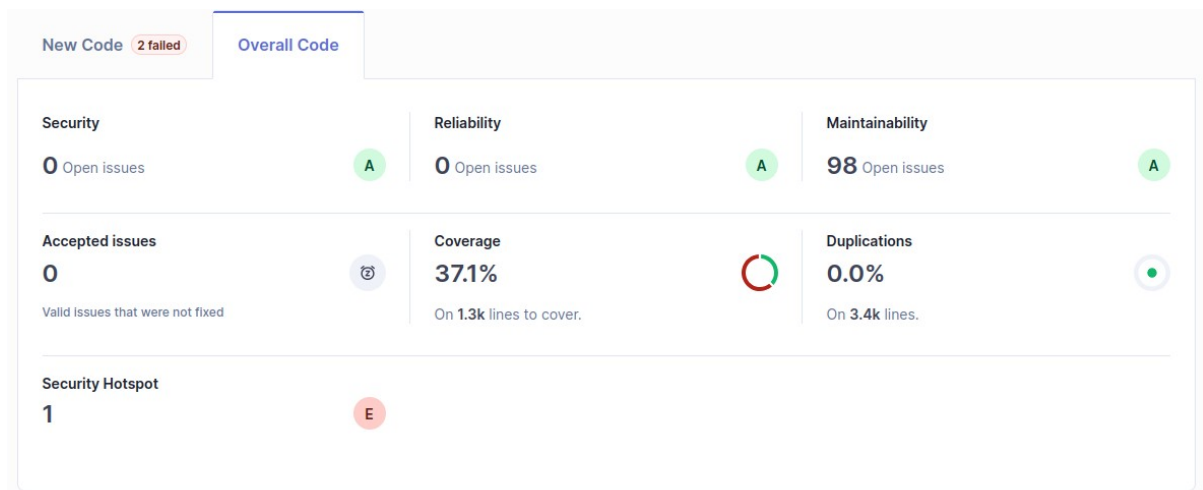


Sprint 6 – Code review, analysis, cleanup and acceptance tests

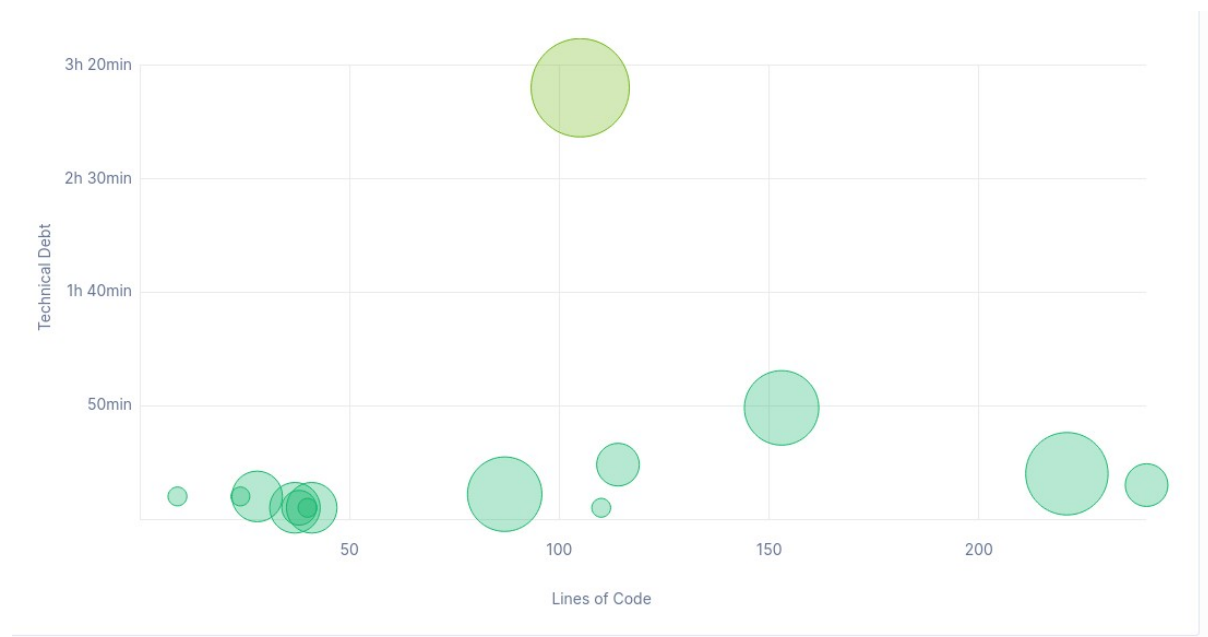
Sonarqube reports



Quality gate currently set in SonarQube demands >80% coverage which we do not have. There is 1 security warning related to unzipping the JAR to gather all translation files for reading. Maybe there would be a better way of handling this, the handling for this when using JAR archived application was done under pressure and also resulted in possibly unnecessary cognitive complexity in the LocaleSingleton class.

