

Practical Systems Engineering

by the Systems Engineering Community

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Chapter 1

Introduction

Requirements Management and Engineering (RE&M) is taught, both in industry and academia. The availability of open source SE-tools, and Eclipse-based tools in particular, created some interest for using those tools for teaching.

1.1 Vision

The vision of this project is to create:

1. A set of teaching materials that is actively used;
2. Which is embedded in a larger SE context; and
3. Which explicitly focuses on applying RE.

(mj) Contributors, feel free to comment via margin comments!

1.2 Scope

The scope is the creation of teaching materials, centered around a case study, based on existing methods and tools. This is visualized in Figure 1.1.

ISO 29110 looks promising as the foundation for the method. Eclipse-based tools in general, and ProR for requirements engineering in particular, will be used. We are currently looking for a suitable case study, ideally using something that already exists. The focus will be on the creation of shared teaching materials.

1.3 Tools

A central idea of this project is the use of freely available tools, as we cannot expect students to invest in expensive tools. Tools will be based on Eclipse. Figure 1.2 depicts a simplified V-Model, depicting the pictures we could employ.



Figure 1.1: Scope of the SE teaching materials

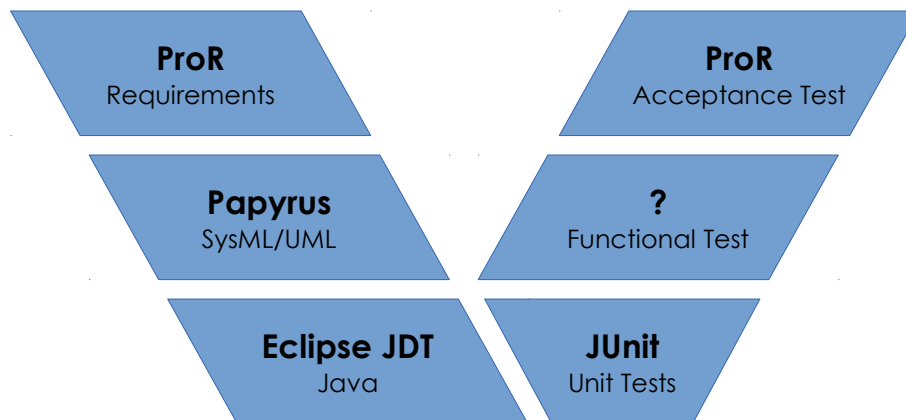


Figure 1.2: Tools used in this course

Information. In a “real” project, there would be many more tools and artifacts. We will keep tools and artifacts to a minimum, in order not to overwhelm the students.

1.4 Background

This project started in July 2014 as a discussion on LinkedIn. Thank you to all contributors!

1.5 License

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Chapter 2

Case Study

We have not decided on a case study yet. Candidates so far are:

Coffee Maker. A long-time favorite, and there are at least three available

FAA Isolette. This is a complete example from a safety-critical domain.

Rover. This one is driven by Gaël Blondelle from the Eclipse Foundation. On the plus side, it's great for the classroom, as the hardware is cheap. But in contrast to the others, there is nothing there yet.

Teaching Materials can be made available via relative links.