Distributed Algorithms: modelling, verification and experimentation (ASPD)

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Abstract

This repository contains course notes, exercises, models and projects from two courses given as part of master's level training on modelling and verifying distributed algorithms.

Contents

1 Documentation and Tools

The TLA+ ToolBox platform is available at the following link.

The Rodin platform is available at the following link.

The Prob platform is available at the following link.

The Frama-c platform is available at the following link.

The Synchrone Reactive Toolbox for LUSTRE is available at the following link.

The Kind 2 platform is available at the following link.

2 Course ASPD apprenticeship at Telecom Nancy

2.1 Slides for the course

2.1.1 Lecture 0 Overview of the course

Overview of the course

2.1.2 Lecture 1 Systèmes répartis

Systèmes Répartis: Problèmes - Concepts - Techniques - Outils

2.1.3 Lecture 2 Modélisation des systèmes répartis

Modélisation des systèmes répartis

2.1.4 Lecture 3 Protocoles de Communications

Protocoles de Communications

2.1.5 Lecture 3 Temps et datation dans les systèmes répartis - Protocoles de groupe et protocoles d'exclusion mutuelle

Protocoles de groupe et protocoles d'exclusion mutuelle

2.2 Lectures Notes

Notes sur la logique Notes sur la logique.

Notes sur la vérification Notes sur la vérification.

2.3 Tutorials

TD1 Serie 1 Tutorials serie 1.

TLA solutions for serie 1 .

TD2 Serie Pluscal (figure aussi dans le fichier de la serie 1) Tutorials serie Pluscal.

TLA solutions for serie Pluscal .

TD3 Serie 2 Tutorials serie 2.

TLA solutions for serie 2 .

2.4 Assessment

The assessment of students is based on three works:

- Two written exams: E1 and E2

- A practical exam: TP

References