

# 1. Block 4.2: CS6514: Software Architecture Design

## Portfolio

iDavie Case Study  
Art Ó Liathain  
October 2025

pagebreak

## 2. Table of Contents

outline

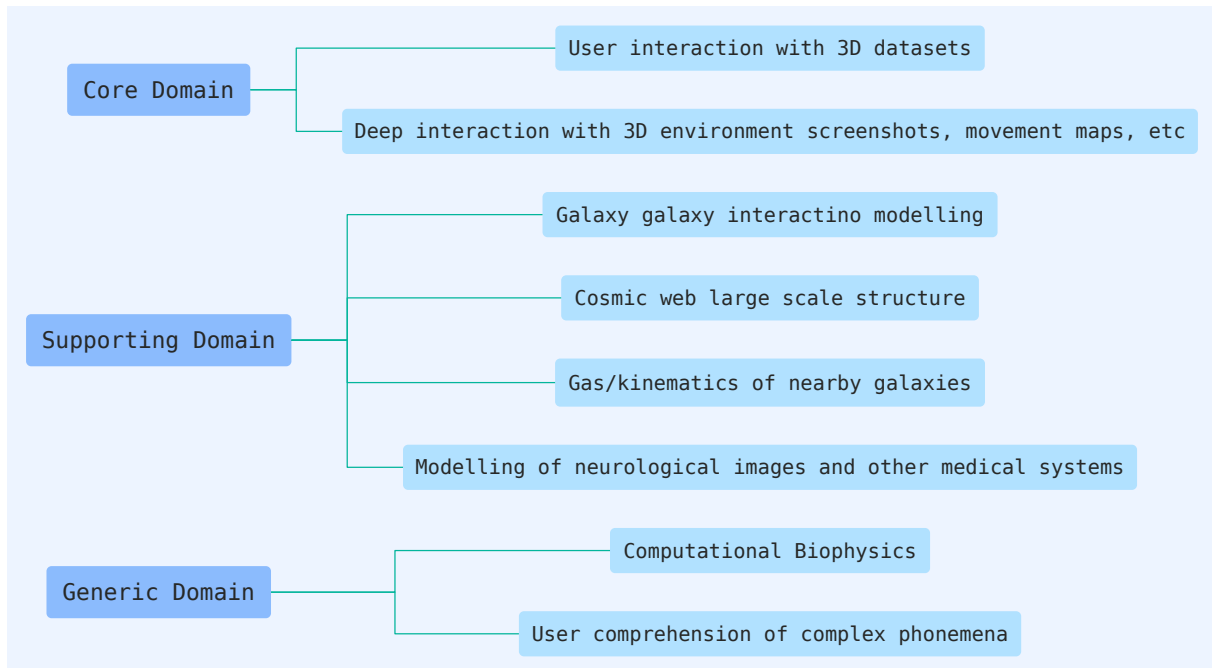
### List of Figures

Figure 1	Use case state machine .....	3
Figure 2	Codescene coupling diagram 40% .....	3
Figure 3	Codescene Maintenance Diagram .....	4
Figure 4	Codescene Hotspot overview .....	4
Figure 5	Sonarqube cyclomatic complexity .....	5
Figure 6	Sonarqube maintainability .....	5
Figure 7	Sonarqube reliability graph .....	6
Figure 8	Duplications Graph .....	6
Figure 9	.....	7
Figure 10	.....	7
Figure 11	.....	7
Figure 12	C4 Diagram .....	8

