A study on user interface problem finding based on flow line analysis

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Abstract: I develop the new method to find problems of the user interface design on the computer software by using a flow linear analysis. And I confirmed the utility of the method by the user test on business software.

Keywords: Software Design, User Interface, Flow line analysis

1. Introduction

A user interface is one of the most important factors that determine the effectiveness of computer software. Therefore, Improvements in user interfaces have been performed through various methods.

However, these techniques do not have practical applications due to certain issues. For example, these techniques are likely to be affected by emotions and subjective aspects and the data obtained from such evaluations do not reveal developer's demands.

2. Study

2.1 Hearing survey to software engineer.

At first, I conducted hearing survey at the software manufacturers to understand the needs of the software engineer to develop practical methods that are required in this field.

As a result, the matter that developers request for the method are as follows:

- The cheap technique that is applicable by operation of developers oneself
- The technique that developers can know visually comprehensive by a problem of the user interface
- The technique that is applicable repeatedly in actual work environment

2.2 Method Development

Based on a result of hearing survey, I developed method which can help developers to find problems of the user interface design.

This method is based on flow line analytical technique and it can visualize the problems of user interface (e.g. Make a mistake or Difficult to understand) by use situation data of the software.

Figure 1 is example of the output result of this method. Nodes are shown the access for group of the screen components of the software. Edges are shown an order of the operation and it is weighted by non operation time. Self loop of edge is shown



Figure 1. Visualize the problems of user interface

2.3 Method Inspection

I performed the user test for software developers (n=10) to show usefulness of the technique that I developed newly. As a result, developers of approximately 90% evaluated usefulness of the technique.

3. Conclusion

I was able to suggest more practical technique which is required in development field in this study.

In future study, I want to improve the method and want to perform comparison with the existing one.

Acknowledgment

I would like to be thankful for Prof. Yukari Nagai and the people who support my study.

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