MITRE's Qanda at TREC-11*

John D. Burger, Lisa Ferro, Warren Greiff,
John Henderson, Marc Light†, Scott Mardis, Alex Morgan

The MITRE Corporation
†The University of Iowa

{john, lferro, greiff, jhndrsn, mardis, amorgan}@mitre.org
marc-light@uiowa.edu

Introduction

Qanda is MITRE's TREC-style question answering system. Since last year's evaluation, principal improvements to the system have been aimed at making it faster and more robust. We discuss the current architecture of the system in Section 1. Some work has gone into better answer formation and ranking, which we discuss in Section 2. After this year's evaluation, we have done a number of ROVER-style system combination experiments using the judged answer strings made available by NIST. We report on some success with this in Section 3. We have also performed a detailed categorization of previous TREC results according to answer type and grammatical category, as well as an analysis of Qanda's own question analysis component—see Section 4 for these analyses.

1. TREC-11 System Description

Catalyst

Last year, Qanda was re-engineered to use a new architecture for human language technology called *Catalyst*, (Burger & Mardis 2002). Developed at MITRE for the DARPA TIDES program, the Catalyst architecture is specifically designed for fast processing and for combining the strengths of Information Retrieval (IR) and Natural Language Processing (NLP) into a single framework. Catalyst uses a dataflow architecture in which standoff annotations are passed from one component to another, the components being connected in arbitrary topologies (currently restricted to acyclic ones). The use of standoff annotations permits components to be optimized for just those pieces of information they require for their processing.

Major system components

Qanda has a by now familiar architecture—questions are analyzed for expected answer types, documents are retrieved using an IR system and are then processed by various taggers to find entities of the expected type in contexts that match the question. Below we describe each of the major components in turn.

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