

# NEiNastran

## SmartBrowser (Add-on for NEiNastran Modeler)

### Overview

SmartBrowser by SmartCAE is a plug-in for NEiNastran Modeler (FEMAP by UGS). It gives users a tree-structured, modern, and powerful graphical user interface that brings more productivity and control to the pre- and post-processing phases. SmartBrowser allows the user to interactively organize and manage a new or existing finite element model based on a tree-based assembly-part hierarchical structure. It enables fast and robust interaction with very complex models, thus providing a decisive productivity enhancement to the modeler environment. Common operations like hiding/showing parts, creating new materials, loads, constraints, components and/or assemblies, activating parts, are quick and easy to do.

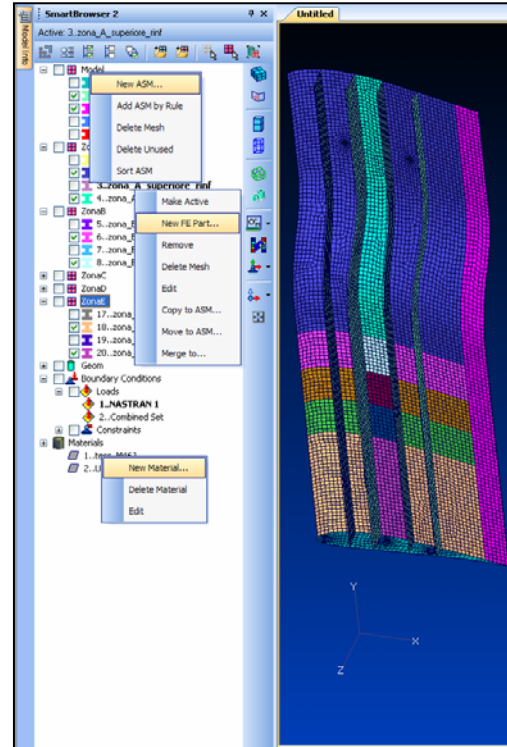
### Capabilities:

#### Interface:

- Two level parts tree
- Context-sensitive right mouse button interface
- Parts color and name mapping
- Parts can belong to more than one assembly for flexible organization of the model
- Interactive creation and editing of parts and associated FEM properties
- Interactive management of materials
- Interactive management of loads and constraints
- One-click grouping of visible mesh for NEiNastran Modeler database speed-up
- Import/Export of MSC.Patran or Altair Hypermesh formatted .bdf file with preservation of property and material names

#### Assembly (ASM) Menu:

- Create new empty ASM
- Create a new ASM by selecting parts by property, material etc.
- Delete an ASM and its parts
- Delete all unused parts
- Sort parts on ASM alphabetically



#### Parts Menu:

- Activate a part (new entities will be added to it)
- Create new part and its basic properties
- Remove the part with or without removing the associated mesh
- Edit selected part and its basic properties
- Move or Copy a part to an existing Assembly (does not affect the mesh)
- Merge a part with another existing part, assuming the properties of the destination part

#### Materials Menu:

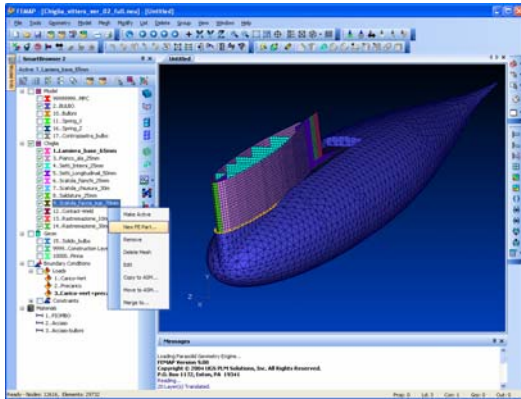
- Create/delete/edit materials

#### Loads Menu:

- Create/activate/delete a load set
- Add loads to a load set
- Delete loads in a load set

### Constraints Menu:

- Create/activate/delete a constraint set
- Add constraints to a constraint set
- Delete constraints in a constraint set



### Side Command Bar:

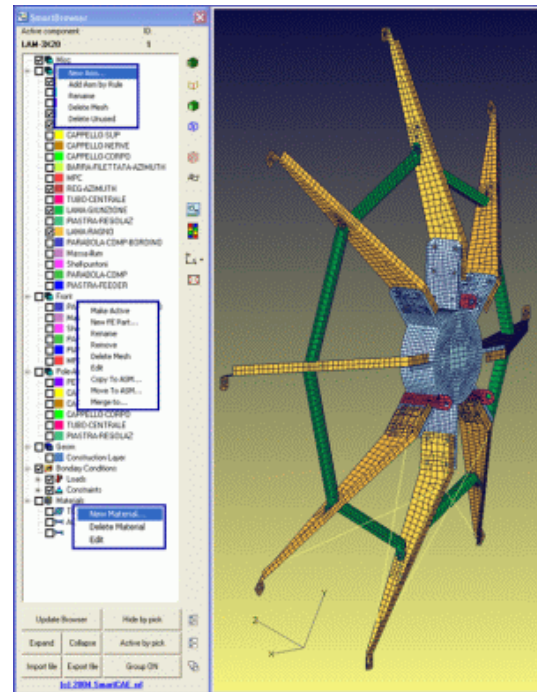
- Filled Edges On/Off
- Free Edges On/Off
- Shaded View
- Wireframe View
- Nodes On/Off
- Geometry On/Off
- Filter Contour Range
- Reverse Contour Colors
- Vector Plot Commands
  - SPC Forces
  - MPC Forces
  - Max/Min Principal ...

### Post-Processing:

- Quick output filtering
- Reverse contour palette

### Tree Command Bar:

- Update Browser
  - Create/Update the tree structure
  - Synchronize the NEiNastran Modeler and the SmartBrowser database
- Expand/Collapse
  - Expand/Collapse the tree structure
- View All
  - Switch on all tree entities
- View None
  - Hide all tree entities
- Reverse View
  - Reverse all tree entities visibility
- Import/Export Nastran Files
  - Create/Read Nastran files for/from MSC.Patran or Altair Hypermesh interoperability
- Hide Selected Parts
  - Allows to interactively select by picking the parts to hide
- Activate Selected Part
  - Allows to interactively select by picking the parts to activate
- Group ON/OFF
  - Creates a group in which the visible part's mesh is stored, makes that group active and brings it to active view. Useful in order to speed-up the NEiNastran Modeler interface for large models, and to create sub-parts of the full model for partial exporting. By re-clicking the button carries back to the normal visualization.



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