We have paid attention from the beginning to minimizing redundant or duplicate code and it has paid off now.

Maintainability:



Mostly good with:

Info notices:

Many “todo” tags as there is a lot to still work on in the features or making sure of best practice solutions.

Two singleton classes which cause a notice as it should be made sure a singleton is absolutely necessary, which in our case might actually not be. Future to do would also include possibly rewriting of these singletons to normal objects and passing them through the program to where they are needed, if that would be the best solution.

Warnings:

Client is not in a namespace which leads to a low level warning

Multiple constants, final fields, which Sonarqube suggests setting as statics, not possible in all cases

Blocks of commented out code in pom.xml and few classes, these are left as they are yet unfinished methods but instead of removing them we would rather finish them when there is time

Mentions of using a generic exception instead of a dedicated one, we should probably create our own exceptions for some of these cases and maybe see if there is a certain exception to use instead of the general one

No parameterized type provided for the used generic. This might need going through with thought the interface and how the two different generics are used in all cases of implementing this interface. Would take a bit of time to make sure it is done correctly, we will add this to future developments too.

Unused method parameters for unfinished methods, e.g. removing and updating a user

High severity:

Multiple cases of literals used where Sonarqube demands constants. This seems overly strict as these are in some cases just logging messages or gui messages.

When using singletons getter to retrieve the token Sonarqube suggests turning the whole calling method to a static method which is not how the method is used, it seems to mix up getting the value from static class with setting the value there. We only read the token when creating queries, why would we turn those methods in to static methods? Might be worth a read.

One class has high cognitive complexity and probably should be redesigned

Few test cases which do not have assertions in date and number format localisations. More test cases should be done also to reach the 80% limit.

Metrics:

Lines of code: 2480

Functions: 296

Lines of code per function: 8.37

Code complexity:

Cyclomatic Complexity: 369

Cognitive Complexity: 142

Duplicate code: 0%

Unreachable code: 0%

View in client:

Major changes made:

Changed all system outs to logger all function and variable names to the same style
changed IController to AbstractController because its Abstract

Model in client:

Added parameter types for generics, throwing exceptions when those forgotten, removal of commented out old lines of code. Many smaller fixes as per Sonarqube's suggestions.

Maintainability:

Maintainability ?		▼
Overview		
New Code		
Issues		7
Debt		25min
Debt Ratio		0.8%
Rating		A
Overall Code		
Issues		98
Debt		7h 15min
Debt Ratio		0.6%
Rating		A

Coverage:

Overall Code	
Coverage	37.1%
Lines to Cover	1,273
Uncovered Lines	783
Line Coverage	38.5%
Conditions to Cover	129
Uncovered Conditions	99
Condition Coverage	23.3%
Tests	
Unit Tests	56
Errors	0
Failures	0

Size:









Size	▼
New Lines	271
Lines of Code	2,480
Lines	3,436
Statements	1,019
Functions	296
Classes	38
Files	39
Comment Lines	316
Comments (%)	11.3%

Complexity ? ▼	
Cyclomatic Complexity	369
Cognitive Complexity	142

Issues ▼	
New Code	
Open Issues	7
Accepted Issues	0
Overall Code	
Open Issues	98
Confirmed Issues	0
Accepted Issues	0
False Positive Issues	0









Cyclomatic Complexity 369 [See history](#)

New Code: Since April 14, 2025

 src/main/java/util/ LocaleSingleton.java	32
 src/main/java/controller/ DeviceListController.java	25
 src/main/java/model/ Device.java	21
 src/main/java/model/ DeviceShare.java	20
 src/main/java/model/ Client.java	19
 src/main/java/util/ ConfigSingleton.java	19
 src/main/java/model/ Person.java	18
 src/main/java/controller/ DeviceController.java	17

Cognitive Complexity 142 [See history](#)

New Code: Since April 14, 2025

 src/main/java/util/ LocaleSingleton.java	23
 src/main/java/controller/ DeviceListController.java	18
 src/main/java/controller/ DeviceController.java	14
 src/main/java/controller/ LogSingController.java	10
 src/main/java/controller/ AbstractController.java	9
 src/main/java/http/ DeviceShareQuery.java	8
 src/main/java/http/ UserParser.java	8
 src/main/java/util/ ConfigSingleton.java	6

Acceptance Testing Plan: I-SPY-U

Purpose: This document outlines the plan for Acceptance Testing of the I-SPY-U application. It defines the criteria for acceptance and details the tests designed to verify that the application meets user requirements and is fit for purpose.

