Lab/home assignment: Requirements structurization, formalization and validation

The assignment is based on module II projects. Elaborate the projects by working out following steps:

- Extracting architectural entities (actors, components, parties, objects, etc.) --- represent with architecture diagram.

- Extracting interactions between the entities (events, sevices, data communation, synchronization etc.) --- represent with communication diagram.

- Specify contract assertions (require, ensure, invariant) between architecutral entities – use JML.

- Define design views (quality attributes), e.g. security, performance, safety, timing, etc. – use JML.

- Split contracts by views and provide multi-view contracts – use JML.

- Validate the consistency of contracts --- use Key tool or any other reasoner.

- Validate non-interference between view contracts --- Key tool or any other

- Generate from contracts either conformance or mutation tests (manually or tool supported)