Design and Implementation of Context Calculus in the GIPSY Environment

This study talks about the integration of Luck’s context calculus in the GIPSY where GIPSY gives us the framework to compile and execute programs done using intentional programming language. The main goal of this study is to integrate context calculus theory so to integrate it into already implemented code of GIPSY, Wan has done it through expression of context calculus operators and by simulating context but this approach was not efficient so that is done through conservative extension of GIPL. Here context calculus indicates the relation between dimensions and tags. This paper describes how context class gets fit into system. It has two standard intentional operators i.e. E @ C for evaluating an expression E in context C, and #d for determining the position in dimension d of the current context of evaluation in the context space. The context calculus operators have some semantic restrictions on what are the valid operands. The type checking can be done at compile time or run time depending on situation. The paper concludes by stating that with the help of contexts, set of context calculus operators have access of performing operation on the context objects to give us the benefit of constructing and manipulating contexts which can be used in diverse application domains in GIPSY.