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Connections between MBT, KDT, and BDD?

[1 Comment](#) · Posted by *David Farago* in [Community](#), [discussion](#), [survey](#)

Three major techniques for test automation are model-based testing (**MBT**), keyword-driven testing (**KDT**), and behavior-driven design (**BDD**).

We (<http://ak-toop.gi.de>) are currently investigating combinations of these three techniques. We found a huge amount of literature for each single technique, a few articles about combinations of two of them, but no literature at all about combining all three techniques. Our hypothesis is: the three techniques can be combined usefully, but has not yet been done.

Can you prove us wrong? Do you know about practice or research covering the combination of these three techniques? Or do you think all three cannot be combined in a useful way? Or does your experience match our hypothesis?

We hope for a lively discussion!

2 comments



[Dehla Sokenou](#) · December 11, 2016 at 12:43 pm

Here is a brief overview of what we have been doing in the TOOP group:

1) Our german article „Drei Methoden, ein Ziel: Test- automatisierung mit **BDD**, **MBT** & **KDT** im Vergleich“ concluded that **BDD** is easier, but **MBT** scales better, and **KDT** is a good basis for both **BDD** and **MBT**.

2) At our 38th workshop (http://ak-toop.gi.de/fileadmin/Protokolle/TOOP_2015_10_16.pdf), we discussed that maintainability, reusability and coverage are three major criteria for evaluating these techniques, as well as their combinations and their return on investment.

3) At our 39th workshop (<http://ak-toop.gi.de/fileadmin/Protokolle/TOOP-MBT-BDD-KDT.pdf>, http://ak-toop.gi.de/fileadmin/Protokolle/TOOP_2016_06_24.pdf), we derived the picture in http://ak-toop.gi.de/fileadmin/Protokolle/TOOP-MBT-BDD-KDT_Dreieck.pdf and have started evaluation via a WebATM case study. Before we dive deeper into the case study, we are now doing a thorough literature research.



[Marc-Florian](#) · December 19, 2016 at 12:27 pm

In my opinion, **KDT** and **MBT** are based on the very same idea, i.e., abstraction from technical details. **KDT** is widely considered as a framework for automated test execution technique, **MBT** as an umbrella of techniques for automated test design. But, as I said, they are based on the very same underlying idea.

If I took now **BDD** into account, **BDD** would be considered as one instantiation of the **KDT** paradigm, since it is based on natural language statements that seem to be executable (well, only by using an adaptation layer, though). **BDD** does not deal at all (at least to the best of my knowledge), with the design of test cases. And that's the big difference to **MBT**.

The main issue that we are currently tackling at Fraunhofer FOKUS is to develop a systematic methodology to extend the degree of test automation from automated test execution (**KDT**) to automated test design (**MBT**) in the industry. This is, depending on lots of industrial partners we have been working with, the main challenge, once automated test execution (via **KDT**) has been established in the industry.

I've published an overview paper at STV 2015 with the title "Approaches to automated test implementation for test automation architectures" (<https://www.fokus.fraunhofer.de/en/stv15/program>). It is really just an overview of different approaches we have seen and working with. It is based on the principles of the MDA.

I am interested in discussing more about that trinity of test automation techniques and would be happy to join upcoming events in that regard.

Best,
Marc-Florian