1. Define Acceptance Criteria

Based on the core requirements for I-SPY-U, the following criteria must be met for the project:

Criterion ID	Requirement Area	Category	Description	Verification Method
AC-01	User Authentication	Functional	Users must be able to register a new account with a unique email, username and password.	Test case
AC-02	User Authentication	Functional	Registered users must be able to log in using their correct credentials.	Test case
AC-03	User Authentication	Functional	Users must receive a clear error message if login fails	Test case
AC-04	My Devices Viewing	Functional	Logged-in users must be able to see a list of their own devices under "My Devices"	Test case
AC-05	My Devices Interaction	Functional	Logged-in users must be able select a device from the "My Devices" list.	Test case
AC-06	My Devices Viewing	Functional	Upon selecting a device from "My Devices", its details must be displayed.	Test case
AC-07	My Devices Management	Functional	Logged-in users must be able to add a new device by clicking "Add a new device" button and inserting a unique UUID, name and description.	Test case
AC-08	My Devices Management	Functional	Logged-in users must be able to remove a device by clicking "Remove Device" button.	Test case
AC-09	My Devices	Functional	Logged-in users must be	Test case

	Navigation		able to open a device by clicking "Open device" button.	
AC-10	My Device Viewing	Functional	Upon opening a device, users must be able to see the last 15 logs.	Test case
AC-11	My Device Navigation	Functional	Logged-in users must be able to navigate to "Share" tab.	Test case
AC-12	My Device Viewing	Functional	Logged-in users must be able to view the list of users who have access to a device they own.	Test case
AC-13	My Device Management	Functional	Logged-in users must be able to share their device with email, selecting a role and description	Test case
AC-14	My Device Navigation	Functional	Logged-in users must be able to return to "My Devices" tab by clicking "Back to device list" button.	Test case
AC-15	Share Devices Navigation	Functional	Logged-in users must be able to navigate to "Share devices" tab	Test case
AC -16	Share Devices Viewing	Functional	Logged-in users must be able to see devices that have been shared with them under "Share Devices" tab	Test case
AC-17	Share Devices Intercation	Functional	Logged-in users must be able to select a device from the "Share Devices" list.	Test case
AC-18	Share Devices Viewing	Functional	Upon selecting a device from "Share Devices", its details must be displayed.	Test case
AC-19	Share Devices Management	Functional	Users can remove shared devices via the 'Remove Share' button.	Test case
AC-20	Share Devices Navigation	Functional	Logged-in users must be able to open a shared device by clicking "Open	Test case

			device" button	
AC-21	Share Device Viewing	Functional	Upon opening a shared device, users must be able to see the last 15 logs.	Test case
AC-22	Share Device Navigation	Functional	Logged-in users must be able to navigate to "Share" tab.	Test case
AC-23	Share Device Interaction	Functional	Logged-in users must be able to edit the shared devices description shown to them.	Test case
AC-24	Share Device Navigation	Functional	Logged-in users must be able to return to "Share Devices" tab by clicking "Back to device list" button.	Test case
AC-25	User Interface	Usability	Key functions (Login, Register, Add Device, Open Device, Share Device) should be easy to find and use.	Usability testing
AC-26	User Interface	Usability	Navigation between sections ("My Devices", "Share Devices", device views) should be clear.	Usability testing
AC-27	Responsiveness	Performance	Selecting a device from "My Devices" list should feel responsive (target: < 3 seconds)	Performance testing
AC-28	Responsiveness	Performance	Actions like adding, removing, or sharing a device should update the UI quickly (target: < 2 seconds).	Performance testing

2. Design Acceptance Tests

The following tests are designed to validate the Acceptance Criteria.

