2D & 3D CAD SOFTWARE USER MANUAL

AutoQ3D CAD
for iPad & iPhone

AUTOQ3D TEAM

FIRST EDITION

AutoQ3D CAD for iPad & iPhone
2D / 3D cad software user manual

© 2015 by AutoQ3D Team. All rights reserved.

All registered trademarks belong to their respective owners.

Apple, the Apple logo, iPhone, iPod touch, and iTunes are trademarks of Apple Inc., registered in the U.S. and other countries. iPad is a trademark of Apple Inc. App Store is a service mark of Apple Inc.

All other product and service names mentioned are the trademarks of their respective companies.

CHAPTER 1

Introduction

Drawings are still used to communicate ideas effectively but the tools are the things that have changed through time like CAD (Computer Assisted Design).

AutoQ3D CAD for iPad and iPhone is one of these tools that allows you to use the new mobile technology in your 2D and 3D designs.

SECTION 1

Overview

AutoQ3D CAD for iPad and iPhone is a 2D / 3D CAD application that runs on iOS devices and available on the App Store (http://appstore.com/autoq3dcad).

The application allows engineers, architects, technicals, game designers or any person with CAD interest to draw 2D / 3D models using simple and fast tools.

It is designed to be a powerful but light CAD editor to create, edit and enhance your drawings without hassle with complex options you will never use.

The program allows you draw in 2D and 3D dimensions with a convenient and intuitive workspace.

When we talk about drawing in 3D dimension means to manage objects with use of X, Y and Z coordinates.

AutoQ3D CAD for iPad and iPhone offers you the following features:

- Preset Views
- Drawing Tools
- Modification Tools
- Snapping Tools
- Grouping Tools

Getting Started section is a good way to start using AutoQ3D CAD for iPad and iPhone.

Getting Help section is another way to look for more resources in this learning process.

SECTION 2

Getting Help

AutoQ3D CAD for iPad and iPhone have various ways to getting help about the application.

Inside the application

On the top of the application screen appears commands and their instructions, each command has options enclosed in brackets that you can access touching the information area. This helps you to go step by step in the process of each tool.

Getting Started Tutorial for iPad

This Getting Started Tutorial is a step by step practice. you can find it here.

Web

You can find additional documentation here (http://www.autoq3d.com/documentation)

Basic Video Tutorials

Getting Started Guide (https://www.youtube.com/watch?v=eir6VeCcknk)

Introduction to 3D CAD on iPad (https://www.youtube.com/watch?v=zoQsTW3WREk)

Forums

Here you will find many users posts about the use of the application, news and announcements.

Support Email

You can write us via email (support@autoq3d.com).

Social Media

Currently we have presence on:

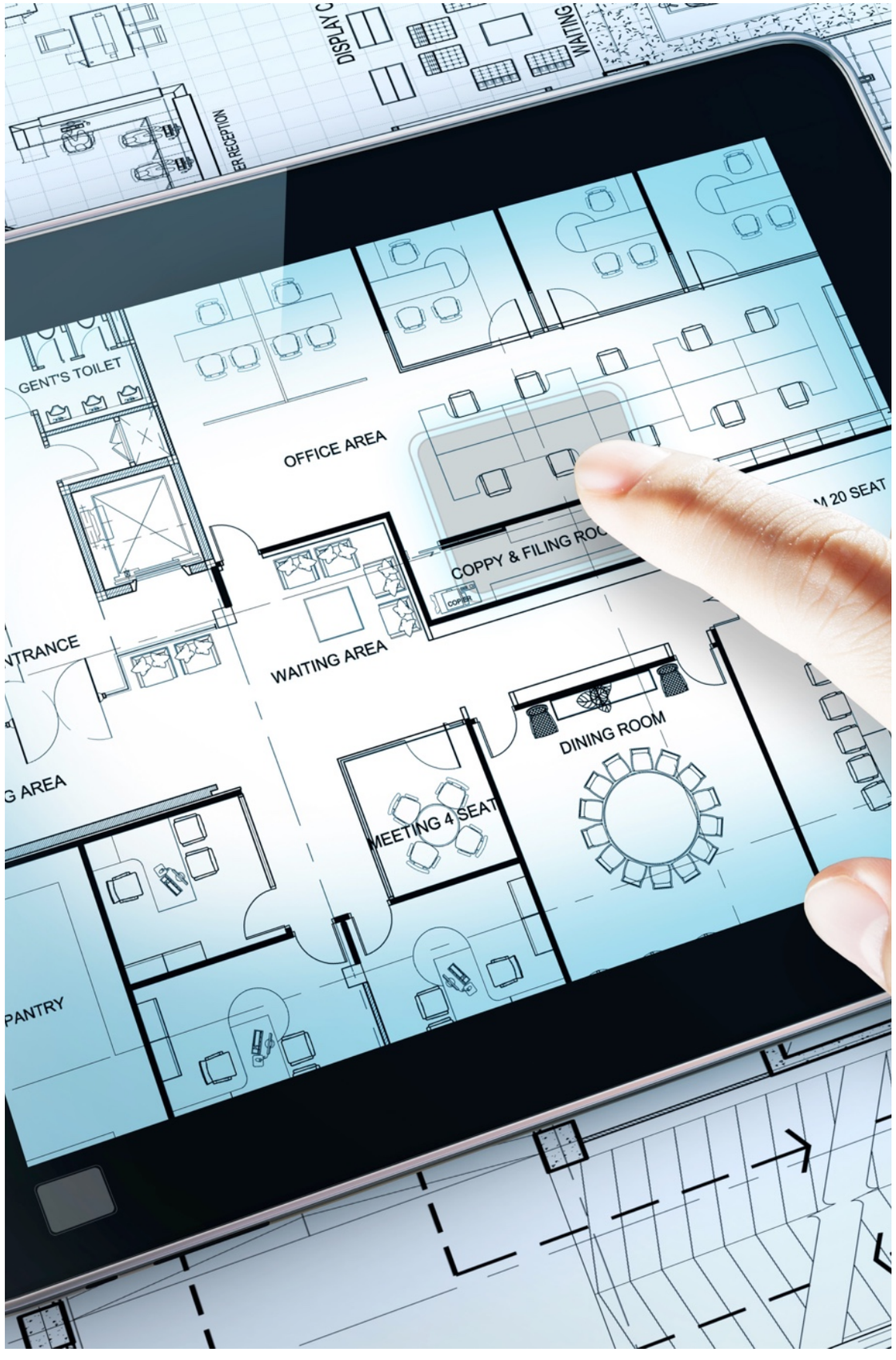
- Twitter (http://twitter.com/autoq3d)
- Facebook (http://www.facebook.com/autoq3d)
- YouTube (http://www.youtube.com/autoq3d)

CHAPTER 2

Getting Started

Now you are ready to start your learning.

In this chapter you will learn basics and recurring tasks to draw efficiently as how to set points, how to use the second touch feature, select objects, move items, scale, stretch and apply textures.

