Masters Thesis

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1 Introduction

An explanation of what the project was, which was writing a formalization of the co-op language, what the co-op language is, why this is important and what was accomplished.

2 New order in homage to the famous 1980's band

1. Introduction & Motivation (Define a mapping from language to agda, by the way this is going to be used in other chapter to actually compute with this)
2. Background (on Math and or Agda)
3. The Language: Types, terms, substitution, syntax, equational rules
4. Denotational Semantics (emphasize this is also an interpreter)
5. Soundness of equational rules
6. Examples (or some sort of evaluation of what happened/case study) (Looking at what you've done and saying something intelligent about it)
7. Conclusion (even if short)

3 Co-op language

A longer explanation of what the co-op language is, why it was created, how it is structured. Perhaps how in general languages are defined or what they need to be?

3.1 What are (co)operations?

3.2 What are runners?

4 Denotacijska semantika

What are denotational semantics and what are they for this project specifically.

5 Formalization

What formalization of a language is, how it was done, why it is important.

6 Agda

An introduction to the programming language of agda and its special characteristics, why was it chosen for this project, what it means to prove something in agda and the other things that were done in the code such as equivalence.

7 Structure of Code

A section that will explain the code of the project in detail, going through the separate .agda files and explaining them. Three distinct phases of code, the first of which defines the basic types and such.

- terms
- types
- contexts
- parameters

Next phase which is more about the formalization of the co-op language,

- equations
- renaming
- substition

Finally the files which define the interpretation of the co-op language.

- Sub-validity
- ren-validity
- validity
- monads
- denotations

8 Zaključek

More in-depth explanation of what was achieved, what this all served to, mentioning of how it fixed a small error in the original formulation. Potential further work?

9 Bibliography

Important facet also to have all of your sources in here, somewhere, so you can read them, and rely on them.

https://repozitorij.uni-lj.si/Dokument.php?id=174686&lang=eng ¡- za inspiracijo glede strukture (in formalizacije) https://arxiv.org/pdf/1910.11629 ¡- Runners in action, D. Ahman, A. Bauer https://www.eff-lang.org/handlers-tutorial.pdf ¡- An introduction to algebraic effects, M. Pretnar https://cs.ioc.ee/~tarmo/mgs21/mgs1.pdf ¡- Monads & Interaction https://danel.ahman.ee/papers/mfps13.pdf ¡- Danel Ahman Master's Thesis

2. Sam Lindley's Lecture 1 from last year's Oregon Programming Language summer school. The video and the slides are available at https://www.cs.uoregon.edu/research/summerschool/summer22/topics.php#Lindley:

* video: https://www.cs.uoregon.edu/research/summerschool/summer22/lectures/Lindley1.mp4 * slides: https://www.cs.uoregon.edu/research/summerschool/summer22/lectures/handlers.pdf https://danel.ahman.ee/papers/acs-dissertation.pdf Actual Danel's Master's Thesis