Seminar Design Rationale: Automated Argument Assistance

Max Berger <max.berger@xslt.de>

Juli 9th, 2001

Overview

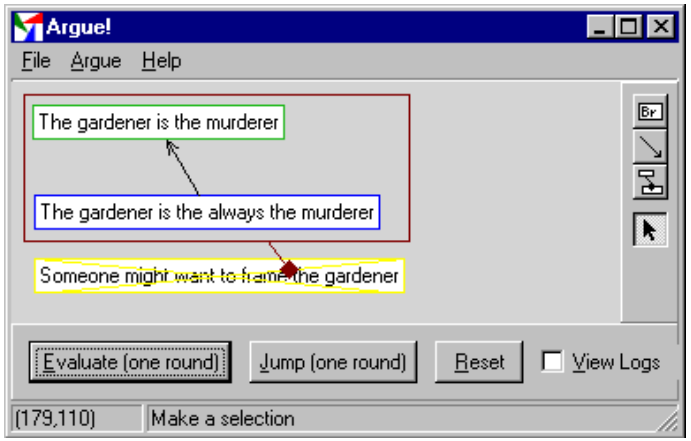
- Argument Assitance Tools
- Using ArguMed 2.0
- Usability of ArguMed for Software Design
- Restrictions when using ArguMed
- Bibliography

Argument Assitance Tools

- Argue!
- ArguMed
- ArguMed 2.0

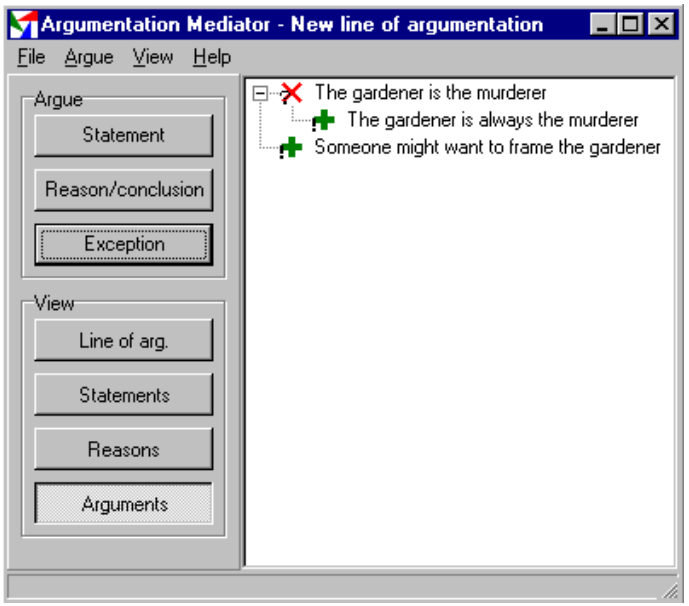
Argue!

- First version of Bart Verheijs Argument Assistance tool
- Argument Attack not graphically shown
- Unfamiliar Design
- Written June 1998



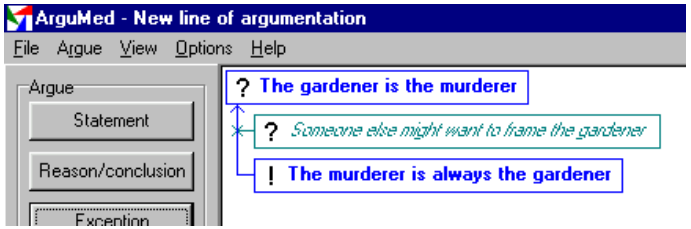
ArguMed

- New underlaying argumentation system
- Counterarguments are not direclty shown
- Written September, 1998



ArguMed 2.0

- Current Version
- Argumentation system slightly changed
- Integrated view
- September 1999



Using ArguMed 2.0

- Introduction
- Type of Statements
- Justification of Statements
- Attacks
- Sample Session

