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

Web Survey

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

![Time Frame of Acceptance Testing](image)

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

### FitClipse – Test Result

- FitClipse extends Fit test result scheme

<table>
<thead>
<tr>
<th>Test Result States</th>
<th>Fit or FitNesse</th>
<th>FitClipse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure (the tests fail)</td>
<td>Color Red</td>
<td><img src="image" alt="Regression Failure – failure as a result of a recent change losing previously working functionality (color red)" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="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)" /></td>
</tr>
<tr>
<td>Passing (the tests pass)</td>
<td>Color Green</td>
<td><img src="image" alt="Test page with green bar – no difference to Fit/FitNesse (color green)" /></td>
</tr>
<tr>
<td>Exception (the tests can not be executed)</td>
<td>Color Yellow</td>
<td><img src="image" alt="Test page with yellow bar – no difference to Fit/FitNesse (color yellow)" /></td>
</tr>
</tbody>
</table>
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

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FitClipse

- Create and modify acceptance tests
- Create fixtures
- Implementation

Fit Test Hierarchy View

Fit Test Editor

Fit Test Result

Test Result View

FitClipse - EATDD

- View test results

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Evaluation

- 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

Evaluation Results

- Experiment result:
  - FitClipse Usfulness

<table>
<thead>
<tr>
<th>Usefulness of FitClipse (7 participants)</th>
<th>Identifying two test failure states*</th>
<th>Showing the result history</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very helpful</td>
<td>4 67%</td>
<td>2 29%</td>
</tr>
<tr>
<td>Helpful</td>
<td>2 33%</td>
<td>5 71%</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Not helpful</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Only 6 answers are taken. One participant did not see the regression failure.
Evaluation - Result

- FitClipse Usability

Table 6.2 FitClipse Ease of Use

<table>
<thead>
<tr>
<th>Usability</th>
<th>No. of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very easy to use</td>
<td>2 (20%)</td>
</tr>
<tr>
<td>Easy to use</td>
<td>4 (57%)</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
</tr>
<tr>
<td>Hard to use</td>
<td>1 (14%)</td>
</tr>
</tbody>
</table>

- Likely future usage of FitClipse

Table 6.3 Likely usage of FitClipse in the future

<table>
<thead>
<tr>
<th>Likely future usage</th>
<th>No. of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very likely</td>
<td>1 (14%)</td>
</tr>
<tr>
<td>Likely</td>
<td>6 (86%)</td>
</tr>
<tr>
<td>Somewhat likely</td>
<td>0</td>
</tr>
<tr>
<td>Not likely</td>
<td>0</td>
</tr>
</tbody>
</table>

Thank You

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