

# Answer Extraction for Information Retrieval

Randy Fish

781-271-5494 • [fishr@mitre.org](mailto:fishr@mitre.org)

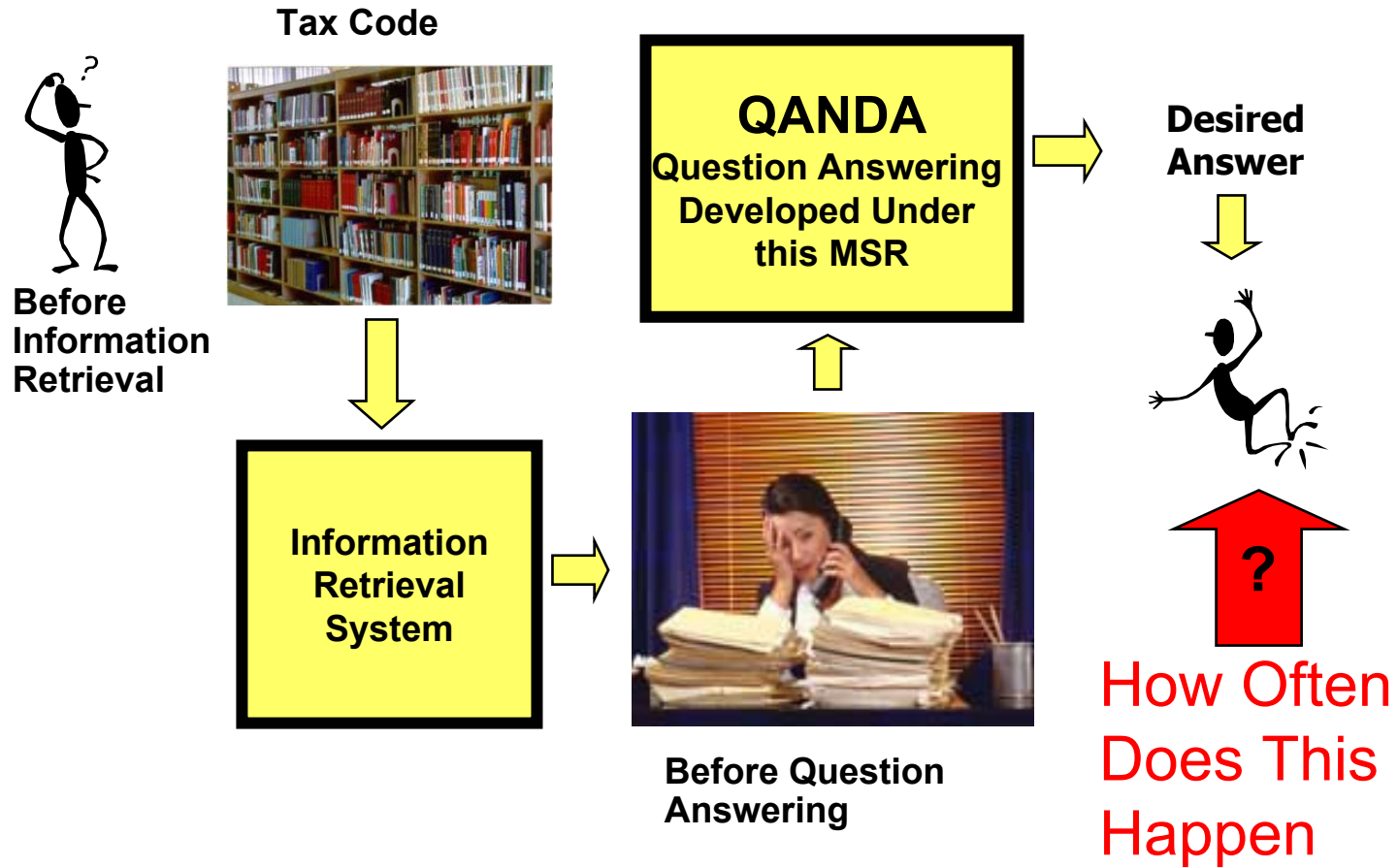
MSR

 MITRE  
Technology  
Program

# Problem

- **Current information retrieval systems retrieve *documents*, not information. Under this MSR we have built a system that can extract *facts* from a document collection with a useful degree of accuracy.**
- **We are currently assessing the strengths and weaknesses of this technology with respect to actual end-users.**
- **Domains under evaluation:**
  - **Cyber-warriors at the Air Force Information Warfare Center**
  - **Taxpayers filling out standard tax forms**

