# FitClipse: A Fit-based Eclipse Plug-in for EATDD

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## Motivation – Time to Pass

- Time Frame: define test → pass test
  - Test Driven Development (TDD)
    - Unit test – fine grained, takes a few minutes [1]
    - Required: all the tests pass all the time

  - Executable Acceptance Test Driven Development (EATDD)
    - Acceptance test – larger pieces
    - Our Hypothesis: take hours even days

**1. Kent Beck: Test-Driven Development: By example, page 11, Addison –Wesley, 2003**.

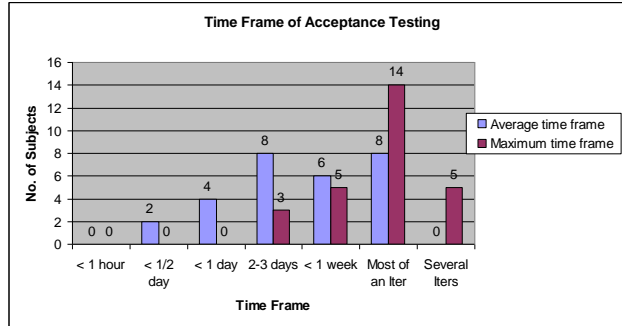June 11, 2007                                                                                          2

- Web survey (Jan – February 2006) 16 Agile user groups

**Time Frame of Acceptance Testing**



- Indication: we will see failed tests
  - Unimplemented feature: never pass
  - Regression failure: has passed before, is failing now

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- FitClipse extends Fit test result scheme

**Table 1**. Comparison of test result states of FitClipse and Fit or FitNesse.

| Test Result States | Fit or FitNesse | FitClipse |
|---|---|---|
| Failure (the tests fail) | Color Red | Regression Failure – failure as a result of a recent change losing previously working functionality (color red) |
| | | Unimplemented Failure – not really a failure as it might simply mean that the development team hasn't started to work on this feature (color orange) |
| Passing (the tests pass) | Color Green | test page with green bar – no difference to Fit/FitNesse (color green) |
| Exception (the tests can not be executed) | Color Yellow | test page with yellow bar – no difference to Fit/FitNesse (color yellow) |

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## FitClipse - Introduction

- Extend Fit test result schema
  - Regression failure and Unimplemented feature
- Based on Fit:
  - Use Fit table syntax
- Works with a wiki repository
  - FitNesse & MASE system
- Eclipse plug-in
  - Perspective, views, wizards, editors, property pages

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## FitClipse - Architecture

- Client – Server : 3 components
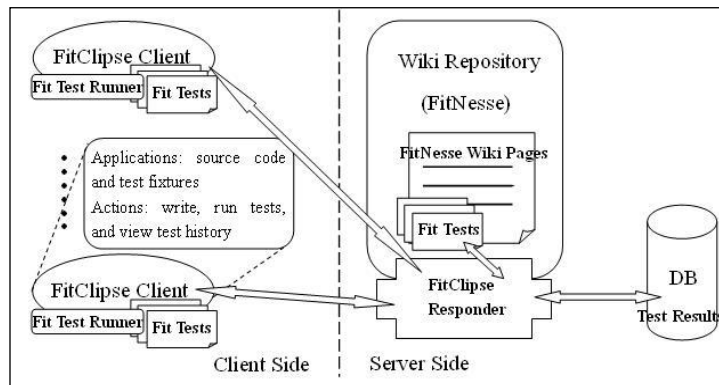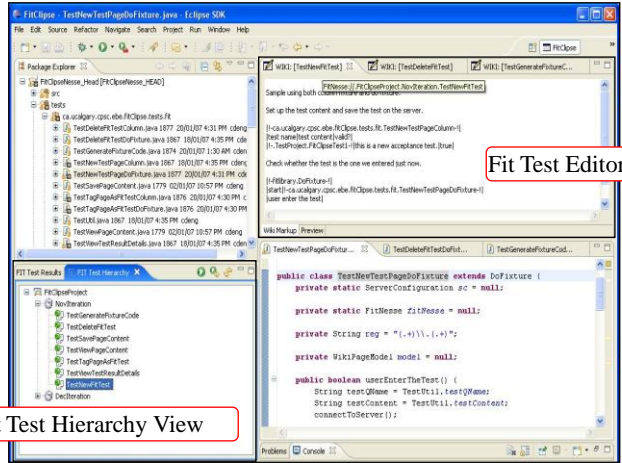


Figure 1 . FitClipse working as testing client with FitNesse server

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# FitClipse

- Create and modify acceptance tests
- Create fixtures
- Implementation



Fit Test Editor

Fit Test Hierarchy View

# FitClipse - EATDD

- View test results



FIT Test Result

Test Result View
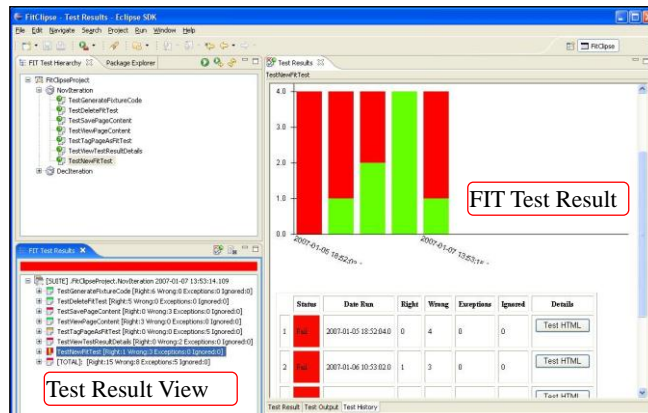
- Student Experiment
  - 7 participants working in two development teams
    - 4 graduate students & 3 undergraduate students
  - Two projects, 4 iterations (1 month/iteration)
    - FitClipse is introduced in the third iteration
  - Follow Extreme Programming, use EATDD

- Experiment result:
  - FitClipse Usfulness

| Usefulness of FitClipse (7 participants) | Identifying two test failure states* | Showing the result history |
|---|---|---|
| Very helpful | 4    67% | 2    29% |
| Helpful | 2    33% | 5    71% |
| Average | 0 | 0 |
| Not helpful | 0 | 0 |

\* Only 6 answers are taken. One participant did not see the regression failure.

– FitClipse Usability

**Table 6.2 FitClipse Ease of Use**

| Usability Participants (7) | No. of Participants |
|---|---|
| Very easy to use | 2 (29%) |
| Easy to use | 4 (57%) |
| Average | 0 |
| Hard to use | 1 (14%) |

– Likely future usage of FitClipse

**Table 6.3 Likely usage of FitClipse in the future**

| Likely future usage Participants (7) | No. of Participants |
|---|---|
| Very likely | 1 (14%) |
| Likely | 6 (86%) |
| Somewhat likely | 0 |
| Not likely | 0 |

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