ATS4 AppModel Application Modeling Tool Getting Started Material

NOKIA

ATS4 AppModel has been developed based on following:

"Write executable specifications instead of requirements"

Implementing Lean Software Development

Mary and Tom Poppendieck, 2007

NOKIA

content

- what is ATS4 AppModel tool
- use case approach
- managing models
- seven steps to get started
- Appendix: model design, test design, and tester views

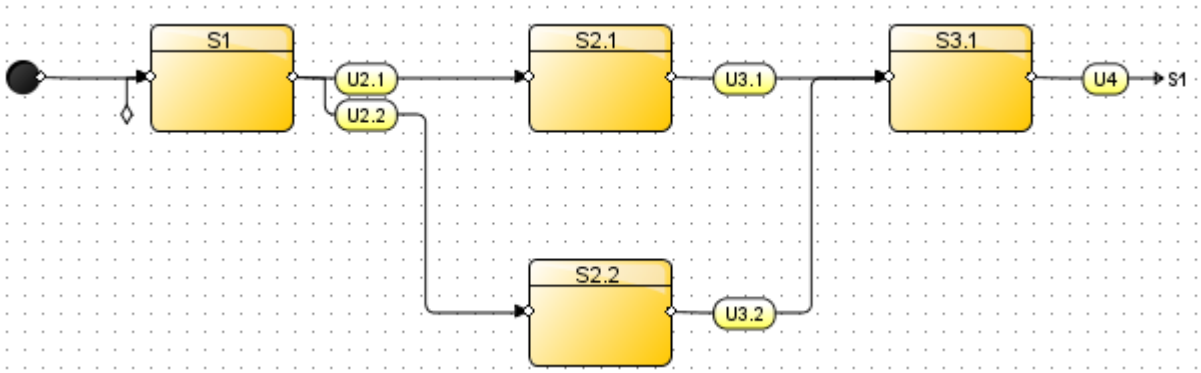
NOKIA

what is ATS4 AppModel

it is an SW application modelling tool
it supports application UI flow design and specification work
it supports application model simulation
it supports model based testing
it is part of ATS tool family, the first one open sourced 5/2009
ATS4 AppModel is based on Nokia internal “KENDO” project 2004-2009

NOKIA

use case approach



ATS4 AppModel is based on use case approach

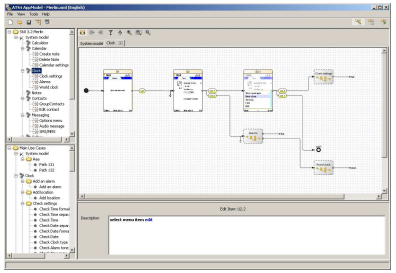
Reference: Ross Collard: Test Design: Developing Test Cases from Use Cases, 1999

User Action is called “User Event”: “a user does something”

System Response is called “System Event”: the system response to user action

NOKIA

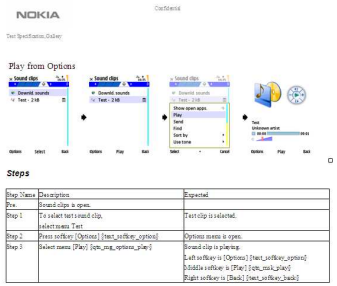
managing (big) models

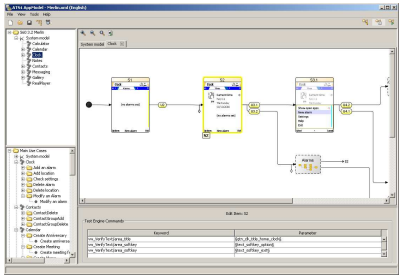


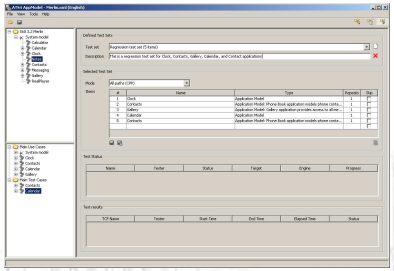
models are managed as following:

A system model includes application models, which are grouped into logical functions, called sub-models.

