

U-Test: Testing Cyber-Physical Systems under Uncertainty

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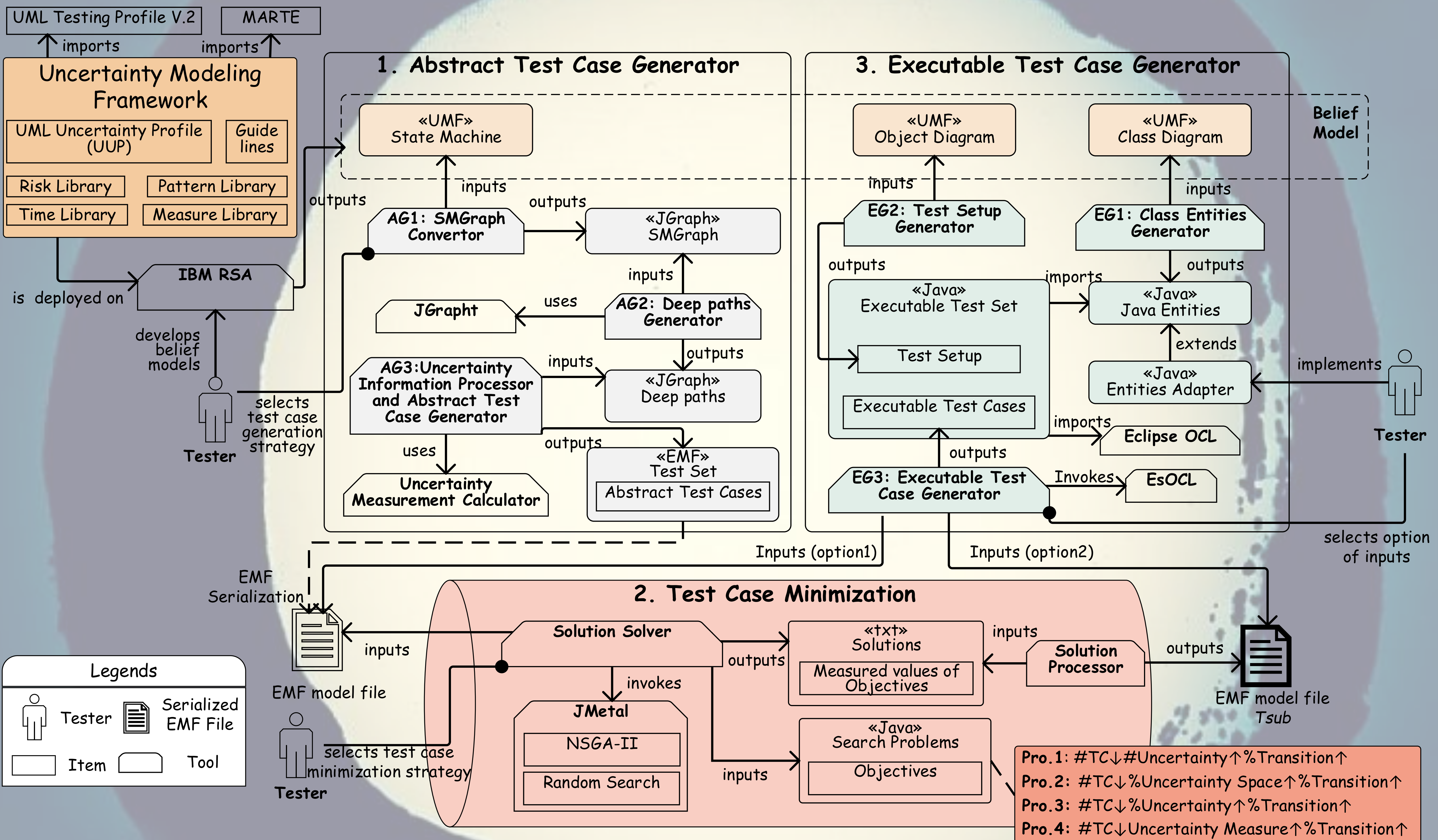
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Motivation and Objective

- CPS Application Domains: Healthcare, Avionics, Maritime, Oil&Gas, Smart Building, etc.
- Testing CPSs in the presence of Uncertainty is the key to ensure their high dependability.
- **Objective:** Improve the dependability of CPSs, via cost-effective model-based and search-based testing of CPSs under uncertainty.

Uncertainty Modeling and Testing Frameworks



Industrial Applications

Handling Systems



Geo Sports



Conclusion

- UMF defines the UML Uncertainty Profile and a set of comprehensive set of model libraries and concrete guidelines to create test ready models with uncertainty.
- The best test case minimization strategy provides the minimum number of test cases, while maximizing effectiveness and efficiency.
- The result of the execution of test cases on the Geo Sports case study revealed 18 new uncertainties.

Research Partners

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Tool Vendor



Exploitation

IK4 IKERLAN

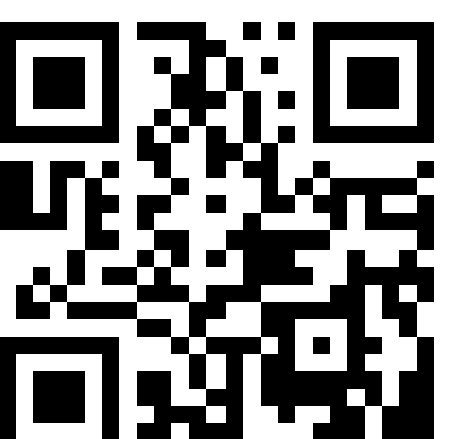
Case Study Providers



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