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Overcoming Software Development & Testing Challenges in Banking & Finance

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Inflectra Solutions for Financial Services: SpiraPlan for Quality Assurance, Testing and Compliance Needs to Reduce Risk

Overarching Compliance Challenges

The financial services industry has experienced unprecedented change, with increasing regulations such as Sarbanes-Oxley, Dodd-Frank, and FATCA. Cutting-edge technologies such as high-speed trading, advanced simulations, and blockchain cryptocurrencies are challenging existing business models.

Banking

You need to provide world-class service to your customers, who expect [on-demand, real-time banking](#). While delivering, you are required to maintain compliance with all of the banking regulations, processes, and financial controls.

Insurance

Ongoing changes in technology, demography, and consumer needs are disrupting the insurance industry. Combined with increased regulatory and financial reporting demands, you need to innovate while managing risk.

Finance

The technology landscape for finance firms is changing fast as a consequence of the rise of high-frequency trading, blockchain-based cryptocurrencies, increased privacy oversight, and AI-based forecasting. You need tools that can help you to accelerate innovation.

Tools You Can Trust

Inflectra has created a single powerful platform to help you **develop, test, and manage** your software assets, **mission-critical applications and core financial systems**, while ensuring compliance and minimizing risk.

SpiraPlan is Inflectra's **enterprise-level portfolio management** solution that manages complex embedded systems that require risk management and reporting, with traceability, baselining and workflows that streamline compliance.



Functionality for Compliance in The Financial Sector



Requirements Verification

Using our SpiraPlan integrated **requirements and test management** platform lets you manage and **test all of your requirements**, policies, and regulations.



Risk Management & Mitigation

With SpiraPlan, you have integrated enterprise risk management capabilities that let you manage risks across **programs, projects and portfolios**.



Security & Privacy

All of our products provide powerful security and privacy tools to ensure your data is secure, whether you choose to deploy **on-premise** or in our **secure cloud**.



Traceability & Compliance

Our platform gives you **end-to-end traceability** from the requirements, to test cases, defects, development work items, **source code**, and resources.



Audits & Reporting

Our platform automatically maintains a **secure audit log** of all actions in the system, with **powerful reports** on all activities for regulators and management.



Automated Testing

Save time testing your systems for compliance. Our platform includes **automation tools** that generate test scenarios and scripts directly from your running applications.

Overcoming Software Development & Testing Challenges in Banking and Finance

Financial Services systems present unique challenges for software developers and testers. Regulators are very concerned about good provenance over the software being developed. Controls, processes and technologies for managing change to the system must be developed and documented. The system needs to be tested not just against the functional requirements from the customer, but also against the book of mandated policies and regulations.

In addition, financial institutions are not in the business of developing software – and consequently the tools needed to support the software development and testing activities need to be easy to use, provide the needed functionality out of the box, and have a low total cost of ownership (TCO).

Regulatory Compliance

In addition to the usual testing requirements that ensure that a system works in accordance with its requirements (functional testing), handles the prescribed load (performance testing) and is secure (vulnerability testing), financial systems have to meet a whole host of constantly changing regulations from organizations that include the Securities and Exchange Commission (SEC), European Central Bank (ECB), the US Consumer Financial Protection Bureau (CFPB). Since 2001 alone, there have been myriad changes to financial laws: Sarbanes-Oxley (SOX), Basel II, Dodd-Franks, FATCA, to name a few. Each time these changes in the regulatory landscape require changes to test plans, validation procedures and system requirements.

SpiraPlan from Inflectra provides the premier solution for managing all of your requirements, test cases and validation scenarios in a central, easy to manage repository.

