

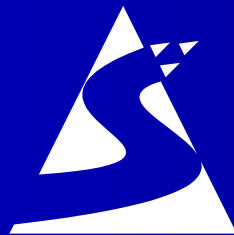
Thinking...

...*inside* the box



SoarDoc

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Soar Technology

Overview

- Generate API and behavior-level documentation for a Soar system
- Documentation in-line with source code
- Documentation audiences
 - Current developer
 - Future maintainers
 - Testers
 - Behavior Validation & Verification
 - Subject Matter Experts

Development Philosophy

- Heavily influenced by Doxygen and Javadoc tools
- Extensive configuration options
- Applicable to existing systems
 - Produce simple documentation for uncommented code
 - Extract existing comments
- Developers can use the features they like, ignore/disable the ones they don't

Comment Block Syntax

- SoarDoc requires blocks of specially formatted comments in source
- Start with **##!** line
- End with first non-comment line

```
##!  
# @file filename.soar  
#  
# Detailed description of file  
# ...  
#  
...
```

Command Syntax

- SoarDoc commands begin with @ symbol
- Followed by zero or more arguments
- Many commands allow embedded HTML markup for formatting output
 - Emphasis, lists, tables, hyperlinks, etc

```
##!
```

```
# @brief A <i>brief</i> description  
# of the object with <b>embedded</b>  
# HTML markup.
```

Example Input

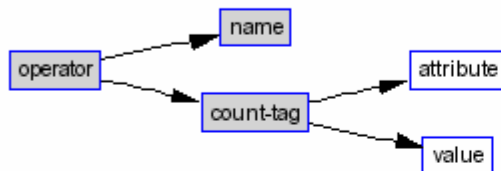
```
##!  
# @operator count-attributes  
#  
# @brief Count the attributes in the learning instance  
# @problem-space predict  
#  
# Instances of this operator count each feature on the  
# object.  
#  
# Note: You can hard-code the number of features in most  
# cases. This solution gives users the flexibility to  
# readily change the number of features.  
#  
# <p>  
# Soar8: A new operator is necessary because indifferent  
# preferences are not available in Soar8 for non-operator  
# WMEs.  
#  
# @ingroup soar8
```




Example Output

Operator: count-attributes

Count the attributes in the learning instance

Documented at line [6](#) of file [count-attributes.soar](#)



- Legend -  - Left side  - Both sides  - Right side

Member of group: [soar8](#).

Detailed Description

Instances of this operator count each feature on the object. Note: You can hard-code the number of features in most cases. This solution gives users the flexibility to readily change the number of features.

Soar8: A new operator is necessary because indifferent preferences are not available in Soar8 for non-operator WMEs.

Documentable Objects

- Files
- Soar productions
- Soar problem-spaces
- Soar operators
- User-defined groups
 - Arbitrary collections of files, productions, etc.
- Main Page
 - General project information

Common SoarDoc Commands

- @brief – Brief description
- @desc – Detailed description
- @created – Author and creation date
- @modified – Modification history
- @devnote – Programmer notes
- @todo – “To do” list item

