Front Matter

Chapter 1	Introduction	Motivations Research Questions Key contributions
Chapter 2	Background	Interactive designs in programming tools Constraint-based approaches in improving type errors Other approaches in type error improvement
Chapter 3	Chameleon: An MUS-based type error reporting and visualization	Preamble Background Chameleon Walkthrough Chameleon System Design Evaluation of Chameleon Discussions of the Evaluation Results Implication in Research, Tool Design and Programming Practice
Chapter 4	Goanna: MCS-based type error identification and auto-resolution	Preamble Background of MCS-based systems Goanna Walkthrough Goanna System Design Evaluation of Goanna Discussions of the evaluation results and the strength/weakness of Goanna Future work
Chapter 5	A Diagrammatic Haskell Type Notation	Preamble Background of graphic representation in programming languages Design consideration and formal specification of Nano The evaluation of the graphic notation in the experiment ZeroToHero The application of using NANO in combination with Chameleon The application of using NANO in combination of Goanna
Chapter 6	Conclusion and Future work	Summary of our main contributions Future work