



Syntax highlighting for SD modeling

Speed up your grasp of convoluted equations

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0:00-0:30

Problem Statement



- long & convoluted equations are difficult to grasp
 - especially concerning models built by other modelers
 - subscripts/arrays with many dimensions
 - working with whole models in text format implies additional syntax (units, comments, ...)
- Simple example (World3, .mdl)

```
resource technology change rate =  
    IF THEN ELSE ( Time >= POLICY YEAR ,  
        Resource Conservation Technology  
        * resource technology change rate multiplier , 0)  
~    1/year  
~    RESOURCE TECHNOLOGY IMPROVEMENT RATE (NRATE-##).  
|
```

0:30-2:00

Approach or Dynamic Hypothesis



- Syntax highlighting (color coding) helps
 - *color*, *fonts*, *italic*, **bold** underline, highlight
- Prototype in Notepad++ for Vensim.mdl:
https://github.com/julianM5/vensim_syntax_highlighting
- Simple example (World3, .mdl):



```
resource technology change rate =  
    IF THEN ELSE ( Time >= POLICY YEAR ,  
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        * resource technology change rate multiplier , 0)  
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```

2:00-3:30

Progress, Insights, and Questions



- Help make it better:
 - parenthesis-coloring? `((syntax)+(syntax(syntax)))/(more syntax))`
 - find and fix bugs
 - Other file types for Vensim (.cmd, .cin, .vgd)
 - Other modeling softwares
 - other text editors & other operating systems
 - Syntax highlighting **functionality within SD softwares**

3:30-5:00