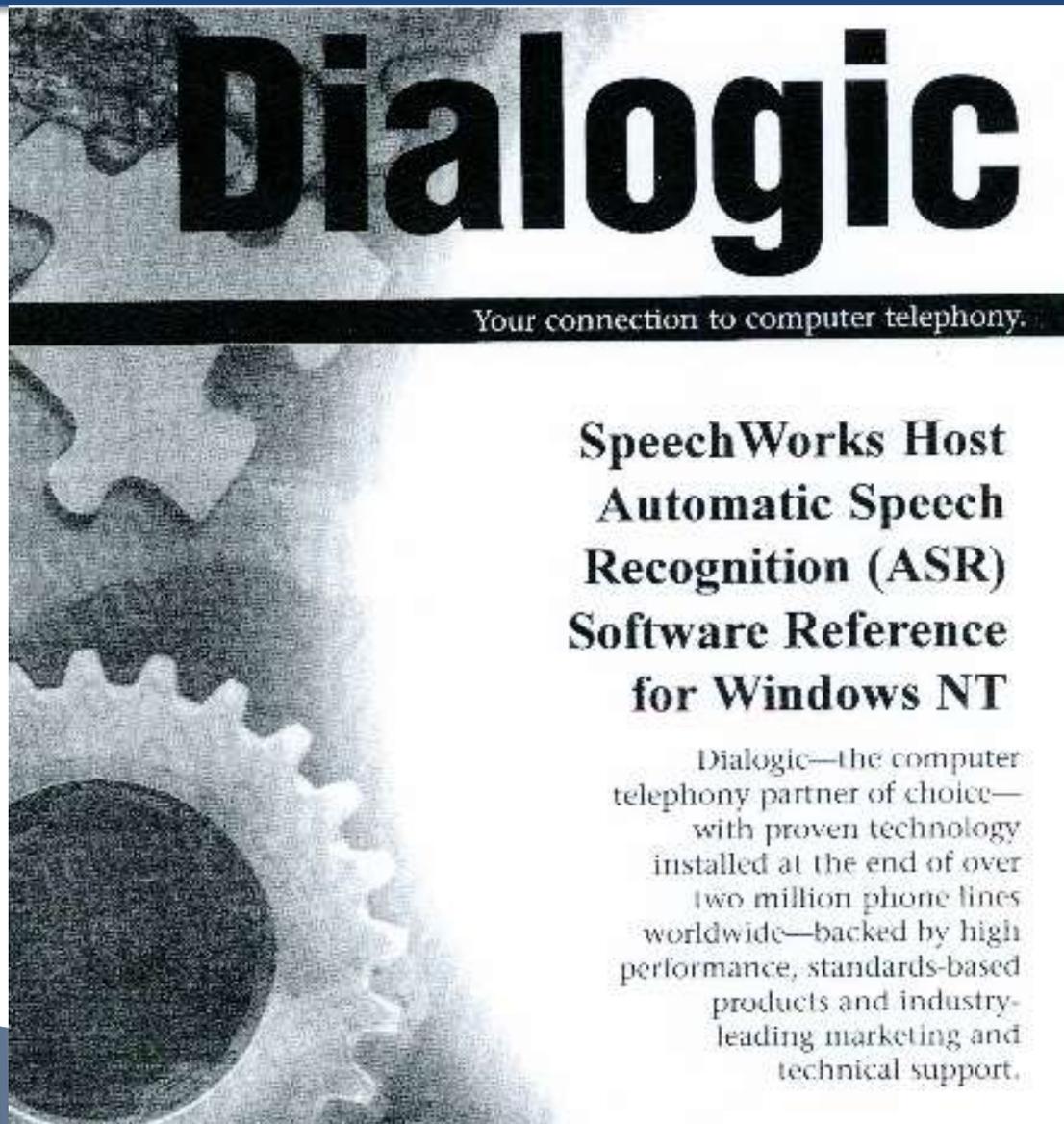
Dialogic

*Your connection to computer telephony.*

**SpeechWorks Host Automatic Speech Recognition (ASR) Software Reference for Windows NT**

Dialogic—the computer telephony partner of choice— with proven technology installed at the end of over two million phone lines worldwide—backed by high performance, standards-based products and industry-leading marketing and technical support.

# Finding the relevant "Art"

- Patents are often combinations of multiple techniques
  - But publications tend to have a single focus
  - Details of other aspects of the system are frequently left out
  - Connections between publications are as important as the documents themselves
- Context is required to document how techniques fit together

# The STC "Value Proposition"

- The STC Prior Art Library
  - Provides a map linking
    - Research breakthroughs with the systems they were implemented in
    - Systems at individual institutions with projects across multiple institutions
    - People who were in specific labs at specific times
  - Provides a mechanism for connecting the dots and building a case
  - Provides a repository for past cases that can contribute to future ones

# What's in the Library?

- Bibliography of references
  - Collection of references "connected" by the PAL map
- Library of collected materials
  - Papers, documentation, technical reports marketing materials not easily findable
  - The STC will only distribute those it has copyright permission for
- Database of institutions, systems, projects, researchers used to index the references

# An Index to Speech

- Institutions ⟶
- Speech Systems
- Speech Projects
- Researchers
- Resources
- Publications
- Patents
- Indexed References

# Join us!

- For information on how to join see me or another board member after the session
  - Or email [membership@speechtechnologyconsortium.org](mailto:membership@speechtechnologyconsortium.org)
- Got (technical) Junk?
  - Put your past accomplishments to use!
  - Clean out the bottom shelf of your bookcase!
  - Anyone can contribute to the library

# Thanks!

- From the STC Board
  - Tom Schalk (Chairman)
  - Marie Meteer (Executive Director)
  - Igor Jablokov
  - Roberto Pieraccini
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