

PROMPT Software Testing

Test Design at Integration and System Level



MÄLARDALEN UNIVERSITY
SWEDEN

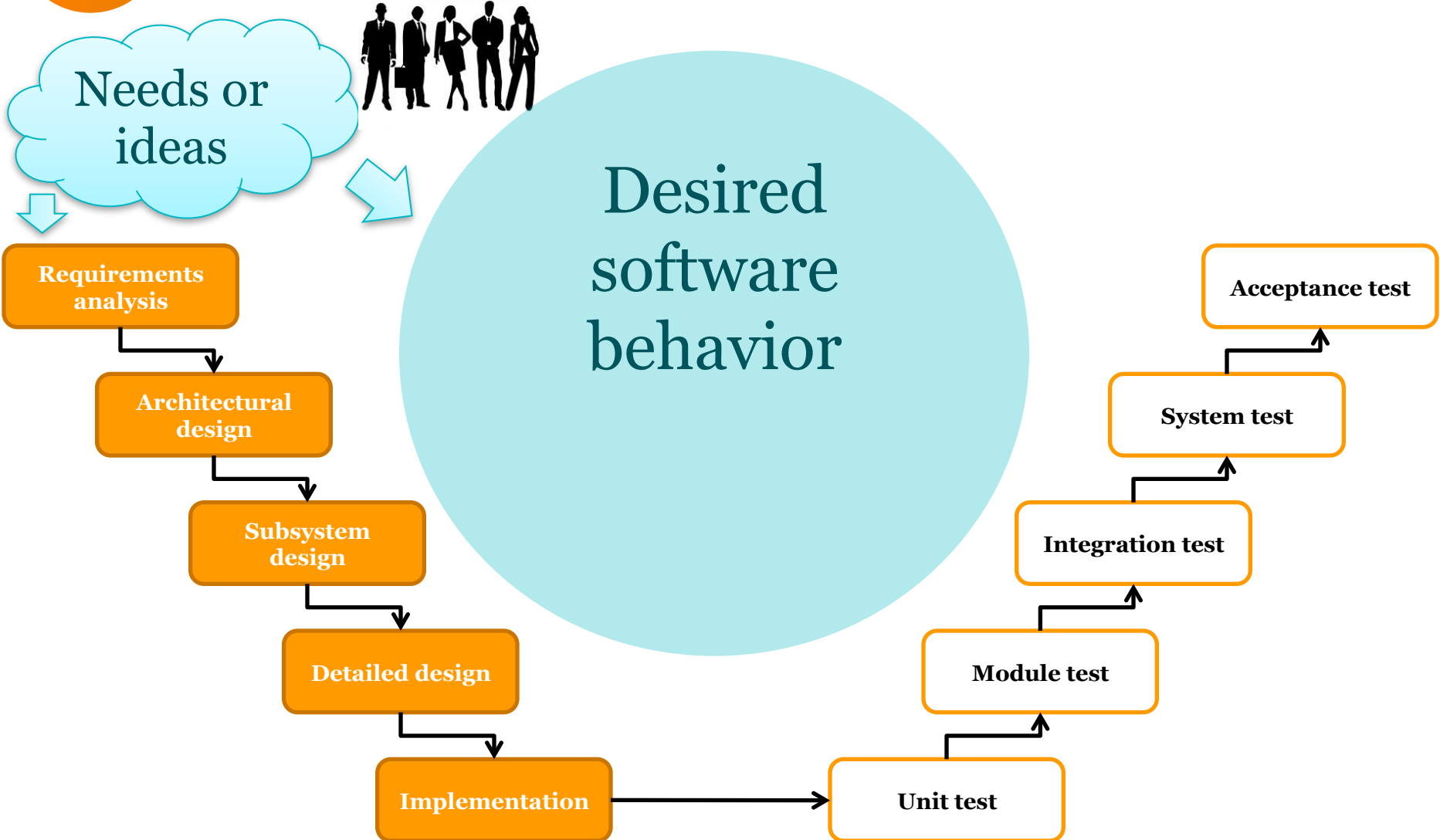
SWEDISH
ICT

SICS

>PROMPT



Software Behavior





