

# INNOVATING SW TESTING

# V+Lab

“Our mission is to improve SW quality and reliability cost-effectively by adopting **automated SW testing and debugging tools**”

V Plus Lab is founded by KAIST professors and researchers of Software Testing and Verification Group (<http://swtv.kaist.ac.kr>), who has developed automated software testing/debugging techniques and tools with industries for decades.

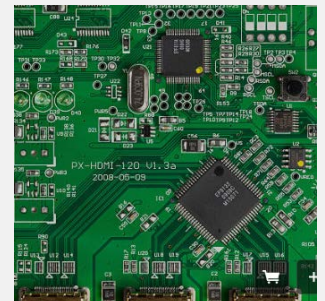
To improve software quality and reliability cost-effectively, we provide automated SW testing tools/process/consulting/training.

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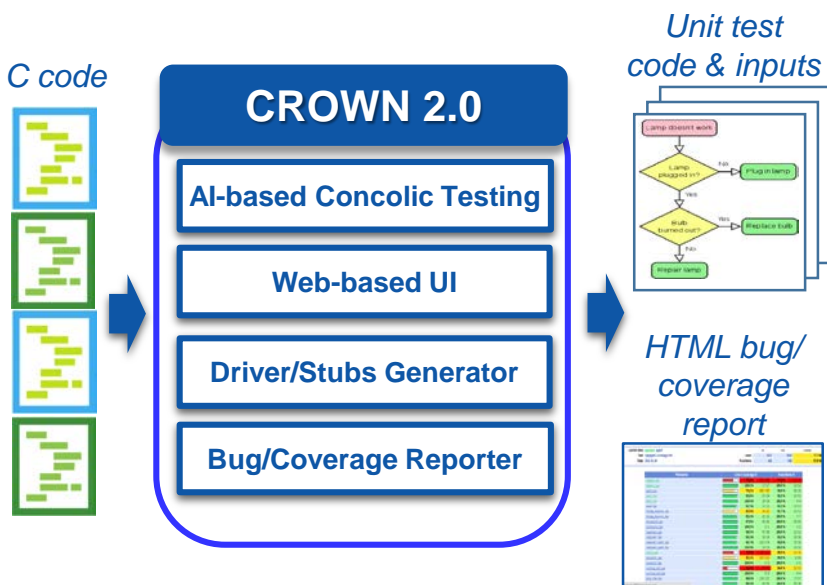
# V+Lab CROWN 2.0

## CROWN 2.0

Automated Unit Testing for C programs

### What is CROWN 2.0

CROWN 2.0 is a fully automated software test solution that significantly increases bug detection power and reduces testing cost for embedded C programs



### Why CROWN 2.0

With CROWN 2.0, software quality and reliability can be improved cost-effectively through 100% automated test generation which are effective to detect bugs

### How it works

1. CROWN 2.0 analyzes target code and automatically builds test driver/stubs for unit testing
2. **AI-based Concolic testing engine** automatically generates test inputs that exercises **all possible execution paths** of target unit under test.
3. Then, CROWN 2.0 reports the achieved coverage and detected crash bugs.

### Product Features

- Automatically build stub and driver code
- Automated test case generation based on AI-based Concolic testing
- Code-coverage report and analysis
- Test case export to other tools such as VectorCast or ControllerTester
- Easy-to-use web-based GUI interface

### Highlights

- **100% automated generation of test code/inputs**
- **High-quality unit test generation achieving >90% of branch coverage (or >80% of MC/DC coverage)**
- **Easily integrated in current SW testing processes**

<https://crown2.vpluslab.kr>