Introduction

- Based on Statements
- Statements can be linked
- Automatic justification

Type of Statements

Issues

- Marked with a ?
- Uncertain until justified

Assumptions

- Marked with an !
- Already justified

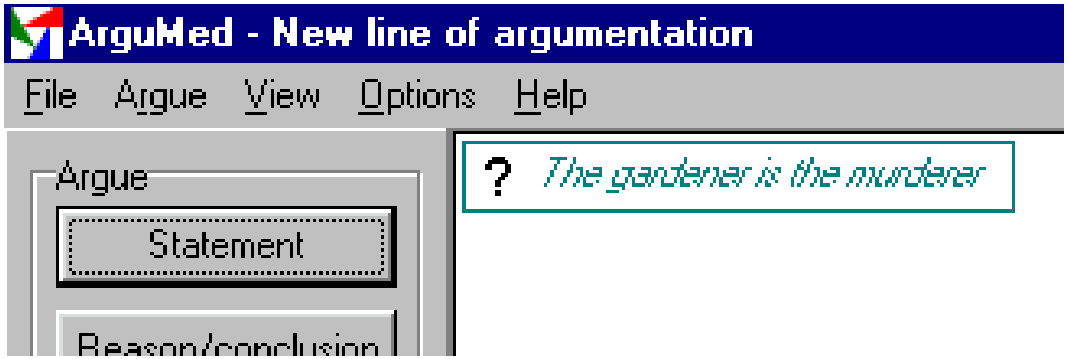
Justification of Statements

- Justified Statements are in bold font
- Unjustified Statements are in italic font
- Assumptions are always certain
- Issues are justified, when at least one statement leading to it is also justified

Attacks

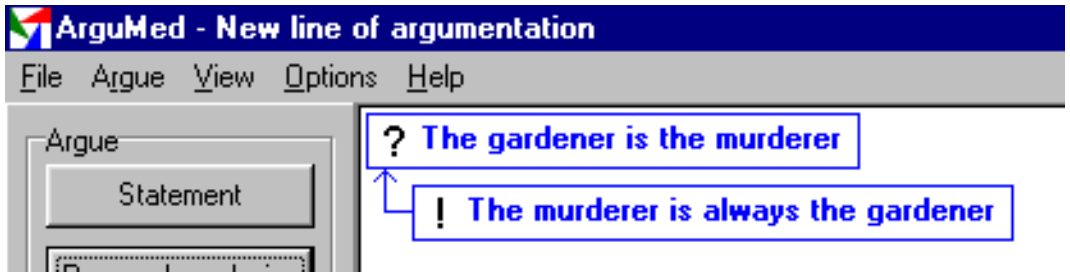
- Only Conclusions can be attacked
- An attack is successful when the attacking stament is justified
- A sucessful attack breaks this line of argumentation

Sample Session



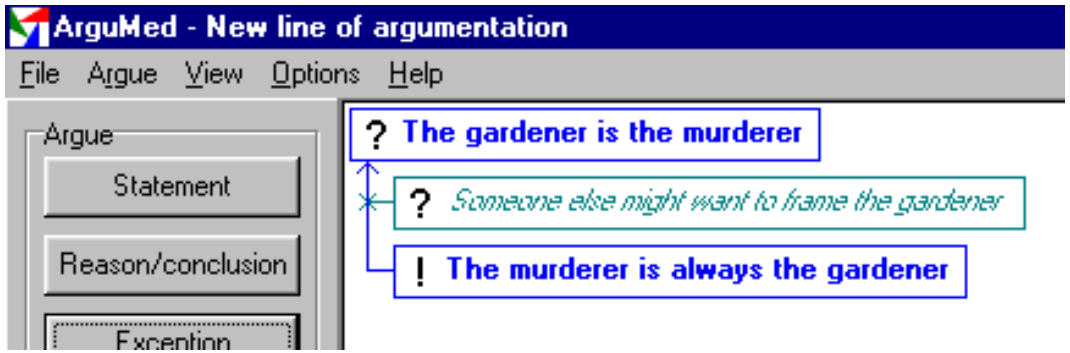
- We start with a single Issue Statement

Sample Session (cont.)