(A) Functional Tests

Test Case ID	Related AC(s)	Test Title	Test Steps	Expected Result
AT-F-01	AC-01	Successful Registration	1. Navigate to register page. 2. Enter new unique email, username & password. 3. Click Register.	Account successfully created. User is redirected to "My Devices" tab
AT-F-02	AC-02	Successful Login	1. Navigate to login page. 2. Enter registered username & correct password. 3. Click Login.	User logged in and redirected to "My Devices" tab.
AT-F-03	AC-03	Failed Login (Bad Password)	1. Navigate to the Login page. 2. Enter registered username & incorrect password. 3. Click Login.	Login fails. User remains on the login page and error message "Invalid credentials" is shown.
AT-F-04	AC-04	View "My Devices" List	1. Log in successfully. 2. Ensure the "My Devices" tab and list of devices is displayed.	A list containing devices owned by the logged-in user is displayed.
AT-F-05	AC-05 AC-06	Select Device from "My Devices" and view details	1. Log in. 2. In "My Devices" tab click on a specific device entry in the list.	The device entry is visually indicated as selected (e.g., highlighted). Device details are shown.
AT-F-06	AC-07	Add new device	1. Log in. 2. In "My Devices" click "Add a new device" button. 3. Enter unique UUID, name and description. 4. Click "Add device" button	Add device window closes and the device appears in the "My Devices" list
AT-F-07	AC-08	Remove a device	1. Log in. 2. In "My Devices". 3. Select a device. 4. Click "Remove Device". 5. Confirm the removal	Remove device windows closes and the device is removed from "My Devices" list
AT-F-08	AC-09 AC-10	Open device from "My	1. Log in. 2. In "My Devices". Select a device.	User is navigated to the view for the selected device and

		Devices" and view logs	3. Click the "Open device" button.	displayed last 15 logs (or all if fewer)
AT-F-09	AC-11 AC-12	Navigate to owned device "Share" Tab and view shared users	1. Log in. 2. Open an owned device. 3. Click the "Share" tab within the device view.	The sharing management section for that device is displayed and a list of users who have access to the device is displayed (if any)
AT-F-10	AC-13	Share Owned Device with Another User	1. Log in. 2. Open owned device, go to "Share" tab. 3. Enter email of another valid user, select role, enter description. 4. Click "Share".	*Success message. The newly added user appears in the list of users with access (verify via AT-F-12).
AT-F-11	AC-14	Navigate Back from Owned Device to List	1. Log in. 2. Open an owned device. 3. Click the "Back to device list" button.	User is returned to the main "My Devices" list view.
AT-F-12	AC-15	Navigate to Main "Share Devices" Tab	1. Log in. 2. Click the main "Share Devices" tab in the navigation.	The "Share Devices" view is displayed, intended to list devices shared <i>with</i> the current user.
AT-F-13	AC-16	View "Share Devices" List	1. Log in. 2. Navigate to "Share Devices" tab.	A list of devices shared with the logged-in user by others is displayed.
AT-F-14	AC-17 AC-18	Select Device from "Share Devices" and view details	1. Log in. 2. Navigate to "Share Devices" tab. 3. Click on a specific shared device entry.	The device entry is visually indicated as selected. Device details are displayed.
AT-F-15	AC-19	Remove a shared device	1. Log in. 2. Navigate to "Share Devices". 3. Select a shared device. 4. Click the "Remove Share" button.	The device gets removed from the "Share Devices" list
AT-F-16	AC-20 AC-21	Open Device from "Share Devices" and view logs	1. Log in. 2. Navigate to "Share Devices". Select a device. 3. Click the "Open device" button.	User is navigated to the view for the selected device and displayed last 15 logs (or all if fewer)
AT-F-17	AC-22 AC-23	Navigate to "Share" Tab (Shared Device), Edit description	1. Log in. 2. Open a shared device. 3. Click the "Share" tab. 5. Edit description 6. Click save.	The sharing information section for that shared device is displayed and the description displayed is

AT-F-18	AC-24	Navigate Back from Shared Device to List	<ol style="list-style-type: none"> 1. Log in. 2. Open a shared device. 3. Click the "Back to device list" button 	<p>updated</p> <p>User is returned to the main "Share Devices" list view.</p>
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(B) Usability Tests

Test Case Related ID	AC(s)	Test Title	Test Scenario / Question for Tester	Expected Observation / Success Metric
AT-U-01	AC-25	Find Registration	(On login page) "Imagine you're a new user. How would you create an account?"	Tester easily locates and navigates to the Register page by clicking the "Sign up" tab.
AT-U-02	AC-25 AC-13	Find share unction	(Logged in, on "My devices") "How would you give another user access to this device?"	Tester quickly navigates to "Share" tab of the device.
AT-U-03	AC-26 AC-16	Basic Navigation	(Logged in, on "My devices") "Where would you look for devices others have shared with you?"	Tester correctly identifies and clicks the main "Share Devices" navigation tab

(C) Performance Tests

Test Case ID	Related AC(s)	Test Title	Test Steps	Expected Observation / Success Metric
AT-P-01	AC-27	Select device loading time	1. Log in as a user with a device. 2. Select a device. 3. Observe loading time.	Details of the device appear (target: < 3 seconds.).
AT-P-02	AC-28	Remove device responsiveness	1. Log in. 2. Select a device 3. Click on "Remove device" button. 4. Confirm removal. 5. Observe UI.	The device disappears from the list (target: < 2 seconds.)