Software Behavior



Requirements analysis



Architectural design



Subsystem design



Detailed design



Implementation

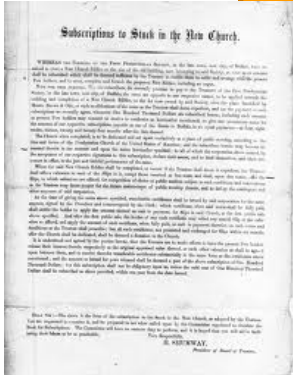
Acceptance test

System test

Integration test

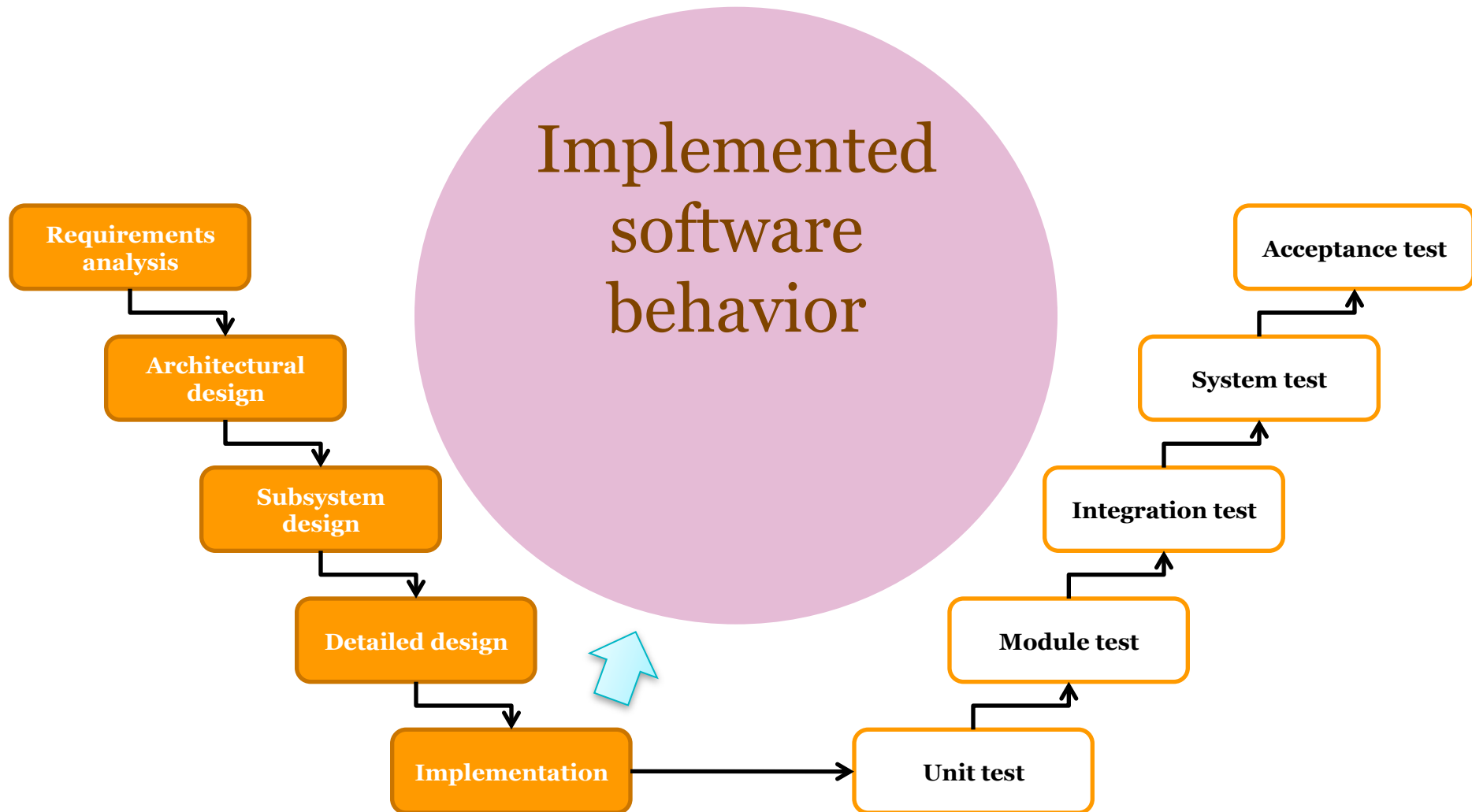
Module test

Unit test



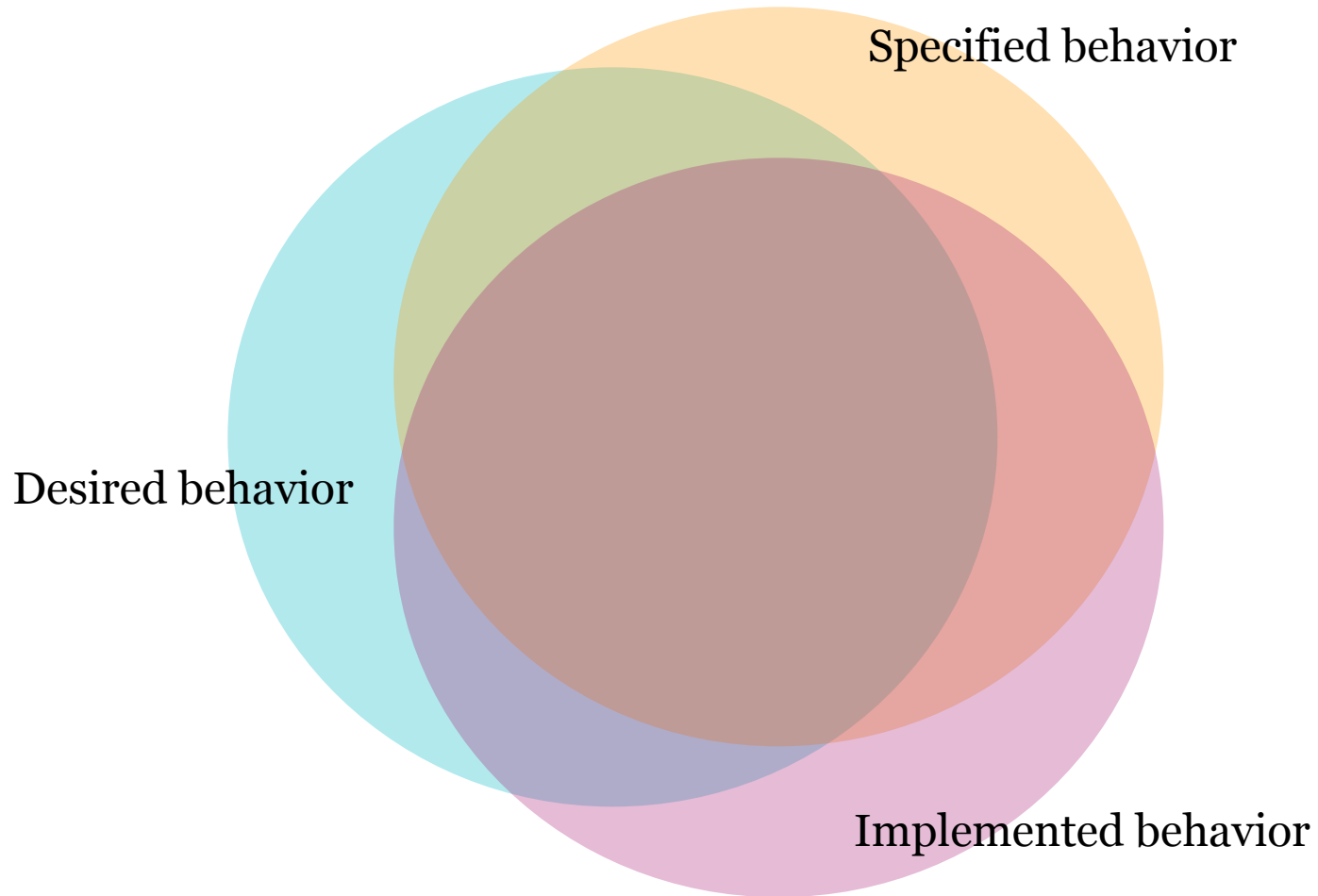


Software Behavior





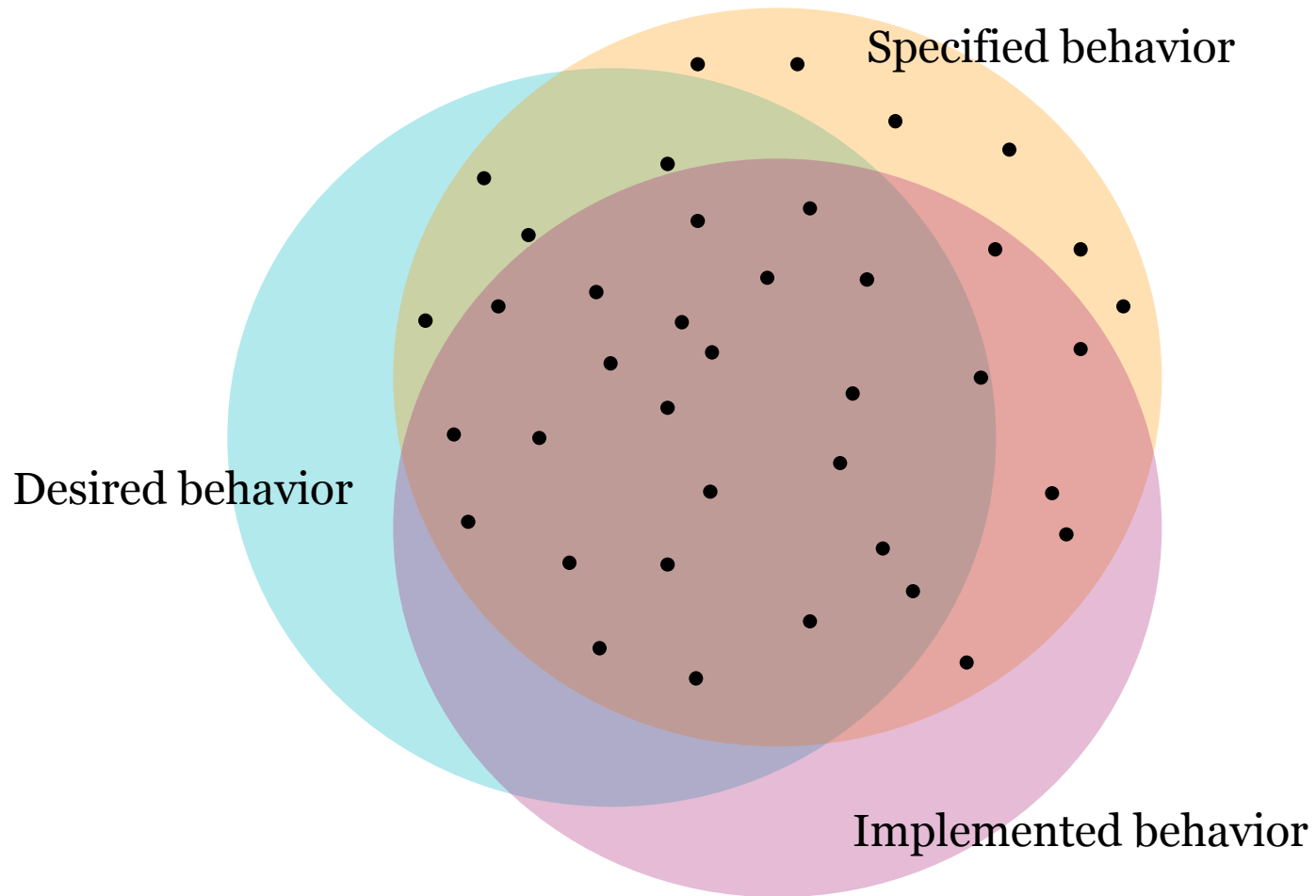