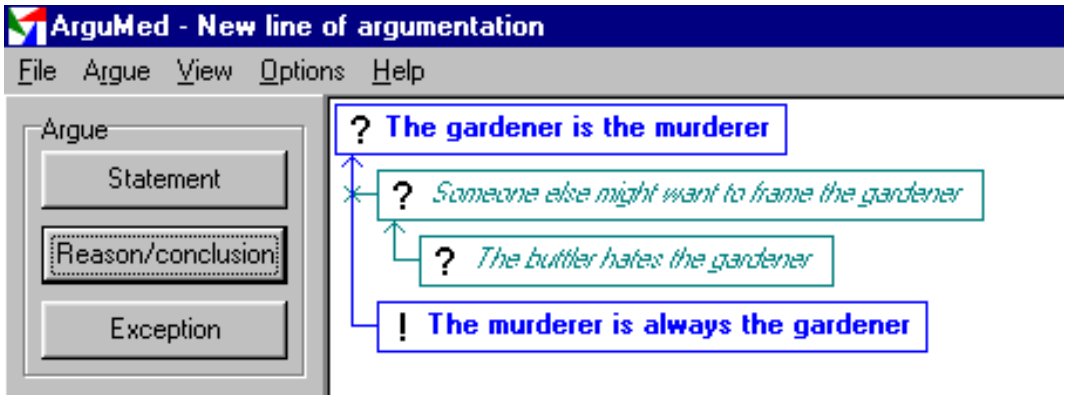
- Since this is just an Issue, it needs to be justified by an Assumption Statement.
- The original statement is now in bold, it is justified

Sample Session (cont.)



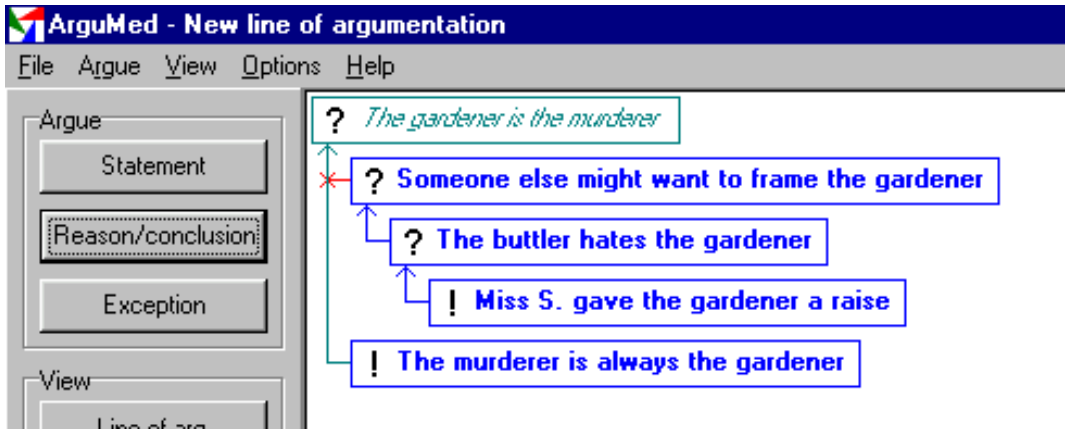
- Conclusions can be attacked by Exception Statements

Sample Session (cont.)



