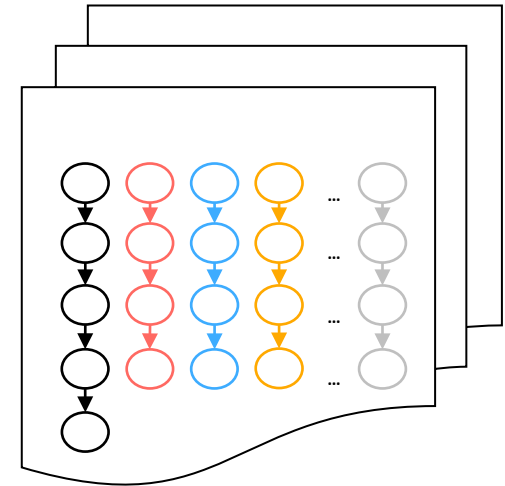
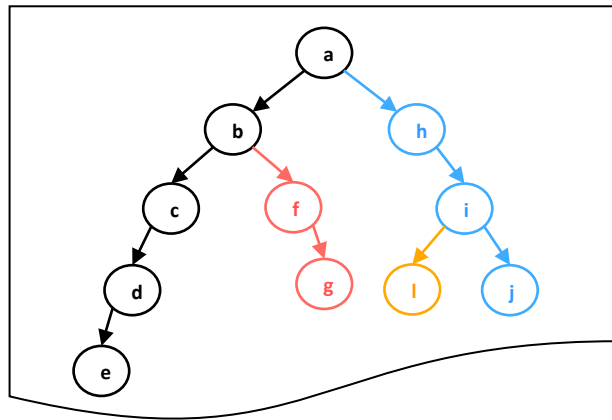


TaRGeT Software Product Line

Felype Santiago



Test and Requirement Generation Tools



Use Case Template

Feature 11111 – My Phonebook

UC 01 – Creating a New Contact

Description

This use case describes the creation of a new contact.

Main Flow

Description: Create a new contact

From Step: START

To Step: END

Step Id	User Action	System State	System Response
1M	Start My Phonebook application.	My Phonebook application is installed in the phone.	My Phonebook application menu is displayed.
2M	Select the New Contact option.		The New Contact form is displayed.
3M	Type the contact name and the phone number.		The new contact form is filled.
4M	Confirm the contact creation. [TRS_11111_101]	There is enough phone memory to insert a new contact.	A new contact is created in My Phonebook application.

Exception Flows

Description: There is no enough memory.

From Step: 3M

To Step: END

Step Id	User Action	System State	System Response
1A	Confirm the contact creation.	There is no enough phone memory.	A dialog is displayed informing that there is no enough memory. [TRS_111166_103]

Feature Id and Name

Main Flow

One or more Use Cases

Exception Flow

Use Case Template

Feature 11111 – My Phonebook

UC 01 – Creating a New Contact

Description

This use case describes the creation of a new contact.

Main Flow

Description: Create a new contact

From Step: START

To Step: END

List of *From* and *To* steps

Step Id	User Action	System State	System Response
1M	Start My Phonebook application.	My Phonebook application is installed in the phone.	My Phonebook application menu is displayed.
2M	Select the New Contact option.		The New Contact form is displayed.
3M	Type the contact name and the phone number.		The new contact form is filled.
4M	Confirm the contact creation. [TRS_11111_101]	There is enough phone memory to insert a new contact.	A new contact is created in My Phonebook application.

A sequence of steps

Exception Flows

Description: There is no enough memory.

From Step: 3M

To Step: END

Related requirements

Step Id	User Action	System State	System Response
1A	Confirm the contact creation.	There is no enough phone memory.	A dialog is displayed informing that there is no enough memory. [TRS_111166_103]

Test Case Document

Test Case ID: 11111_MM_Func_001

Regression Level: na

Execution Type: Man

Description: None.

Objective: None.

Use Case References: 11111#UC_01

Requirements: TRS_11111_101

Setups: None.

Initial Conditions: 1) My Phonebook application is installed in the phone. 2) There is enough phone memory to insert a new contact.

Steps	Expected Results
1) Start My Phonebook application.	My Phonebook application menu is displayed.
2) Select the New Contact option.	The New Contact form is displayed.
3) Type the contact name and the phone number.	The new contact form is filled.
4) Confirm the contact creation.	A new contact is created in My Phonebook application.

Final Conditions: None.

Cleanup: None.

Notes: Under Development

NewProject - TaRGeT

Use Cases

- Features
 - 11111 - My Phonebook
 - UC_02 - Searching a Cont
 - UC_08 - Creating a New C
 - 11169 - IM conversation Str
 - UC_01 - IM Main Function
 - 6376 - Airplane Mode
 - UC_01 - Prompt on Power
 - UC_02 - Prompt on Power
 - UC_03 - Prompt on Power
 - UC_04 - Prompt on Power

On The Fly Generation Editor

Test Cases Viewer

☒ Common Test Cases (18) ☒ New Test Cases (0) ☐ Removed Test Cases (0)

All Test Cases
Load Former Filter Sel
Save Current Filter Sel

Generated Test Cases

Id	Description	Requirements	Use Case
6376_MM_Func_001	None.	FR_TRS_6376-1513, FR_TRS_6376-1429	6376#UC_01
6376_MM_Func_002	None.	FR_TRS_6376-1514, FR_TRS_6376-1429	6376#UC_01
6376_MM_Func_003	None.	FR_TRS_6376-1513, FR_TRS_6376-1428	6376#UC_02
6376_MM_Func_004	None.	FR_TRS_6376-1514, FR_TRS_6376-1428	6376#UC_02
6376_MM_Func_005	None.	FR_TRS_6376-1427	6376#UC_03
6376_MM_Func_006	None.	FR_TRS_6376-1425	6376#UC_04
11111_MM_Func_007	None.	TRS_11111_101	11111#UC_08
11111_MM_Func_008	None.	TRS_111166_102, TRS_11111_101	11111#UC_08
11111_MM_Func_009	None.	TRS_111166_102	11111#UC_08
11111_MM_Func_010	None.	TRS_111166_102, TRS_111166_103	11111#UC_08
11111_MM_Func_011	None.	None.	11111#UC_08

Save Test Suite ☐ Start Consistency Management before saving.