pagebreak

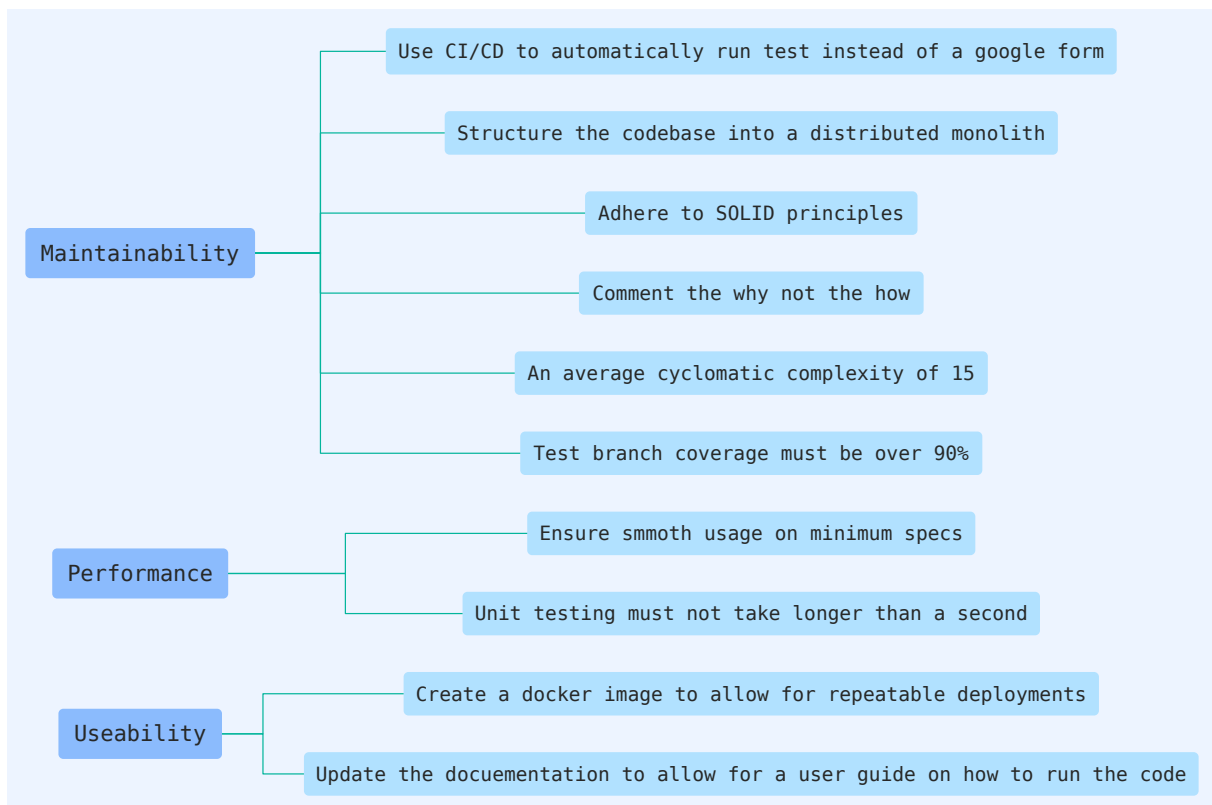
### 3. Tech Stack

### 4. Domain Model



Listing 1: Domain Model

### 5. Utility Tree



Listing 2: Utility Tree

## 6. Use case diagram

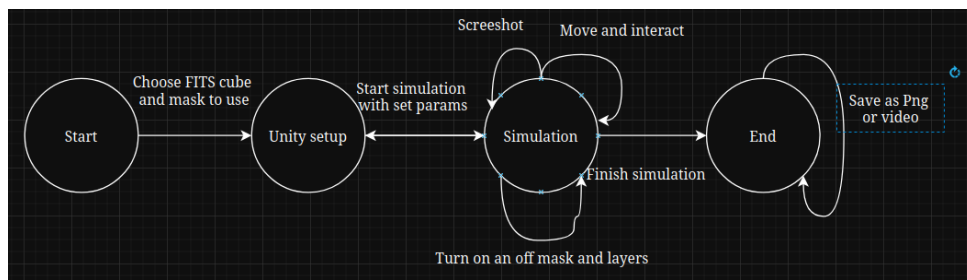


Figure 1: Use case state machine

