

Situation Graph Trees (SGTs) – on their way to practical tools



Michael Arens
Institut für Algorithmen und Kognitive Systeme
Universität Karlsruhe (TH)

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SGTs recalled



GOAL: conceptualization of vision results by logic inference

- temporally isolated facts represented by *occurrences*
(terminology defined by logic rules & facts)
- *history* of occurrences represented as SGTs:
 - graph-like structures
 - **situations** comprising occurrences
(nodes)
 - **prediction edges**
(temporal successor-relation)
 - **particularization edges**
(temporal or conceptual detailing)
- SGTs define *expected behavior* of visible agents

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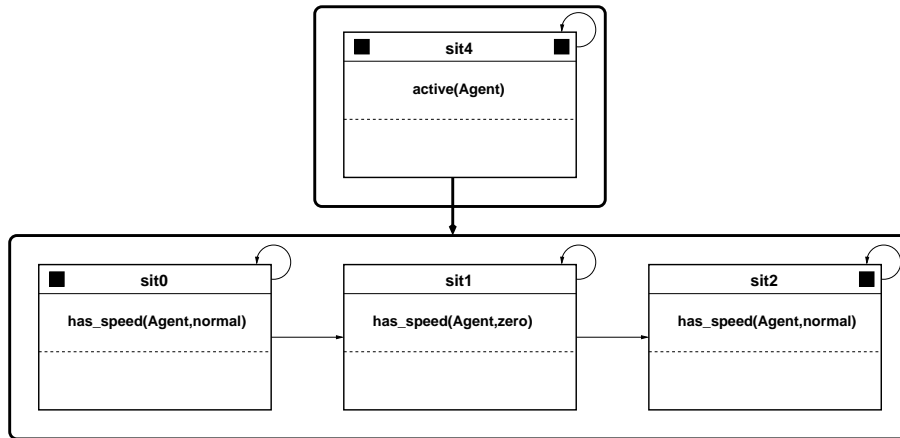
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SGT recalled (2)



- import of SGTs by transformation into logic programs
- situation analysis \equiv traversal of SGT
(which agent in which situation at what time)

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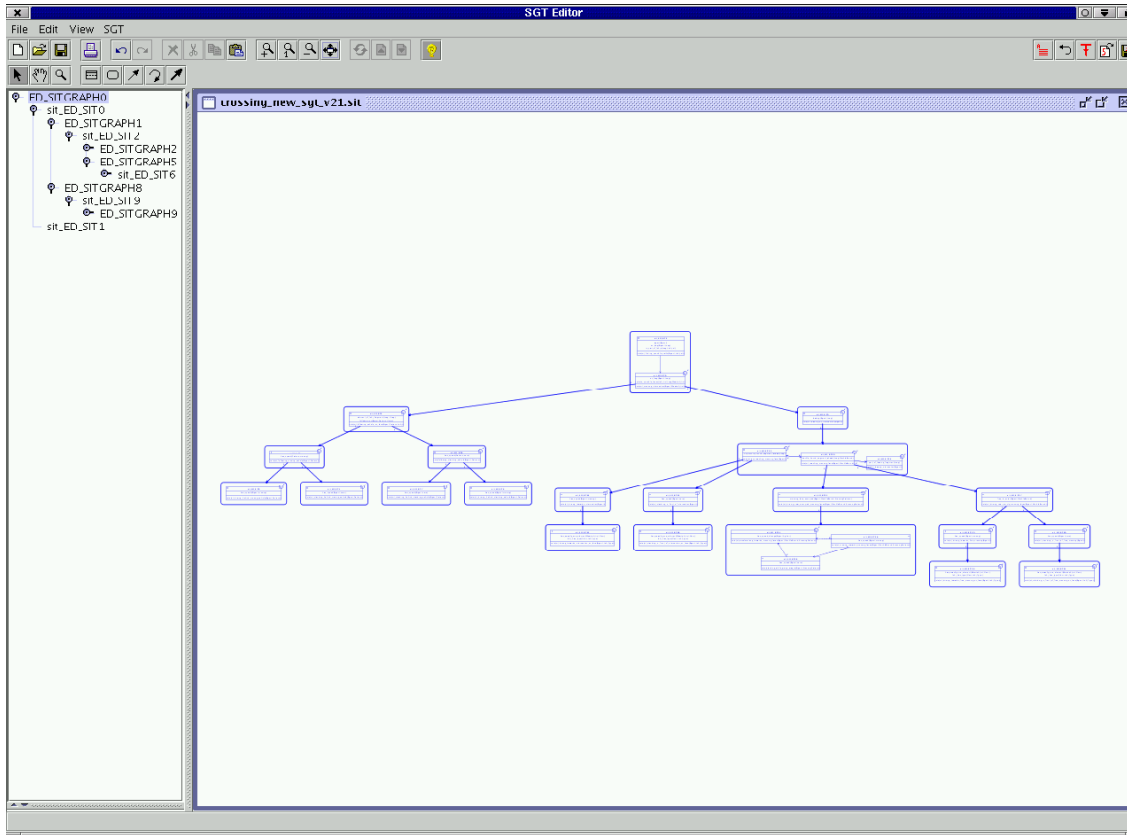
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The development of SGTs: SGTEDITOR



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see: <http://cogvisys.iaks.uni-karlsruhe.de/Vid-Text/>



New SGTs: *intersection* & *filling-station*

- SGTs for both discourses newly developed. Goals:
 - independency of *special* discourse features
(e.g.:number of filling places)
 - possibility to use SGTs for **d**escription & **p**rescription
(vision vs. generation)
- Experience:
 - faster development & modification of SGTs
 - better documentation

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Transfer to other discourses (initial)

- SitComs: description of **dialogues** on the basis of SGTs
 - see: cooperation report Oxford – Karlsruhe
 - see: forthcoming demonstration

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Separation of SGTs from Algorithms

- in the past: transformation of SGTs into logic program combining structure & algorithm
- new approach:
 - logic–formulation of SGT–structure
 - **separate** formulation of algorithms (once!)
- advantages:
 - easy formulation & modification of new algorithms
 - better performance (10% memory)

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New possibilities for SGT-traversal

- incremental situation analysis
 - enables incremental text-generation
- automatic initialization of analysis
 - enables automatic start of analysis on appearance of agents
- easy access to situation analysis from JAVA programs
 - enables further use of analysis-results in other system-parts

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SGTs – Results achieved in Year 2

- On the basis of previous results we:
 - *finished* work on SGTEDITOR
 - reformulated SGTs for *known* discourses
 - improved formulation of SGTs & SGT-traversal
 - made initial experience on transfer to different discourse (SitComs)

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