

Top 10 Topics

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1. Metadata
 - Houghes, Wittenburg, Simons
2. Standards
 - Romary, Pieraccini, Ide
3. Evaluation
 - Mariani, King
4. Technologically challenged language
 - Roux, Gibbon
5. Language resources
 - Cieri, Choukri, Maxwell
6. Multilingual lexicons & impact on apps (MT)
 - Tokunaga, Buitelaar, Magnusdottir
7. Conceptual analysis, terminology, ontologies
 - Tsujii, Budin

Top 10 (1st try)

8. QA, CLIR, IE
 - Harabagin, Peters, Ciravegna
9. Generation
 - Dale, Reiter
10. Emotion in Speech
 - Campbell
11. Distance learning

Top 10 Topics

(based on a recent conference)

1. Information Extraction (IE)
2. Question Answering (QA)
3. The Web
4. Information Retrieval (IR)
5. Summarization / Generation
6. Discourse
7. Speech
8. Language Modeling (LM)
9. Statistical Machine Translation (MT)
10. Parsing

Top 10 (2nd Try)

- Resources:
 - corpora, lexicons, ontologies, tools, standards, evaluation
- Techniques:
 - speech, parsing, summarization
- Applications:
 - QA, CLIR, IE, MT
 - Distance Learning

Highlight Excitement

- Disciplines
 - More Established
 - Linguistics, CS, AI, Stats, EF
 - More Forward-Looking
 - Machine Learning
 - Biology
 - Robotics (Martin Kay)
- Hot areas
 - Statistical everything, but especially statistical MT
- Noteworthy recent developments
 - Google
- Grand challenges
 - Memories for life
 - Affordable Pedabytes: 10^{15}
 - Managing and making searchable a very large personal multi-media collection
 - Mobility: PDAs, Cell phones

Occasional accomplishments...

Structure of the Solution

(not the union of what we are all doing)

- Goals
 - Example: Replace keyboard with microphone
 - Exciting (memorable) sound bite
 - Broad grand challenge that we can work toward but never solve
- Metrics
 - Examples:
 - WER: word error rate
 - Time to perform task
 - Easy to measure
- Milestones
 - Should be no question if it has been accomplished
 - Example: reduce WER on task x by $y\%$ by time t
- Accomplishments v. Activities
 - Accomplishments are good
 - Activity is not a substitute for accomplishments
 - Milestones look forward whereas accomplishments look backward
- Small is beautiful
 - Quantity is not a good thing
 - Awareness
 - 1-slide version
 - if successful, you can maybe 3 more slides
- Size of container
 - Goal: 1-3
 - Metrics: 3
 - Milestones: a dozen
 - Mostly for next year: Q1-4
 - Plus some for years 2, 5, 10 & 20
 - Accomplishments: a dozen
- Broad applicability & illustrative
 - Don't cover everything
 - Highlight stuff that
 - Applies to multiple groups
 - Forward-Looking / Exciting

Sketch of a Solution

Model: LDC

- Resources: corpora, lexicons, ontologies, tools, standards, evaluation
 - Goal:
 - To become the preferred source for European language resources
 - Metrics:
 - Usage, Citations, Sales / Downloads
 - Milestones:
 - x downloads by time t
- Techniques: speech, parsing, generation
 - Goal: Effective, Affordable, Reusable Speech-to-Text (EARS)
 - Metrics: error rate, time
 - Milestones: EARS
<http://www.darpa.mil/ipto/programs/ears/>

Model: EARS

Model: Grand Challenges

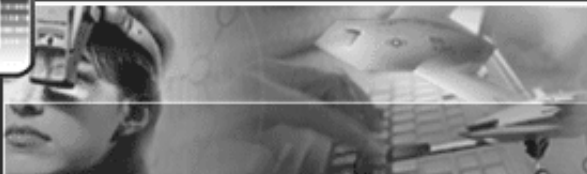
- Applications: QA, CLIR, IE, MT, distance learning
 - Goal:
 - Produce NLP apps that change the way people communicate with one another
 - Metrics:
 - Precision and recall on particular tasks
 - Milestones:
- Forward-looking: Model: TREC
 - Goals:
 - *Multilingual Companion* for tourists, cultural heritage, business meetings
 - Memories for life (*Life Log*)
 - Affordable Pedabytes (10^{15})
 - Managing and making searchable a very large personal multi-media collection
 - Metrics:
 - Milestones:
 - References:
 - ftp://ftp.cordis.lu/pub/ist/docs/istag04_0319-draftnotesofthemeeting.pdf
 - http://www.nesc.ac.uk/esi/events/Grand_Challenges/panelc/c24.pdf

