

# Mdraw v0.7

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**Mdraw** - An object-oriented drawing package for MS-Windows.

Welcome to Mdraw, an object-oriented drawing package for MS-Windows.

This program is object-oriented in the sense that the objects you draw may be moved or modified after you draw them. This is a drawing program, rather than a painting program. You can select things you have drawn and then delete them, instead of 'erasing' an area of the screen. This is also object-oriented in the sense that each object has attributes that you may modify. For example, each object you draw has a color, and you may change that color after you have drawn it. You may also change the location of the vertices of a polygon that you have drawn. You may also 'join' multiple objects together.

While this program typically draws objects with lines, you can paste bitmaps from the clipboard for more versatility.

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## **The mouse**

Mdraw uses the mouse extensively. The left button is use for nearly every operation. The right button acts like the selector tool. The one exception that uses the right button for something else is to terminate a polygon.

## **The Clipboard**

Support for pasting text or bitmaps from the clipboard is provided through the 'Edit | Paste Clipboard' menu item.

When objects are copied or cut, they are copied to the Windows clipboard as a metafile. You can then paste this image into other applications that support pasting metafiles from the clipboard. (NOTE: This support is somewhat non-standard. Your mileage may vary.)

# The Keyboard

There are several keyboard 'shortcut' keys available in Mdraw.

<shift><delete>	Cut
<ctrl><insert>	Copy
<shift><insert>	Paste
<ctrl>-c	Copy
<ctrl>-x	Cut
<ctrl>-v	Paste
<ctrl>-s	Save file
<delete>	Delete (NOTE: Does not make a copy)
<insert>	Paste
<page-up>	Scroll up
<page-down>	Scroll Down
<arrows>	Move selection up
<shift><arrows>	Move selection by one pixel
<ctrl><up- arrow>	Move selection higher in display list
<ctrl><down- arrow>	Move selection further back in display list
<alt><up-arrow>	Move selection to top of display list
<alt><down- arrow>	Move selection to bottom of display list

## The Toolbar

To draw an object on the screen, you select which tool you would like by clicking on its icon from the toolbar (or selecting it from the 'Tools' menu) When you draw an object, that object becomes the currently selected object and any previously selected objects are deselected.



Selector Tool



Rectangle Tool



Ellipse Tool



Arc



Polyline Tool



Polygon Tool



Text Tool



Join



Un-join



Hyper jump



Edit note

The color palette

## The Selector

This tool allows you to select objects from the workspace. In order to do anything with or to an object, it must be selected. Once you have an object selected, you may change its attributes (e.g. its color, or font). You also need to select an object before moving or resizing as well.

### Helpful hint:

The right button always acts like the 'selector' tool. (Unless you're already busy drawing or moving something)

To select an object

To select more than one object

To add or remove objects from the selection

To edit the current object

To select the next object 'underneath' another object

To resize an object

**To select an object:**

Choose the selector tool (if it isn't already selected)

Click the mouse button on the object you want to select.

**To select more than one object:**

Drag the mouse to draw a rectangle that surrounds the objects you wish to select.  
Release the mouse button

**To add or remove objects from the selection:**

Hold down the shift key, then click the mouse button on the object.

**To edit the currently selected object:**

Double click the right mouse button on the object.

If you are editing a TEXT object, you may now change the text of the object. To stop editing the text, press the mouse button outside of the 'edit box'.

If you are editing a POLYGON or POLYLINE object, you may drag the little squares that show up on each vertex. To stop editing the object, click somewhere except for the little squares on the vertices.

**To select the next object 'underneath' another object:**

Hold down the control key, then click the mouse button on the object. (you may click several times to select an object further down.)

**To resize an object**

Move the mouse to a corner of the selected object(s).

Drag the corner to change the size of the bounding rectangle.

Release the mouse button.

# Rectangles

**To draw a rectangle**

Select the rectangle tool

Drag the mouse to draw a rectangle

Release the mouse button

## Ellipses

Select the ellipse tool

Drag the mouse to draw an ellipse

Release the mouse button

## Arcs

Select the arc tool

Drag the mouse to draw an arc

Release the mouse button

# Polylines

## To draw a polyline

Select the polyline tool

Click where you want the starting point

Click where you want each intermediate point

Click the **right** button where you want the last point.

The polyline will **not** draw a line from the first to the last point.

The polyline will not be filled in with any color, and can't be made to later on. (use the polygon tool for this)

**HINT:** You may edit the polyline after entering it by selecting the object and double clicking the right mouse button.

# Polygons

## To draw a polygon

Select the polygon tool

Click where you want the starting point

Click where you want each intermediate point

Click the RIGHT button where you want the last point.

The polygon will draw a line from the first to the last point. The polygon is filled in with the current color.