Name	Test Coverage	Progress	Importance	Status	Author	Release	Type	ID
Functional System Requirements	[Progress Bar]	[Progress Bar]	1 - Critical	In Progress	Fred Bloggs		Epic	RQ.1
Online Library Management System	[Progress Bar]	[Progress Bar]	1 - Critical	In Progress	Fred Bloggs		Epic	RQ.2
Book Management	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs		Epic	RQ.3
Ability to add new books to the system	[Progress Bar]	[Progress Bar]	3 - Medium	Developed	Fred Bloggs	1.0.0.0.001	Feature	RQ.4
Ability to edit existing books in the system	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.0.0.0.001	Feature	RQ.5
Ability to delete existing books in the system	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.0.0.0.002	Feature	RQ.6
Ability to associate books with different subjects	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.0.0.0.001	Feature	RQ.7
Ability to associate books with different authors	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.0.0.0.001	Feature	RQ.8
Ability to associate books with different editions	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.0.0.0.002	Feature	RQ.9
Ability to completely erase all books stored in the system	[Progress Bar]	[Progress Bar]	1 - Critical	Developed	Fred Bloggs	1.2.0.0	Feature	RQ.10
Edition Management	Not Covered	[Progress Bar]	1 - Critical	In Progress	Fred Bloggs		Epic	RQ.11
Ability to create different editions	Not Covered	[Progress Bar]	1 - Critical	In Progress	System Administrator	1.0.0.0.003	Feature	RQ.12
Author Management	[Progress Bar]	[Progress Bar]	2 - High	In Progress	Joe P Smith		Epic	RQ.13
Ability to add new authors to the system	[Progress Bar]	[Progress Bar]	2 - High	Planned	Joe P Smith	1.0.0.0	Epic	RQ.14

Overarching Policies & Requirements

When you have to test and develop against both requirements defined for a specific system as well as an overarching set of mandated policies and regulations, you need to have the ability to define core mandated requirements that are shared between projects as well as project-specific features, use cases, and user stories:

Product Associations Library Information System (Sample)

The following other products are allowed to access artifacts in **this product** as part of their own data:

Product Name	Program Name	Artifact Types	Operations
Sample: Barebones Product	Sample Program One	Requirement, Test Case, Task, Document	Edit
Sample: Empty Product	Sample Program Two	Requirement, Test Case, Incident	Edit

Note: the other products will only have read-only access to the artifacts in this product.

SpiraPlan lets you have projects that share their artifacts with other projects. This powerful feature lets you have projects that reuse components, features and tests from other projects. In addition, you can share requirements between projects so that you can view all of your requirements in a single list; those from the current project and those from any component projects being included:

Displaying 13 out of 107 requirement(s) for this project. Current Project | All Projects

Name	Test Coverage	Progress	Importance	Status	Release	Type	ID	Edit
Functional System Requirements				In Progress		Package	RQ:1	Edit
Online Library Management System				In Progress		Package	RQ:2	Edit
Use Cases		No Tasks		Completed		Package	RQ:29	Edit
System Qualities	Not Covered	No Tasks		Completed		Package	RQ:33	Edit
LIS Branch 1								
Functional System Requirements				In Progress		Package	RQ:72	Edit
Online Library Management System				In Progress		Package	RQ:73	Edit
Use Cases		No Tasks		Completed		Package	RQ:99	Edit
System Qualities	Not Covered	No Tasks		Completed		Package	RQ:103	Edit
LIS Branch 2								
Functional System Requirements				In Progress		Package	RQ:37	Edit
Use Cases		No Tasks		Completed		Package	RQ:64	Edit
System Qualities	Not Covered	No Tasks		Completed		Package	RQ:68	Edit

Show 500 rows per page Displaying page 1 of 1

Traceability

For banks and other finance firms, requirements traceability is not optional, all changes to core systems must be validated and shown to be managed in accordance with the defined processes, procedures, roles and regulations. You need to have an Application Lifecycle Management (ALM) solution that provides you the optimum mapping between requirements, tasks, software controls, test controls, pre-production staging builds, and releases.

Ability to add new books to the system

[RQ:4] Type: Feature Status: Developed Operations

Overview Test Coverage Tasks Attachments History Associations

+ Add Remove Refresh Filter Current Branch: master

Displaying 1 - 4 out of 4 association(s).

