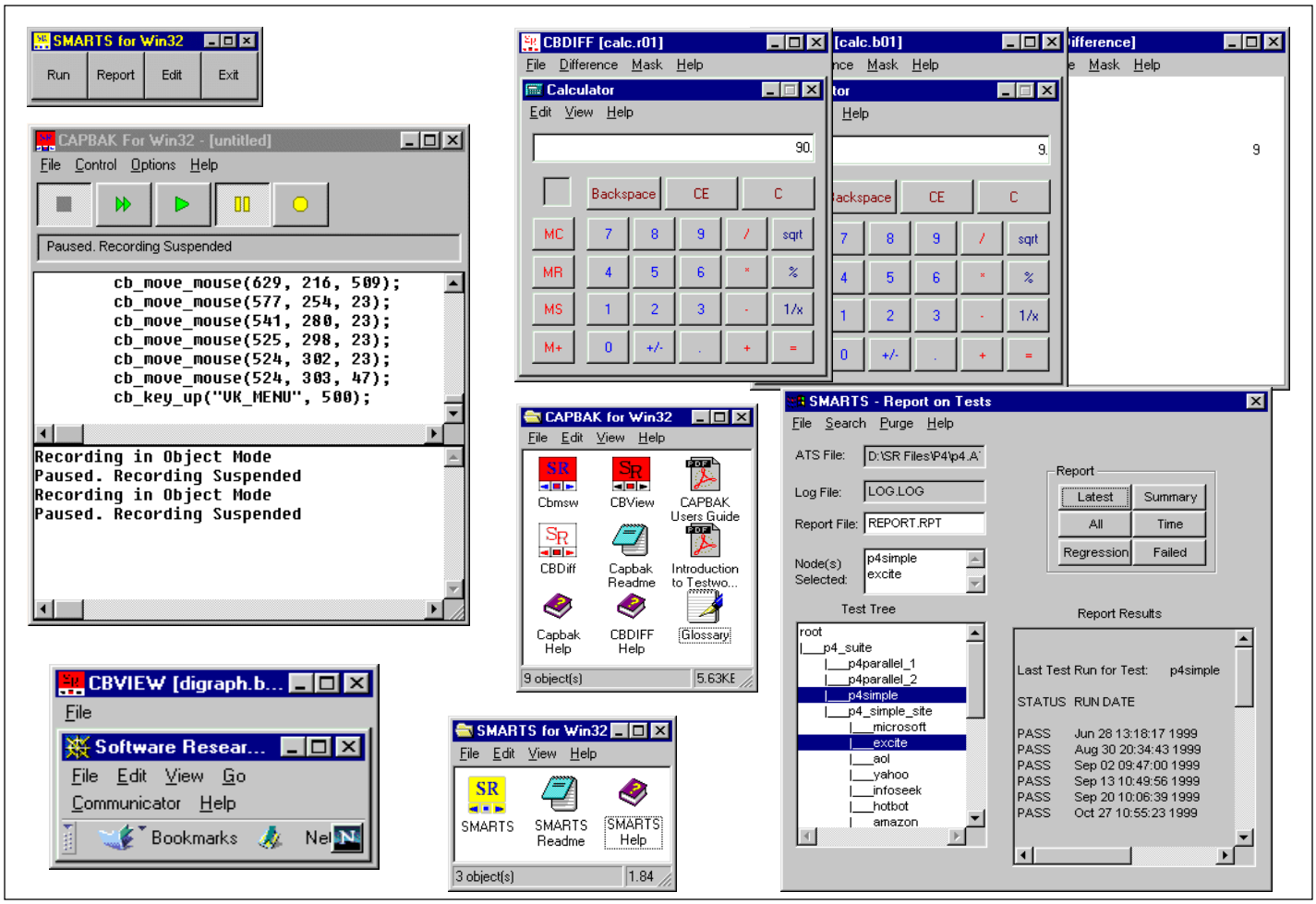
SOFTWARE RESEARCH, INC.