Test Design Techniques





Test Design Techniques

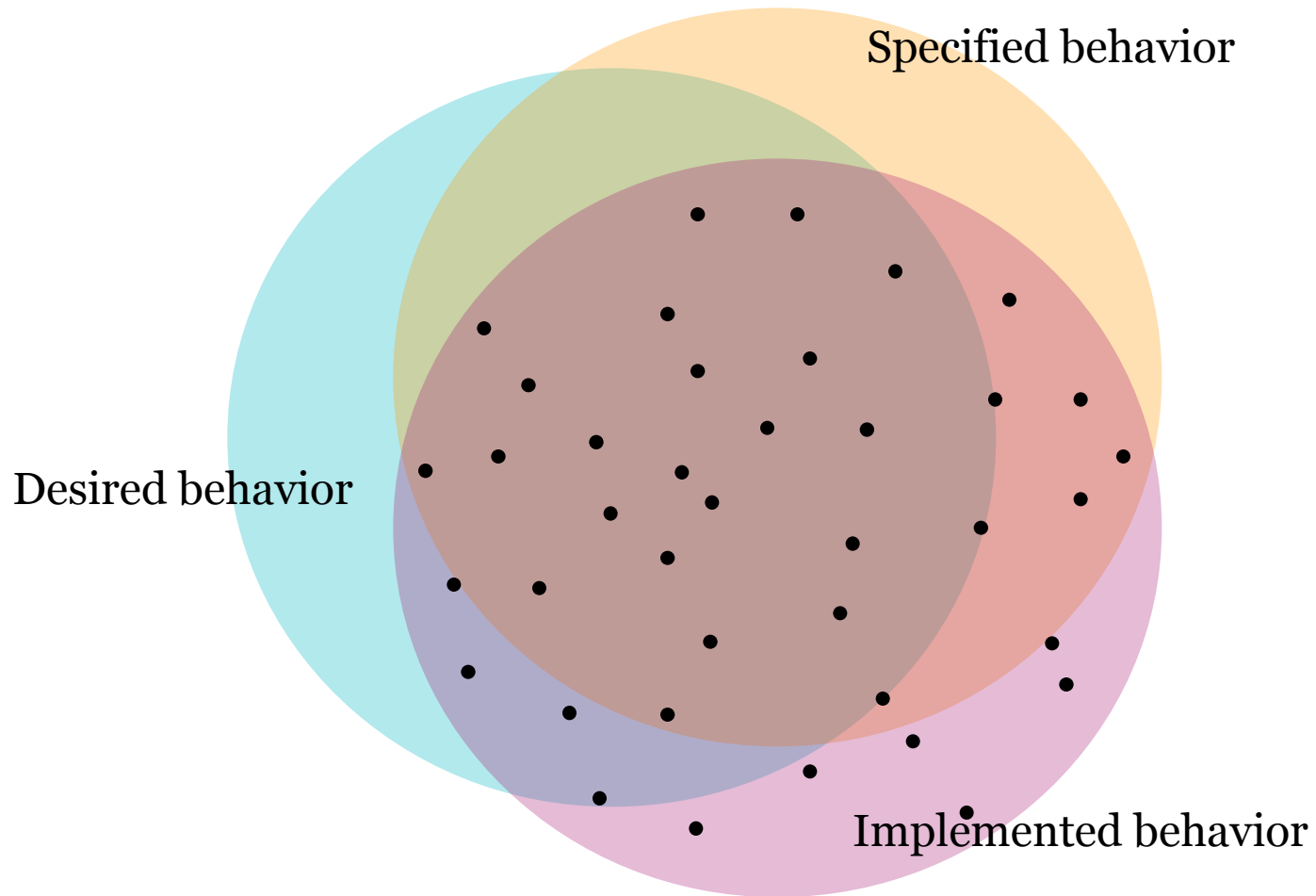
Specification-based testing





Test Design Techniques

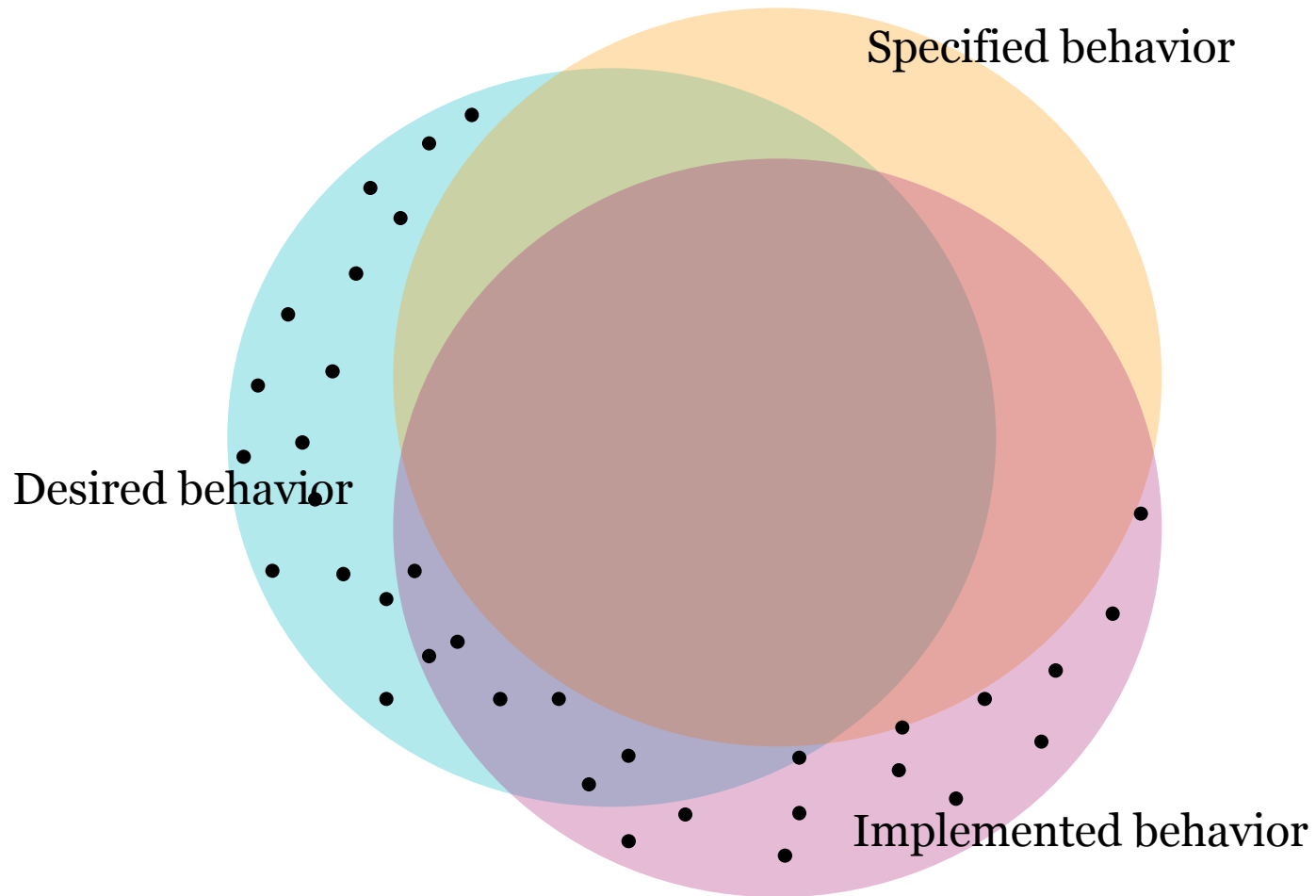