Use cases and test cases form logical units, like any normal use or test case, which can start and end at any model point.







```
ASTE test script generated by Kendo (v.2008-10-01 dev) on 2008-09-30 13:08:17 (+0300)

1.0 Test Case (PA #00000001)
Gallery Start   kw_AppState $Media$
Gallery S0          vw_VerifyText   $text_softkey_option$
Gallery S0          vw_VerifyText   $text_softkey_exit$
Gallery U1.1    kw_SelectMenu   $qtn_mg_folder_main_videos$
video clips U1.1    kw_SelectMenu   Test/False
video clips U2.1    kw_PressSoftkey $qtn_msk_play$
RealPlayer U3   kw_WaitTime 5
RealPlayer U4   kw_PressSoftkey $text_softkey_back$

1.1 Test Case (PA #00000002)
Gallery Start   kw_AppState $Media$
Gallery S0          vw_VerifyText   $text_softkey_option$
Gallery S0          vw_VerifyText   $text_softkey_exit$
Gallery U1.1    kw_SelectMenu   $qtn_mg_folder_main_videos$
video clips U1.1    kw_SelectMenu   Test/False
video clips U2.2    kw_PressSoftkey $text_softkey_option$
video clips U3.1    kw_SelectMenu   $qtn_options_help$
video clips S3.1        vw_VerifyText   $text_softkey_option$
video clips S3.1        vw_VerifyText   $text_softkey_close$
video clips U4  kw_PressSoftkey $text_softkey_close$

1.2 Test Case (PA #00000003)
Gallery Start   kw_AppState $Media$
Gallery S0          vw_VerifyText   $text_softkey_option$
Gallery S0          vw_VerifyText   $text_softkey_exit$
Gallery U1.1    kw_SelectMenu   $qtn_mg_folder_main_videos$
video clips U1.1    kw_SelectMenu   Test/False
video clips U2.2    kw_PressSoftkey $text_softkey_option$
video clips U3.2    kw_SelectMenu   $qtn_mg_options_view_details$
video clips S3.2        vw_VerifyText   $text_softkey_Ok$
video clips U5  kw_PressSoftkey $text_softkey_Ok$

1.3 Test Case (PA #00000004)
Gallery Start   kw_AppState $Media$
Gallery S0          vw_VerifyText   $text_softkey_option$
Gallery S0          vw_VerifyText   $text_softkey_exit$
Gallery U1.1    kw_SelectMenu   $qtn_mg_folder_main_videos$
video clips U1.1    kw_SelectMenu   Test/False
```

NOKIA

to get started 1/7

use case: AppModel installation and opening models

pre-condition: known ATS4 AppModel download location

1. Download ATS4 AppModel zip and extract it, e.g. C:\Apps\AppModel folder
2. Download AppModel model example zip and extract it, e.g. C:\Apps\AppModel\models
3. Start AppModel C:\Apps\AppModel\ATS4AppModel.bat - Note: java 1.6 required
4. Open [File/Open] some example model, e.g. C:\Apps\AppModel\models\clock.xml

NOKIA

to get started 2/7

use case: application model simulation

pre-condition: application model open in Model Design view

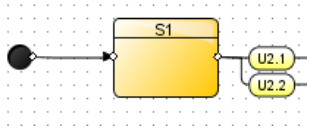
1. click ‘simulation’ icon (tool bar)
2. simulate the model by Back/Stop/Play&Pause/Next
3. click ‘simulation’ icon to return back

to get started 3/7

use case: create a new model

pre-condition: AppModel open in Model Design view

1. select File/New project
2. name the project / click OK
3. double click 2-5 times in System Model window -> system event boxes created
4. connect initial state to the first system state
   - go on top of a system event, left key and connect to next event



5. connect all system events -> user events created automatically
6. click 'organize' icon

7. save the model [File/Save]