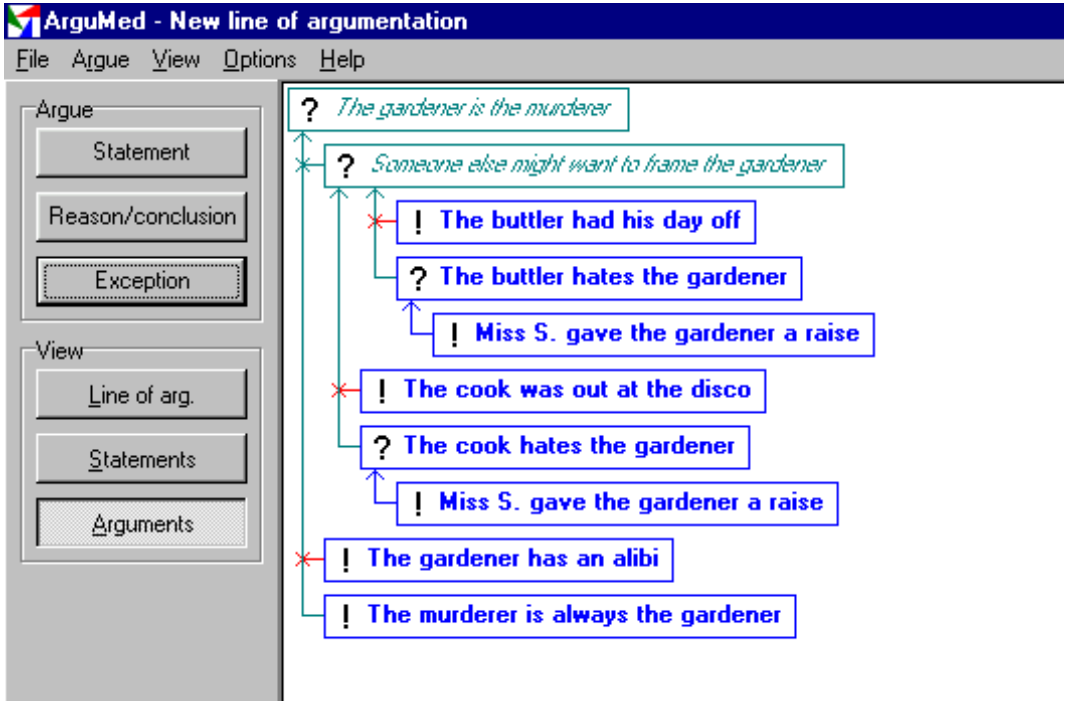
- The Attack is only successfull when the Exception itself is justified.
- Issues can only be justified by Assumptions

Sample Session (cont.)



- Now the attack is justified
- The original statement is now no longer justified

Sample Session (cont.)



Usability of ArguMed for Software Design

- Original purpose of ArguMed
- How ArguMed supports Design Decisions
- ArguMed vs. QOC
- Meeting Scheduler Example

Original purpose of ArguMed

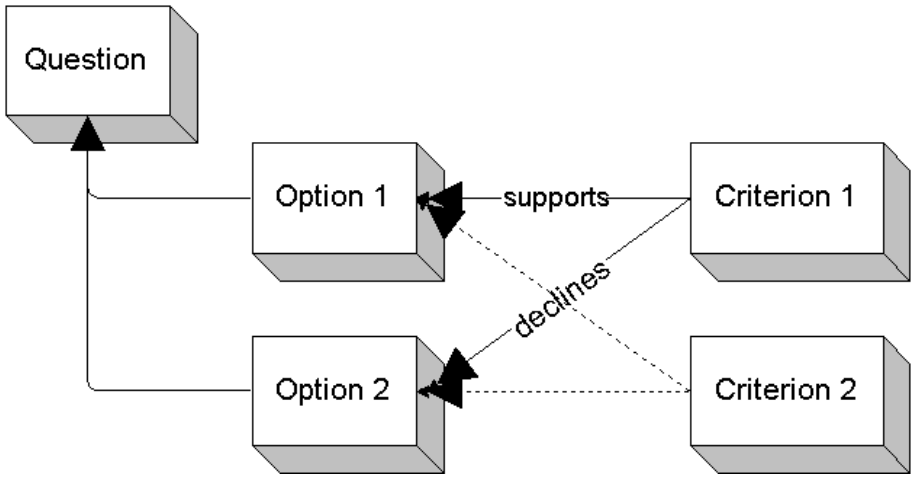
- Structure arguments
- Show dependencies between different arguments
- Show line of argumentation
- For use by lawyers

How ArguMed supports Design Decisions

- Lines of argumentation can be clearly shown
- ArguMed is very simple to use
- Automatic justification helps a lot

