

System and Software Testing Research

Improving Efficiency and Effectiveness of Testing in Industry

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Challenge

Faster time-to-market at lower cost without compromising on system quality.

Testing is a very costly and labor-intensive activity driven by ever-increasing complexity of product lines.

Commercial solutions focus only on test execution and reporting aspects.

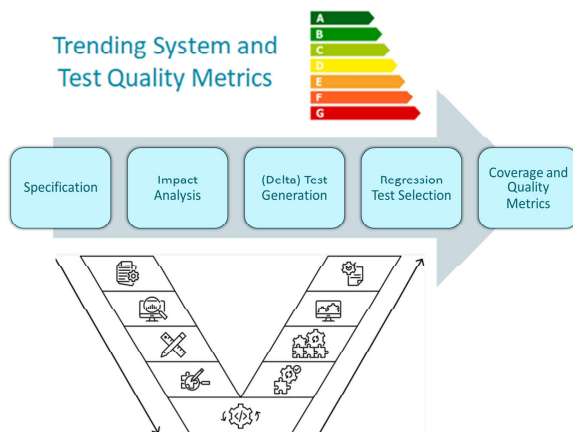
Test creation, selection and maintenance activities are largely manual, error-prone, gut-driven and require deep domain knowledge.

Lack of quantifiable insights into system and test quality means we cannot answer “when to stop testing?”

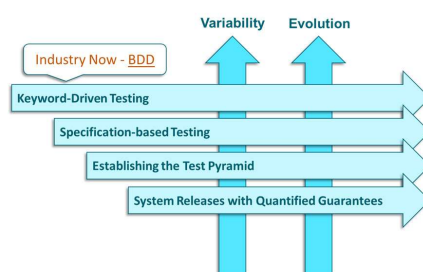
Mission

Improving efficiency and effectiveness of testing

- Keep testing in pace with developments such as AI
- Provide insights and confidence in system and test quality
- Contribute to improved system quality



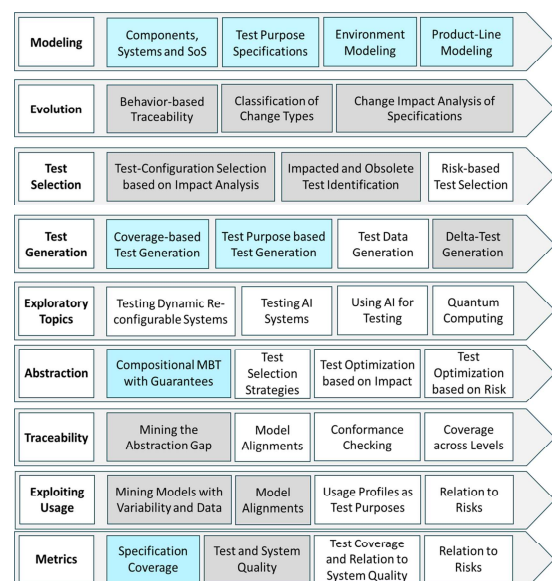
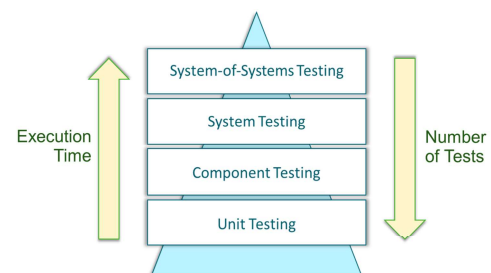
Research Agenda: Towards Effective and Efficient Testing



Strategy

Shift-Left and Shift-Down with Model-based Testing

- Formal models as system specifications (shift-left)
- Link to brown-field situation (tools and methods)
- More testing at lower levels (shift-down)
- Quantified metrics and Guarantees on system quality



Partners:

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