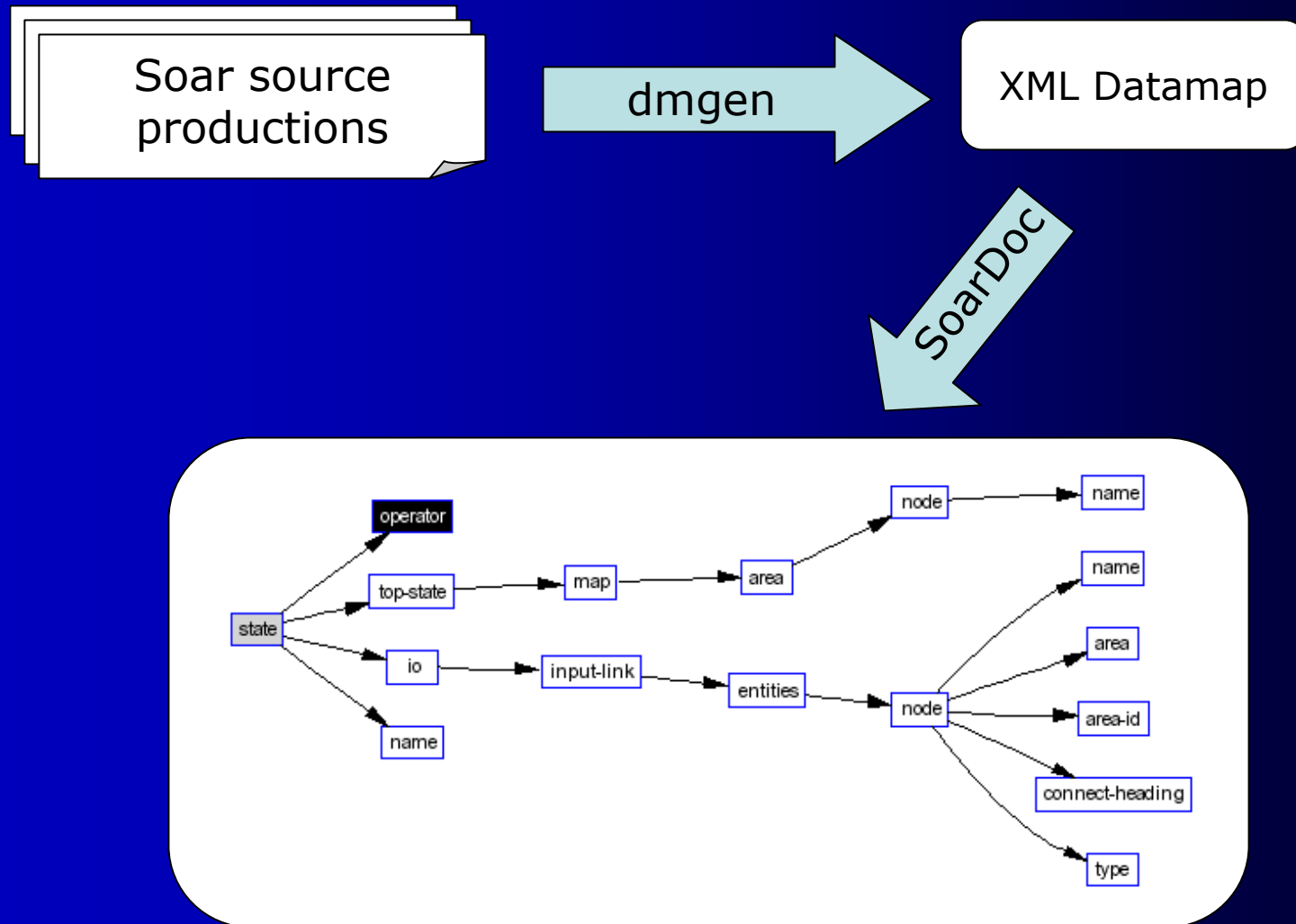
SoarDoc Output

- Generates set of HTML documentation
- Most objects get their own page
 - Productions are included in their file's page
- Alphabetical indices of objects
- Hyperlinks between related objects
- Alternatively XML output is available
 - Integrate SoarDoc data into other applications

Datamap Generation

- dmgen
 - Separate tool
 - Build datamap by static code analysis
 - Generates XML representation of datamap from source productions
- SoarDoc generates datamap graphs from dmgen output using AT&T DOT tool
- Graphs included in problem-space and operator documentation

Datamap Generation



Auto-Generation of Comments

- Autodoc mode
- Run SoarDoc on existing code
- Generates comment blocks for all objects without SoarDoc-style comments
- Will use existing non-SoarDoc comments if desired.

Nuggets

- A flexible tool
- Useful even for existing systems
- Simplifies maintenance of API and behavior-level documentation
- Available for Linux and Windows

Coal

- Initial setup can be tedious
 - Configuring paths
 - Configuring dmgen
 - requires Tcl + Soar
 - Installing DOT tool

Future Directions

- Setup wizard
- Cascading Style Sheet to give greater control over appearance
- Support for Visual Soar datamap files
- Output auto-generated comments as a patch file

How to get SoarDoc

Available from

<http://www.soartech.com/downloads>

Follow the SoarDoc link.