Selection Test Cases Traceability Matrix Inclusion/Exclusion

Artifacts ☒ Errors Search Results CNL Advisor

Features

- Airplane Mode.xml
- My_Phonebook.xml
- ucsample01validation.xml

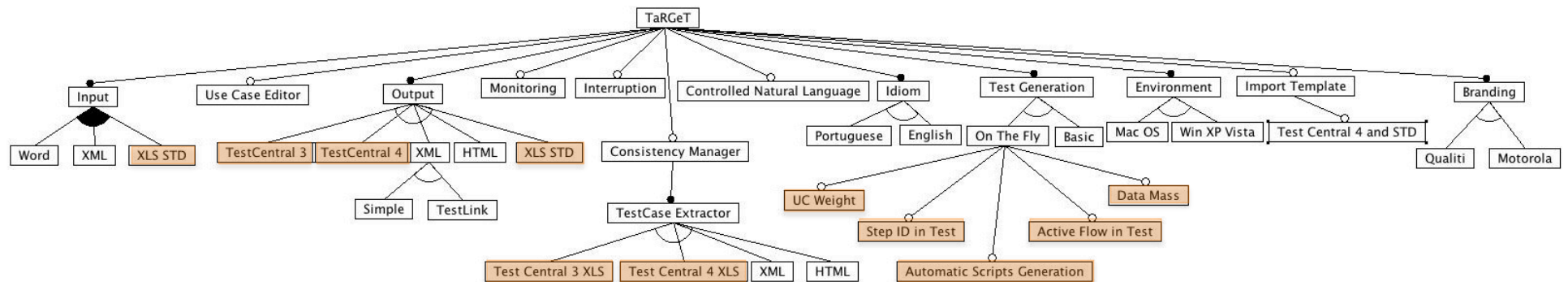
Test Cases

- NewTestSuite0001.html

Arquitetura

- Baseada em Eclipse RCP
- Responsabilidades divididas entre *plug-ins*
 - Core
 - Common
 - Project Manager
 - Test Case Generation
 - Plugins de variações de features...

TaRGeT SPL



- 42 features
- Features de granularidade fina e grossa
- 7 constraints
- 32194 linhas de código
- Evolução armazenada em SVN
 - 3 releases oficiais e 1 não oficial
 - 2 anos de implementação
 - Mais de 2000 commits
 - 9 tags e 19 branches

Configuration Knowledge

- Pure::variants
- Hephaetus

Documentação

- Documento de requisitos único
- Licença MIT
- Guia do usuário
- Documento de casos de uso em MSVCM

Testes

- Funcionais
- Exploratórios
- Unitários

Input

Feature 11111 - My Phonebook

OBS.: The information presented here does not correspond to a real Motorola application. These use cases were only created in order to test the TaRGeT tool.

Use Cases

UC 01 - Creating a New Contact

Description

This use case describes the creation of a new contact in the contact list.

Setup:

Main Flow

Description: Create a new contact
From Step: START
To Step: END

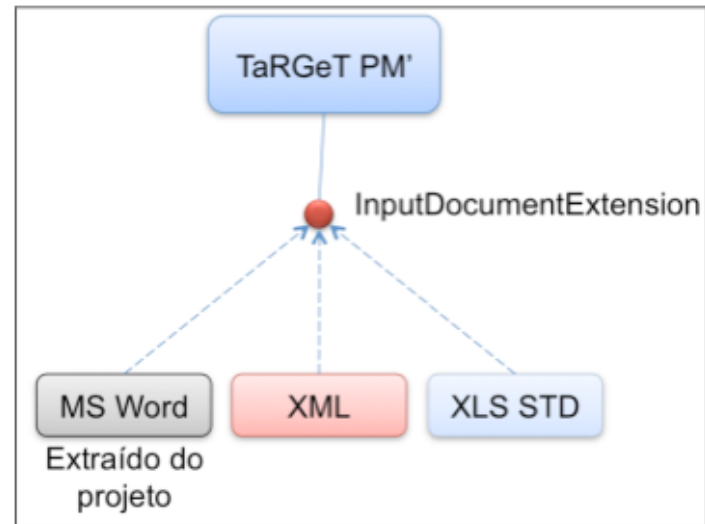
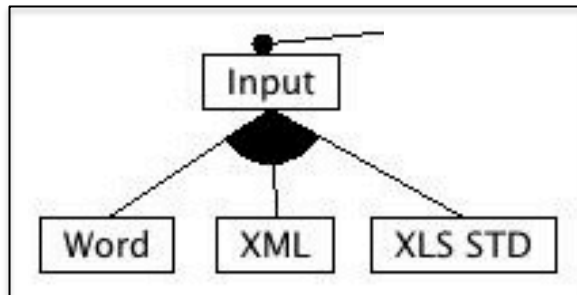
Step Id	User Action	System Response
1M	Start My Phonebook application.	My Phonebook application installed on phone.
2M	Select the New Contact option.	
3M	Type the contact name and the phone number.	
4M	Confirm the contact creation. [TRS_1111_101]	There is enough memory to create a new contact.