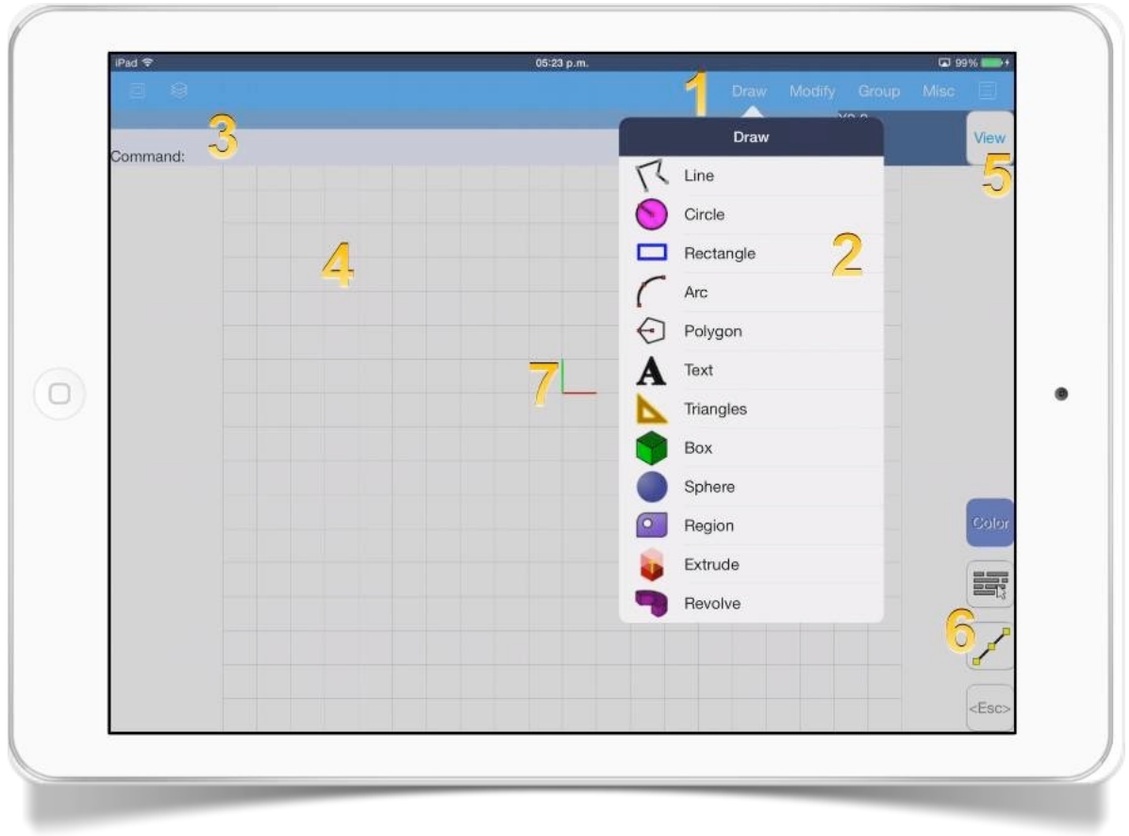


SECTION 1

The User Interface

YOU WILL LEARN

1. Identify the different user interface components.



1 Main menu bar. Here you'll see *Draw*, *Modify*, *Group*, *Misc* and other menu options.

2 Menu options. Here you'll find the menu tools.

3 Information area. Here you'll see the selected tools commands, parameters and general instructions as well.

4 Drawing area. Where you draw your models.

5 View button. This button sets you in view mode.

6 Button. General buttons that help you to change color, snap, properties and cancel commands.

7 User Coordinate System icon. Helps you to view a reference about the orientation plane your'e working at.

SECTION 2

Setting specific points

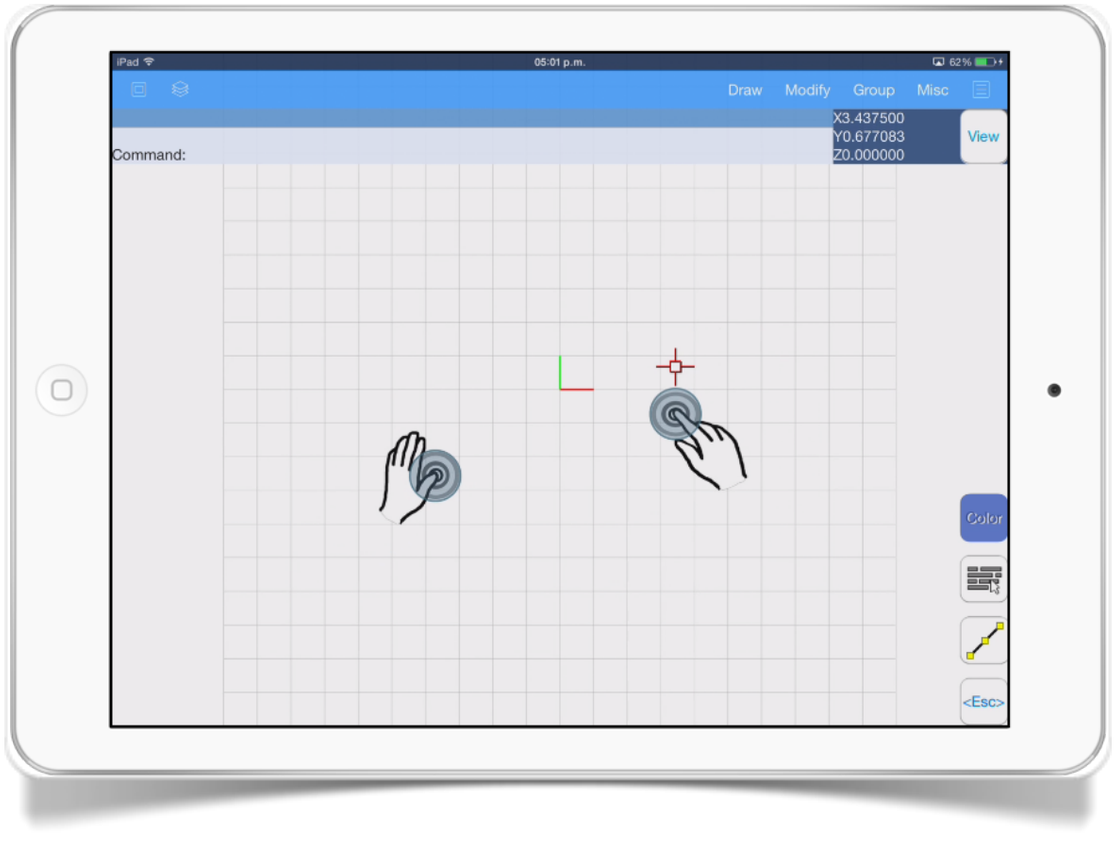
YOU WILL LEARN

1. How to set points using the touching interface.
2. How to set points typing directly with the virtual keyboard.
3. Type of values you can use with the virtual keyboard.
4. How to type absolute coordinates.
5. How to type relative coordinates.

How to set points using the touching interface

You are able to select a point using the touch in your iPad or iPhone just moving the cursor with one finger and then without releasing your finger from the drawing area, tap the screen with another finger to select a point.

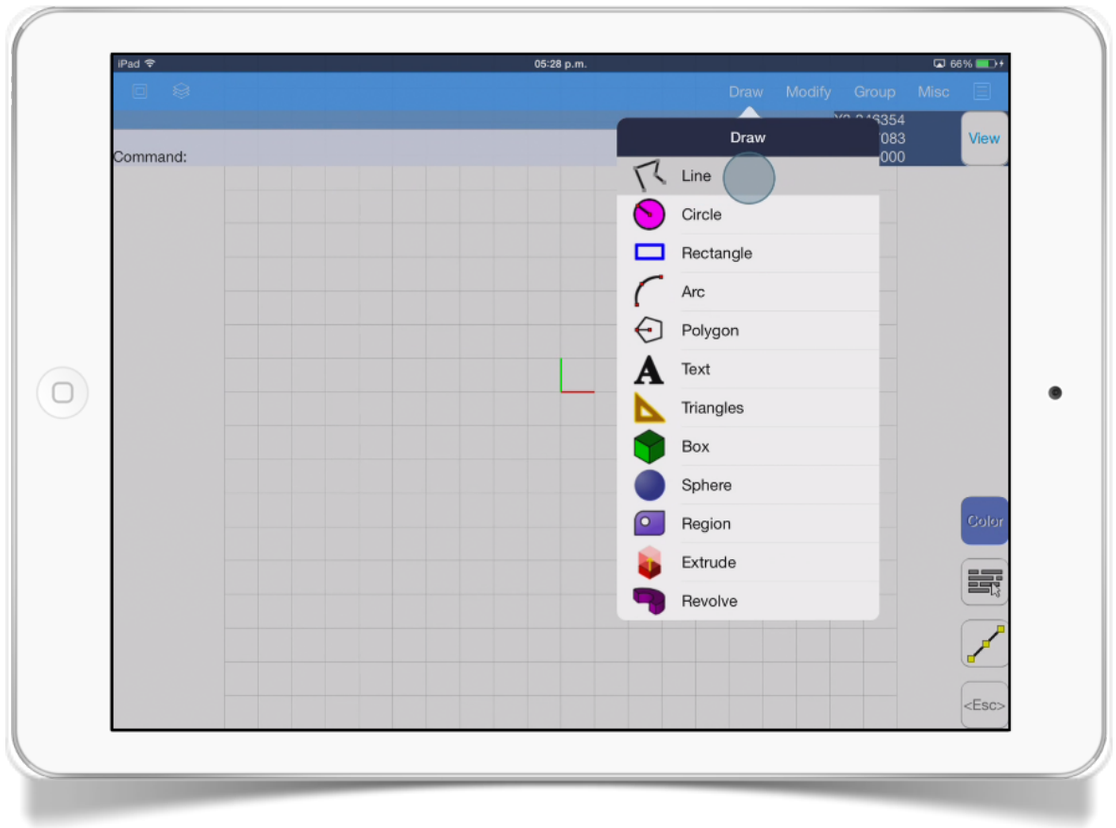
We have called this feature as the “second touch” and it is useful to give precision when you are drawing.



