

APPENDICES

APPENDIX A: MENU ITEM SHORTCUTS

The following short cuts to menu items are supported in Graphical Database for Category Theory:

CTRL+C	Create a Category
CTRL+H	Display Help File for GDCT
CTRL+F	Open a FGL Functor File
CTRL+G	Save a FGL Functor File
CTRL+D	Download a CGL Category File
CTRL+O	Open a CGL Category File
CTRL+S	Save a CGL Category File

APPENDIX B: MISC. INFORMATION

Version Information

The Graphical Database for Category Theory is a research project at Mount Allison University that now includes over 80 Java source files and over 30000 lines of code. Version 1.0 of the GDCT was released as a preliminary version which provides the basic functionality and demonstrates the abilities of the final version of the application. Currently, the list of known problems is being dealt with.

Version 1.0: Released March 20, 2000

This is the preliminary version of Graphical Database for Category Theory The release information for this version is available at <http://mathcs.mta.ca/research/rosebrugh/gdct/v1release.htm>.

Version 1.1: Released Summer 2000

This version of GDCT contained the following fixes and enhancements:

- The help file system has been rewritten and now includes a complete set of help files which will better enable the user to use the software
- Contact information in the bug report dialog has been updated
- Upon closing the application, a dialog window now prompts the user to see if they want to save changes in modified categories. This dialog window also tells the user what modifications were made so that they can more accurately judge if they want to save these changes.
- The display of categories in the "Make Confluent Tool was changed so that a category isn't redrawn randomly. Instead, GDCT will only update the label of the node containing the list of relations.
- In "Add Data" for categories, the category is no longer redrawn randomly. New data is now added to the existing graphical representation as opposed to creating a new random representation.
- In "Remove Data" the problem where not all data is removed in some categories has been fixed Also, in "Remove Data" for categories, the text display is updated and the graphical display is updated as data is removed.
- In "View GML", the problem with the search feature not working right away has been corrected.
- The "Make Confluent" algorithm has been checked extensively and all known bugs have been fixed.
- Bugs in "Make Dual Category" have been fixed and the make display of a newly created dual category is no longer determined randomly. Instead, the display is based on the display of the category that was originally used to create the dual category.
- The "Equality of Composites" tool has been tested and all problems have been fixed.
- In the "Initial Object" and "Terminal Object" tools a warning is now displayed if the endomorphism limit has been reached.
- GDCT 1.0 was developed using Borland JBuilder 2.0 and used some borland libraries such as

borland.jbcl.control and borland.jbcl.layout. This caused certain compiling problems in non-Borland environments. To correct this situation, all elements of borland libraries have been removed.

Version 2.0: Released May 2002

This version of GDCT contained the following fixes and enhancements:

- Diagram display added
- When in diagram display mode, the "View GML" tool will show the GML for the diagram category
- Open for *.FGL files implemented
- Download for *.FGL files implemented
- Added "Functor Graphical Settings" items to the initialization file
- Check equalizer/coequalizer tools added
- Check monomorphism/epimorphism tools added
- Check isomorphism tool added
- Generalized "Sum" and "Product" algorithms
- In "Functor Graphical Settings", fixed the "AB Vertical", "A Only", and "B Only" display modes, and disabled the "AB Horizontal" display mode due to compatibility problems
- Fixed sum and product algorithms
- Fixed functor animation problems
- Fixed problems when switching between functors and categories using the pulldown boxes
- Fixed problem where the category GML would be lost when adding relations to a category
- Fixed problem where *.FGL and *.FUN files were not always updated in the Recent Files list
- Fixed problems when switching between functor display and category display mode, the GML would sometimes be lost
- Fixed bug where changes to category graph were lost when opening dialog boxes
- Fixed bug when trying to close categories and functors
- Many other small bug fixes

Known Bugs

Below is a list of known bugs in the current version of the GDCT application. If you have encountered additional bugs please fill out a comment form at <http://mathcs.mta.ca/research/rosebrugh/gdct/contact.htm>.

- Problem with "A B Horizontal" view for functors. Bug sidestepped by disabling this option.

Proposed Enhancements

Below is a list of enhancements that will be made to the GDCT application. If you have ideas for additional enhancements please fill out a comment form at <http://mathcs.mta.ca/research/rosebrugh/gdct/contact.htm>.

- "Pullback" tool
- The ability to use tools such as "Sum", "Equaliser", "Isomorphism", in functors