Traceability	Coverage category	Coverage area / Use Case	Test
[FR_33379_01_001] [FR_33379_01_004]	Feature Tests	User is navigating in the Main Menu panels. User selects any of one of the Invisible Net icons. Verify that PUT supports multiple Invisible Nets in the Main Menu and each Invisible Net has its unique icon and prompt. Verify that Browser is launched in a predefined URL, determined by the Invisible Net.	
[FR_33379_01_002] [FR_33379_01_004]	Feature Tests	User is navigating in the Home Screen panels. User selects any of one of the Invisible Net icons. Verify that PUT supports multiple Invisible Nets in the Main Menu and each Invisible Net has its unique icon and prompt. Verify that Browser is launched in a predefined URL, determined by the Invisible Net.	
[FR_33379_01_006]	Feature Interaction Tests	User launches an Invisible Net URL by pressing the Invisible Net icon. User decides to press Back. Verify that PUT launches the browser in the URL predefined by this Invisible Net. Verify that PUT returns to the last menu accessed before launching the Invisible Net.	
[FR_33379_01_100]	Feature Interaction Tests	PUT is connected to wired headset; User is navigating in URL already loaded (Invisible Net URL) and receives an incoming call. User answers it. Verify that wired headset does not affect user to navigate in the web page. Verify that user answers the call using the wired headset successfully. Verify that after finishing the call user is taken back to the same point as PUT was before the incoming call.	
[FR_33379_01_100]	Feature Interaction Tests	PUT is connected to wired headset; User is navigating in URL already loaded (Invisible Net URL) and receives an incoming call. User dismisses it. Verify that wired headset does not affect user to navigate in the web page. Verify that user is able to dismiss the incoming call. Verify that after dismissing the call user is taken back to the same point as PUT was before the incoming call.	
[FR_33379_01_100]	Feature Interaction Tests	PUT is paired with BT headset; User is navigating in URL already loaded (Invisible Net URL) and receives an incoming call. User answers it, while the first call is still active. PUT receives a call second incoming call. User also answers it. Verify that BT headset does not affect user to navigate in the web page. Verify that user answers the first incoming call via BT headset successfully. Verify that the PUT puts the first call on hold in order to answer the second one. Verify that after finishing the calls user is taken back to the same point as PUT was before the incoming calls.	
[FR_33379_01_110]	Feature Interaction Tests	Put is connected to the charger; User is navigating the URL already loaded (Invisible Net URL) and receives a SMS notification. User disconnects PUT from Charger and reads the SMS message. Verify that Charger does not affect user to navigate in the web page. Verify that user reads the incoming SMS message successfully. Verify that after reading the SMS message user is taken back to the same point.	Objective: To verify that PUT behaves as expected when Invisible Net is launched and user reads an incoming SMS.
[FR_33379_01_110]	Feature Interaction Tests	Put is connected to the charger; User is navigating the URL already loaded (Invisible Net URL) and receives a SMS notification. User disconnects PUT from Charger and reads the SMS message. Verify that Charger does not affect user to navigate in the web page. Verify that user reads the incoming SMS message successfully. Verify that after reading the SMS message user is taken back to the same point.	Objective: To verify that PUT behaves as expected when Invisible Net is launched and user dismisses an incoming SMS notification.
[FR_33379_01_110]	Feature Interaction Tests	Put is connected to the USB cable; User is navigating the Web page (Invisible Net URL) and receives an incoming MMS notification. User dismisses the MMS notification and disconnected the USB cable. Verify that USB does not affect user to navigate in the web page. Verify that user dismisses the incoming MMS notification successfully. Verify that after dismissing the MMS notification user is taken back to the same point.	Objective: To verify that PUT behaves as expected when Invisible Net is launched and user dismisses an incoming MMS notification.
[FR_33379_01_120]	Feature Interaction Tests		

```
- <phone>
- <feature>
  <featureId>11111</featureId>
  <name>My Phonebook</name>
- <useCase>
  <id>UC_08</id>
  <name>Creating a New Contact</name>
- <description>
    This use bla bla bla the creation of a new contact in the contact list.
  </description>
  <setup/>
- <flow>
  <description>Create a new contact</description>
  <fromSteps>START</fromSteps>
  <toSteps>END</toSteps>
- <step>
  <stepId>1M</stepId>
  <action>Start My Phonebook application.</action>
- <condition>
  My Phonebook application is installed in the phone.
  </condition>
  <response>My Phonebook application menu is displayed.</response>
</step>
- <step>
  <stepId>2M</stepId>
  <action>Select the New Contact option.</action>
  <condition/>
  <response>The New Contact form is displayed.</response>
</step>
- <step>
```

Input

- Implementação com Extension Points



Formato de Saída

Test Case ID: 1111_MM_Func_001

Regression Level: na
Execution Type: Man
Description: None.
Objective: None.

Use Case References: 1111#UC_01
Requirements: TRS_11111_101
Setups: This is the use case main setup.

Initial Conditions: 1) My Phonebook application is installed in the phone. 2) There is enough phone memory to insert a new contact.

Steps	Expected Results
1) Start "My Phonebook" application.	My Phonebook application menu is displayed.
2) Select the New Contact option.	The New Contact form is displayed.
3) Type the contact name. Type the phone number.	The new contact form is filled.
4) Confirm the contact creation.	A new contact is created in My Phonebook application.

Final Conditions: None.
Cleanup: None.
Notes: Under Development

```
<testCase>
  <id>1</id>
  - <steps>
  - <step>
    <systemState>My Phonebook application is installed in the phone.</systemState>
    <actions>Start "My Phonebook" application.</actions>
    <response>The application is not launched as the application is expired</response>
  - <id>
    <featureId>1111</featureId>
    <useCaseId>UC_01</useCaseId>
    <stepId>1M</stepId>
  </id>
  </step>
  + <step>
  + <step>
  + <step>
  </steps>
  <executionType>Man</executionType>
  <regressionLevel>na</regressionLevel>
  <description>None.</description>
  <objective>None.</objective>
  <requirements>TRS_11111_101</requirements>
  <useCaseReferences>1111#UC_01</useCaseReferences>
  <setups>This is the use case main setup.</setups>
  <initialConditions>1) My Phonebook application is installed in the phone. 2) There is enough phone memory to insert a new contact.</initialConditions>
  <note>Test case auto-generated by TaReT system.</note>
  <finalConditions>None.</finalConditions>
  <cleanup>None.</cleanup>
  <status>Under Development</status>
  <tcIdHeader>1111_MM_Func_001</tcIdHeader>
  <featureId>1111</featureId>
</testCase>
```

Test Case

ResearchTeam-2976: 1111_MM_Func_001: None.

Edit Delete Move / Copy Create a new version Deactivate this version Add to Test Plans Export

Version 1
Created on 01/12/2009 17:25:31 by admin

Summary

Test Case ID: 1111_MM_Func_001
Regression Level: na
Execution Type: Man
Description: None.
Objective: None.

Use Case References: 1111#UC_01
Requirements: TRS_11111_101
Setups: This is the use case main setup.
Initial Conditions: 1) My Phonebook application is installed in the phone. 2) There is enough phone memory to insert a new contact.
Note: Test case auto-generated by TaReT system.
Final Conditions: None.
Cleanup: None.

Steps	Expected Results
1 Start "My Phonebook" application.	My Phonebook application menu is displayed.
2 Select the New Contact option.	The New Contact form is displayed.
3 Type the contact name. Type the phone number.	The new contact form is filled.
4 Confirm the contact creation.	A new contact is created in My Phonebook application.

