

from the labs

INFORMATION TECHNOLOGY

Robust Testing Solution

A new testing module helps analyze products and applications accurately

SOURCE: "MINDTEST LAUNCH"
Anand Rao Ladi
MindTest: Integrated Testing Methodology, September 28, 2010, Bangalore, Karnataka, India

RESULTS: In the Information Technology industry, periodic reviews and audits help in identifying areas of improvement in existing metrics programs, namely lack of appropriate categorization and limited mapping of metrics to business goals and stakeholders. A team at MindTree, Bangalore, has developed a testing metrics analysis and decision (TMAD) model that can analyze various testing related metrics and recommend appropriate, timely, preventive, and corrective actions. Additionally, the model comprises a correlation table of impacting and impacted metrics to help in forecasting risks.

WHY IT MATTERS: Test organizations are often unable to track the plethora of metrics accurately to decide whether or not a product or application is up to the expected quality. Mindtree's model identifies the relevant metrics and aligns them to the project quality and business goals. The TMAD model justifies the test certificates by quantitative data, takes corrective and preventive actions, establishes and conforms to quantifiable entry and exit criteria, and gives consolidated view of the test to the stakeholders.

METHODS: At the beginning of the engagement, based on project context, set of metrics are chosen from the TMAD model. The metrics are then mapped to goals to ascertain the validity of the metric data and the preventive and corrective actions to be taken depending on the value. During the project, analysts study the values grouped with respect to a particular goal and take appropriate decisions. A correlation table is also used to forecast risks based on impact of a set of metrics on other metrics.

NEXT STEPS: The team is working on making the TMAD model a Web based tool which can forecast risks and generate alerts. It is also trying to integrate the model with test quality index.

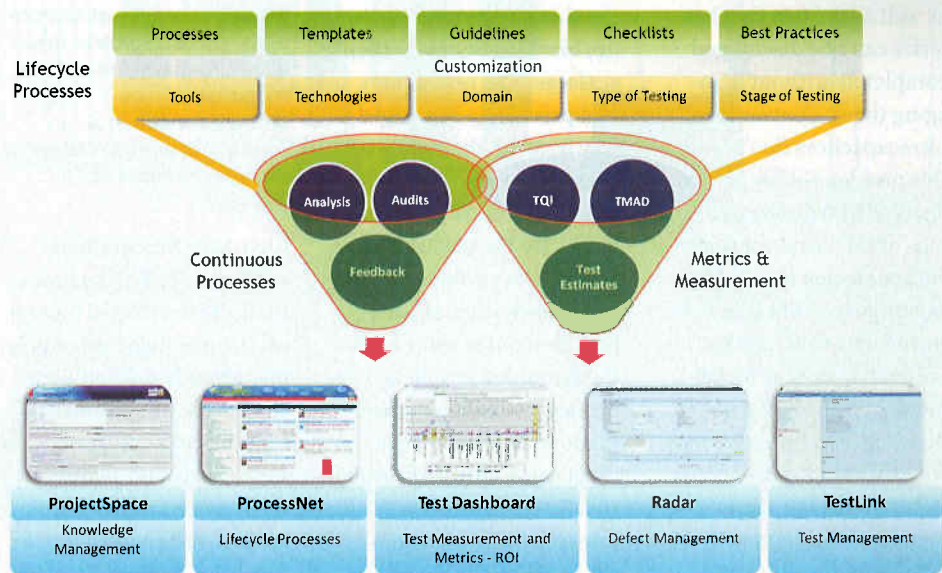
MATERIALS

Graphene Electrodes for Hybrids

Atom-thick sheets of carbon make high-energy capacitors

SOURCE: "GRAPHENE-BASED SUPERCAPACITOR WITH AN ULTRAHIGH ENERGY DENSITY"
Bor Z. Jang et al.
Nano Letters 10: 4863-4868

RESULTS: Using graphene, a form of carbon made of sheets just a single atom thick, researchers have built ultracapacitor electrodes that can store nearly as much energy as the electrodes now used in batteries for hybrid vehicles. The electrodes stored 86 watt-hours per kilogram. That



TMAD MODEL A robust testing tool for accurate quality check.