VVRTS...
Verification Validation Reporting and Tracking System

Test Management System

ABOUT VVRTS

The purpose of the **Verification and Validation Reporting and Tracking System** application is to provide system development professionals with tools to assist in managing requirements, testing (hardware, software and documentation), problem reporting and tracking. **VVRTS** is a powerful and simple to use Web-based tool that assists in:

- Easily creating Requirements, Test Cases, Test Procedures and detailed Test Steps that are directly associated to Project/Product requirements <u>and to</u> individual product components or features.

- Tracking Product Defects and Test Case execution as well as requirements conformance and completion status.

- Simultaneous access by "approved" users such as Customers, Engineers, Project Managers, Marketing, Senior Management, etc.

- Quick view of the status of test and defect workflow for each requirement during a project's life cycle.

- Integrating requirements with testing and problem reporting activities for easy traceability, update, status accounting and general project management functions.

- Easy and efficient communication, Change Management, Risk Management, and determination of product/project defect Status Accounting among all project participants without relying on numerous emails and other forms of communications.

- Ensuring compliance to ISO 9001:2000 Standard requirements in all aspects of system development life cycles.

- Supporting multiple Projects/Products, Customers, Accounts, Project Participants, etc.

VVRTS allows companies to become compliant to ISO 9001:2000 quicker and helps to easily and quickly perform Internal Audits and prepare for Quality Management Reviews, Project and Product Reviews, and Independent External Audits at minimized costs.

VVRTS is composed of five management subsystems for Accounts, Requirements, Projects/Products/Components, Test and Problem Reporting.

The **VVRTS** Application is a Web-based solution employing Java[*] technology and the GOOGLE Web Toolkit. VVRTS is designed on a modular basis as shown here.

Based on experiences, best practices and international standards, VVRTS has been designed to integrate all the business objects and accommodate testing, problem reporting and tracking activities through any stage of the system development life cycle.
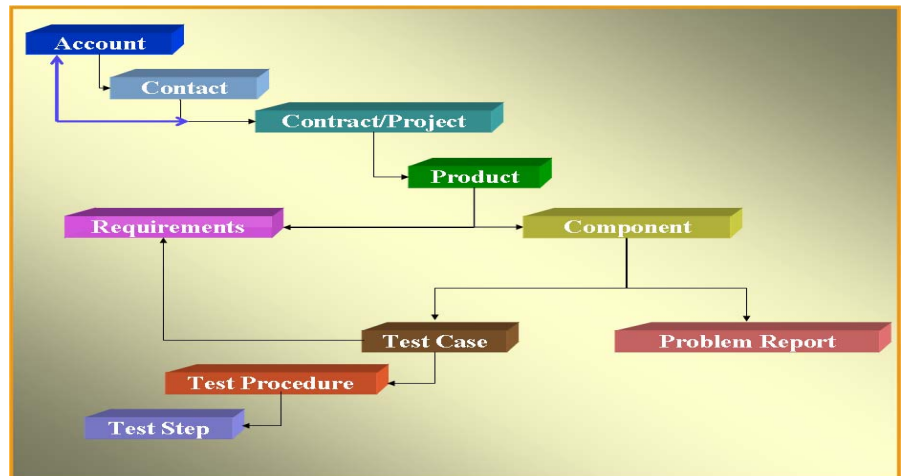

(*) Java is a registered trademark of Sun Microsystems Inc.