## 7. Codescene

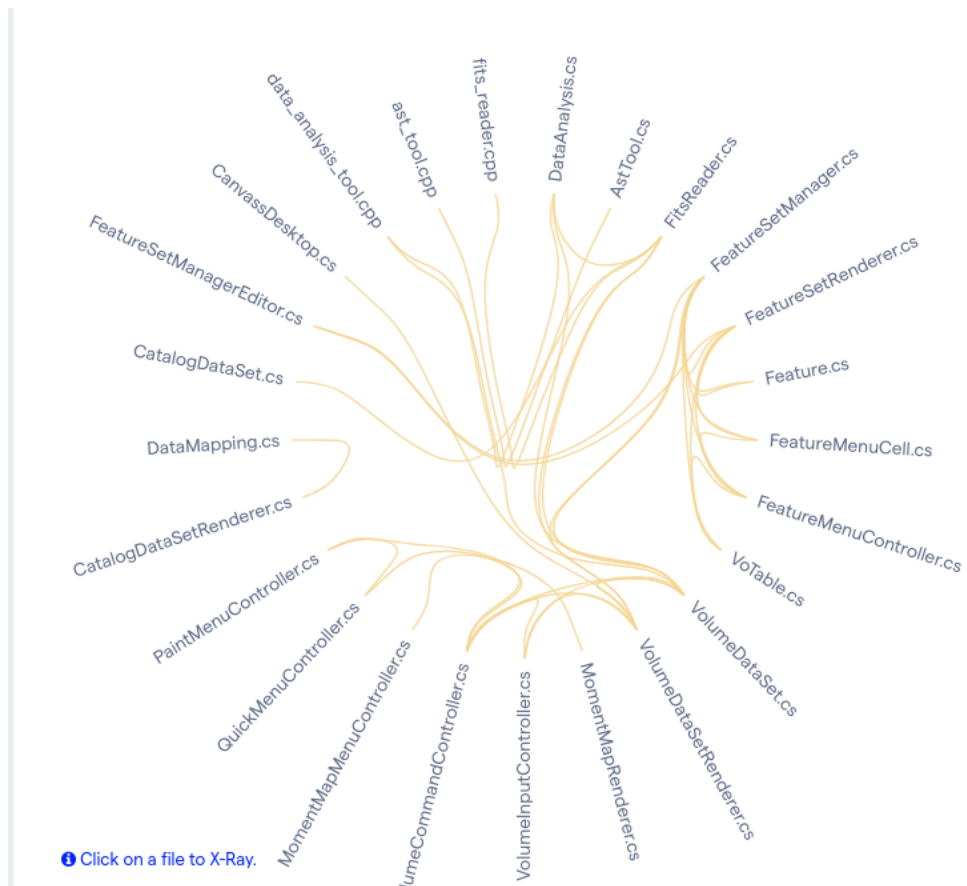


Figure 2: Codescene coupling diagram 40%

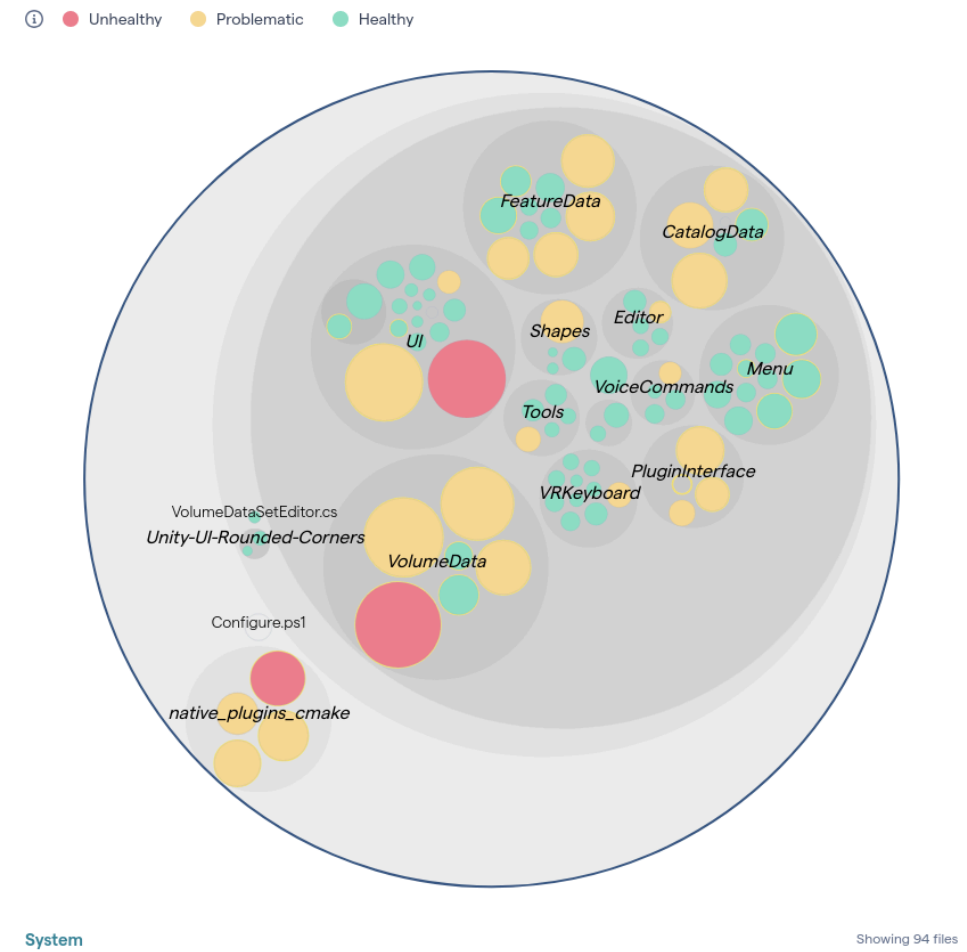


Figure 3: Codescene Maintenance Diagram

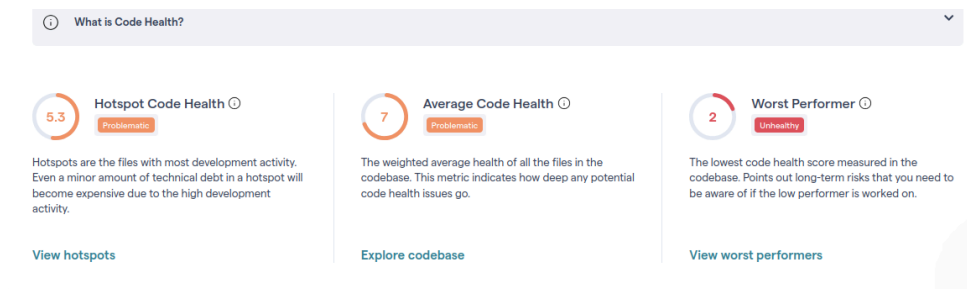


Figure 4: Codescene Hotspot overview

## 8. Sonarqube

Cyclomatic Complexity 531	
Feature.cs	39
FeatureAnchor.cs	7
FeatureMapper.cs	4
FeatureMenuCell.cs	66
FeatureMenuController.cs	99
FeatureMenuDataSource.cs	6
FeatureSetManager.cs	81
FeatureSetRenderer.cs	124
FeatureTable.cs	26
VoTable.cs	79

