

Usability of Error Messages for Introductory Computer Science Students

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ABSTRACT

This paper discusses how well error messages can help novice programmers find mistakes in their programs and what aspects make an error message more user-friendly for introductory computer science students. I will also be discussing several methodologies and programs developed to help improve the experience a novice programmer has when attempting to understand causes for errors.

Needs more work

Keywords

Novice programmers, usability, error messages, user-studies

1. INTRODUCTION

Introduce why error messages are important, how they help introductory CS students, and outline what this paper will cover.

Write section

2. BACKGROUND

This is where I will describe the concepts such as HCI, usability studies, and error message types needed to explain the research done on error message usability. I will use multiple sources from primary and background to describe these concepts.

Write section

3. ANALYSES

Write section

3.1 Analysis of exception messages

This will be a combination of two main sources used for this part: Mind Your Language: On Novices's Interactions with Error Messages and Measuring the Effectiveness of Error Messages Designed for Novice Programmers

3.2 Analysis of compiler messages

This will be a combination of two main sources used for this part: On Compiler Error Messages: What They Say and some of Enhancing Syntax Error Messages Appears Ineffectual

4. RESULTS OF CASE STUDIES

This will discuss the studies done on error message usability for introductory students and their results and what those results mean

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5. METHODOLOGIES

Introduce methodologies meant to be used to improve error message libraries

Write section

5.1 Principles of compiler error design

This will use my source, On Compiler Error Messages: What They Say and What They Mean

5.2 Recommendations for error messages

This will use my source, Mind Your Language: On Novices's Interactions

5.3 Syntax error message enhancement and results

This will use my source, Enhancing Syntax Error Messages Appears Ineffectual

6. CONCLUSION

Discussion of the direction usability of error messages will be taken and how the methodologies will be applied for future work.

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7. ACKNOWLEDGMENTS

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8. REFERENCES

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