A proposal of feature model with join point interface for the modeling of software product lines [Propuesta de Modelo de Características con Interfaz de Punto de Unión para el Modelamiento de Líneas de Productos de Software]

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Looking for a new methodology of modular software development, this paper proposes JPI FM, that is, Feature Models (FM) with Join Point Interfaces (JPI) of Aspect-Oriented Programming (AOP) as the basis of the Feature-Oriented Programming (FOP) + JPI methodology. Therefore, this paper describes the advantages and details of FOP and AOP JPI as individual paradigms and their symbiosis to produce modular software. As an application example, MC JPI is used over a classic FOP example to visualize traditional FM components, and special associations or constraints between features. Additionally, this paper describes the advantages of JPI FM and the differences with respect to some previous research works to support aspect-oriented modeling principles of JPI. This paper concludes that JPI allows modularization on feature models, and thus this approach seems promising. © Centro de Informacion Tecnologica. All rights reserved.

AOP

Aspects

Features

Features model

FOP

JPI

Aspect oriented programming

Frequency modulation

Modular construction

Application examples

Aspect oriented modeling

Aspect-Oriented Programming (AOP)

Aspects

Feature-oriented programming (FOP)

Features

Features modeling

Software Product Line

Software design