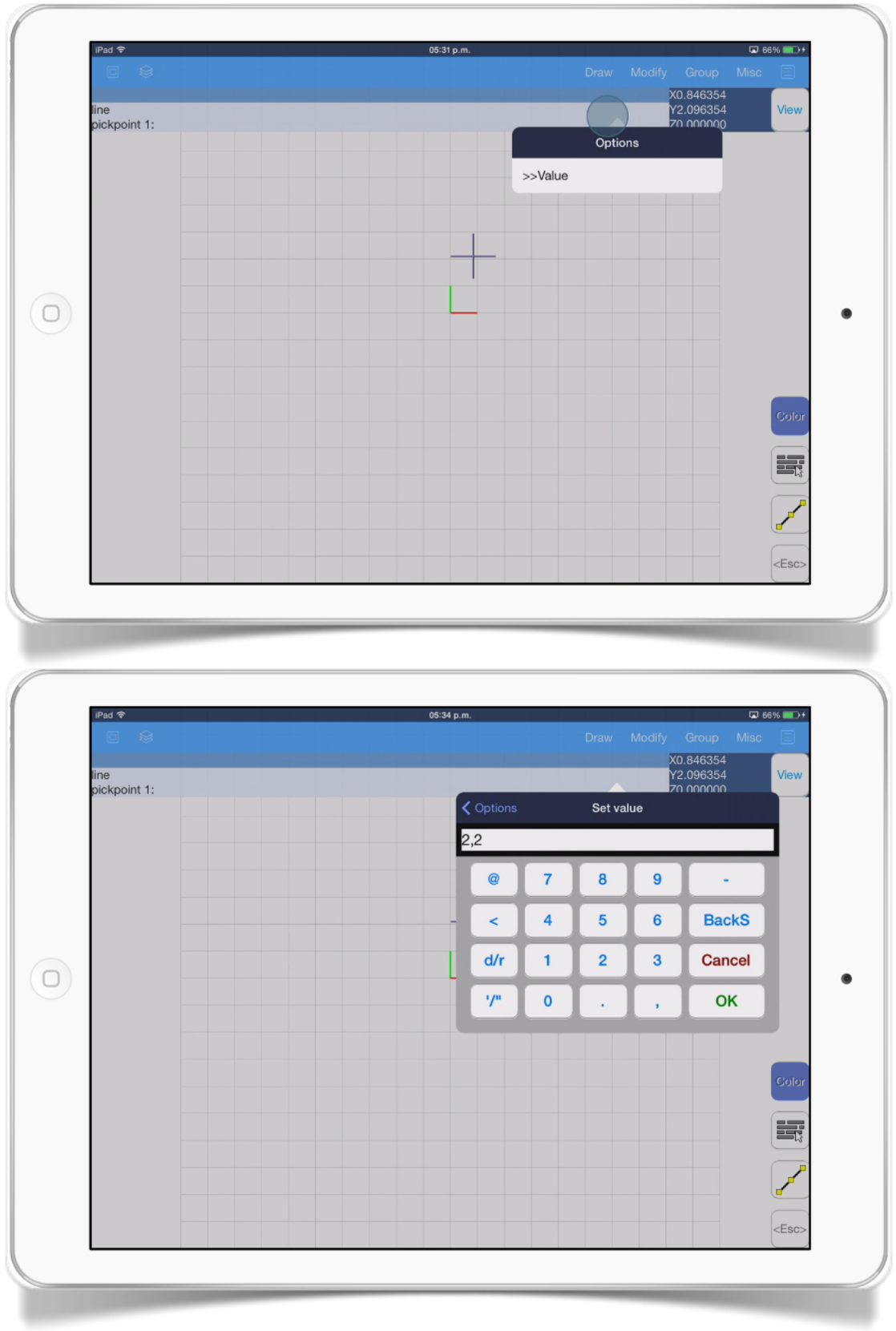
How to set points typing directly with the virtual keyboard

There is an area above the drawing area and immediately below the menu bar where the commands and its parameters are displayed. You can touch this section called the information area when some tool is asking for an input. Let's see an example:

Select *Draw* > *Line* tool and then watch the information area where you can see that the command ***line*** is asking for the parameter *pickpoint1*.



Touch the information area and then you will see a dialog that says *value,* tap it. Then type *2,2* and then tap *OK* button.



Type of values you can use with the virtual keyboard

Here you can see some different type of value examples:

EXAMPLE VALUE	DESCRIPTION
10	An integer value. This type of value is used in tools when they are asking for example number of copies, number of sides, etc.
54.6	A decimal value. This type of value can be used for example to specify angles, height of text, circle radius, etc.
1.50r	A value expressing an angle in radians.
23r30’7”	A value expressing an angle in radians, minutes and seconds.
90d	A value expressing an angle in degrees.
32d20’8”	A value expressing an angle in degrees, minutes and seconds.

Typing absolute coordinates

When you know the exact coordinates of your point or its distance and angle from the *0,0* drawing origin, you can simply type the coordinates in one several formats as the following:

EXAMPLE VALUE	DESCRIPTION
1,0	If you are working in Z plane, then 1 is the value for the X axis and the 0 is the Y axis value.
2,4.6	If you are working in Z plane, then 2 is the value for the X axis and the 4.6 is the Y axis value.
0,2,0.3	Here 0 is the X axis value, 2 is the Y axis value and 0.3 is the Z axis value.

You can also specify magnitude and angle:

EXAMPLE VALUE	DESCRIPTION
1<90	A polar coordinate that specify 1 unit of distance and 90 degrees (default) from origin (0,0).
3.5<45	A polar coordinate that specify 3.5 units of distance and 45 degrees from origin (0,0).
5<1.7r	A polar coordinate that specify 5 units of distance and 1.7 radians from origin (0,0).
74<40d	A polar coordinate that specify 74 units of distance and 40 degrees from origin (0,0).
10<2.2r34’36.5”	A polar coordinate that specify 10 units of distance 2.2 radians, 34 minutes and 36.5” from origin (0,0).
20<12d23’30.67”	A polar coordinate that specify 20 units of distance and 12 degrees, 23 minutes and 30.67 seconds from origin (0,0).

Typing relative coordinates

These types of coordinates are relative to the previous point.

You can type directly the coordinates that is relative to the last point, just typing the @ symbol before the first number, as the following:

EXAMPLE VALUE	DESCRIPTION
@0.97,16	Here the value for X axis is 0.97 and for the Y axis is 16, but relative to the last point.
@3,5.6	Here the value for X axis is 3 and for the Y axis is 5.6, relative to the last point.
@0,2,1	The value for the X axis is 0, Y axis is 2 and X axis is 1, relative to the last point.

You can also specify magnitude and angle:

EXAMPLE VALUE	DESCRIPTION
@1<90	1 unit of distance and 90 degrees from the last point.
@3.5<45	3.5 units of distance and 45 degrees from the last point.
@12<2.1r	12 units of distance and 2.1 radians from the last point.
@52<32d	52 units of distance and 32 degrees from the last point

