# Implementation of omega-automata simplification techniques in "Spot", a model checking library.

When "Spot" SAT-based minimization meets incremental solving.

Paris, January 2017

Submitted by:
Alexandre GBAGUIDI AÏSSE
Student in second year or computer engineering
at EPITA
gbagui\_a@epita.fr

Supervised by:
Alexandre Duret-Lutz
Assistant Professor at LRDE(Research and
Development Laboratory of EPITA)
adl@lrde.epita.fr





#### Contents

I	Report	1
1	LRDE presentation  1.1 Areas of work	2
2	Spot	3
3	Base concepts	4
4	Completed work           4.1         Specifications            4.1.1         Overall goal            4.1.2         Detailed explanation of the results to be obtained            4.2         Activity report            4.2.1         Selected areas of study and research            4.2.2         Conduct of studies            4.3         Interpretation and critique of results	5 5 5 5
5	Bibliography and glossary	6
II	Appendix	i

Part I Report

### Chapter 1

### LRDE presentation

- 1.1 Areas of work
- 1.2 The company
- 1.3 The service
- 1.4 The internship in the company's work

Chapter 2
Spot

Chapter 3
Base concepts

#### Chapter 4

#### Completed work

- 4.1 Specifications
- 4.1.1 Overall goal
- 4.1.2 Detailed explanation of the results to be obtained
- 4.2 Activity report
- 4.2.1 Selected areas of study and research
- 4.2.2 Conduct of studies
- 4.3 Interpretation and critique of results

Chapter 5
Bibliography and glossary

### Part II Appendix

### Contents (Appendix)

$\mathbf{A}$	Company documentation	iii
В	Hardware / Software Documentation	iv
$\mathbf{C}$	Gross results	37

### Appendix A Company documentation

## Appendix B Hardware / Software Documentation

### Appendix C Gross results