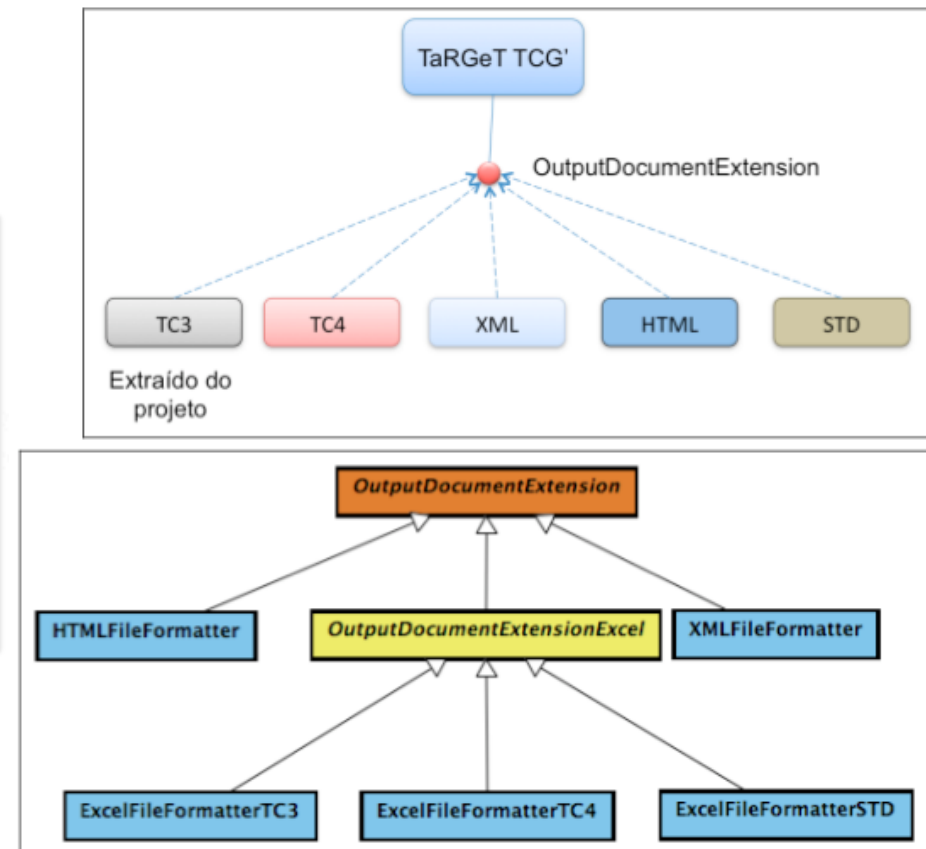
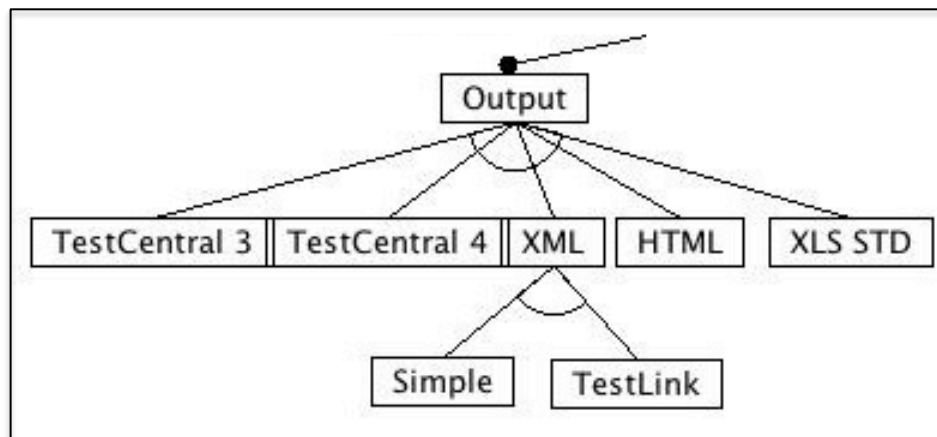
Case	Reg. Level	Exe. Type	Case Description	Procedure	Expected Results
1	na	Man	TC_1	Create a new contact.	
			Use Cases:	11111#UC_01	
			Requirements:	TRS_11111_101	
			Setup:		
			Initial Conditions:	My Phonebook application is installed in the phone. There is enough phone memory to insert a new contact.	
			Notes:	Test case auto-generated by TaReT system.	
			Test Procedure (Step Number):		
			1	Start My Phonebook application.	My Phonebook application menu is displayed.
			2	Select the New Contact option.	The New Contact form is displayed.
			3	Type the contact name and the phone number.	The new contact form is filled.
			4	Confirm the contact creation.	A new contact is created in My Phonebook application.
			Final Conditions:		
			Cleanup:		

Test Case Name	Status	Regression Level	Execution Method	Case Description	Step Description	Procedure	Expected Results	Traceability
33379_MM_Func_001	Under Development	5	Man	None.	None.	OBJECTIVE_PREFIX: Objective: To verify that PUT supports Multiple Invisible Net and it can be selected from Main Menu		
					Initial PUT Conditions:	None.		
					Setup Information:	None.		
					Test Content Location:	None.		
					Important Notes:	None.		
					Use Case:	User is navigating in the Main Menu panels. User selects any of one of the Invisible Net icons.	Verify that PUT supports multiple Invisible Nets in the Main Menu and each Invisible Net has its unique icon and prompt. Verify that Browser is launched in a predefined URL, determined by the Invisible Net.	FR_33379_01_001 FR_33379_01_004
							Verify that PUT works as expected, there are no panics, freezes, black/white screens and any phone behavior that leads the test engineer to believe there is a product defect.	
					Final Condition:	None.		
					Cleanup:	None.		