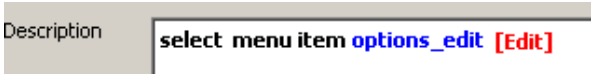
NOKIA

to get started 4/7

use case: model specification generating test script steps

pre-condition: application model created

1. select a user/system event
2. write the description of the event



3. repeat 1. and 2. for all user and system events
   - check keywords.xml file to see user and system event phrases generating test keywords
   - keywords.xml can be modified, own phrases and keywords added
   - test keyword parameters are proposed dynamically using localization.txt file information
4. switch to test design view (right top corner)

5. select user and system events to see generated test script steps

Keyword	Parameter
kw_SelectMenu	edit

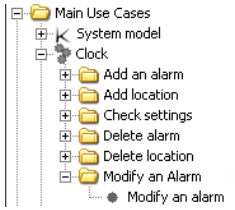
NOKIA

to get started 5/7

use case: test case specification generation

pre-condition: AppModel open in Model Design view

1. open [File/Open] some model
2. open some application model by double click
   - make sure the application model includes use cases



- select File/Export/Application test specification
- name file and save it (*.rtf)
- close pop-up notification and use file explorer to locate and open the file using, for example, Microsoft Word.
- see the generated specification, which can be used in manual testing
  - by modifying the document template, it can also be used as an UI spec (Use Case format)

NOKIA

to get started 6/7

use case: test automation script generation

pre-condition: application model open in Tester view

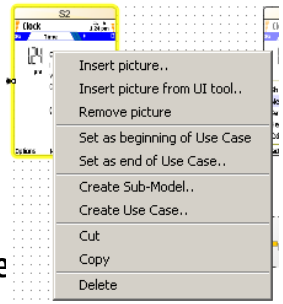
1. create a new test set /name it
2. drag and drop desired models/use cases/test cases to items table name field
   - application models available on left frame (top)
   - use and test cases available on left frame (down)
3. select File/Export/test script
4. select file name to save the file (*.tcf)
5. use file explorer to locate and open the file using, for example, Microsoft Excel (tab separated text file)
6. see the generated test script file
   - you need to have a test tool supporting the generated script file

