Abstract

More substantial models are created step by step. We will discuss the order of creation and modularity considerations. The modules have to be integrated into the desired substantial model.
Example of (Partial) Flow Simulator

Modeling and Analysis: Modularity and Integration

Gerrit Muller

version: 0
March 6, 2013
MAINflowSimulator
Example of Incremental Model Creation

Modeling and Analysis: Modularity and Integration

version: 0
March 6, 2013
MAINincrements
### Approach for Incremental Model Creation

<table>
<thead>
<tr>
<th>Start with the hottest issue</th>
<th>what creates the most discussion or uncertainty?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure immediate feedback</td>
<td>does this model help to answer the questions that we have?</td>
</tr>
<tr>
<td>Keep flexible decoupling point</td>
<td>e.g. human readable/editable files</td>
</tr>
<tr>
<td>Extend model only for a good purpose</td>
<td>don't integrate models because it can be done</td>
</tr>
<tr>
<td>Create effective visual outputs</td>
<td>simple animations, graphs, tables, ...</td>
</tr>
<tr>
<td>Refactor regularly</td>
<td>based on increasing insight, feedback and purpose</td>
</tr>
</tbody>
</table>
Attention Points for Every Integration Step

Does the output of the integrated model match your expectation?
Can you explain the model behavior?
Can you explain the variation of the output?