Type	Artifact Type	Name	Status	Creation Date	Creator	Comment	Product Name	ID	Edit
Related-to	Requirement	Creating a new book in the system	Completed	13-Mar-2019	Fred Bloggs	This use case defines the steps for creating a book	Library Information System (Sample)	[RQ:30]	Edit
Implicit	Incident	Cannot add a new book to the system	Assigned	10-Mar-2019	Joe P Smith	Test Run: Ability to create new book	Library Information System (Sample)	[IN:7]	Edit
Related-to	Incident	Cannot install system on Oracle 9i	Open	7-Mar-2019	Fred Bloggs	This bug affects the requirement	Library Information System (Sample)	[IN:5]	Edit
Related-to	Requirement	Ability to delete existing books in the system	Developed	5-Mar-2019	Fred Bloggs	These two requirements are related	Library Information System (Sample)	[RQ:6]	Edit

Show 15 rows per page Displaying page 1 of 1

SpiraPlan provides you with ability to manage the entire end-to-end process of developing and testing software in accordance with your defined processes. It simplifies the reporting, making it easier for you to demonstrate the linkage between your policy attestations and the final code release.

Security & Privacy

When there is a breach in a website or consumer application it is bad enough, but when there is a security breach in a financial service system, the costs and regulatory damage can literally 'break the bank'. When you need tools to help you keep track of your security requirements, testing activities and associated defects, SpiraPlan is your best choice for test management with its built-in version control and audit-log, you can see who made changes to each artifact in the system.

Change ID	Change Date	Field Name	Old Value	New Value	Changed By	Change Type
360	8-May-2018	Difficulty	Moderate	Difficult	System Administrator	Modified
360	8-May-2018	Review Date	7/3/2012 12:25:12 PM	7/19/2012 12:00:00 AM	System Administrator	Modified
360	8-May-2018	Ranking	1	12	System Administrator	Modified
360	8-May-2018	Decimal	1234	1234	System Administrator	Modified
357	8-May-2018	Description	The ability to add new books into the system, complete with ISBN, publisher and other related information	The ability to add new books into the system, complete with ISBN, publisher and other related information	System Administrator	Modified
357	8-May-2018	Importance	1 - Critical	2 - High	System Administrator	Modified

Securing the codebase is another key ingredient to prevent security breaches and vulnerabilities. With SpiraPlan, you can see real-time traceability between each change in the code base and the associated requirement, task or defect that made the change necessary. This real-time traceability lets you find unauthorized code changes and prevent security vulnerabilities before they happen.

In addition, your ALM solution needs to provide sufficient security and privacy controls so that your code data is secure and maintained with integrity. SpiraPlan is available both as an on-premise solution and as a secure cloud service, giving you multiple options that best align with your security policies.

Transaction Processing

When you are dealing with testing financial transactions containing large volumes of highly precise data, manual testing doesn't cut it anymore. When you need to automate your system testing, our **Rapise test automation platform** is ready to help. Rapise has been built from the ground-up to support the testing of desktop, web and mobile applications in a single easy to use platform. Now you can use the same tool to test the back-office systems and the mobile applications used by customers in the same set of transactions.

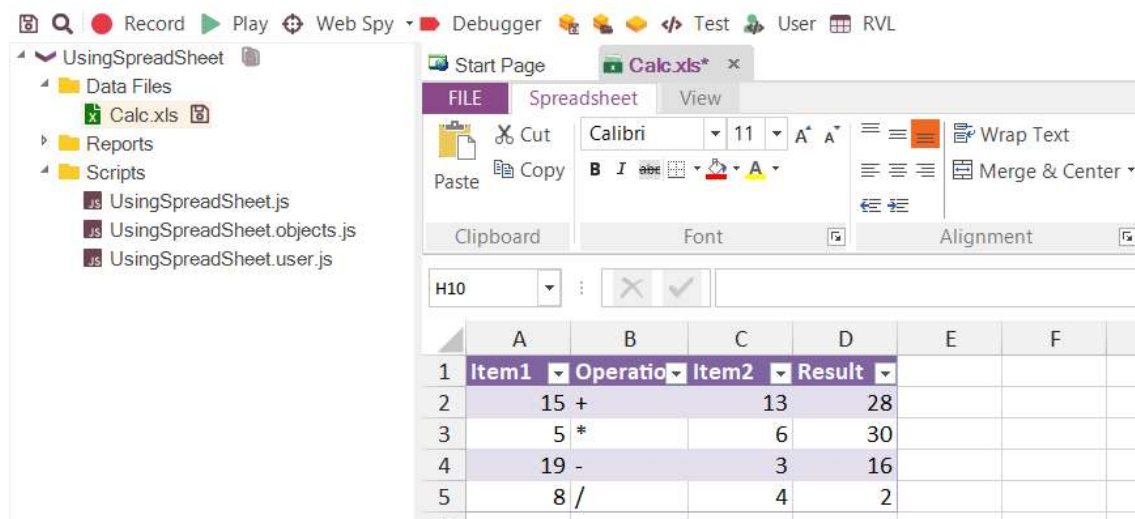
The screenshot displays the Rapise test automation platform interface. On the left, there is an 'Objects' pane showing a tree view of the application under test, including 'Library Information System - Mozilla Firefox' and 'Book Management - Mozilla Firefox'. The main area shows a table of test actions in RVL (Rapise Visual Language) format. The table has columns for Flow, Type, Object, Action, ParamName, ParamType, ParamValue, and H. The actions include 'Learned Log In', 'Click on Log In', 'Click on Username', 'Set Text librarian in Username', 'Set Text librarian in Password', 'Click on ct100\$MainContent\$LoginUser\$LoginButton', 'Click on Book Management', 'Click on (Create new book)', 'Click on Name', 'Set Text Adams Book in Name', 'Click on ct100\$MainContent\$btnSubmit', and 'Click on Log Out'.

