



ALMA Common Software

Basic Track

Project Lifecycle





Introduction

ACS related development:

- ✧ Short cycles
- ✧ Functionalities added incrementally

Main steps during each cycle:

- ✧ Requirements capture
- ✧ Implementation
- ✧ Integration



Requirements Capture

- ✧ Goal: group functionalities in high-level “components”, identified by their interfaces
- ✧ Language independent
- ✧ Steps:
 - ✧ Requirements identification → Use cases
 - ✧ Interfaces identification and component breakdown
 - ✧ Subsystem/module creation



Implementation (I)

Main steps (not necessarily in sequential order!):

- ✧ Component IDL interface (language independent)
- ✧ Component simulation
- ✧ Component interface implementation (language specific)
- ✧ Component and high level tests implementation
- ✧ Component functionality implementation



Implementation (II)

Tests are an integral part of the implementation (test-driven development). The main test layers:

- ✧ Class level: unit tests
- ✧ Component level: component tests through IDL interface access
- ✧ System tests: End-to-end subsystem tests



Implementation (III)

- ❖ Unit tests
 - ❖ Implementation language specific
 - ❖ Written by component developer
- ❖ Component tests
 - ❖ Component interface specific
 - ❖ Language independent
 - ❖ Written by component developer or integration team
- ❖ End-to-end/Subsystem tests
 - ❖ Overall subsystem requirements related
 - ❖ Written by the integration team



Integration

- ✧ Deploy all the components together in an integrated configuration database (CDB)
- ✧ Complexity depends on the number of components and interactions between components
- ✧ Main focus on high-level/end-to-end test execution

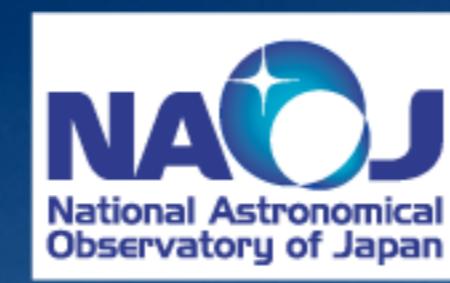


And then ...



... and start all over again!

Questions?



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