Competition: Rafael Gonçalves, Nicolas Matentzoglu, Bijan Parsia
Organisers / PC chairs: Ernesto Jimenez Ruiz, Samantha Bail
BRIEF OVERVIEW

• Competition details
• What we measure
• The corpus
• Offline competition results
  • Full corpus
  • User submitted ontologies
• Online competition results
  • Winning reasoners
  • Winning bet
COMPETITION DETAILS

- 14 participating reasoners
  - 9 OWL 2 DL, 4 EL, 1 RL
- Challenges (per profile)
  - Classification
  - Consistency
  - Satisfiability (of randomly selected classes)
- Corpus
  - random sample from web crawl + known repositories
  - 204 DL, 200 EL, 197 RL

Reasoners:
- TrOWL
- Konclude
- TReasoner
- HermiT
- MORe
- FaCT++
- Jfact
- Chainsaw
- WSClассifier
- ELK
- jcel
- SnoRocket
- ELepHant
- BaseVISor
SUBMITTED ONTOLOGIES

• Data Mining OPtimization (DMOP) - C. Maria Keet, Agnieszka Ławrynowicz, Claudia d’Amato, Melanie Hilario

• Genomic CDS - Matthias Samwald

• FMA and GALEN versions - Weihong Song, Bruce Spencer, Weichang Du

• KB Bio 101 - Vinay K. Chaudhri, Michael A. Wessel, Stijn Heymans
COMPETITION DETAILS

Rafael “Benchmark” Gonçalves
TEETHING ISSUES

Rafael “Sadface” Goncalves
TEETHING ISSUES

• Over a week to get systems to adhere to our I/O specs
• OWL API parsers/serializers causing problems = painful
• Memory/time management = painful (combining ulimit and Java’s Xmx results in many errors)
• Running 14 different systems in different languages on one machine/OS = painful

• Conclusion: running a reasoner competition is tough.
• But: everything will be easier next year!
WHAT WE MEASURE

OWL ontology (valid syntax, non-trivial, in profile)

Reasoner

Success
- processed without errors
- completed without timeout
- correct result

Reasoning task

Fail
- error (parser, Java...)
- timeout (5 minutes)
- incorrect result
THE CORPUS

Pool (filtered BioPortal, Oxford Library, Manchester OWL Repository)

- DL
  - Small
  - Medium
  - Large

- EL
  - Small
  - Medium
  - Large

- QL
  - Small
  - Medium
  - Large

- RL
  - Small
  - Medium
  - Large

Random Selection

- 50 Small <500 ax
- 100 Medium 500-4999
- 100 Large >5000
THE HARDWARE

• We aimed for “standard” machines:
  • Cluster of identical PCs (1 reasoner per machine)
  • QuadCore Intel Xeon CPU @ 2.33GHz
  • 12GB RAM / 8GB RAM assigned to process
  • Running some rather old Fedora version (Fedora 12)
  • Java version 1.6.0_18
OFFLINE-COMPETITION
RESULTS: CLASSIFICATION DL

Winner: Hermit
RESULTS: CONSISTENCY DL

Winner: Konclude (also fastest!)
RESULTS: SAT DL

Winner: Konclude
RESULTS: CLASSIFICATION EL

Winner: ELK
RESULTS: CONSISTENCY

Winner: ELK (also fastest!)
RESULTS: SAT EL

Winner: Chainsaw
RESULTS: CLASSIFICATION RL

Winner: TReasoner
RESULTS: CONSISTENCY RL

Winner: Konclude (also fastest!)
RESULTS: SAT RL

Winner: MORe
SPECIAL MENTION

The jury says:

“This candidate only entered one competition and did struggle with a high number of timeouts, but the ones that were classified were incredibly fast. We want to see more!"

Thumbs up, ELepHant.
BEST NEWCOMER

The jury says:

“This candidate hardly ever made it to the top, but consistently performed well in terms of time and robustness - a steady, reliable workhorse.”

Well done, MORe!
LIVE-COMPETITION
LIVE COMPETITION - EL

The winning EL reasoner correctly classified 196 out of 200 OWL 2 EL ontologies.

Well done, ELK!
The winning DL reasoner correctly classified 153 out of 221 OWL 2 DL ontologies.

Well done, WSClассifier!
We have a clear winner who bet *exactly* the right number for their reasoner.

The winner will be announced at the Social Dinner tonight!
WHAT NEXT?

• Data will be available online soon!
  • Benchmarking framework
  • Ontologies
  • Results

• ORE 2014 in Vienna!

• Ongoing activities on the W3C OWLED community group

• More information: http://ore2013.cs.manchester.ac.uk
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  • in particular the local organisers Birte Glimm & Yevgeny Kazakov & their helpers
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• Infrastructure provider
• Our sponsor!