NOKIA

to get started 7/7

use case: right click features

pre-condition: application model open in Model Design view

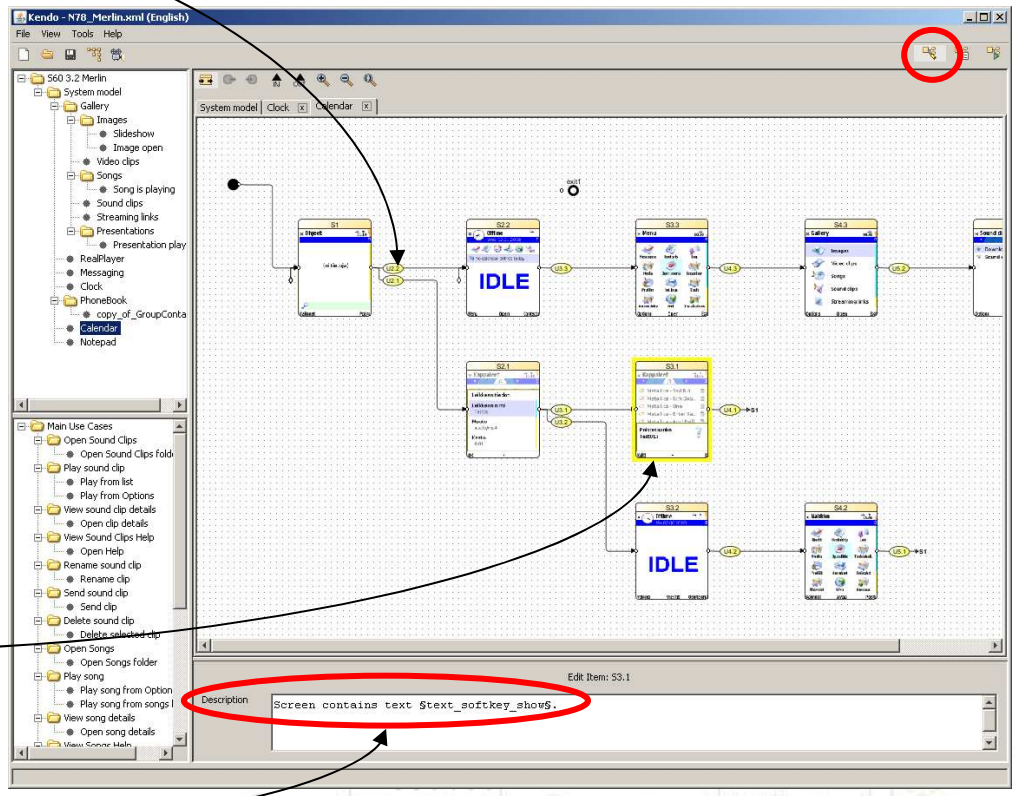


1. select a system event, click right mouse button
   - insert picture – pictures can be loaded dynamically during test execution
   - insert picture using UI design tool (see Tools/Settings/UI tool)
   - remove picture
   - set as beginning/end of use case. In test design view test cases are define
2. select multiple system events (mouse left click / drag over / release), right click
   - in system model tab Create Application model / sub-model / use case
   - in application model tab create sub-model / use case

NOKIA

appendix 1: model designer view

user event - action



system event – verification step

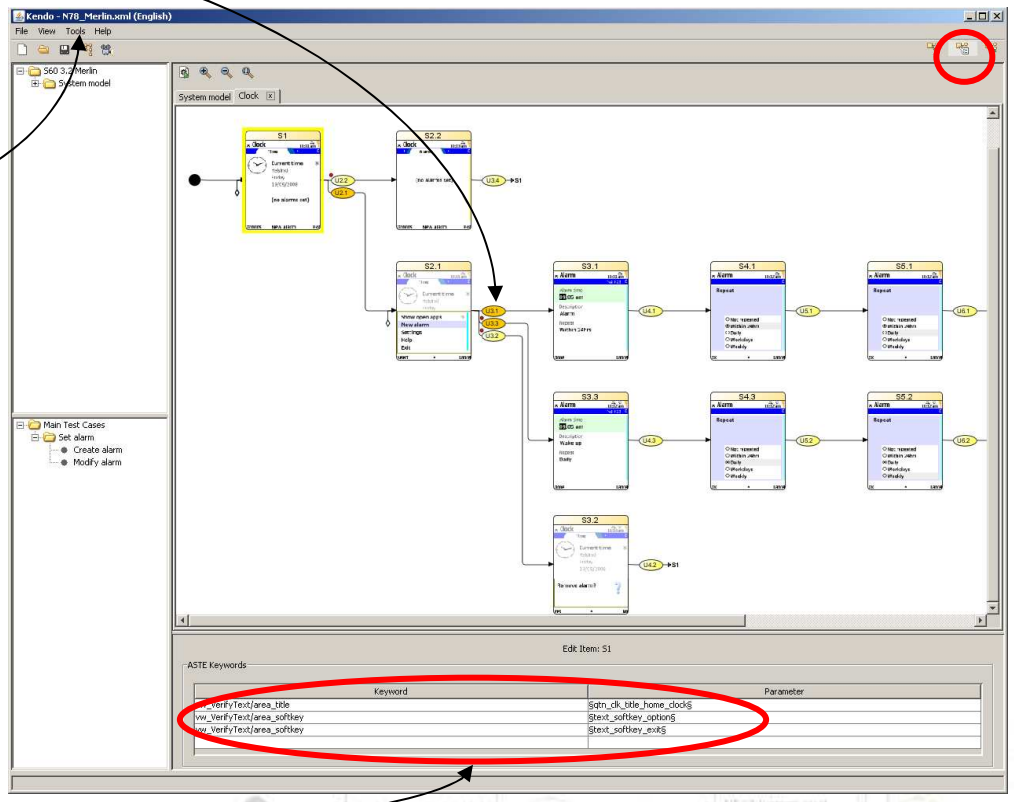
Event description – specification

NOKIA

appendix 2: test designer view

dynamic flags –
runtime path selection

define test data –
used in any event



generated test automation
scripts for an event

NOKIA

appendix 3: tester view

define/select test set

testing mode

test set content – test/use cases, app models

send test set to test engine

test reports (when ATS4 Engine used)