FEATURES:

The features of the **VVRTS** application include but are not limited to:

- Platform Independence
- Simple User Interface Screens and Screen Functionalities that are displayed as a function of a user's assigned role, thereby easing user understandability and minimizing user interaction and training
- Short Learning Curve
- Specific Fields for ISO 9001:2000 Compliance
- Compliance with IEEE Standard 1012 Verification and Validation
- Support for Multiple Accounts, Users, Roles, Contracts and Projects and Project/Product versions and project requirements with built in security
- Multiple Product and Multiple Component (feature) Recording, Reporting and Tracking
- Change Control of Requirements
- Change Control of Test Cases and Problem Reports
- Change Control of Product/Component versions at numerous customer Sites
- Test Case Creation and modification with Entry Criteria
- Test Procedure Creation and modification
- Test Step Creation and modification with Exit Criteria
- Linking Test Cases to one or more Requirements
- Linking Test Procedure to an existing Defect (previously reported)
- Creating a new Defect linked to a specific current or new Test Step
- Self Contained Log System, for Requirements and Test Case and Defect History recording
- Pre-Built Reports for Defect and Test Status conforming to ISO process requirements for every Requirement, Product and Product Component, Test Case and Test Procedure and Problem Reports in CSV (comma separated value) and PDF formats to simplify Internal and External Auditing to ISO and Project Management Status accounting and communications
- Automatic Email & CC Management System
- Support of all major Internet browsers, such as Internet Explorer and Firefox
- All Web pages validated by W3C validator.
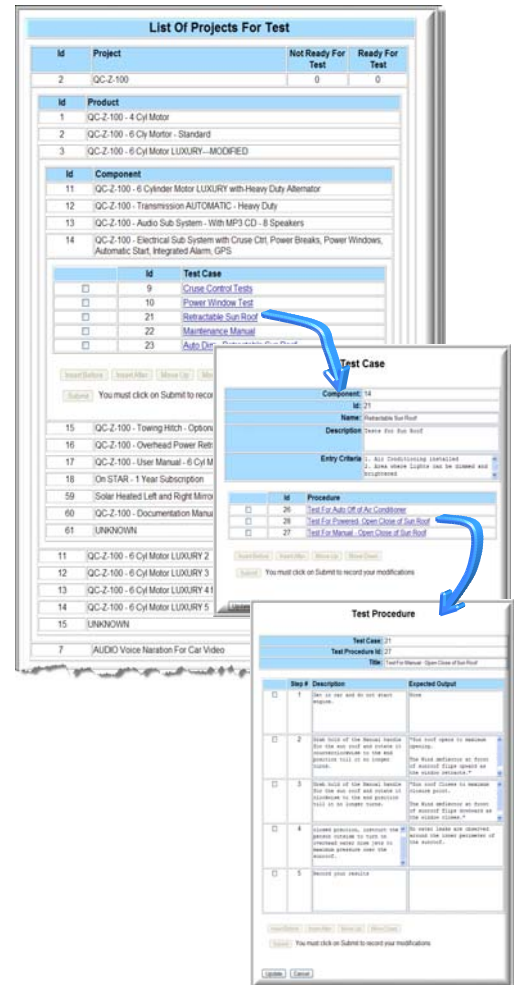
> The VVRTS application aids in performing Validation and Verification functions in all project phases for overall project and product management needs.

Functions - By Typical Project Life Cycle:

➤ Requirements Phase:
- Verify that system and software requirements are correct, complete, traceable and testable
- Verify test plans and Acceptance Entry and Exit Criteria are sufficient to validate system requirements and operational needs
- Ensure testing methods are sufficient to verify and validate software requirements
- Verify that correct software development, management, and support processes are in place

➤ Design Phase:
- Verify that the design will satisfy all requirements (of customers and projects)
- Ensure test plans and test environments are sufficient to verify and validate system requirements

➤ Coding Phase:
- Verify that test cases trace to and cover all requirements
- Verify that test cases, expected results, and evaluation criteria fully meet testing objectives
- Analyze selected unit test plans and results to verify full coverage of input sequences, range of input conditions, error handling, etc.

➤ Test Phase:
- Verify correct disposition of test anomalies
- Validate test results versus acceptance criteria
- Verify tracing and successful completion of all test objectives

➤ Operational Phase:
- Verify that regression tests are sufficient to identify adverse impacts of changes

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