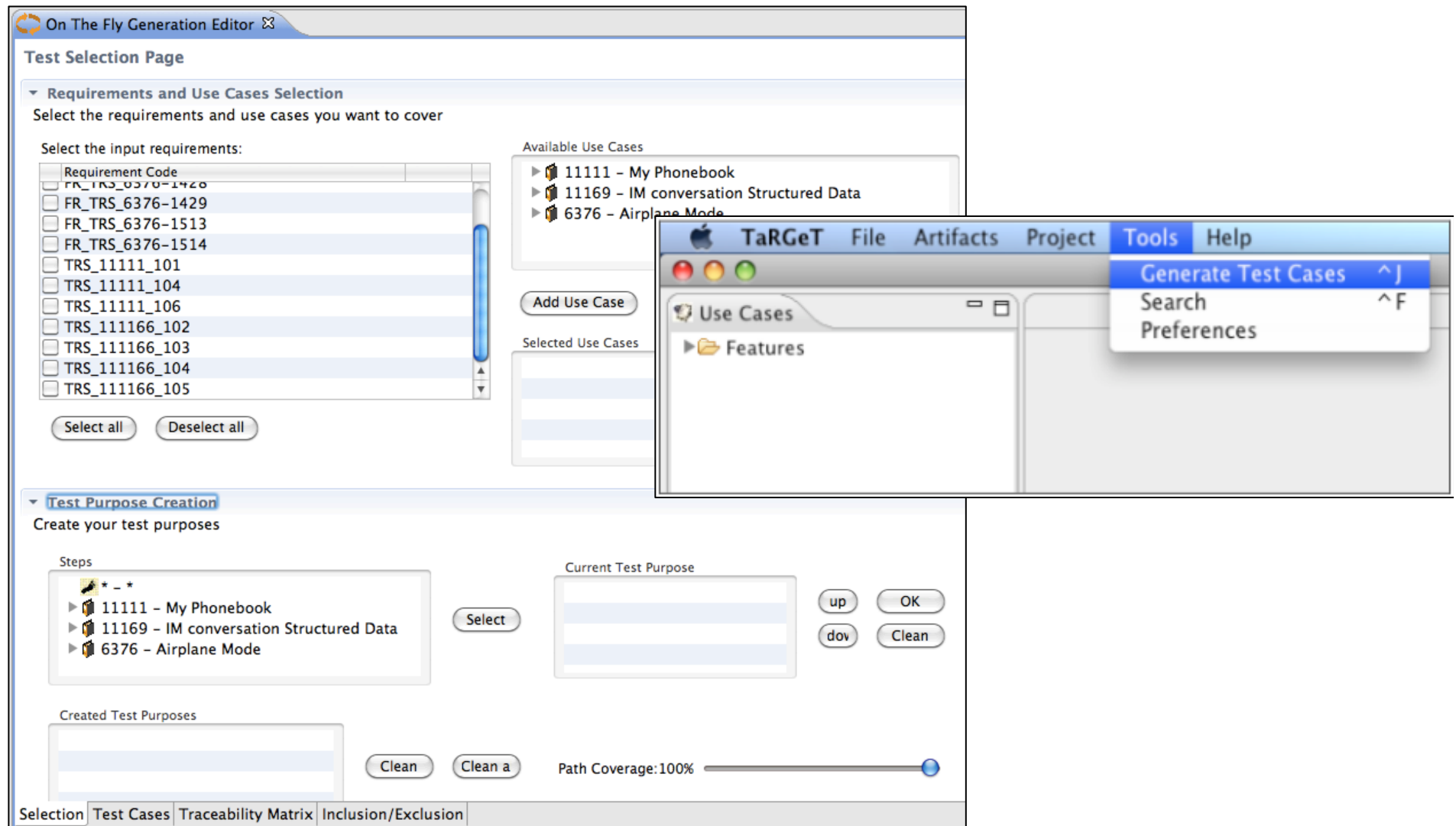
Test Case Name	Status	Regression Level	Execution Method	Case Description	Step Description	Expected Results
1111_MM_Func_001	Under Development	na	Man	None.	None.	
				Use Cases:	1111#UC_01	
				Requirements:	TRS_11111_101	
				Setup:	This is the use case main setup.	
				Initial Conditions:	1) My Phonebook application is installed in the phone. 2) There is enough phone memory to insert a new contact.	
				Notes:	Test case auto-generated by TaReT system.	
				Test Procedure (Step Number):		
				1	Start "My Phonebook" application.	The application is not launched as the application is expired
				2	Select the New Contact option.	The New Contact form is displayed.
				3	Type the contact name. Type the phone number.	The new contact form is filled.
				4	Confirm the contact creation.	A new contact is created in My Phonebook application.
				Final Conditions:	None.	
				Cleanup:	None.	

TaRGeT Output

- Implementação com Extension Points do Eclipse, Herança (TC3, TC4 e STD), Aspectos e Transformação XSLT (XML)

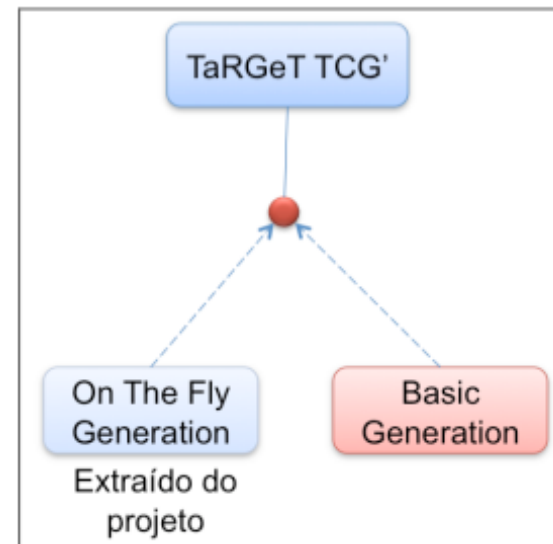
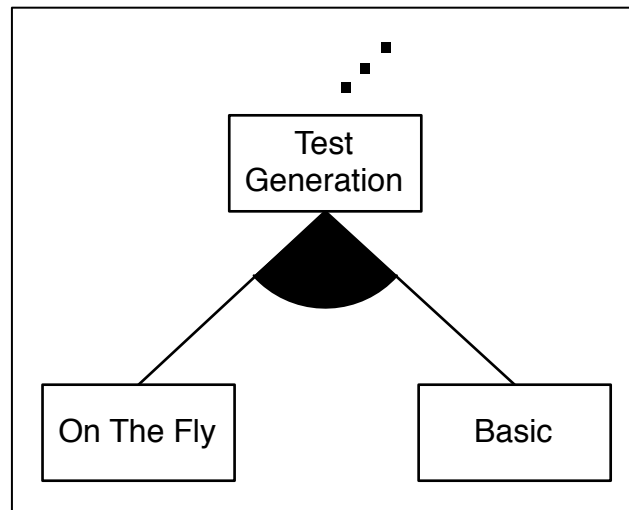


