

Lab/home assignment in Software Assurance Course ITI8610:

Requirements structurization, formalization and validation

The assignment is based on module I projects. Elaborate your project by following (recommended) steps below:

1. Extract architectural entities (actors, components, parties, objects, etc.), their static relationships and represent them with architecture diagram
2. Extract interactions between the entities (events, services, data communication, synchronization etc.) and represent them with communication diagram.
3. Specify contracts (require, ensure, invariant assertions) of architectural entities by using JML
4. Define relevant design views (quality attributes), e.g. security, performance, safety, timing, etc. of the target system by using JML
5. Split contracts by views and provide multi-view contracts by using JML construct “also”.
6. Validate the consistency of contracts by using OpenJML or any other tool.
7. Validate non-interference between view contracts by using OpenJML or any other tool.
8. Generate from verified contracts the conformance tests.
9. Present the result in the form of a report Document
10. Project reports have to be presented also orally, each presentation 15 min + 5 min for questions and discussion.