Figure 5: Sonarqube cyclomatic complexity

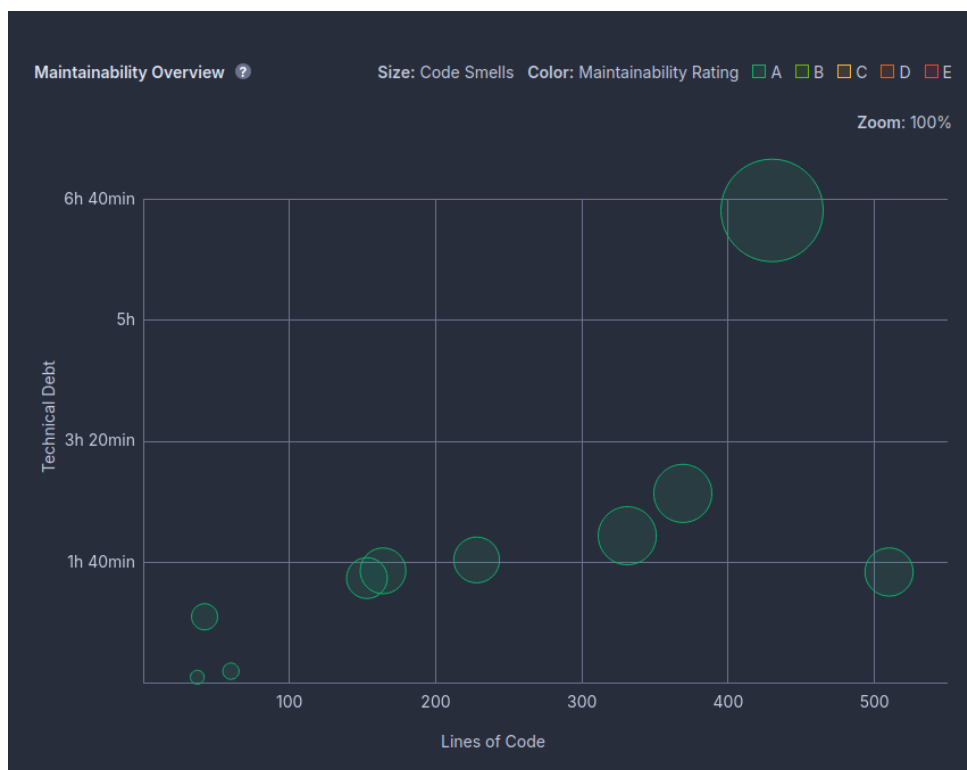


Figure 6: Sonarqube maintainability



Figure 7: Sonarqube reliability graph

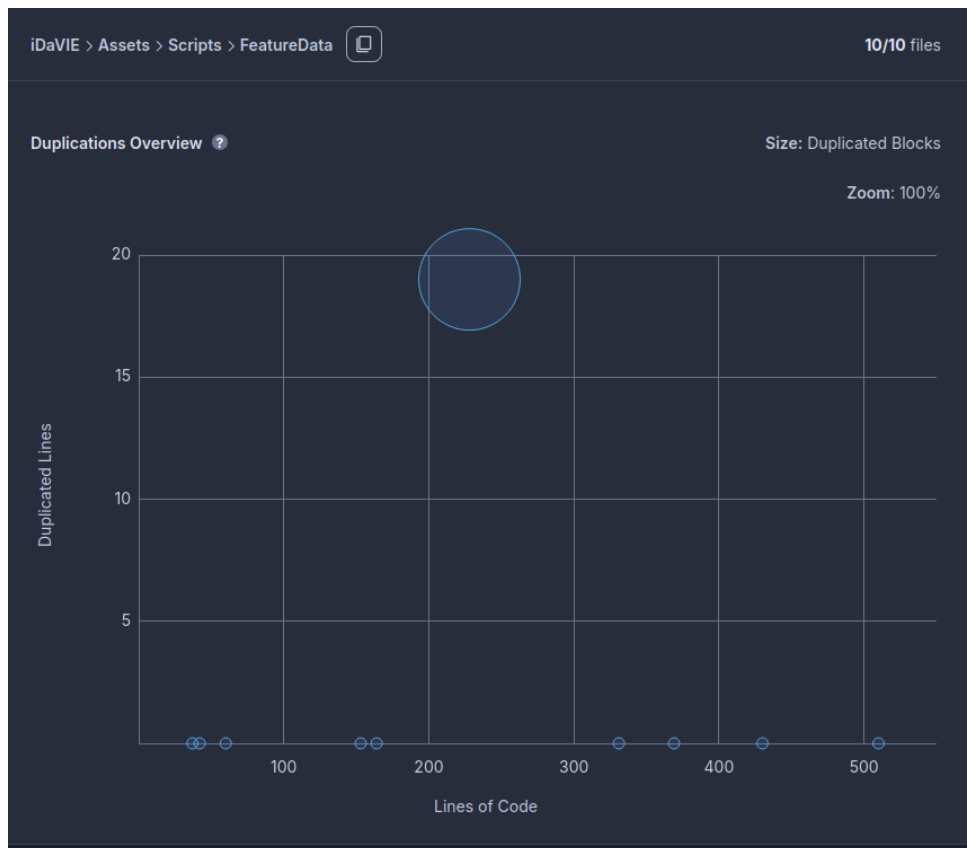


Figure 8: Duplications Graph

## 9. Understand Code Analysis



Figure 9:

## 10. Class Diagrams



Figure 10:

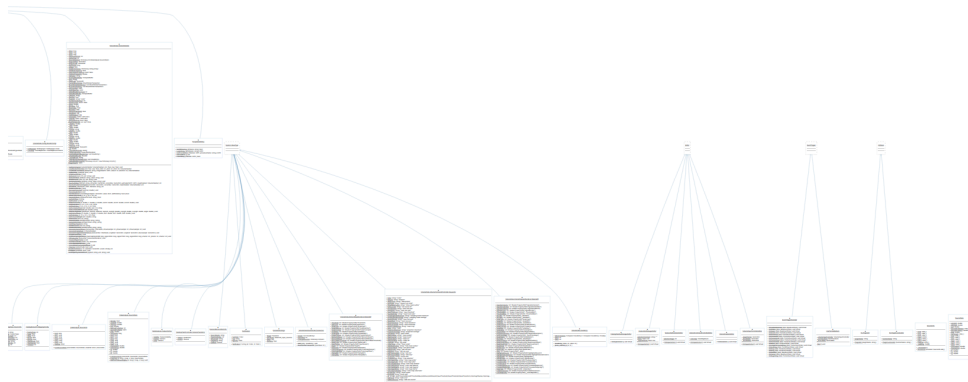


Figure 11:

## 11. C4 Diagram

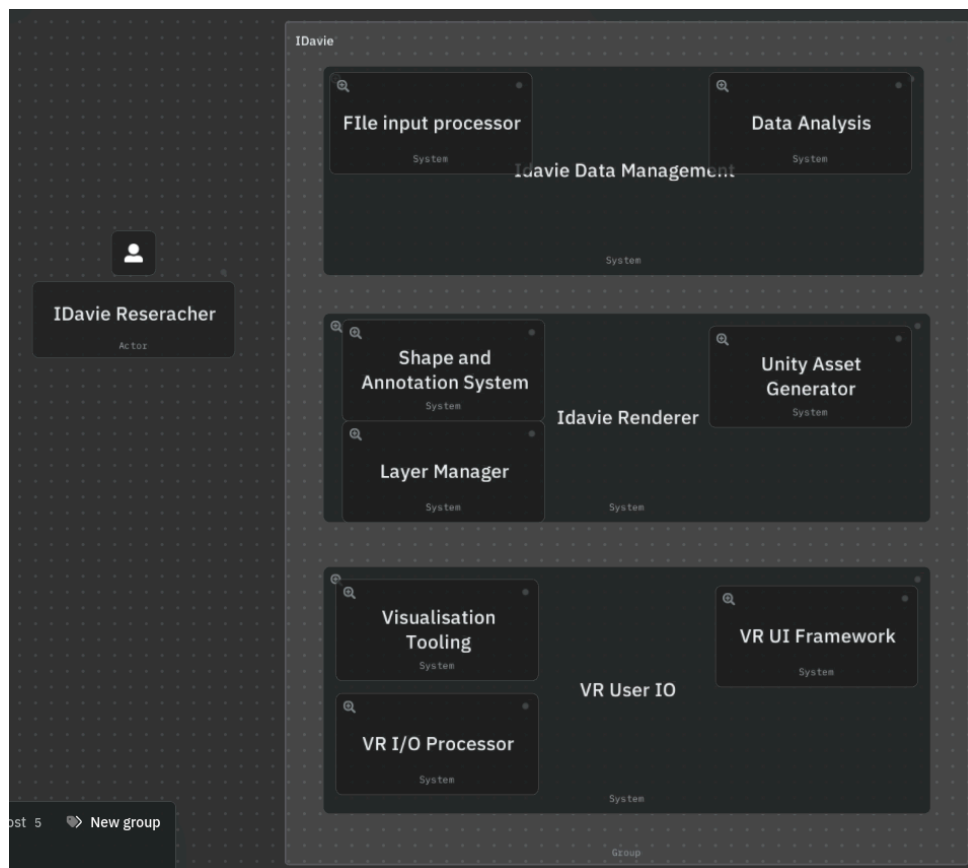


Figure 12: C4 Diagram