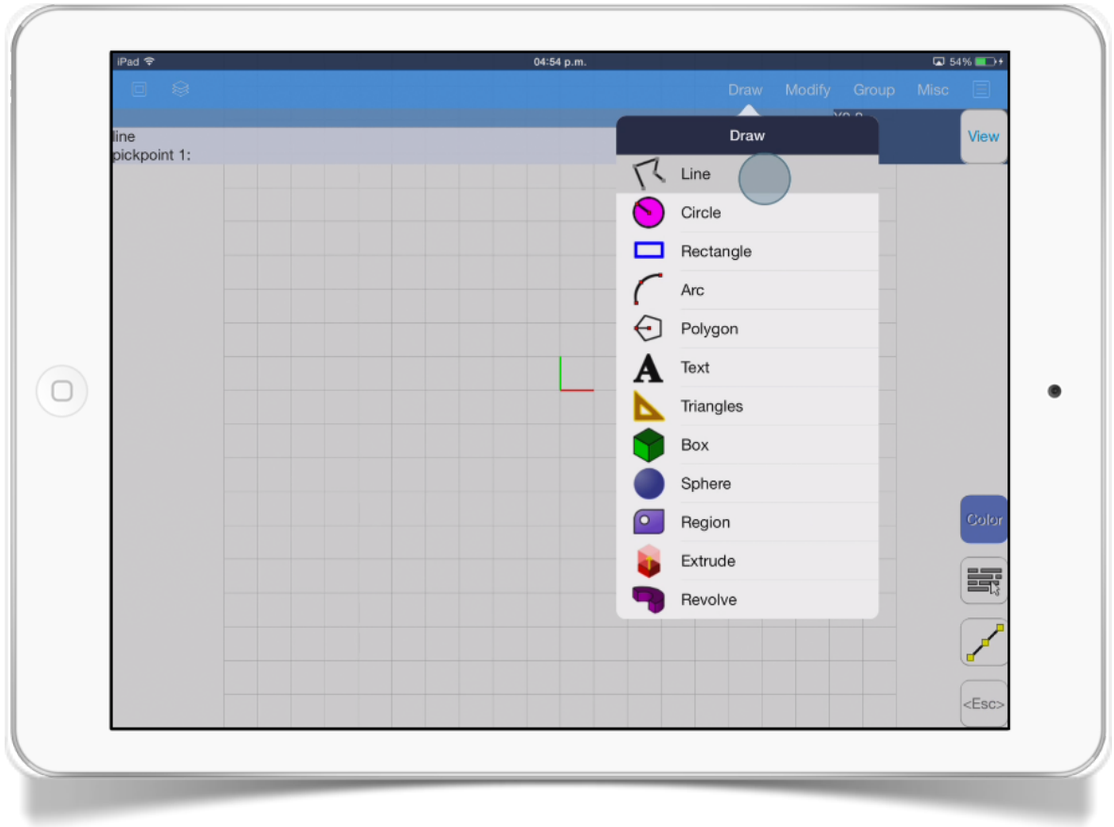
SECTION 3

Using the second touch

YOU WILL LEARN

1. How to use the “Second Touch” feature.

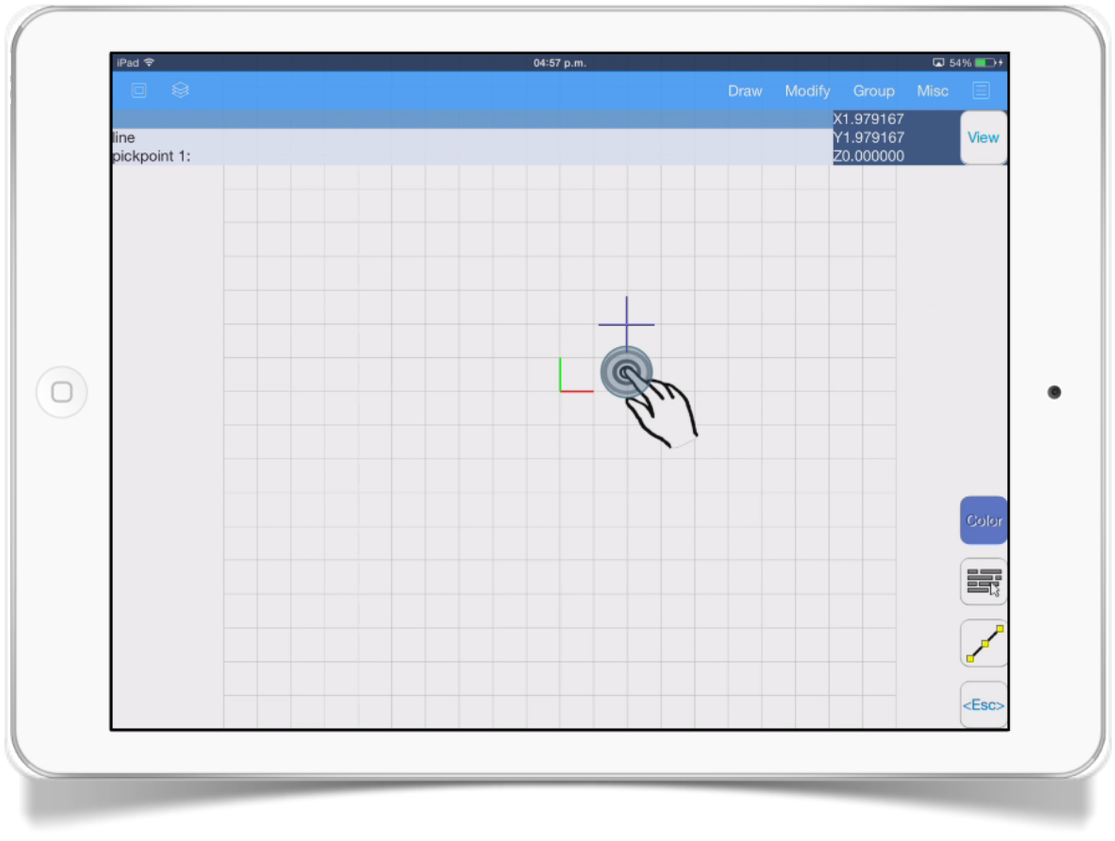
The *second touch* works as you were using the click of the mouse in your desktop programs. This is important because this add precision to your drawings in your iPad or iPhone.



But let’s see an example to explain how to use it:

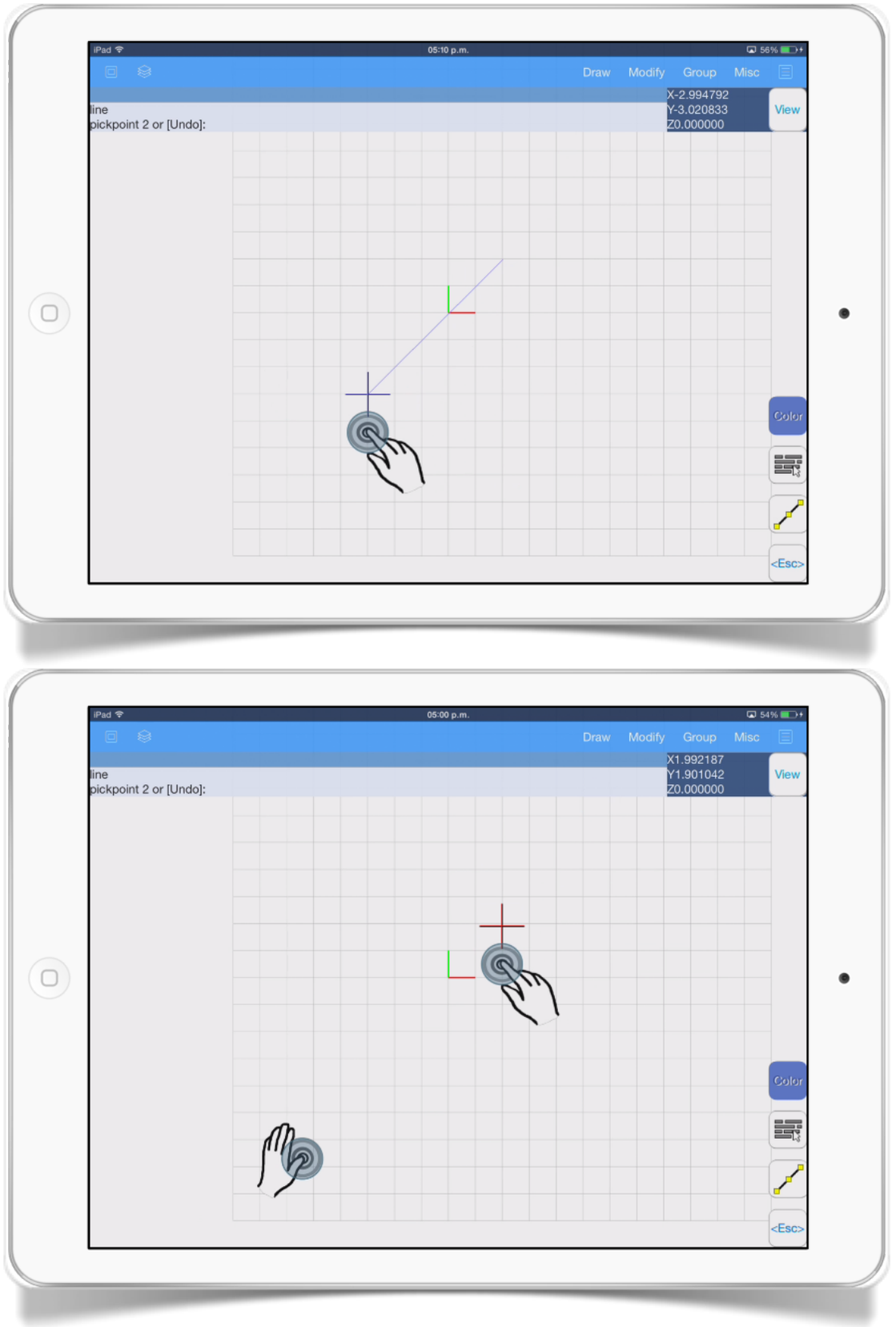
First we will draw a line. Go to *Draw* > *Line* tool

Move your cursor with your finger in the spot where the line is going to start.