Flow	Type	Object	Action	ParamName	ParamType	ParamValue	H
1	Flow		Learned Log In				
2	Action	Log_In	DoClick				
3	Action	Click on Username	DoClick				
4	Action	Username	DoClick				
5	Action	Set Text librarian in Username	DoSetText	txt	string	librarian	
6	Action	Set Text librarian in Password	DoSetText	txt	string	librarian	
7	Action	Click on ct100\$MainContent\$LoginUser\$LoginButton	DoClick				
8	Action	Click on Book Management	DoClick				
9	Action	Click on (Create new book)	DoClick				
10	Action	Click on Name	DoClick				
11	Action	Set Text Adams Book in Name	DoSetText	txt	string	Adams Book	
12	Action	Click on ct100\$MainContent\$btnSubmit	DoClick				
13	Action	Click on Log Out	DoClick				
14	Action	Log_In	DoClick				

Rapise includes a powerful data-driven, scriptless test design and execution language called Rapise Visual Language (RVL). This simplifies the process of creating large-scale data-driven regression tests that allow you to test large volumes of complex transactional data against your core systems.

Complex Algorithms

With the rise of high-speed trading and automated trading platforms, you need testing solutions that can handle large volumes of real-time data. With our **Rapise** automated testing platform you have a system that can handle the load.

