Foundations of Type

Edward O'Callaghan

"Foundations of Type"
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Book version: `0.1`

ISBN: `???-???-???.`

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This book is freely available at http://victoredwardocallaghan.github.io/book/

Acknowledgment

Thanks to github...

Preface

Book development

The following people participated in the development of this text.

Edward O'Callaghan

About this book

This is a textbook that I am writing on a number of topics that have a deep unexpected connection. In particular, this book introduces programming and the foundations of mathematics from scratch by way of *homotopy type* and *category theory* and explores aspects of these topics to lead to a new era in high assurance software design and implementations.

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Edward O'Callaghan
Australia, Jun 2013

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Introduction

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Part I

Foundations

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Part II

Mathematics

Chapter 1

Category theory

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Appendix

From the Introduction:

We present *Homotopy type theory* as the corner stone to understanding both mathematics and programming.

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