

Usage of modular scissors in the implementation of FEM

Dalibor Frydrych

Fakulta mechatroniky, informatiky a mezioborových studií,
TU v Liberci

Finite Element Method (FEM) is often perceived as one unique and compact programming subject. Despite the fact that Many FEM implementations mention the object oriented approach (OOA), this approach is in reality used completely only in minority of cases. For example the Interface-Based Polymorphism is used only rarely.

This article is focused on Design Reuse and it is an complex view on FEM. Article defines Basic principles of OOA and their use in FEM implementation. FEM project is split in many smaller sub-projects which are interlinked together. Links between sub-projects are one way only and non circular. Such a setting gives opportunity to use modular scissors. In addition, these individual sub-projects can be used directly, without additional adjustments, in other different projects.