TVS – The Software Testing Experts

Why Shift Left?

A very critical aspect of driver development is detection of bugs early in the development phase. Generally detecting bugs is not a priority for development teams and Quality Assurance (QA) teams are also tasked with customer bugs also which increase the turnaround times for detecting and fixing development bugs. This increases the likelihood of finding a bug at a later stage in the development process which can have significant cost implications.

By adopting a Shift Left approach, bugs can be caught earlier, more easily testable code can be produced, bug fixing can be sped up and more tests can be carried out

The TVS Shift Left approach

TVS can incorporate a Shift-Left testing approach to tightly integrate the development and QA phases for audio and graphics drivers. The TVS approach provides a two-fold advantage – reduction in the number of levels of testing and speed up in the testing at each level. The extra time available to developers ensures better driver design.

A feature driven approach is one of the key aspects of the TVS Shift Left methodology. TVS has a well-defined feature extraction process to identify features early. Using this approach, driver development teams can remove design errors at the feature stage itself. This approach can also be used to improve requirements.

TVS' in-house Requirements Traceability tool 'asureSign' can not only reduce duplicated testing but also help track how the driver development process is developing over time for every feature and how these features relate to the tests that are used to measure their progress. Driver development teams can thus be certain that requirements have been implemented through the development and testing of associated programs.

Another aspect of the TVS Shift Left approach is introduction of Static Analysis as part of the driver development process to reduce the price of eliminating defects in driver code. TVS has extensive experience with many industry-standard static analysis tools and has helped organizations improve their design and code review process in the past. This approach offers many advantages such as quick detection of errors at the driver coding stage, ensuring full code coverage and reducing overall cost of development.

In a broader sense, the TVS Shift Left approach extends beyond simply design methodology and incorporates aspects of resource management as well. TVS recommends that QA engineers be an integral part of driver development teams. By assigning designated QAs for each aspect of the development flow, the chances of finding a bug early in the driver development cycle are greatly increased.

Test and Verification Solutions

Benefits to customer

Reduce levels of testing and speed up testing at each level

Reduce defects

Reduce duplicated testing with asureSign

Released Developer Time

Improve requirements and remove errors at feature stage

Improve driver design

"TVS staff introduced independence into our sign-off procedure so that testing was done by test professionals who are motivated and driven by these challenges, rather than by developers who have other priorities. This has had a big impact on the quality of ClearSpeed products."

Russell David, VP of Engineering at ClearSpeed

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