

# HWA Project

BY ASSHWIN MUGUNDHARAJAH

# Introduction

How did I approach the specification?

- ▶ Web Application for adding cars to a system and recording the modifications for each car. Also shows the total spent on mods.
- ▶ Focused on the MVP (Minimum Viable Product).
- ▶ Didn't focus too much on extra functionality. But added one extra functionality (Total spent on mods).
- ▶ Main goal to approach the project as simply as possible.
- ▶ Started off with backend first (SpringBoot), then frontend (HTML/JS).
- ▶ Testing done through out whole process and at end.

# Consultant Journey

What technologies have I learned for this project?

- ▶ Spring Boot – First time using it. Similar to Django(Python) but easier.
- ▶ HTML/CSS – Used before but learnt a lot more now.
- ▶ JavaScript – First time using JS. Daunting at the start but got there in the end.
- ▶ Selenium – First time using it. Straightforward but at times finicky to use in regards to waits.
- ▶ Jira – Github integration with commits. Testing, bugs. Was able to use it fully this time.

# CI

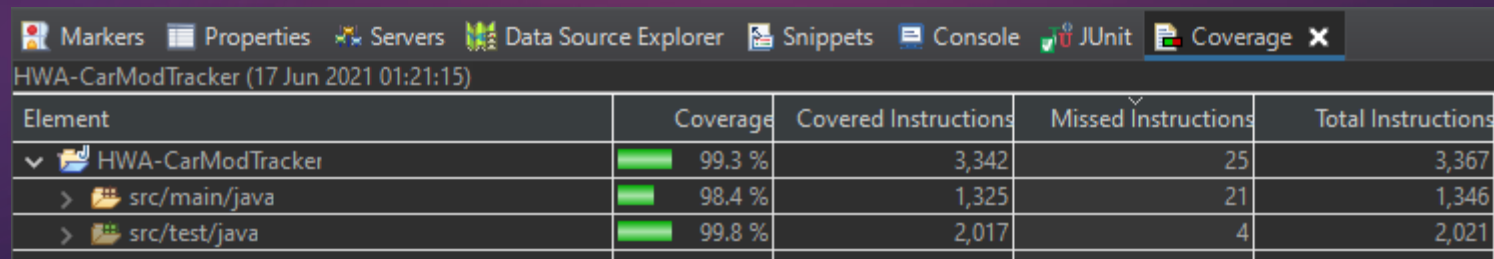
How did you approach version control?

- ▶ Git for version control.
- ▶ Feature-branch model.
- ▶ Made regular commits in units/features.
- ▶ Tagged commits back to Jira issues.
- ▶ Jira integration made testing and committing easier.

# Testing

What was tested? Coverage of the **src/main/java** folder was 98.4%

- ▶ Unit and Integration tests were made for each unit in service and controller class.
- ▶ GOAL: Only committed if it passed tests.
- ▶ All methods in Service and Controller classes were tested.
- ▶ Selenium testing for frontend.
  - ▶ Tested each CRUD functionality of the webpage(Adding a car, adding a mod etc...)
- ▶ Coverage of **src/main/java** folder was 98.4% in eclipse.



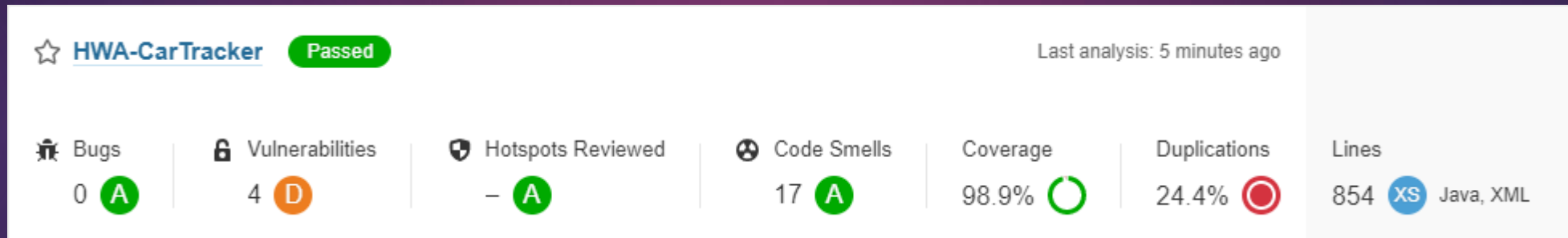
The screenshot shows the Eclipse IDE's Coverage view. The title bar indicates the project is 'HWA-CarModTracker' and the test was run on '17 Jun 2021 01:21:15'. The table below provides a detailed breakdown of code coverage for the project and its sub-packages.

Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
▼ HWA-CarModTracker	99.3 %	3,342	25	3,367
> src/main/java	98.4 %	1,325	21	1,346
> src/test/java	99.8 %	2,017	4	2,021

# Testing (SonarQube)

Static analysis tool

- ▶ Helped refactoring code (duplicated code).
- ▶ Efficient coding practices.
- ▶ Coverage was different 98.9%



# Demonstration

- ▶ AS A USER, I want to be able to add a car to the system. SO I CAN start recording the modifications.
- ▶ AS A USER, I want to be able to add a modification to a car. SO I CAN keep track of the modification.
- ▶ AS A USER, I want to be able to read all modifications on a car. SO I CAN see all the modifications on the car.
- ▶ AS A USER, I want to see how much I've spent on modifications.

# Sprint Review

What did I complete? What got left behind?

What did I complete?

- ▶ Was able to complete all issues in each sprint.
- ▶ End of every sprint code was tested.
- ▶ Next sprint would include bugs/tasks from previous sprint.

What got left behind?

- ▶ Task/user story moved to next sprint.
- ▶ All tasks and user stories set were completed.



# Sprint Retrospective

What went well? What could be improved?

What went well?

- ▶ Was able to complete all issues set.
- ▶ Tested the code and updated the issues before every sprint.

What could be improved?

- ▶ Not go over the set days for the sprints. Set realistic timeframes.
- ▶ More realistic story points for the issues. Usually overestimating SP.
- ▶ More practice with JS would have made coding a lot easier for the frontend.

# Conclusion

Reflections on the project, future steps.

- ▶ Project helped me gain confidence in Spring Boot and HTML/CSS/JS
- ▶ Learned usefulness of JS in creating elements.
- ▶ Learned how to do frontend testing with Selenium.
- ▶ Future work
  - ▶ Redesign UI, more responsive etc..
  - ▶ Add option to add service items.
  - ▶ Add options to notify of next MOT, Tax etc...
  - ▶ Automatically enter current details in to fields when selecting car to update.
  - ▶ Change default picture.

Questions?