Implementation-based testing





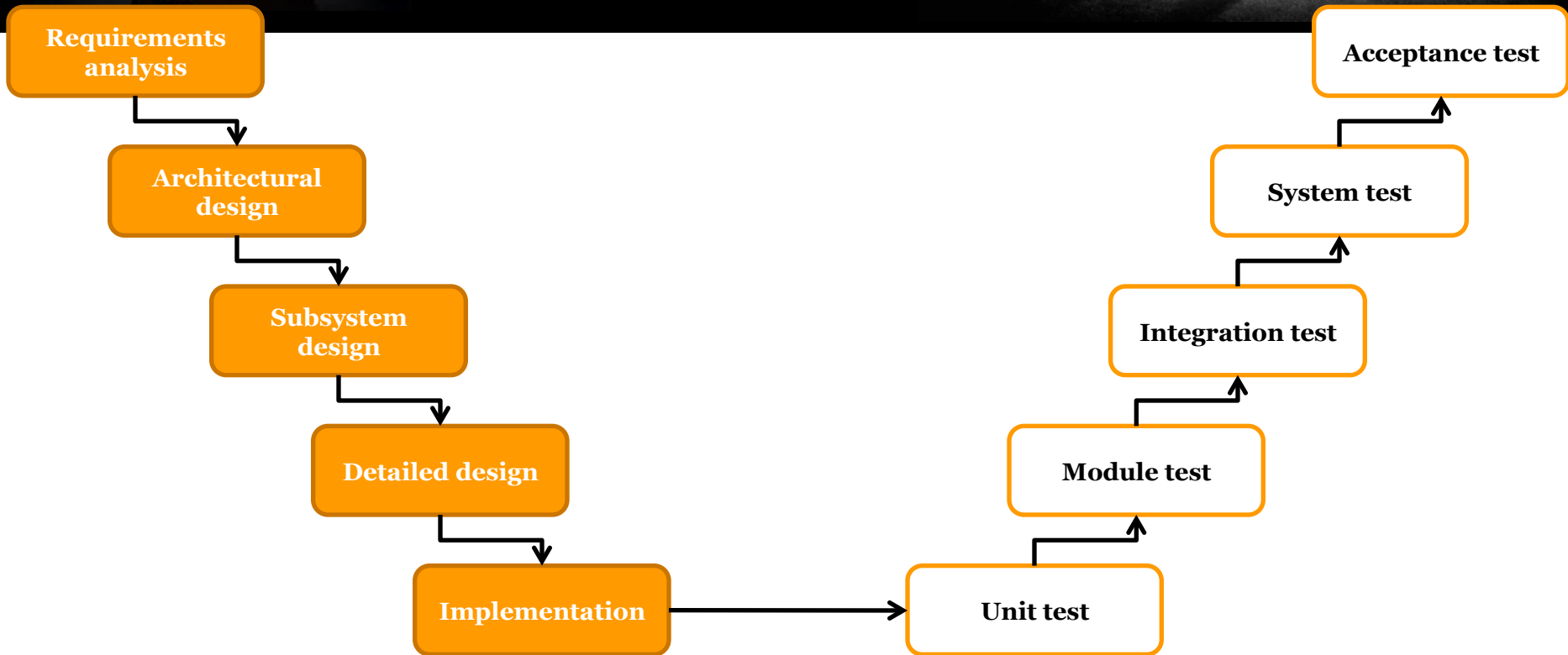
Test Design Techniques

Negative testing





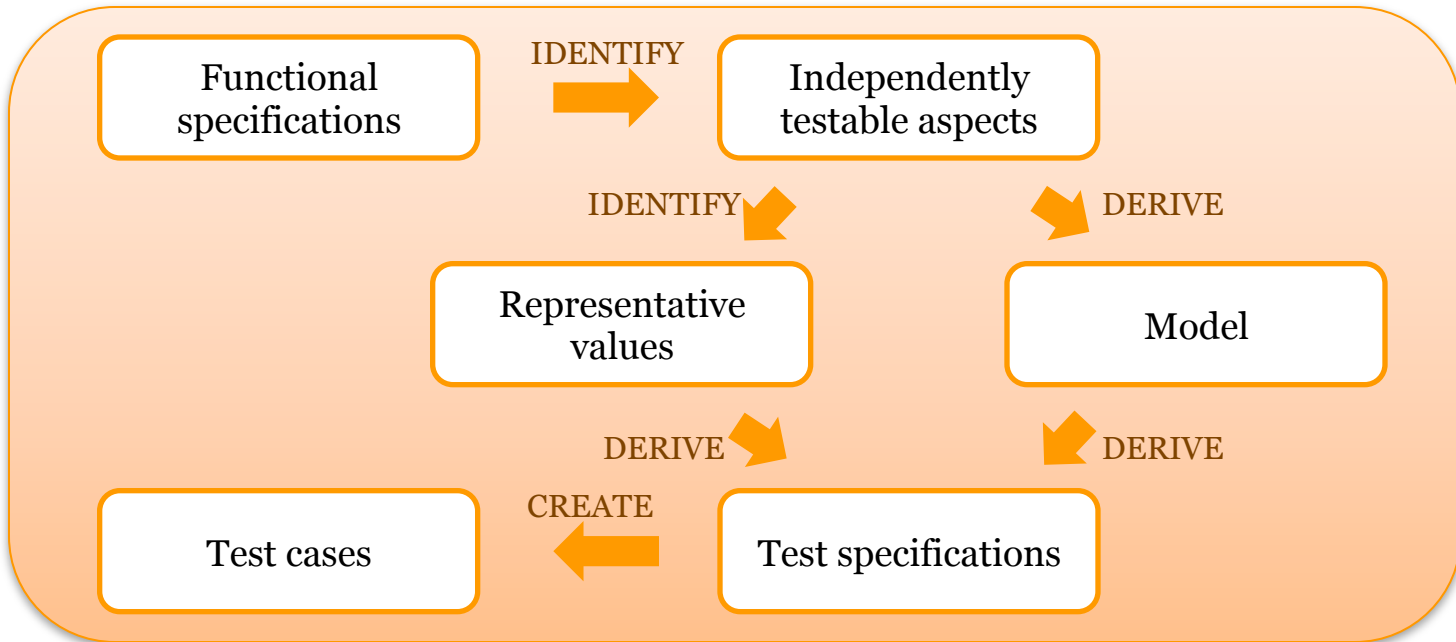
Test Design and Levels of Integration





Specification-Based Testing

Adapted from “*Software Testing and Analysis*”, (Pezzè and Young), and Saarland University course on Software Testing (Fraser and Zeller)