Then, without releasing your first finger, tap the screen with another finger. This select the starting point.

Then move the cursor to start drawing a line. When you are satisfied with the position, just tap the screen with another finger, this is to select the second point of the line.



You can continue drawing lines using the same procedure described before; don't forget to tap the screen with another finger to finish the new line. When you have finished just press <*Esc*> button.

SECTION 4

Selecting objects

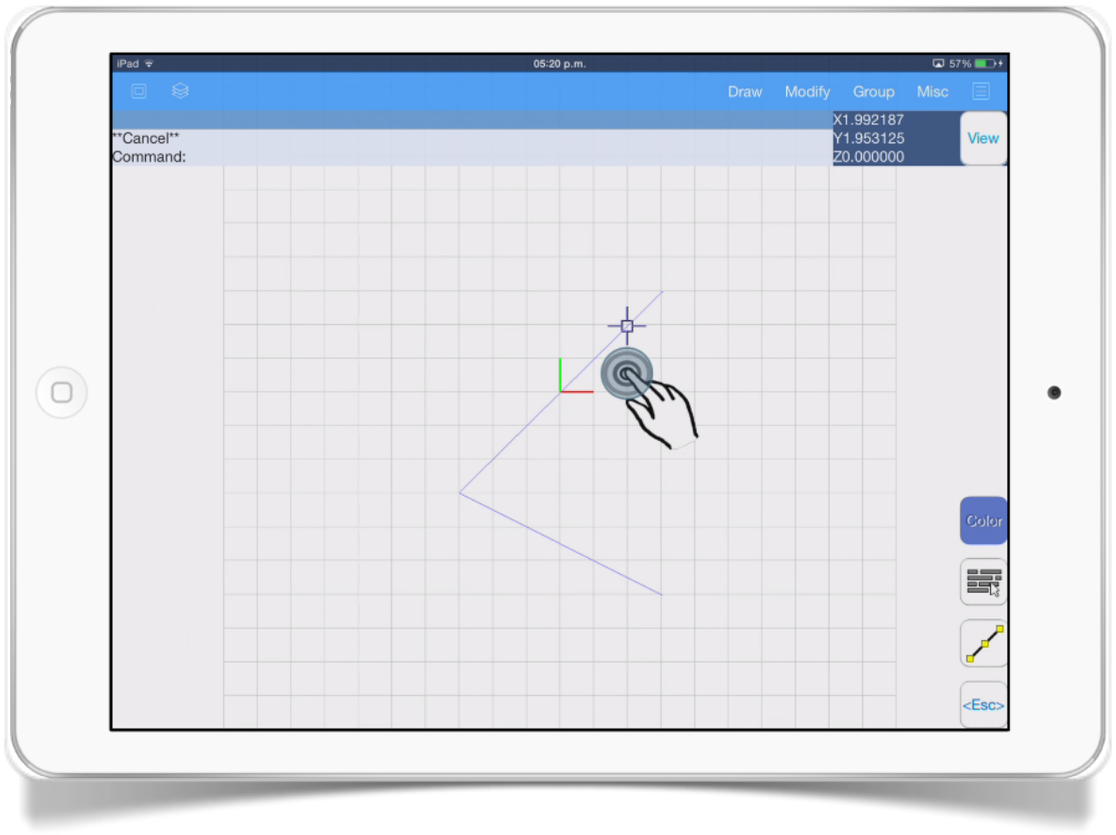
YOU WILL LEARN

1. How to select an object.
2. How to select multiple objects.

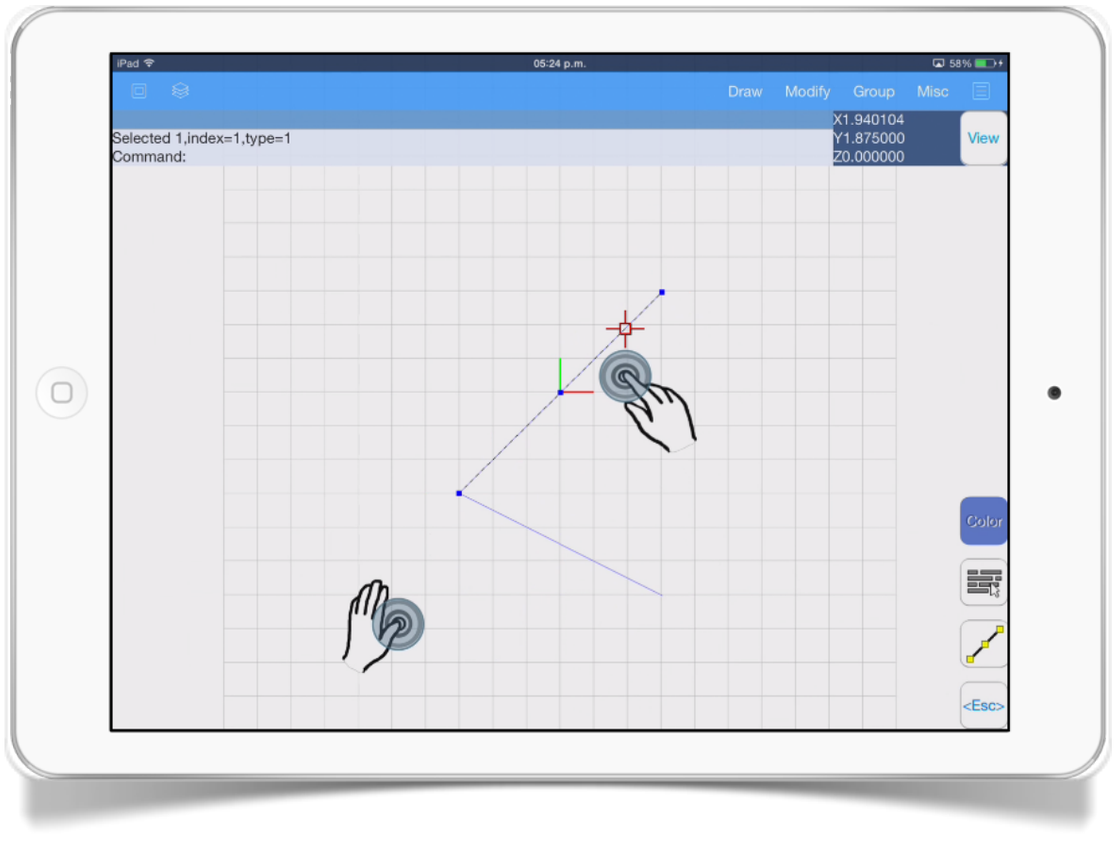
To select objects you have to use the second touch feature described in Chapter 2 Section 3.

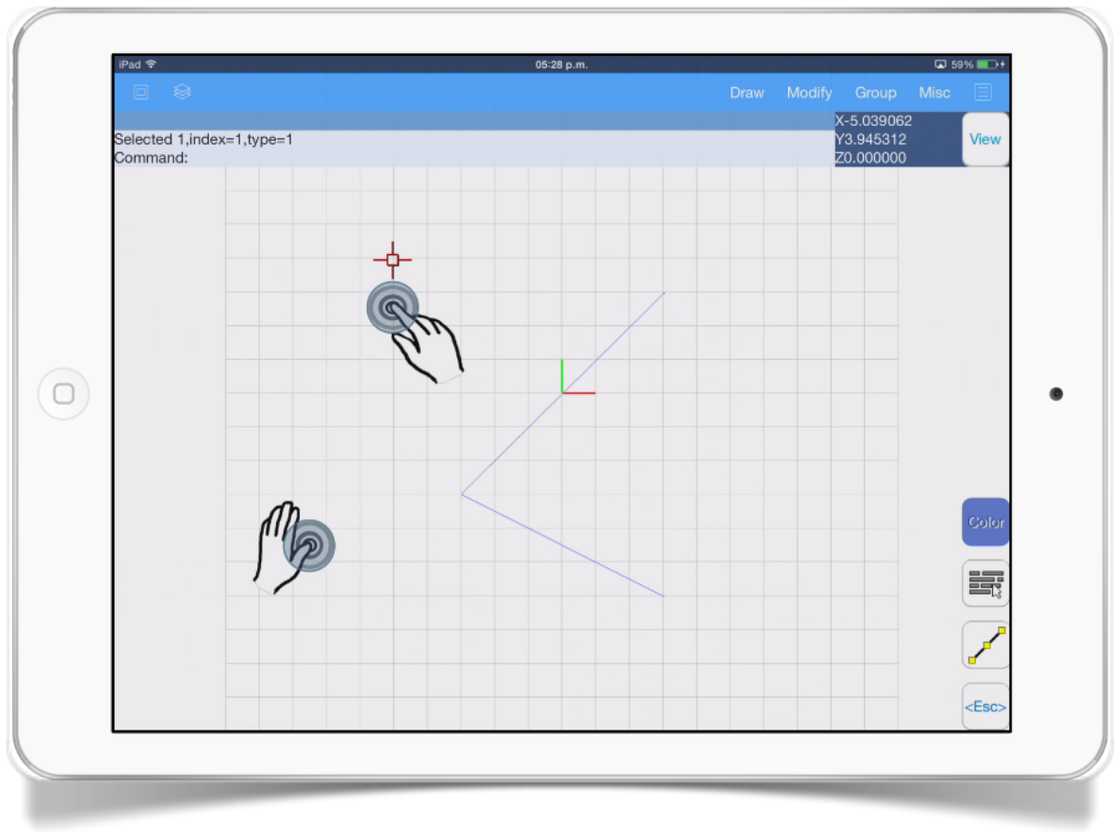
Let's see an example.