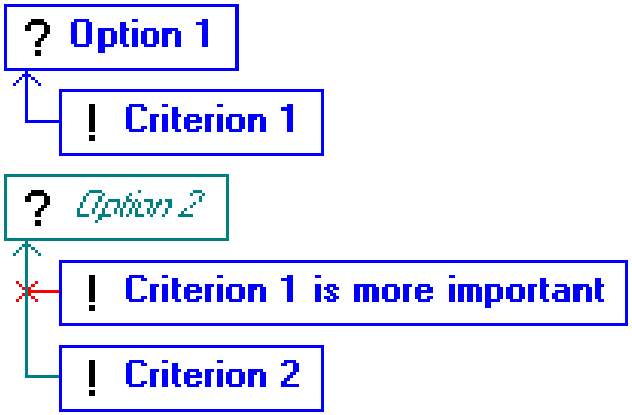
ArguMed vs. QOC

- The QOC Model:



ArguMed vs. QOC (cont.)

- The Question has no equivalent in ArguMed
- Options correspond to Issues
- Criterions correspond to Assumptions



QOC model with ArguMed

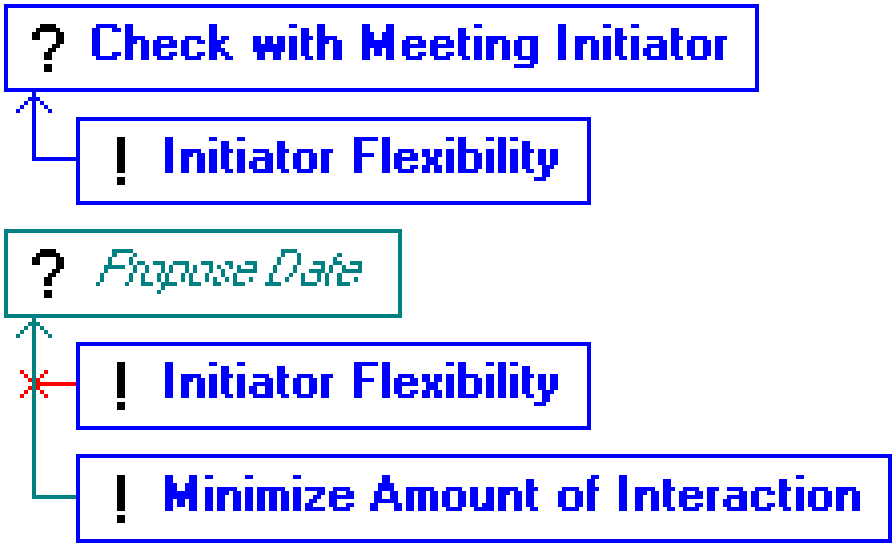
Meeting Scheduler Example

Justification: Use Case Input participant information

Options	Criteria	
	Minimize Amount of Interaction	
		Initiator Flexibility
The system doesn't automatically propose a date but first checks with the Meeting Initiator. *(thiede, 6/29/01 7:30 AM)*	-	+
The system proposes a date as soon as possible (i.e. as soon as data is available from every participant) *(thiede, 6/29/01 7:31 AM)*	+	-

Meeting Scheduler Example (cont.)

Same with ArguMed:



Restrictions when using ArguMed

- Missing Features in ArguMed
- ArguMeds interface

Missing Features in ArguMed

- Only Conclusions can be attacked, not statements itself
- Its not possible to pick one of several options and still show rationale for the other
- There could be a weighting system (points) for arguments
- ArguMed is build for cases where there is one real solution

ArguMeds interface

- Goal was a modern interface
- Statements can not be edited afterwards
- Attacks / Conclusions have to be chosen from a dropdown list, cannot be clicked

Links / Bibliography

- `http://www.metajur.unimaas.nl/~bart/aaa/`
- Automated Argument Assisteance for Lawyers, Bart Verheij, presented at ICAIL 99
  `http://www.metajur.unimaas.nl/~bart/papers/pdf/icail99.pdf`