

# Contribution:C

Not C/C++

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<http://101companies.org/wiki/Contribution:c>

# Contents

## 1. Overview

# Contents

1. Overview
2. “Object” Model

# Contents

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2. “Object” Model
3. Graph Traversal

# Contents

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2. “Object” Model
3. Graph Traversal
4. Parsing and Unparsing

# 1. Overview

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- ▶ Implementation Language: C



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- ▶ Building and Testing: CMake

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  - ▶ Cut, Depth, Median, Total

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- ▶ Implementation Language: C
- ▶ Building and Testing: CMake
- ▶ Features:
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  - ▶ Cut, Depth, Median, Total
  - ▶ Parsing, Unparsing

## 2. “Object” Model

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- ▶ No OO Support

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- ▶ Instead: Structured Programming



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  - ▶ State: Plain Old Data

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- ▶ Instead: Structured Programming
  - ▶ State: Plain Old Data
  - ▶ Operations: Functions with Pointers

# 3. Graph Traversal

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- ▶ Most Features Traverse Object Graph

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- ▶ Solution: Visitor Pattern

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  - ▶ Function and Void Pointers

### 3. Graph Traversal

- ▶ Most Features Traverse Object Graph
- ▶ Solution: Visitor Pattern
  - ▶ Common, Idiomatic C
  - ▶ Function and Void Pointers
  - ▶ Used for Cut, Depth, Median, Total, Parsing, Unparsing



## 4. Parsing and Unparsing

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- ▶ Huge Library Support

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- ▶ Huge Library Support
- ▶ Still Complicated in C:
  - ▶ Lack of Containers
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  - ▶ String Handling is Bonkers
- ▶ Solution: Just Use Another Language

## 4. Parsing and Unparsing



## 4. Parsing and Unparsing

- ▶ Lua

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- ▶ Lua
  - ▶ Embedded Scripting Language in C89

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  - ▶ Stack-Based C Interface

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  - ▶ “Table” Container (Hash/Array Combination)

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- ▶ Lua
  - ▶ Embedded Scripting Language in C89
  - ▶ Stack-Based C Interface
  - ▶ “Table” Container (Hash/Array Combination)
  - ▶ Conversion to JSON, XML, YAML etc.

## 4. Parsing and Unparsing

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- ▶ Parsing:

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- ▶ Parsing:
  - ▶ Traverse Lua Table



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- ▶ Parsing:
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  - ▶ Calls to C to Build Object Graph

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- ▶ Unparsing:

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- ▶ Unparsing:
  - ▶ Traverse Object Graph
  - ▶ Calls to Lua to Build Table

# Thank You All For Listening

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