Test Generation



Test Generation

- Implementação com Extension Points



Consistency Management

Old Use Case Document

UC_01
Exception flow 1

UC_02
Exception flow 1
Exception flow 2

Old Test Case Document

TestCase 01
TestCase 02
TestCase 03
TestCase 04
TestCase 05



New Use Case Document

UC_01
Exception flow 1
Exception flow 2

UC_02
Exception flow 1
Exception flow 2

New Test Case Document

TestCase 01
TestCase 02
TestCase 03
TestCase 04
TestCase 05
TestCase 06



Consistency Management

The screenshot displays the 'On The Fly Generation Editor' window, specifically the 'Consistency Management Editor' tab. The main area is titled 'Test Comparison' and shows a comparison between 'New Test Cases' and 'Old Test Cases from NewTestSuite0012.x'. The 'New Test Cases' list includes Test Case 0001 through 0010. The 'Old Test Cases' list shows a comparison of IDs with similarity percentages, such as 11111_MM_Func_0003 at 100.0%. A legend indicates that orange represents 'New/Modified Test Case (probably)', yellow represents 'Extra step', and blue represents 'Different field'. A 'Generate Test Suite' button is visible. On the right, there are 'Preferences' for 'Next new ID' (34) and 'Automatic Association' settings for 'First most similar' (> 90%) and 'Second most similar' (< 80%).

Below the comparison results, the 'Compare Test Cases' section shows a detailed view of 'Test Case 0003'. The table below provides the details for this test case.

Case	Reg. Level	Exe. Type	Case Description	Procedure
Test Case 0003				

Test Case ID: 11111_MM_Func_001

Regression Level: na
Execution Type: Man
Description: None.
Objective: None.

Use Case References: 11111#UC_01
Requirements: TRS_11111_101
Setups: None.

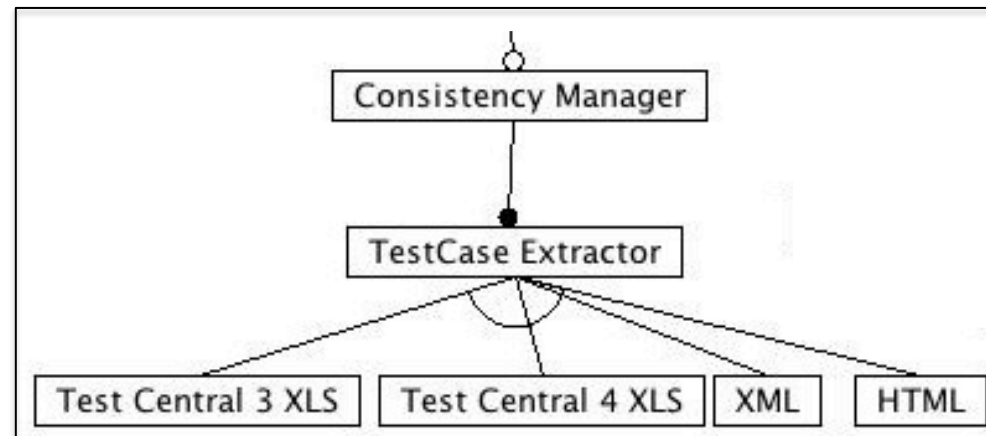
Initial Conditions: 1) My Phonebook application is installed in the phone. 2) There is enough phone memo

Steps	Expected Results
1) Start My Phonebook application.	My Phonebook application menu is displayed.
2) Select the New Contact option.	The New Contact form is displayed.
3) Type the contact name and the phone number.	The new contact form is filled.
4) Confirm the contact creation.	A new contact is created in My Phonebook application.

Final Conditions: None.
Cleanup: None.
Notes: Under Development

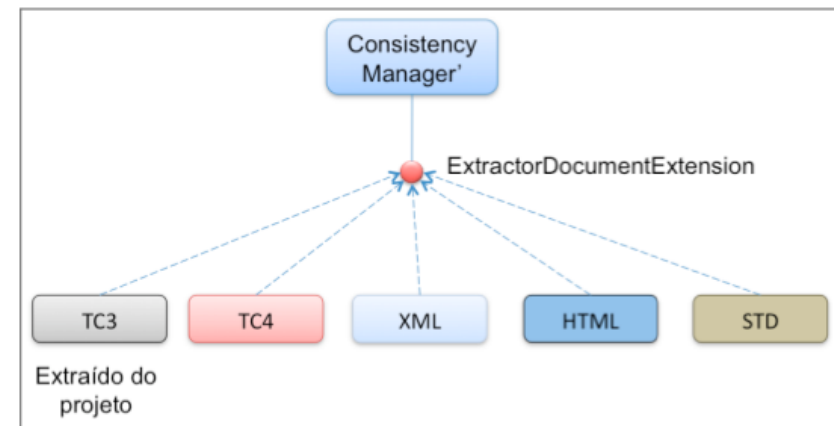
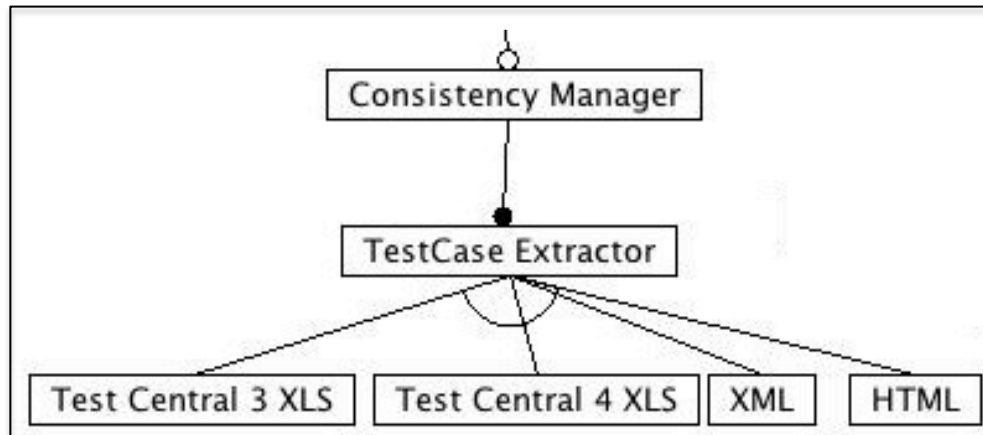
TaRGeT Consistency Management

