NEW TRENDS IN THE DESIGN OF HIGHLY CUSTOMIZED USER INTERFACES FOR GIID: RIBBON UI, ADVANCED GIID THEMES AND AUTOMATIC GEOMETRY GENERATORS

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CUSTOMIZING SOFTWARE PRODUCTS

There is a need to meet the growing demand for creating unique software products by means of customizing their graphical interface.

The customization of software products to specific customers' needs has become a key business characteristic for the software industry.

Software programs may benefit from some (to substantial) customization.

A number of practices have been carried out in our company in response to this need.
CUSTOMIZING SOFTWARE PRODUCTS

• An overview of some GiD adaptations is presented to provide a completely integrated and personalized visual aspect of the user interfaces, at the same time that most user-friendly GUI are designed.

• A new GiD theme containing advanced graphical appearance details has been created for customizing and distinguish the look of our most popular software product, Tdyn (Tdyn CFD+HT- RamSeries- SeaFEM).

• A powerful automatic geometry generator has been integrated into GiD, that allows both the creation of complicated shapes and apply conditions on geometric entities automatically.

• GiD is also adapted to the Ribbon interface that sets an industry standard of excellence for user interface design. After the introduction of Ribbon UI by Microsoft, it is widely used and has various advantages.
Ribbons are the modern way to help users find, understand, and use commands efficiently and directly with a minimum number of clicks, with less need to resort to trial-and-error, and without having to refer to Help.

The ribbon menu is similar to the UI in products like Microsoft Word.

Ribbons are a replacement for menus and toolbars, and it couples tools in several tabs based on their similarities and functionalities, at the top of the application window.

It appears across the top of the window, and displays the most commonly-used tools, controls and commands in GiD.

The ribbon is hidden by default until the user clicks one of its tabs.
An application example of the Ribbon interface in GiD is the X-SEA problem type, an offshore structural dynamic analysis and design software.
RIBBON INTERFACE IN GID

• To see the ribbon, just click or double-click any ribbon tab.
• Clicking on a dialog box launcher allows to call a common used command.
• The ribbon can be minimized so that only the tabs appear.
• To collapse or minimize the Ribbon, do one of the following:
  • Double-click on the tab that is currently used.
  • Click on the Minimize the Ribbon button on the right side of the ribbon.

Parts of the ribbon interface
RIBBON INTERFACE IN GID

• Click on the up arrow to “Collapse the Ribbon” when it is showing, and pinned

• Just click on the tack icon once to force the ribbon to stay visible at all times.
RIBBON INTERFACE IN GID QUICK ACCESS TOOLBAR

- A **Quick Access Toolbar** menu is located at the top of the window to help perform common tasks quickly.

- This customizable toolbar contains a set of commands that are independent of the tab on the ribbon that is currently displayed.

- It is possible to customize it by adding/removing commands, and all these menu preferences are saved in local settings.

- Right-click the command to be removed, and choose Remove... on the shortcut menu.
TDYN THEME

- Tdyn theme has been typically created just for that specific software product.
- It contains advanced graphical appearance details to obtain a unique product, and differentiate from the rest of problem types based on CustomLib library for creating advanced problem types, which is now included in GiD.
- A set of specific shapes, colors and images are used for windows decorations, as well as for the graphical control elements, such as buttons or scroll bars.

Command line

Data, layers and groups tree

Renewed toolbars

Register button
TDYN THEME

• Data, groups and layers tree are coupled in the same window.

• Customised Tdyn theme is build specifically around the requirements and workflows of our company, and allows for much faster feature enhancement for changing user/company requirements.

• Features can be built with focus on specific tasks. Integration with other additional features can be created within the same solution.
TDYN THEME IN POST-PROCESSOR

- The look of the Tdyn new post-processor is also customized to make it unique, with a set of colors, shapes and images for windows decorations, as well as for the graphical control elements such as buttons and scrollbars.
A preliminary geometry design of repositories has been proposed in both Sweden and Finland for spent nuclear fuel disposal in geological media. Several supercontainers are positioned along parallel, 100 - 300 m long deposition drifts, located about 400 m underground.

A powerful automatic geometry generator has been integrated into GiD, that facilitates the creation of these complicated shapes, and apply conditions on geometric entities automatically, for performing analysis in the Code_Bright problem type.
AUTOMATIC GENERATOR OF GEOMETRIES INTEGRATED IN GID

- The automatic generator allows the creation of models for the complex repository system, as well as to rebuild them.
- Layers tree is also created automatically, facilitating to apply conditions on geometric entities.
A new library is being developed in our company for displaying selected simulation results as a spreadsheet table. It will be possible to export these results in standard spreadsheet file formats.

A new library is also being developed for the generation of reports in Excel Form. The reports will include input data (geometry, boundary conditions, properties, etc.) and a summary of results.
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