Move your cursor with one finger until the cursor grip touch the object.



Then, without releasing your finger, tap the drawing with another finger to select the object. To deselect an object just use the same procedure, move again your cursor over the selected object and without releasing your finger, tap the screen with other finger. Try it.

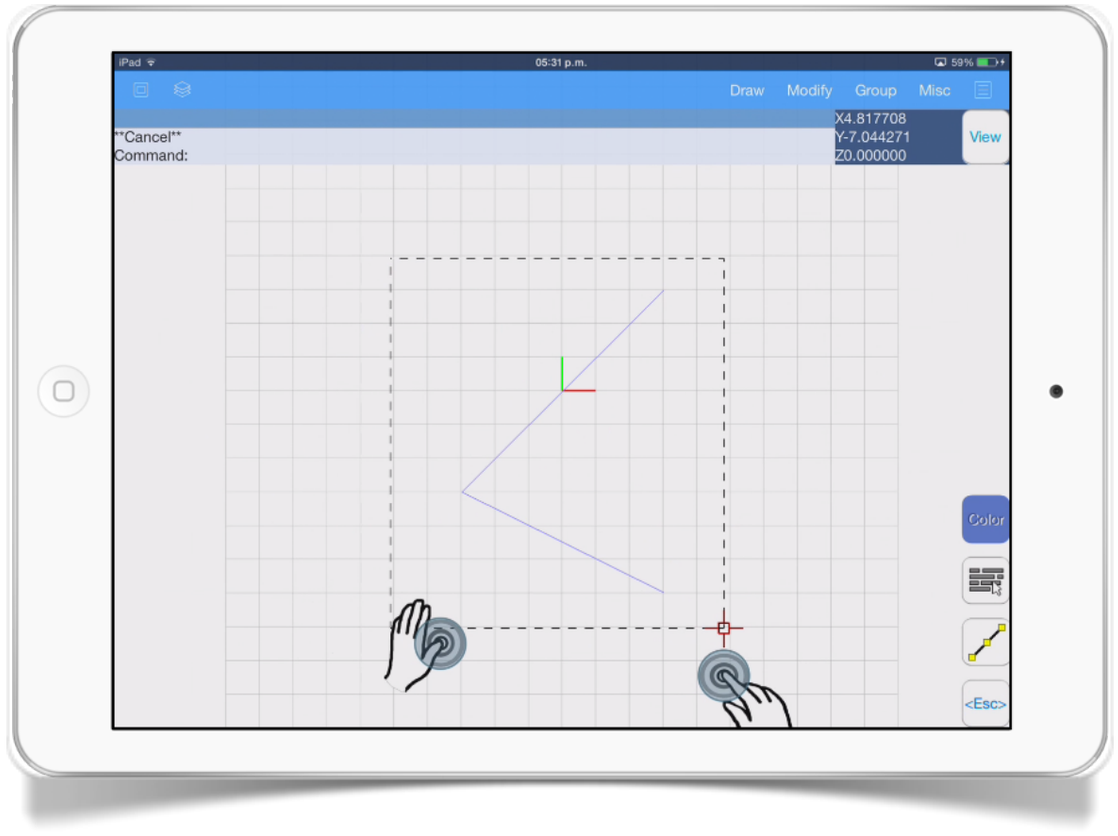




To select multiple objects, just select an area moving your cursor to the upper left corner of this area. Then, without releasing the finger, tap the drawing area with another finger to set the first point.

Then, drag your cursor to below right corner and without releasing your finger, tap the screen with another finger to set the selection area that will select the objects inside. Try it.

Note: the <*Esc*> button is used to cancel the current command and if you press it a second time it will unselect the objects.