- Implementação com Aspectos



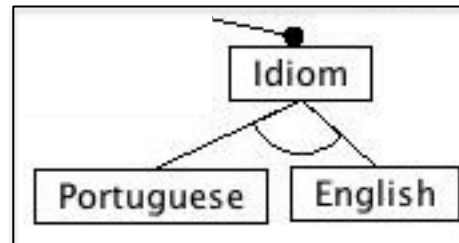
TaRGeT Test Suite Extractor

- Implementação com Extension Points do Eclipse

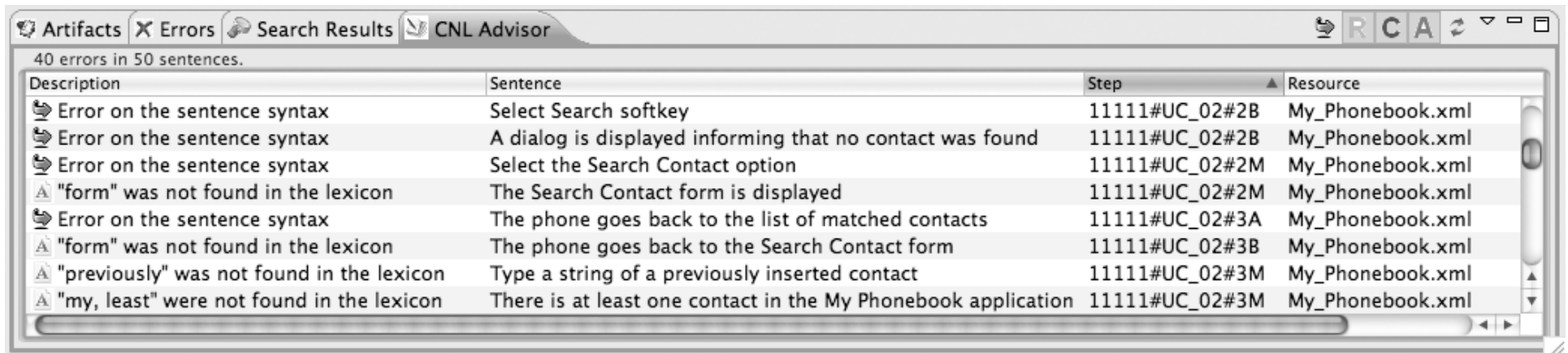


TaRGeT Internationalization Support

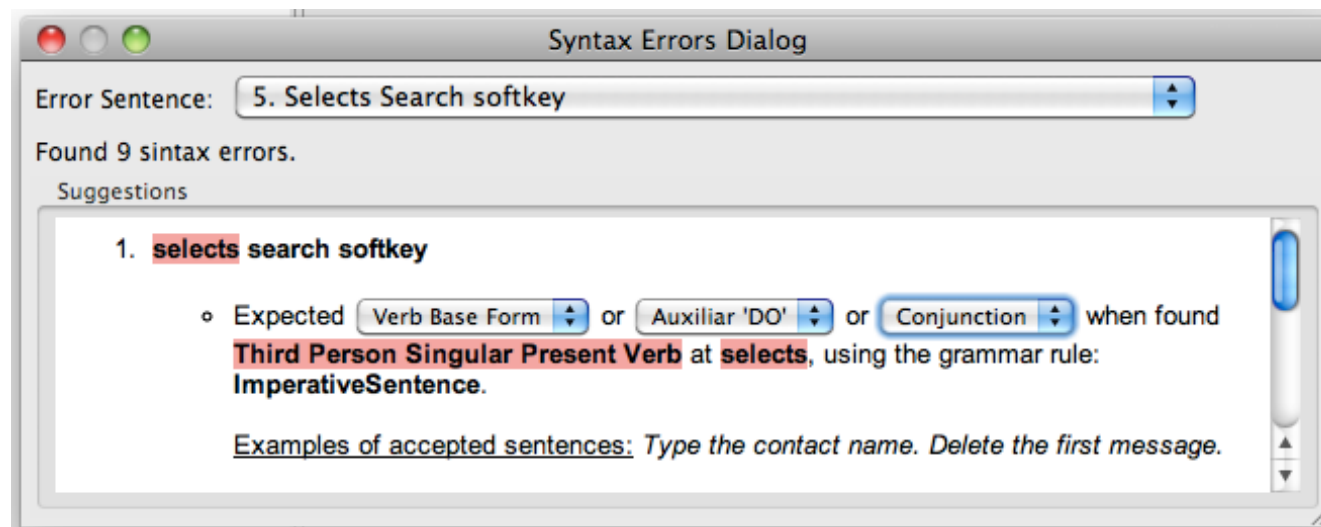
- Textos da GUI armazenados em arquivos de propriedades



TaRGeT CNL



Description	Sentence	Step	Resource
Error on the sentence syntax	Select Search softkey	11111#UC_02#2B	My_Phonebook.xml
Error on the sentence syntax	A dialog is displayed informing that no contact was found	11111#UC_02#2B	My_Phonebook.xml
Error on the sentence syntax	Select the Search Contact option	11111#UC_02#2M	My_Phonebook.xml
"form" was not found in the lexicon	The Search Contact form is displayed	11111#UC_02#2M	My_Phonebook.xml
Error on the sentence syntax	The phone goes back to the list of matched contacts	11111#UC_02#3A	My_Phonebook.xml
"form" was not found in the lexicon	The phone goes back to the Search Contact form	11111#UC_02#3B	My_Phonebook.xml
"previously" was not found in the lexicon	Type a string of a previously inserted contact	11111#UC_02#3M	My_Phonebook.xml
"my, least" were not found in the lexicon	There is at least one contact in the My Phonebook application	11111#UC_02#3M	My_Phonebook.xml



Syntax Errors Dialog

Error Sentence: 5. Selects Search softkey

Found 9 syntax errors.

Suggestions

1. **selects** search softkey
 - Expected Verb Base Form or Auxiliar 'DO' or Conjunction when found **Third Person Singular Present Verb** at **selects**, using the grammar rule: **ImperativeSentence**.