# Background



# Objective

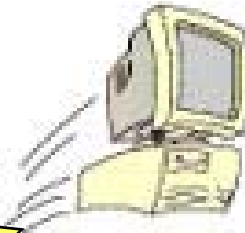
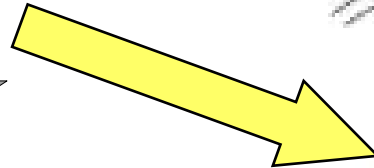
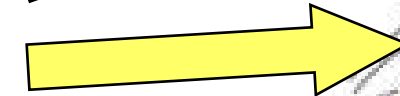
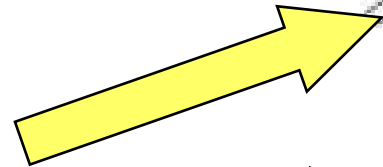
- **During the final year of this MSR we are monitoring target users as they perform representative tasks.**
- **We are capturing the various performance metrics that will allow us to determine:**
  - **How people use a question answering system**
  - **What impact it has on their performance of a task**
  - **What would make it more effective.**

# Activities

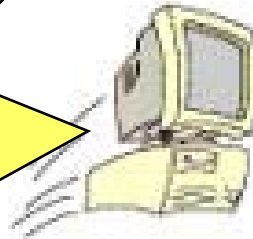
- **Fielded a competitive system in the TREC Question Answering competition. Simple short answer questions**
- **Selected as the Reference QA system for ARDA's Advanced Question & Answering for Intelligence (AQUAINT) Program**
- **Adapted baseline Q&A systems for Information Warfare and the IRS utilizing domain-specific information sources**
- **Installed a system at the Air Force Information Warfare Center**
- **Published numerous journal and conference articles**

# Highlight

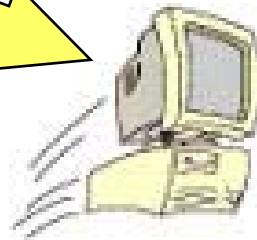
Our R&D system  
is being put  
through its paces  
in real world  
applications



**AFIWC**



**IRS Contact Center  
of the Future**



**AQUAINT**

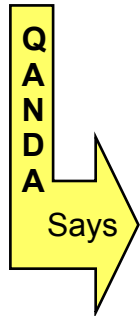
**MITRE**

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# Demonstration

IRS Domain:

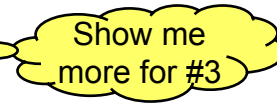
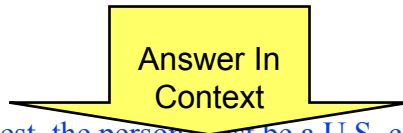
Type in a Question: I am a U.S. citizen; does my daughter who was born in November in



Answer #1. You must have .....

Answer #2. Your child must be ...

Answer #3. If you were a U.S. citizen when your child was born, the child may be a



Citizen or resident test. To meet this test, the person must be a U.S. citizen or resident, or a resident of Canada or  
If you were a U.S. citizen when your child was born, the child may be a U.S. citizen although the other parent was a  
You can claim your child's exemption if the child is a U.S. citizen and meets the other tests. It does not matter that the

# Impacts

- Advise sponsors on when, where, and how a COTS QA system can impact their work.
- Apply present technology to the IRS web portal in MITRE's Contact Center of the Future
- Improve MITRE's understanding of the needs of the various Intelligence Analyst Communities
- Positioned MITRE to be the systems integrator on ARDA's multi-year Advanced Question & Answering Program
- Prioritize new Question Answering research agenda

# Future Plans

