

tsDetect Enhancement Reporting

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ICS 496

Fall 2022

Introduction

Software Quality

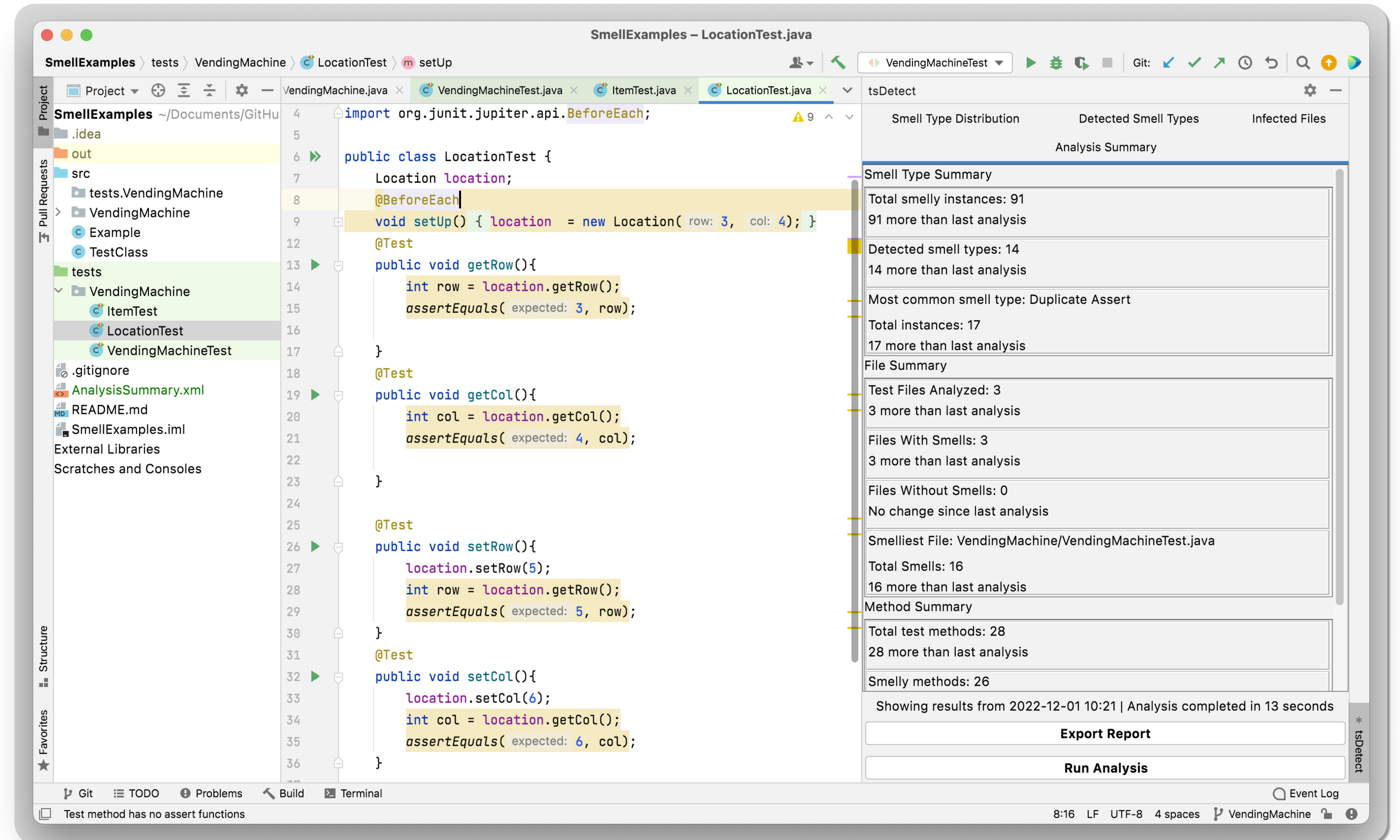
Software quality measures how well the software is working. It is the **conformance to functional and performance requirements and development standards**. Furthermore, software quality drives predictability and helps maintain the reputation of the system.

Test Smells

Test smells are **sub-optimal design choices** developers make when writing test cases. These are usually violations of established best practices, guidelines, and concepts. Test smells **negatively impact software maintenance** activities.

tsDetect

An **open-source test smells detection** tool
Available as a plugin for IntelliJ IDEA
Detects **19 types of test smells** in JUnit code
Performs **real-time analysis** of the code for the presence of test smells



Enhancements

Tasks Accomplished

- Creation of data for testing
 - This data helped identify pre-existing defects in the plugin
- Implemented the “**Analysis Summary**” UI that provides a summary of the test smell detection analysis
 - **Smell Type Summary** – Shows the change in the count of detected smells and the most commonly occurring smell type
 - **File Summary** – Shows the count of files analyzed, those that have smells, and the file with the most number of smells
 - **Method Summary** – Shows the change in the count of test methods that exhibit test smells and the smelliest method
- Saves a summary of the analysis in an XML file

Challenges

- Documentation on the setting up of the development environment for the plugin was lacking
- The team did not have prior experience with the IntelliJ API
- Documentation about the IntelliJ API is not widely available

Learnings

- Understanding of test smells and the different types of test smells
- Acquired IntelliJ plugin/platform API skills
- Improved knowledge of Java, unit testing, code debugging technique & software design
- Improved knowledge of Git
- Improved project management skills