Traceability Exercise
Traceability Model

- **Traceability artefact**
  - **Goal**
  - **Scenario**
  - **Solution-oriented requirement**

- **Traceability relationship**
  - **Condition**
    - **Content**
    - **Abstraction**
    - **Evolution**
    - **Miscellaneous**
  - **Constraint**
    - **Precondition**

- **part of** 0..1 1..* 0..*
- **source** 1..* 0..*
Documenting Traceability Relationships

- Traceability Graphs
Some Mistakes

Based on

Precondition for

Use cases

connection

Satisfied goals

? 

precondition
Summary

1. Arrows to show destination artefact
2. Associations show Traceability relationships
3. You can use shapes to show Traceability artefact
4. Each relationship should be labelled with its related traceability relationship name or provide legend
5. You can use legends to properly label Traceability artefacts and relationships
Prioritisation Exercise
AHP example - estimating costs

<table>
<thead>
<tr>
<th></th>
<th>Req1</th>
<th>Req2</th>
<th>Req3</th>
<th>Req4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req1</td>
<td>1</td>
<td>1/3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Req2</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Req3</td>
<td>1/2</td>
<td>1/5</td>
<td>1</td>
<td>1/3</td>
</tr>
<tr>
<td>Req4</td>
<td>1/4</td>
<td>1/3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Normalise columns

<table>
<thead>
<tr>
<th></th>
<th>Req1</th>
<th>Req2</th>
<th>Req3</th>
<th>Req4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req1</td>
<td>0.21</td>
<td>0.18</td>
<td>0.18</td>
<td>0.48</td>
</tr>
<tr>
<td>Req2</td>
<td>0.63</td>
<td>0.54</td>
<td>0.45</td>
<td>0.36</td>
</tr>
<tr>
<td>Req3</td>
<td>0.11</td>
<td>0.11</td>
<td>0.09</td>
<td>0.04</td>
</tr>
<tr>
<td>Req4</td>
<td>0.05</td>
<td>0.18</td>
<td>0.27</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Sum the rows

<table>
<thead>
<tr>
<th></th>
<th>sum</th>
<th>sum/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req1</td>
<td>1.05</td>
<td>0.26</td>
</tr>
<tr>
<td>Req2</td>
<td>1.98</td>
<td>0.50</td>
</tr>
<tr>
<td>Req3</td>
<td>0.34</td>
<td>0.09</td>
</tr>
<tr>
<td>Req4</td>
<td>0.62</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Result:

Req1 - 26% of the cost
Req2 - 50% of the cost
Req3 - 9% of the cost
Req4 - 16% of the cost
A Cost-Value Approach

- **Calculate return on investment**
  - Assess each requirement’s importance to the project as a whole
  - Assess the relative cost of each requirement
  - Compute the cost-value trade-off:
Some mistakes

a.
b.
c.
Summary

1. Use graphs to distinctively show priority through
   a. Labels
   b. Best fit lines
2. Consistency between graph axis and prioritization values
3. Label requirements in plot
4. Highlight the outcome of your Cost-Value plot
5. If plot is of one prioritization value, you have not successfully prioritised
AHP Further Reading