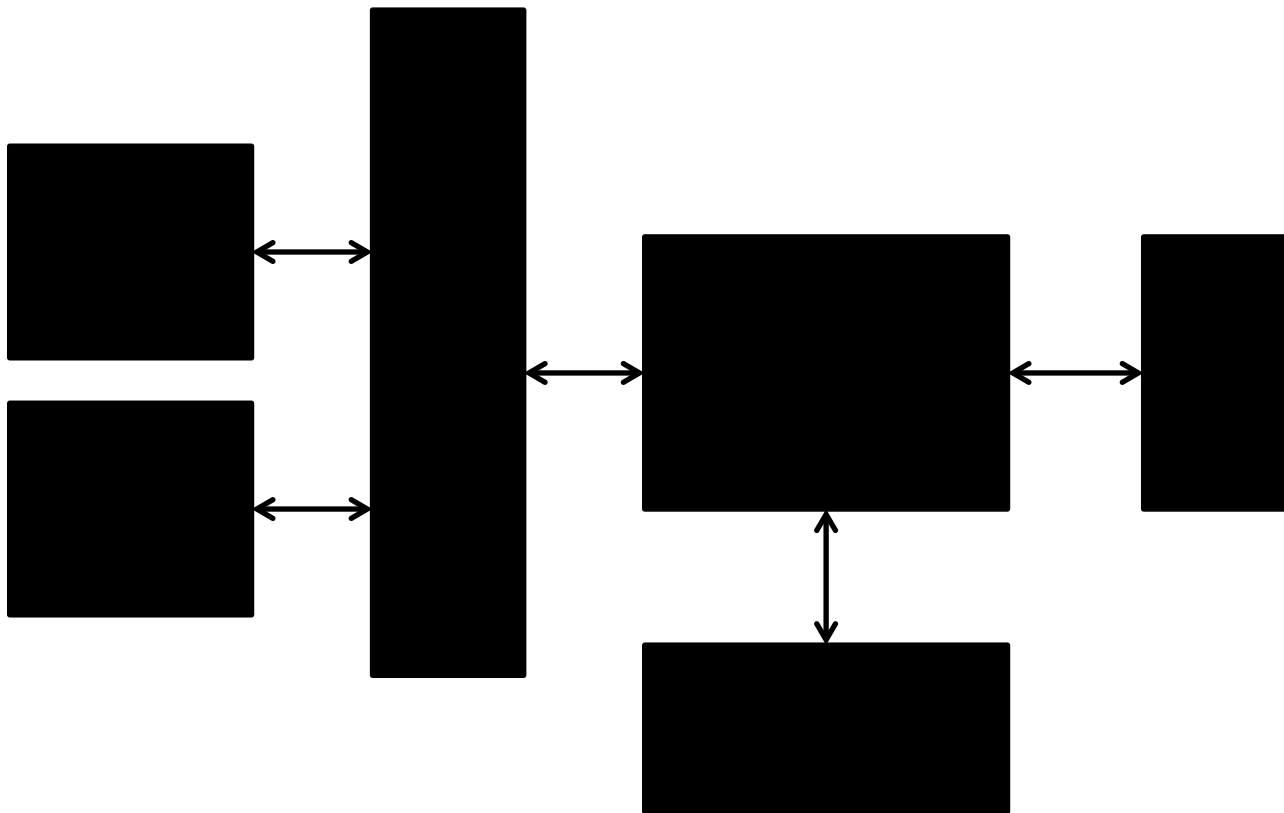
Implementation-Based Testing

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2 <html>
3   <head>
4     <title>DEMat > Departamento de Engenharia de materiais</tit.
5     <link href="tela.css" rel="stylesheet">
6   </head>
7   <body>
8     <h1>
9       <a href="/">Departamento de Engenharia de materiais</a>
10    </h1>
11    <ul id="topo_direita">
12      <li>
13        <a href="login/"
14          >Login .IST</a> </a>
15      </li>
16      <li>
17        <a href="editorial/"
18          >Editorial</a> </abbr>
19      </li>
20      <li>
21        <a href="contactos/"
22          >Contactos</a> </acronym>
23      </li>
24    </ul>
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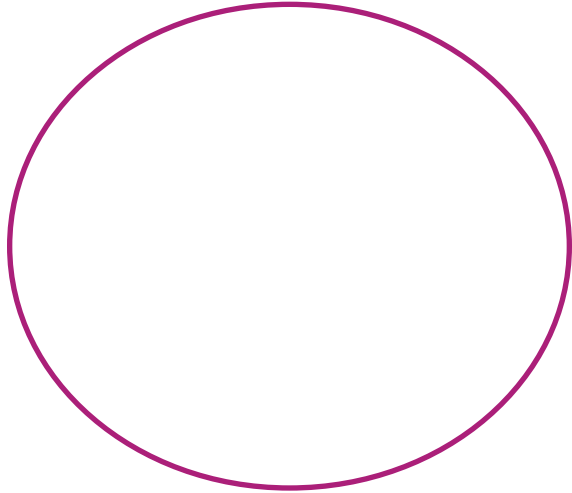
Implementation-Based Testing