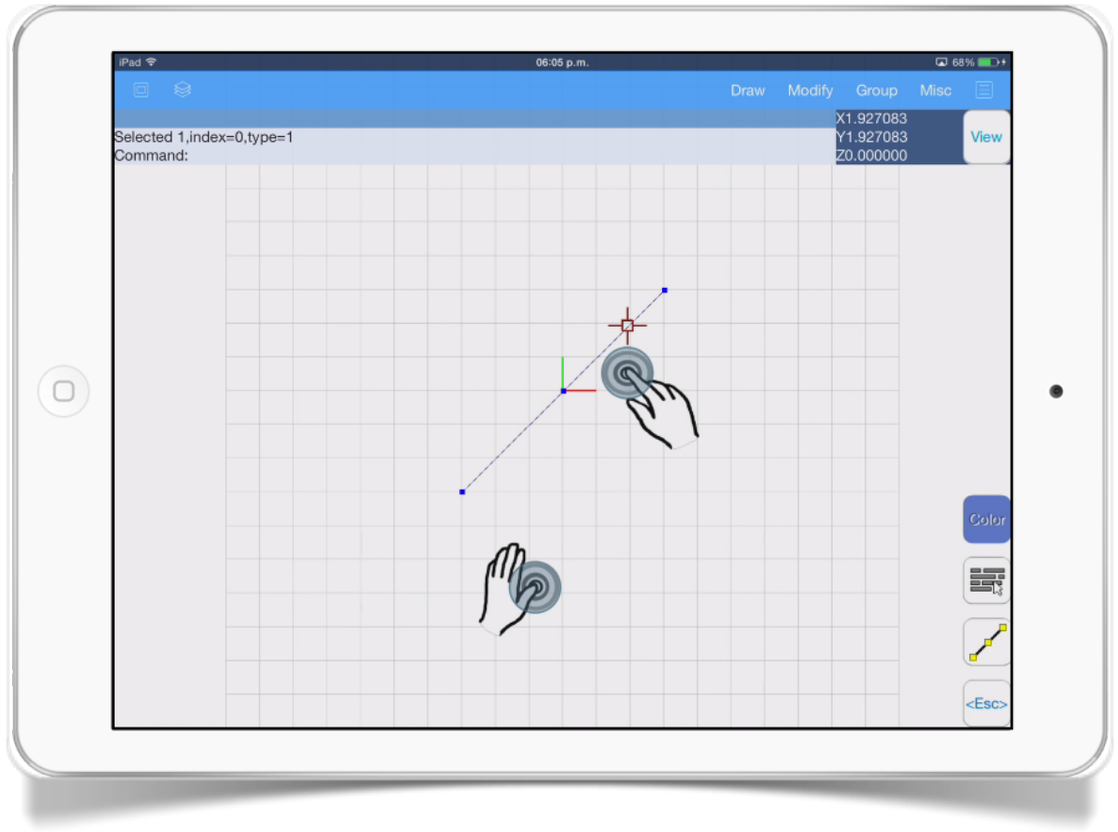
SECTION 5

Moving objects

YOU WILL LEARN

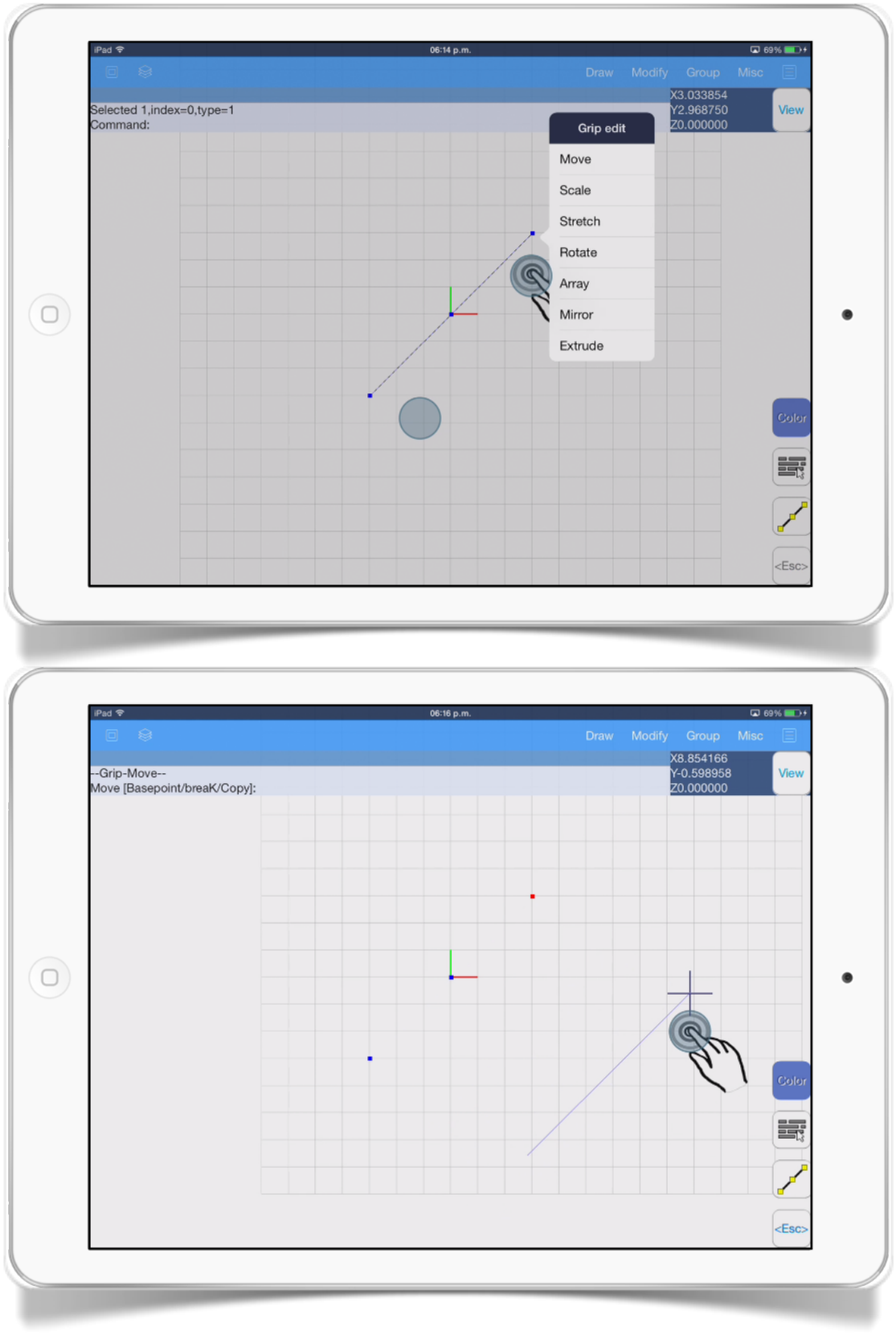
1. How to move objects.
2. Use of the context menu.

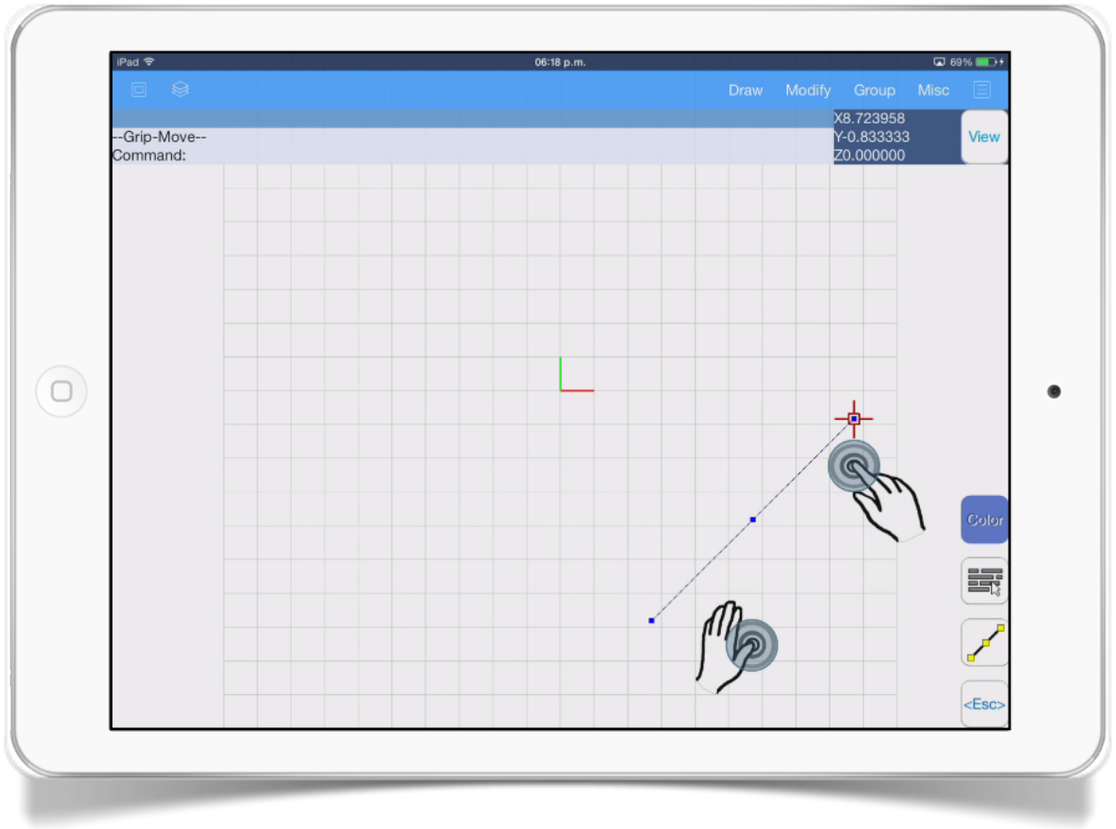
To move objects, first move your cursor over the object. Select it using the second touch feature (section 3 and 4 of this chapter). You must see that some grips appear over the object. Try it.



Move your cursor over some of the grips and without releasing this finger, tap the drawing area with another finger. You will notice that a context menu appears.

Select the *move* option and move the object to desired position. Then without releasing your finger, tap the drawing area with another finger to set the new object position.


iPad
06:14 p.m.
69%
Draw
Modify
Group
Misc
Selected 1,index=0,type=1
Command:
X3.033854
Y2.968750
Z0.000000
View
Grip edit
Move
Scale
Stretch
Rotate
Array
Mirror
Extrude
Color
<Esc>


iPad
06:18 p.m.
69%
Draw
Modify
Group
Misc
--Grip-Move--
Command:
X8.723958
Y-0.833333
Z0.000000
View
Color
<Esc>

iPad
06:16 p.m.
69%
Draw
Modify
Group
Misc
--Grip-Move--
Move [Basepoint/breaK/Copy]:
X8.854166
Y-0.598958
Z0.000000
View
Color
<Esc>