**HINT:** You may edit the polygon after entering it by selecting the object and double clicking the right mouse button.

## **Text**

### **To add text**

Select the text tool

Click where you want the upper left of the text to go.

Type the text.

Click outside of the text entry rectangle (but still within the Mdraw window)

**HINT:** You may paste text from the clipboard into this text entry rectangle

**HINT:** You may edit the text after entering it by selecting the object and double clicking the right mouse button.

## **Joining**

This is not really a tool, but rather an action.

When you press this, the currently selected objects are joined together. If only one object is selected, nothing happens.

## **Unjoining**

This is not really a tool, but rather an action.

When you press this, the currently selected objects are un-joined. If there is no selection, nothing happens.

## Hyper Jump

This is not really a tool, but rather an action.

When you press this, you jump to the file that this object is linked to. If the current file has changed, you are given the chance to save it. If there is no link to another file, you are prompted for a filename. If the file doesn't exist, it tries to jump anyway. (I'll fix this later)

You may add or edit links through the 'Edit' menu.

**HINT:** You may double click the left button when using the selector tool to activate the link

**NOTE:** The right button behaves differently when you double click it.

## **Attached Note**

This is not really a tool, but rather an action.

When you press this, you invoke NOTEPAD.EXE and edit the file that this object is attached to. If there is no attached note, you are prompted for a filename.

You may add or edit notes through the 'Edit' menu.

## **The color palette**

### **To select a color**

Click the mouse on the square that has the color you want

If you have an object currently selected, it will change to that color. If not, the little box next to the palette will change, showing the current color.

## Attributes

To change the attribute of an object, select that object (or select multiple) objects, and use the Attribute menu to select the new attribute you want. You may also use the palette to change the objects color by selecting the object, and selecting the desired color from the palette.

## Fonts

Text objects are drawn with a certain font and style. You may select different styles from the 'Attribute|Text' menu. You may select different fonts and sizes from the 'Attribute|Text|Font' menu. The font sizes in the Font dialog box that comes up may be selected from the list, or you may type in an arbitrary number for the font size.

## Arrowhead

The Polyline tool may optionally be drawn with an arrowhead at one end. You may select this attribute from the 'Attribute|Polyline' menu.

## Order of objects

As you draw objects, they are laid down on top of the older ones. You may change which objects are on bottom and which are on top. To change the order, use the 'order' menu or the keyboard shortcuts.

### Move object up

Selecting this menu option will move the currently selected objects up one. This may change what you see by hiding other objects.

**HINT:** You may also do this by pressing <ctrl><up-arrow>

### Move object down

Selecting this menu option will move the currently selected objects down one. This may change what you see by revealing other objects, or hiding the current objects.

**HINT:** You may also do this by pressing <ctrl><down-arrow>

### Move object to top

Selecting this menu option will move the currently selected objects to the top. This may change what you see by hiding other objects.

**HINT:** You may also do this by pressing <alt><up-arrow>

### Move object to bottom

Selecting this menu option will move the currently selected objects to the bottom. This may change what you see by revealing other objects, or hiding the current objects.

**HINT:** You may also do this by pressing <alt><down-arrow>

## File output

Mdraw saves its files in a proprietary format (this means nobody has heard of it.) In order to get other programs to use the pictures you create with Mdraw, you will need to export them to a format that is commonplace.

Mdraw currently supports two formats: Windows Metafiles and CGM.

Window Metafile  
CGM

**Windows metafile**

You can 'export' your drawing to a Windows Metafile. There are two types of Windows Metafiles: placeable and non-placeable. Placeable metafiles are used in Word for Windows and other high-end packages.

**CGM (Computer Graphics Metafile)**

This is an ANSI pseudo-standard metafile format. The standard leaves room for different ways of representing things, and I still have a ways to go to get a useable format working.

## Printing

Mdraw will print to the default printer. The scaling is such that the width of the screen corresponds to the width of the paper.

You may print Mdraw files from the command line by specifying the '/p' option. If you are familiar with 'REGEDIT.EXE' (which is in your windows directory) you can add Mdraw to your registration database and then use the File Manager 'associate' command to associate Mdraw files with the executable. This would let you then drag files from File Manager to the Print Manager icon and have them automatically print out.

## Command line arguments

<filename>	Edit specified file
/p <filename>	Print the file
/r <filename>	Edit in Read-only mode

Press the mouse button down, but do not release it, then move the mouse.  
You may release the mouse button when you have finished dragging.

Press the mouse button down, then release the mouse button.

Quickly press the mouse button down twice. Try not to let the mouse itself drift as you click the buttons. It might help to have the base of the hand resting on the table surface.

Fonts are the names for the special look of text. Things like 'Arial' or 'Times Roman'.

Styles are the way text is drawn. Things like 'Bold' or 'Italics'.