Examples of accepted sentences: Type the contact name. Delete the first message.

Use Case Editor

NewProject - TaRGeT

Use Cases

- Features
 - 11111 - My Phonebook
 - UC_02 - Searching a Contact
 - UC_08 - Creating a New Contact
 - 11169 - IM conversation Str
 - 6376 - Airplane Mode

Searching a Contact

UC_02 - Searching a Contact

Feature

ID* 11111

Name My Phonebook

UC

ID* UC_02

Name Searching a Contact

Description This use case describes the searching of a previously created contact

Setup

Requirements

Requirements Codes
TRS_111166_105
TRS_11111_106
TRS_11111_104

Main Flow

Description Searching for a contact

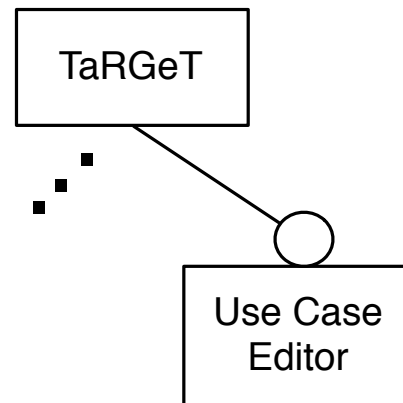
From Steps* START

To Steps* END

Step Id*	User Action*	System State	System Response*
1M	Start My Phonebook application.	My Phonebook application is installed in th	My Phonebook application menu is displaye
2M	Select the Search Contact option.		The Search Contact form is displayed.
3M	Type a string of a previously inserted conta	There is at least one contact in the My Phon	The Search Contact form is filled.
4M	Select Search softkey.		The list of matched contacts is displayed. [1
5M	Select Back softkey.		The phone goes back to My Phonebook app

Use Case Editor

- Implementação com Aspectos
- Feature Interaction

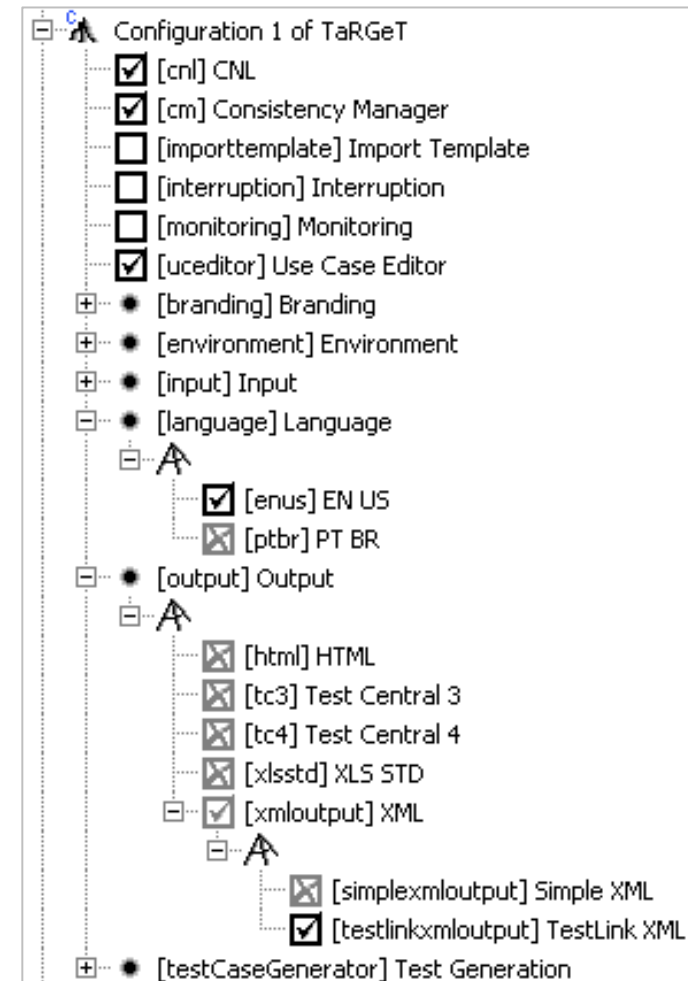
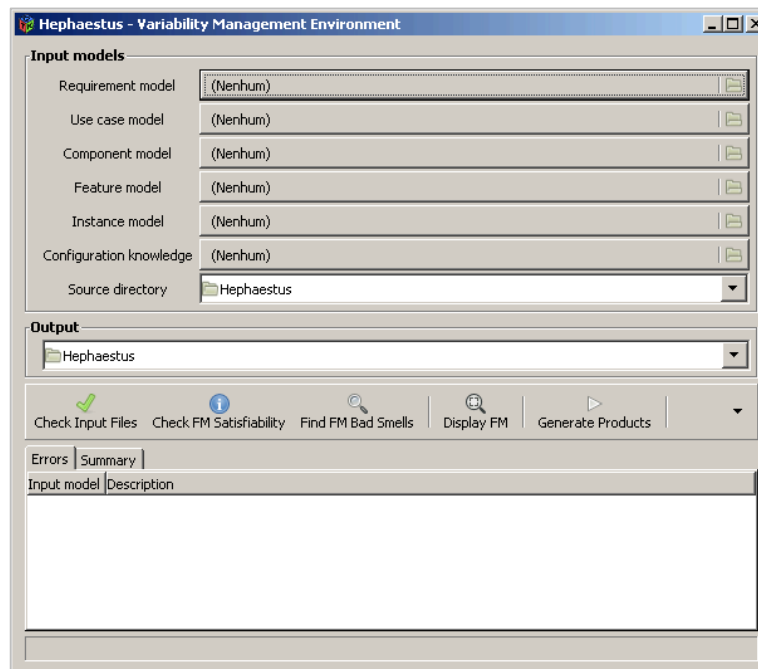


Releases

- [Release 1 | Version 4.00]
 - On The Fly Generation
- [Release 2 | Version 5.00]
 - Consistency Management; SPL
- [Release 3 | Version 6.00]
 - CNL, UseCaseEditor, DOC, XLS, HTML, XML, XML
TestLink

Geração de Produtos

- Feature Model Plugin
- Hephaestus
- Eclipse RCP



Download e Mais Informações

- TWIKI
 - <http://www.cin.ufpe.br/~target>

TaRGeT Software Product Line

Felype Santiago