Grand Challenges

<ftp://ftp.cordis.lu/pub/ist/docs/istag040319-draftnotesofthemeeting.pdf>

- ***The Pervasive Communication Jacket*** for life saving, security, health monitoring, mobile web services
- *The Cell-based Disease and Drug Simulator* for disease prediction, drug testing, medical research
- *The Blackbox for Humans capturing a **Life Log*** for augmented episodic memory, security, aid for the elderly and handicapped
- *The Service Robot for the Elderly* for help with food preparation, surface cleaning
- ***The Internet Police Agent*** for security, intrusion detection, law enforcement, fighting against a “sick” Internet;
- *The Ultralight Aerial Transport Agent* for security, small-scale logistics for indoor and outdoor, helping the elderly and handicapped, convenience *The 100% Save Car* for survival, security, convenience
- ***The Powerless Mobile Terminal*** for mobile services, e-health, pervasive communication, security
- *The Self-Repairing Computing and Control System* for network security, safety-critical applications, real-time services
- ***The Everywhere Visualizer*** for mobile everywhere displays, future office environments, telepresence, retail environments, augmented reality services
- ***The Intelligent Retail Store*** for smart logistics, mixed reality shopping, automatic comparison shopping, cross- and up-selling
- ***The Multilingual Companion*** for tourists, cultural heritage, business meetings

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Effective, Affordable, Reusable Speech-to-Text (EARS)

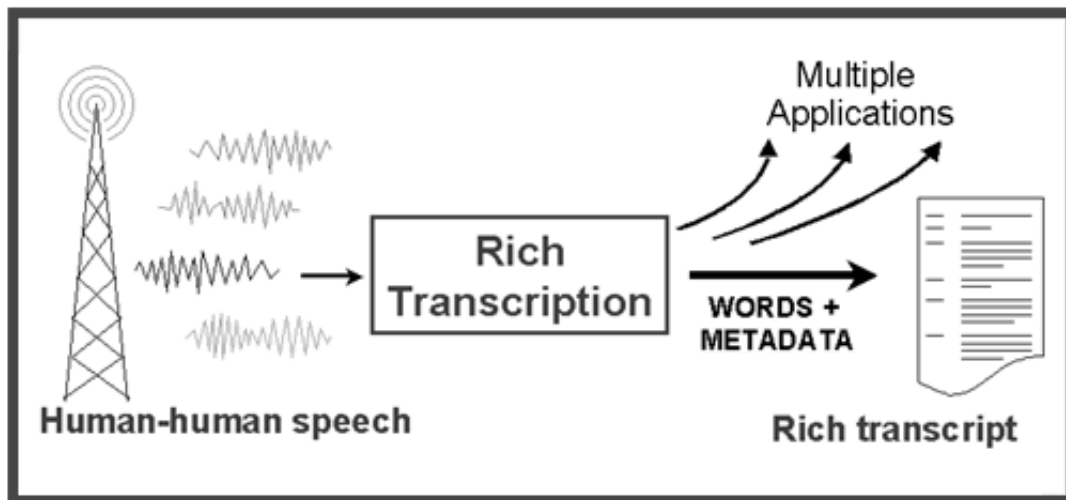
Mr. Charles Wayne **Mission:**

Overview

- [Mission](#)
- [Strategy](#)

Technical Program

- [Accomplishments](#)



The Effective Affordable Reusable Speech-To-Text (EARS) program is developing speech-to-text (automatic transcription) technology whose output is substantially richer and much more accurate than currently possible. This will make it possible for machines to do a much better job of detecting, extracting, summarizing, and translating important information. It will also enable humans to understand what was said by reading transcripts instead of listening to audio signals.



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Effective, Affordable, Reusable Speech-to-Text (EARS)

Mr. Charles Wayne

Strategy:

EARS is focusing on natural, unconstrained human-human speech from broadcasts and foreign conversational speech in multiple languages. The intent is to create core enabling technology suitable for a wide range of advanced applications.

Overview

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EARS encompasses wide-ranging, multidisciplinary research; quantitative evaluations of algorithm accuracy and utility; and efficient technology demonstration prototypes. Outside groups are invited to participate in the annual Rich Transcription evaluations run by NIST.

