Requirements Document Based Test Scenario Generation for Web Application Scenario Testing

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Background

• **NTT Group**
  • Japan’s largest telecommunications company

• **Huge cost on software development**
  • Over 5000 billion Yen annually
    (4.1 billion US dollar / 3.8 billion Euro)

• **Develop cheaper and faster!**
  • Shift business from “infrastructures” to “IT services”
  • Web applications used as frontend of various systems

• **Related R&D in NTT laboratories**
  • Development Process Standards, Metrics
  • Application Framework, Support tools
  • etc.

Test design support tool: TesMa
What is the problem?

• **Situations at industry level projects**
  - Waterfall process, piles of MS Word and Excel docs
  - Labor-intensive, unequal skill levels
  - effort-consuming and error-prone test design in integration testing and system testing
  - Testing design techniques are known, but hard to be applied manually by low skill engineers

• **Why don’t they use (MBT) tools?**
  - Describing the input model of unfamiliar modeling tool, or complicated notations is difficult for ordinary engineers
  - Besides traditional development activities, creating tool input and examining tool output increase overhead cost
Overview of proposed method

Low overhead cost
adopt existing artifacts defined in standard process

Requirements Documents → Test Scenario List

Use-case Description
Basic flow: ...
Alternate flows: ...
Exception flows: ...

Screen Transition Diagram

Proposed generation method

Category A
Scenario1
Scenario2

Category B
Scenario3
Scenario4
Scenario5

Category C
Scenario6
Scenario7

comprehensive generation
combine use-case testing and State transition testing techniques
How? Did it work?

Please come to my poster!

Thank you!