
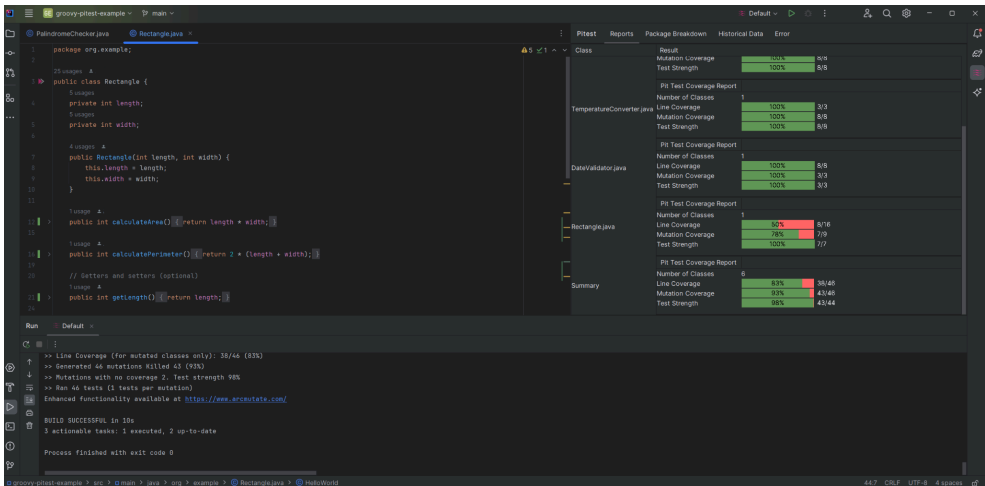
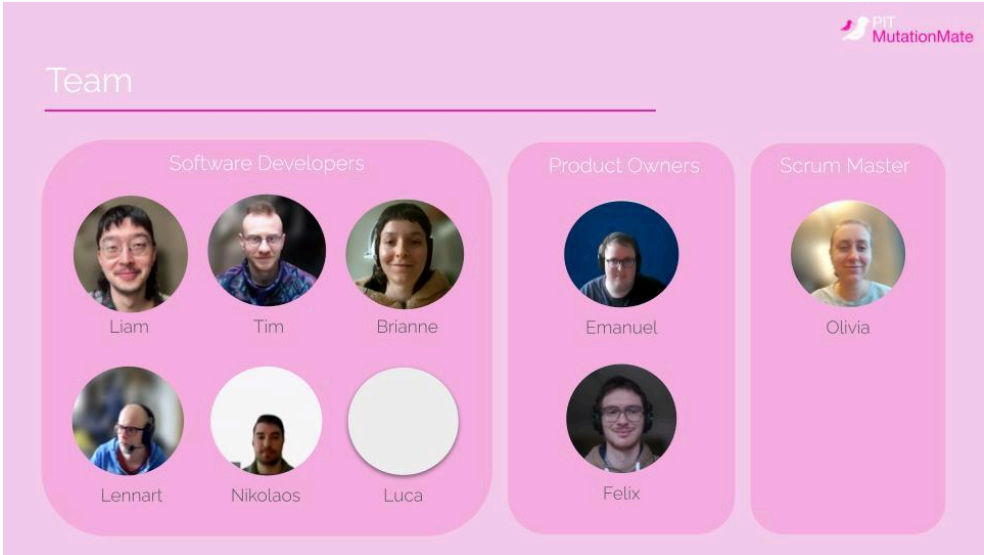


AMOS WS23/24 Project 2 Pitest-IDE-Plugin

Project name	Pit Mutation Mate																																						
Project mission	<p>Our mission is to enhance software mutation testing within the IntelliJ IDE by implementing a specifically designed plugin that integrates with PiTest</p> <p>We aim to not only enhance PiTest’s functionality within IntelliJ IDE but also empower developers with more efficient, precise, and user-friendly software testing tools, ultimately leading to higher-quality software development.</p>																																						
Industry partner	e.solutions																																						
Team logo																																							
Project summary	<p>We developed two different plugins. First we created our main JetBrains IDE plugin that can be used in IntelliJ Idea & AndroidStudio. The plugin enables the user to set the scope for their mutation tests on the fly and integrates a visualization of the results in your working environment. It allows the user to do mutation testing and improve their tests all without leaving the IDE. The second plugin works for Gradle, which helps us to configure Pitest as needed for our main plugin. Additionally, we added a Pitest dependency, that adjusts the given Pitest output to our needs.</p>																																						
Project illustration	 <p>The screenshot illustrates the Pitest plugin's integration with the IntelliJ IDE. The left pane shows the source code of a <code>Rectangle</code> class with methods for calculating area and perimeter. The right pane displays the Pitest Reports, which include a Package Breakdown and a Summary of test results. The Package Breakdown shows the following data:</p> <table><tr><th>Package</th><th>Class</th><th>Line Coverage</th><th>Mutation Coverage</th><th>Test Strength</th></tr><tr><td>org.example</td><td>Rectangle.java</td><td>100%</td><td>100%</td><td>8/8</td></tr><tr><td>org.example</td><td>TemperatureConverter.java</td><td>100%</td><td>100%</td><td>8/8</td></tr><tr><td>org.example</td><td>DateValidator.java</td><td>100%</td><td>100%</td><td>8/8</td></tr><tr><td>org.example</td><td>Rectangle.java</td><td>100%</td><td>100%</td><td>8/8</td></tr><tr><td>Summary</td><td></td><td>100%</td><td>100%</td><td>32/32</td></tr></table> <p>The Summary section shows the following data:</p> <table><tr><th>Metric</th><th>Value</th></tr><tr><td>Line Coverage</td><td>100%</td></tr><tr><td>Mutation Coverage</td><td>100%</td></tr><tr><td>Test Strength</td><td>32/32</td></tr></table> <p>The bottom pane shows the Run output, indicating that the tests passed successfully.</p>	Package	Class	Line Coverage	Mutation Coverage	Test Strength	org.example	Rectangle.java	100%	100%	8/8	org.example	TemperatureConverter.java	100%	100%	8/8	org.example	DateValidator.java	100%	100%	8/8	org.example	Rectangle.java	100%	100%	8/8	Summary		100%	100%	32/32	Metric	Value	Line Coverage	100%	Mutation Coverage	100%	Test Strength	32/32
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Team photo	<div><p>The slide features a pink background with the title 'Team' at the top left and the 'PIT MutationMate' logo at the top right. It is organized into three columns: 'Software Developers' (Liam, Tim, Brianne, Lennart, Nikolaos, Luca), 'Product Owners' (Emanuel, Felix), and 'Scrum Master' (Olivia). Each team member is represented by a circular profile picture and their name below it.</p></div>
Project repository	https://github.com/amosproj/amos2023ws02-pitest-ide-plugin
Additional information	<p>Open Source so it can be developed further</p> <p>Our published project on JetBrains Marketplace:</p> <p>https://plugins.jetbrains.com/plugin/23575-pitmutationmate</p> <p>The necessary gradle plugin can be found on the gradle plugin repo:</p> <p>https://plugins.gradle.org/plugin/io.github.amos-pitmutationmate.pitmutationmate.override</p>