RELEASE PLAN

1. Security Metrics for Object-Oriented Class Designs
   1. Security Accessibility Metrics

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 1 | choose CIDA security metric | 0.5 |
| 2 | choose CCDA security metric | 0.5 |
| 3 | choose COA security metric | 1 |

* 1. Security Interactions Metrics

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 4 | choose CMAI security metric | 2 |
| 5 | choose CAAI security metric | 2 |
| 6 | choose CAIW security metric | 2 |
| 7 | choose CMW security metric | 0.5 |

1. Security Metrics for Multi-Class Object-Oriented Designs
   1. Composition

|  |  |  |
| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 8 | choose CPCC security metric | 1.5 |

* 1. Coupling

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 9 | choose CCC security metric | 2.5 |

* 1. Extensibility

|  |  |  |
| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 10 | choose CCE security metric | 1.5 |
| 11 | choose CME security metric | 1.5 |

* 1. Inheritance

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 12 | choose CSP security metric | 1.5 |
| 13 | choose CSI security metric | 2.5 |
| 14 | choose CMI security metric | 1.5 |
| 15 | choose CAI security metric | 1.5 |

* 1. Design Size

|  |  |  |
| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 16 | choose CDP security metric | 1 |

1. Security Metrics for Object-Oriented Programs
   1. Data Encapsulation-Based Security Metrics

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| Story ID | Story Title | Story Points |
| 17 | choose RPB security metric | 1 |

* 1. Cohesion-Based Security Metrics

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 18 | choose CWMP security metric | 1.5 |

* 1. Extensibility-Based Security Metrics

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 19 | choose UACA security metric | 1 |
| 20 | choose UCAM security metric | 1 |
| 21 | choose UCAC security metric | 1 |

* 1. Design Size-Based Security Metrics

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| --- | --- | --- |
| Story ID | Story Title | Story Points |
| 22 | choose CSCP security metric | 1.5 |

Delivery Schedule

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Week6 | Week7 | Week8 | Week9 | Week10 | Week11 | Week12 | Week13 |
| Sprint 1 | | | | Sprint 2 | | | |
| Release | | | | | | | |

Sprint Plan

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| --- | --- | --- | --- |
| Total story points | Total estimated hours | Current velocity | Total hours |
| 30.5 | 115.5 | 36 |  |

Story 1: choose CIDA security metric

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| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CIDA class | 0.5 |
| T2 | Code to calculate CIDA = |NCIA| / |CA| | 1 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 3.5 |

Story 2: choose CCDA security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CCDA class | 0.5 |
| T2 | Code to calculate CIDA = |NCCA| / |CA| | 1 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 3.5 |

Story 3: choose COA security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create COA class | 0.5 |
| T2 | Code to calculate COA = |NCM| / |CM| | 2 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 4.5 |

Story 4: choose CMAI security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CMAI class | 0.5 |
| T2 | Code to calculate CMAI = 381cba29beab7e114ae14af7ac421ba / (|MM|×|CA|) | 4 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 6.5 |

Story 5: choose CAAI security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CAAI class | 0.5 |
| T2 | Code to calculate CAAI = 034bff41f8a3db0d99d31b0d7eab532 / (|AM|×|CA|) | 4 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 6.5 |

Story 6: choose CAIW security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CAIW class | 0.5 |
| T2 | Code to calculate CAIW = ca4ae3c5ca2896d65172494603baa0f / cabfa9083b5312e6be5fc0bc6449deb | 4 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 6.5 |

Story 7: choose CMW security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CMW class | 0.5 |
| T2 | Code to calculate CMW = |CM| / |M| | 2 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 4.5 |

Story 8: choose CPCC security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CPCC class | 0.5 |
| T2 | Code to calculate CPCC = 1 - (|CP| / |CC|) | 3 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5.5 |

Story 9: choose CCC security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CCC class | 0.5 |
| T2 | Code to calculate CCC = 381cba29beab7e114ae14af7ac421ba / ((|CC| - 1)×|CA|) | 5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 7.5 |

Story 10: choose CCE security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CCE class | 0.5 |
| T2 | Code to calculate CCE = |ECC| / |CC| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 11: choose CME security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CME class | 0.5 |
| T2 | Code to calculate CME = |ECM| / |CM| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 12: choose CSP security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CSP class | 0.5 |
| T2 | Code to calculate CSP = |CSC| / |CC| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 13: choose CSI security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CSI class | 0.5 |
| T2 | Code to calculate CSI = d72848587e43c1dc0e732fa3b302781 / ((|C|-1)×|CC|) | 5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 7.5 |

Story 14: choose CMI security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CMI class | 0.5 |
| T2 | Code to calculate CMI = |MI| / |CM| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 15: choose CAI security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CAI class | 0.5 |
| T2 | Code to calculate CAI = |AI| / |CA| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 16: choose CDP security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CDP class | 0.5 |
| T2 | Code to calculate CDP = |CC| / |C| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 17: choose RPB security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create RPB class | 0.5 |
| T2 | Code to check whether the Java program imports the Java reflection package (1) or not (0) | 2 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 4.5 |

Story 18: choose CWMP security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CWMP class | 0.5 |
| T2 | Code to calculate CWMP = |CWM| / |CM| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 19: choose UACA security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create UACA class | 0.5 |
| T2 | Code to calculate UACA = |UCA| / |CA| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 20: choose UCAM security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create UCAM class | 0.5 |
| T2 | Code to calculate UCAM = |UCM| / |CM| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 21: choose UCAC security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create UCAC class | 0.5 |
| T2 | Code to calculate UCAC = |UCC| / |CC| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Story 22: choose CSCP security metric

|  |  |  |
| --- | --- | --- |
| Task ID | Task Description | Estimate |
| T1 | use Eclipse to create CSCP class | 0.5 |
| T2 | Code to calculate CSCP = |CSC| / |CC| | 2.5 |
| T3 | Find appropriate test JAVA code | 1 |
| T4 | Verify story is complete | 1 |
|  | Story Points: Total Hours: | 5 |

Appendix–User story cards



































