Investigating a Design Pattern to Support Personalized Human Computer Interaction

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Certificate of Authorship / Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree. I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledge- edged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Abstract

For many interaction designers, human-computer interaction is a kind of human communication, in which the computer acts as an agent of the designer. When successful, users can communicate with the computer in an effective way. To this end, interaction design is really about how to support the way people communicate and interact in their everyday and working lives. A key challenge for human computer interaction design is to support a natural and intuitive interaction between the user and computer.

In this thesis, we propose an interaction design method: Interaction Language Design Pattern (ILDP) which focuses on allowing users to personalize their interaction. Different to existing interaction design methods, which aim to provide a designed interaction model, the ILDP centers on forming an effective way of customizing interactions - producing an interaction language to do so.

In order to create this interaction language to support effective interactions between human and computer, the key components and basic structure of language are discussed. The application of the interaction language is described by giving a comprehensive design guide. The quality of the human computer interactions is evaluated using two prototype studies. The first, paper prototype, study focuses on usability testing. The second, Hi-Fi prototype is created for a user experience study. According to the result of evaluation, personalizing interactions can help users improve their experiences. The findings show that this method is effective at supporting the personalization of interaction.