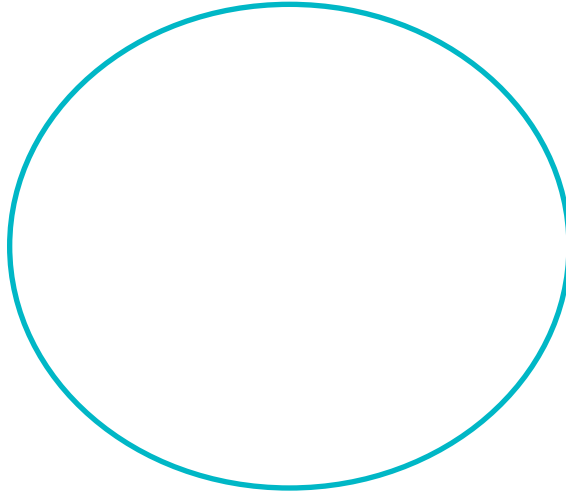


Negative Testing

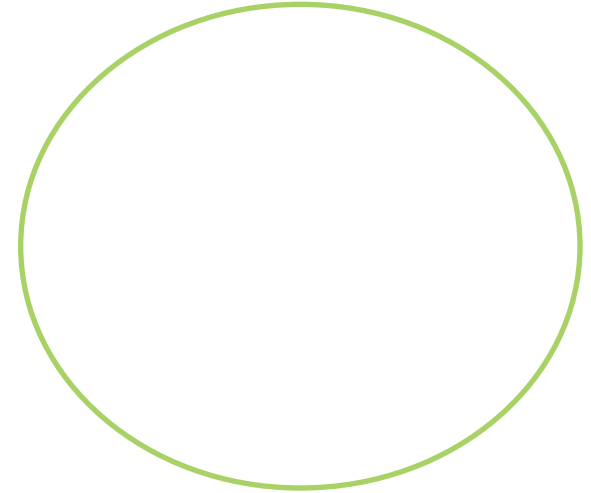
Cases outside of or inconsistent with the specification



Cases with "invalid" input



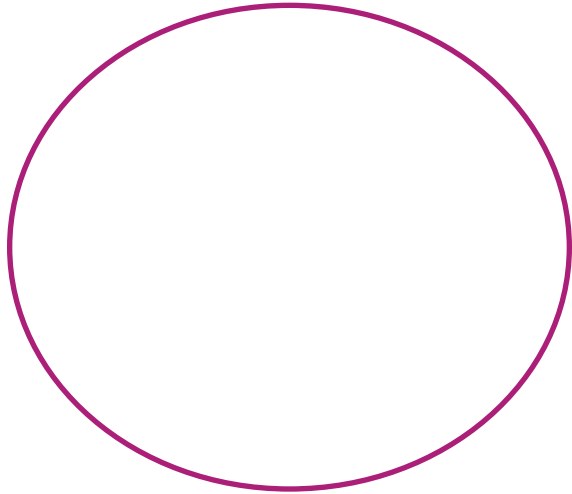
Cases considered likely to reveal faults



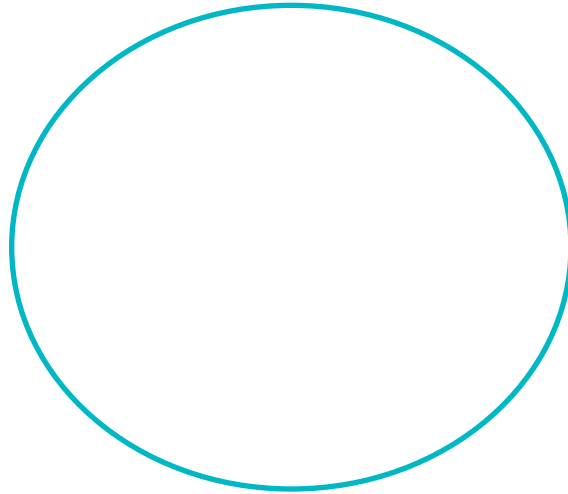


Negative Testing

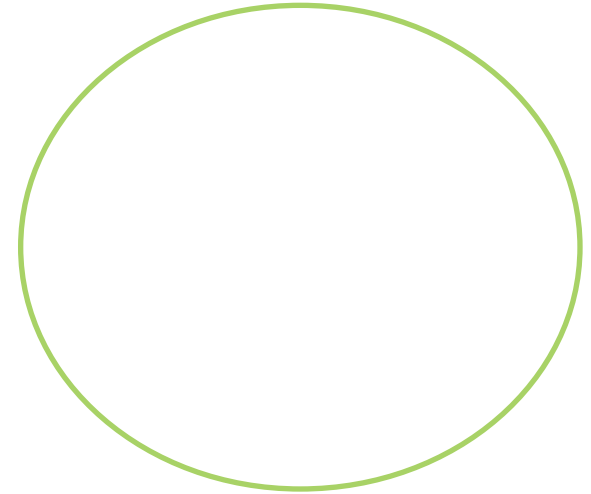
Cases outside of or inconsistent with the specification



Cases with "invalid" input



Cases considered likely to reveal faults



Robustness Testing



Assignment

Test Design at Integration and System Level

- Applying
 - Specification-based testing
 - Implementation-based testing
 - Negative testing
- ...at integration- or system-level
- ...in your own industrial context

For more information, see assignment instructions