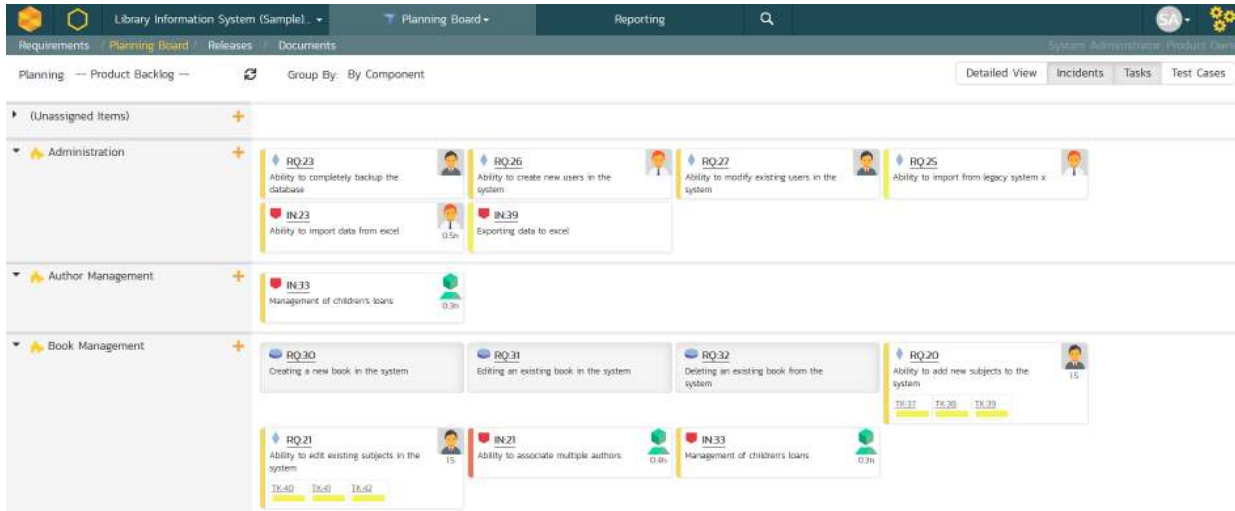


With its powerful support for data-driven testing, built-in mathematical libraries and easy extensibility, Rapise is your best choice when you need to test and validate complex algorithms.

Speed and Agility

Speed, both in the development process, and in the systems themselves. Financial software needs to be released quickly and need to work speedily because trading in the financial markets is a race among competing firms.

SpiraPlan has been designed for agile processes from day one. The platform makes the requirements management process a fluid and dynamic experience, with real-time dashboards and visual planning boards to enable real-time collaborative planning and prioritization.



However, although banks and finance firms are heavy users of Agile methodologies and DevOps, due to the need to support regulatory reporting requirements, companies need to adapt agile to include additional steps and artifacts that are not strictly agile. You need tools that are agile in nature, but provide flexibility to include waterfall steps, use cases, item dependencies, and other traditional needs.

< Default Workflow [View/Edit Workflow Steps](#)

This displays all the Task status steps for this particular workflow:

Step Name	Transitions	Status #	Operations
Not Started <small>Default</small>	<ul style="list-style-type: none"> Defer Task → Deferred Start Task → In Progress 	1	+ Add Transition
In Progress	<ul style="list-style-type: none"> Block Task → Blocked Complete Task → Completed Defer Task → Deferred Restart Development → Not Started 	2	+ Add Transition
Completed	<ul style="list-style-type: none"> Reopen Task → In Progress 	3	+ Add Transition

SpiraPlan is flexible in its approach, with a methodology-agnostic design that lets you work in a hybrid methodology that is tailored to your business.

Data Interoperability

A key feature of ALM tools that you need to consider is data portability and interoperability. For European companies, the [General Data Protection Regulation \(GDPR\)](#) mandates such functionality. You need to make sure that your ALM platform has a robust set of versioned APIs that are actively maintained and developed. Such APIs will let you integrate the data in your ALM solution with your other systems (billing, document management, etc.).

Resources

This table provides a list of all the resources exposed by this REST web service. More detail about each resource is explored after this table:

Resource	Methods	Description
Artifact Documents	GET , POST , DELETE	This resource lets you view/add documents associated to an artifact
Association	POST , PUT , GET	This resource lets you create, view and update artifact associations
Automated Test Run	POST , GET	This resource allows you to retrieve, create, modify and delete automated test runs in a specific project in the system.
Automation Engine	GET , POST , PUT	This resource lets you create, and view automation engines in the system
Automation Host	GET , POST , PUT , DELETE	This resource lets you create, view, update and delete automation hosts in the system
Component	DELETE , POST , GET , PUT	This resource lets you create, edit, delete and view components in a project

SpiraPlan provides a robust set of REST and SOAP APIs that are versioned and maintained, with the ability to run code written over ten years ago against the current version, unchanged.

Domain Expertise

Business knowledge is important for testers in any domain, but particularly in financial services, where the business itself and technology are becoming increasingly intertwined. Our **partner network** includes **industry partners** that understand your business and can help many any implementation of tools a success.

The Inflectra Promise

Easy To Migrate

It's super easy to switch to our tools. Migrate your legacy data, documents, spreadsheets, and more. (Don't worry, we also have a ton of ways to export your data.)

Free Trials

No credit cards, no contracts, no hassles. You can trial all of our products in the cloud or on your own servers, and all for a generous thirty days.


Service You'll Love

Best practices baked into every product, dozens of integrations, common sense options, first-class support every time. That's what our customers love about working with us.

Try the Inflectra Platform Now!

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