STW/Regression/MSW

REGRESSION TOOL SUITE FOR MICROSOFT WINDOWS



STW/Regression *utilities can be called from the STW window (upper left). CAPBAK/MSW captures and plays back user test sessions (middle left). Captured images can be viewed using the CBVIEW utility (lower left). Baseline and response images can be compared for differences using CBDIFF (upper right) and the results logged into a variety of reports (a SMARTS/MSW report is shown, bottom right).*

PRODUCT DESCRIPTION

The useful life of any software product realistically involves multiple revisions. The incorporation of new features and removal of errors, however, often creates new errors. To guarantee that the software still functions as expected after changes have been made, previously designed baseline tests of the system must be rerun. While essential, the manual execution of the regression testing process requires a large investment of time which is rarely available at the end of a development cycle.

STW/Regression™ is designed to overcome the tedious and error-prone process of manual testing by automating the execution, management and verification of a suite of tests. Three components are included in **STW/Regression**: **CAPBAK**™ for automated capture and playback of user sessions, **SMARTS**™ for test organization and management, **CBDIFF**™ for test verification.

CAPBAK records all user activities during the testing process including keystrokes and mouse movements; it captures bitmap images and ASCII values. The captured images and characters provide baselines against which future test runs are compared. **CAPBAK**'s automatic synchronization ensures reliable playback of these test sessions, allowing tests to be run unsupervised as many times as the tester wants.

SMARTS organizes **CAPBAK**'s test scripts into a hierarchical structure for execution individually or as a part of a test suite and then conditionally evaluates each test according to the verification method selected.

CBDIFF compares bitmap images, while discarding extraneous discrepancies during the differencing process.

RECORD/PLAYBACK MODES

- *True-Time* — Automatically records keyboard and mouse activity into an ASCII-format test script and plays back user input exactly as recorded.
- *Character Recognition* — Tolerates minor application changes to the graphical user interface (GUI), e.g. button locations, menu list orders, fonts and background colors.
- *Playback Interaction* — Pauses, resumes, terminates, speeds up, or slows down a test session.
- *Playback Editing* — Inserts or appends new test sessions to an existing test script.

FIVE SYNCHRONIZATION MODES

- *Automatic Event Synchronization* — Automatically synchronizes on event-sensitive environment differences, such as new windows popping up in varying locations.
- *Image and Window Synchronization* — Waits for the contents of a screen fragment or window to update and match the baseline image.
- *Timing Synchronization* — Playback timing can be adjusted to different values, allowing playback to be slowed down overall or just after events such as mouse clicks and carriage returns.

MULTIPLE VERIFICATION MODES

- *Bitmap Verification* — Images captured during a recording session are automatically compared with the actual images at playback.
- *Character Recognition Verification* — Determines a successful test based on the actual values, extracting the values from bitmap images using Optical Character Recognition (OCR) and translating them into ASCII characters, regardless of differences in font and background color.

EXTENSIVE MASKING CAPABILITIES

- *Positive Masking* — Ignores user-specified areas of an image file.
- *Unrestricted Mask Creation* — Allows unlimited, overlapping positive masks to be set for an individual image.

TEST SCRIPT MANAGEMENT

- *User-Designed Test Description File* — Organizes and manages an extensive number of test scripts for the purpose of automating the testing process. The Automated Test Script (ATS) "test tree hierarchy" emulates the modularity and functionality of the tested application.
- *Test Script Augmentation* — Allows test cases to be supplemented with system calls, evaluation methods, and control structures (`if`, `else` and `while` clauses).
- *Including Other ATS Files* — Incorporates other ATS files, allowing for a modular organization of multiple test scripts.
- ***makeats** Utility* — Based on minimal test case information, the **makeats** utility expedites ATS creation by generating a hierarchical test structure consisting of groups and an unlimited number of sub-groups and test cases.

TEST TRACKING & DISPLAY

SMARTS/MSW saves a detailed record of test outcomes and timing statistics to a default log file and generates the following reports:

- **Latest** Report — Lists the most recent test execution outcomes.
- **All** Report — Includes current and past test results for every test executed.
- **Regression** Report — Lists only those tests whose outcomes have changed since previous test activation.
- **Summary** Report — Summarizes the total number and percentage of tests that have passed or failed.
- **Time** Report -- Lists the execution time for each test.
- **Failed** Report -- A cumulative list of the tests which have failed.

TESTING ENVIRONMENTS

- GUI Host Based Testing
- Client / Server Testing
- Terminal Emulation Testing
- Remote System Testing

TECHNICAL SUPPORT

- Telephone hot-line assistance for installation and technical questions is available.
- Maintenance contracts provide continuing product support and upgrades.

For more information about **STW/Regression for Windows** or any Software Research products, call or write:

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