SECTION 6

Scaling objects

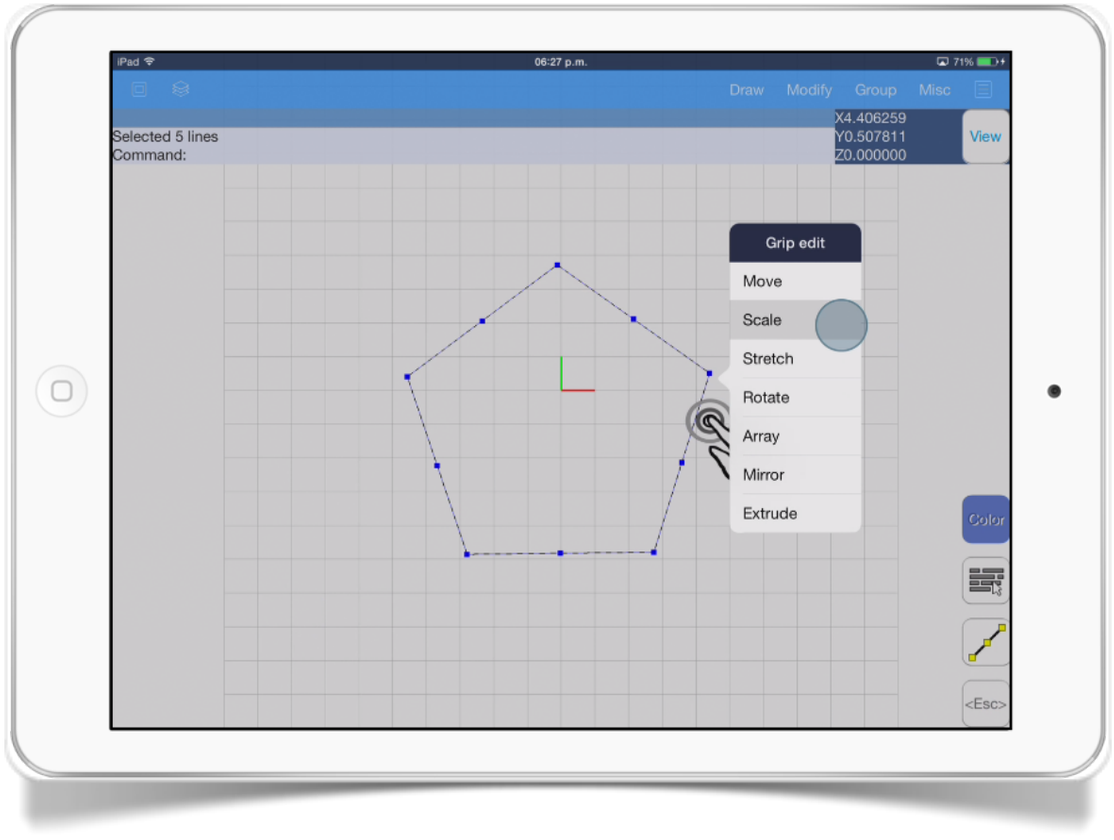
YOU WILL LEARN

1. How to scale an object.
2. How to use the context menu.

To scale objects, first select the object(s).

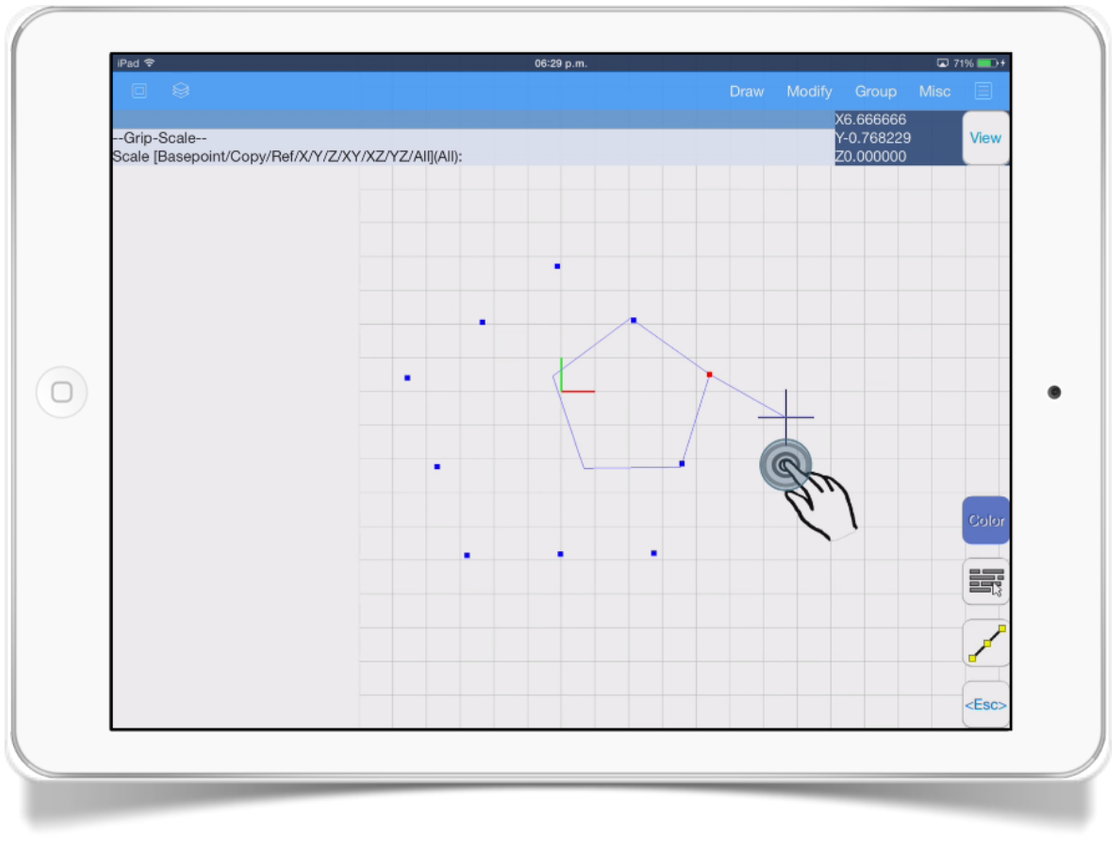
You will see some grips appear over the object. Then move your cursor over one of the grips and without releasing this finger, tap the drawing area with another finger. You will notice that a context menu appears.

Select the *Scale* option.



Now you are able to move the cursor up and down, meanwhile you do this you will notice how the objects scale up and down in the same manner.

To apply the changes just tap again the drawing area or press <*Esc*> button if you want to cancel the command.



SECTION 7

Stretching objects

YOU WILL LEARN

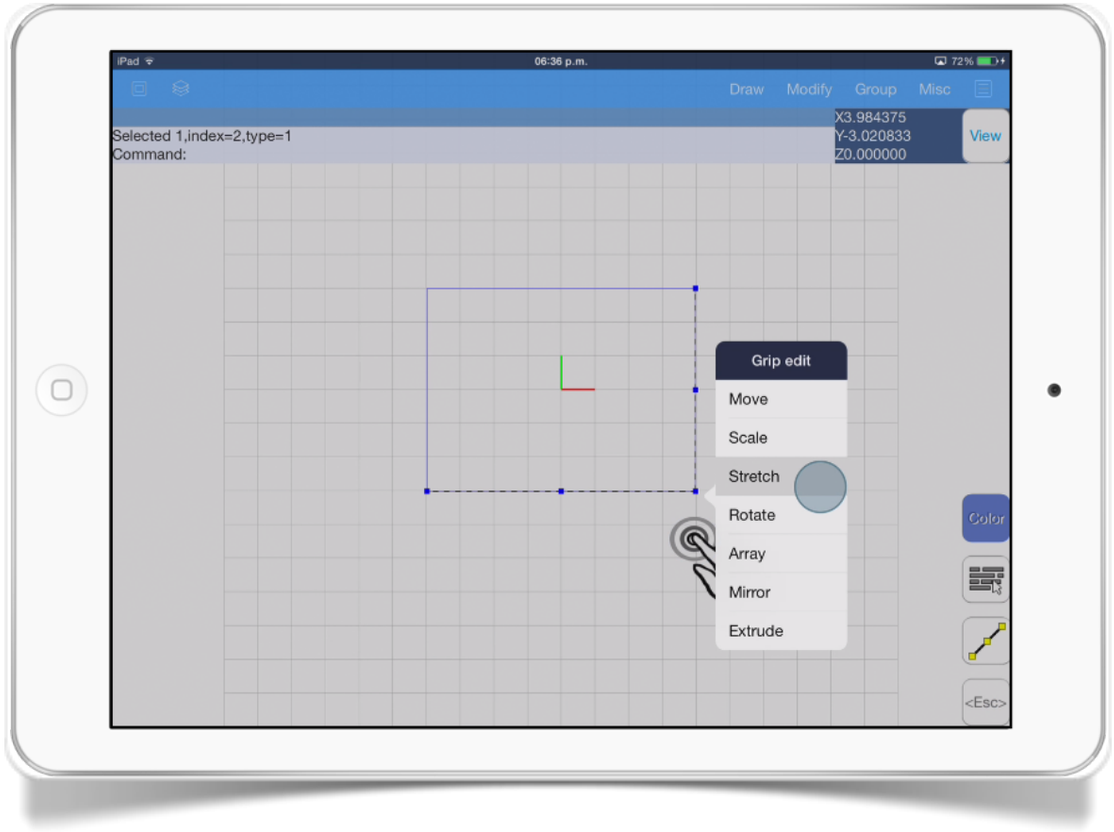
1. How to stretch an object
2. How to use the context menu.

In the example below, a rectangle will be stretched by moving on vertex to create an irregular shape.

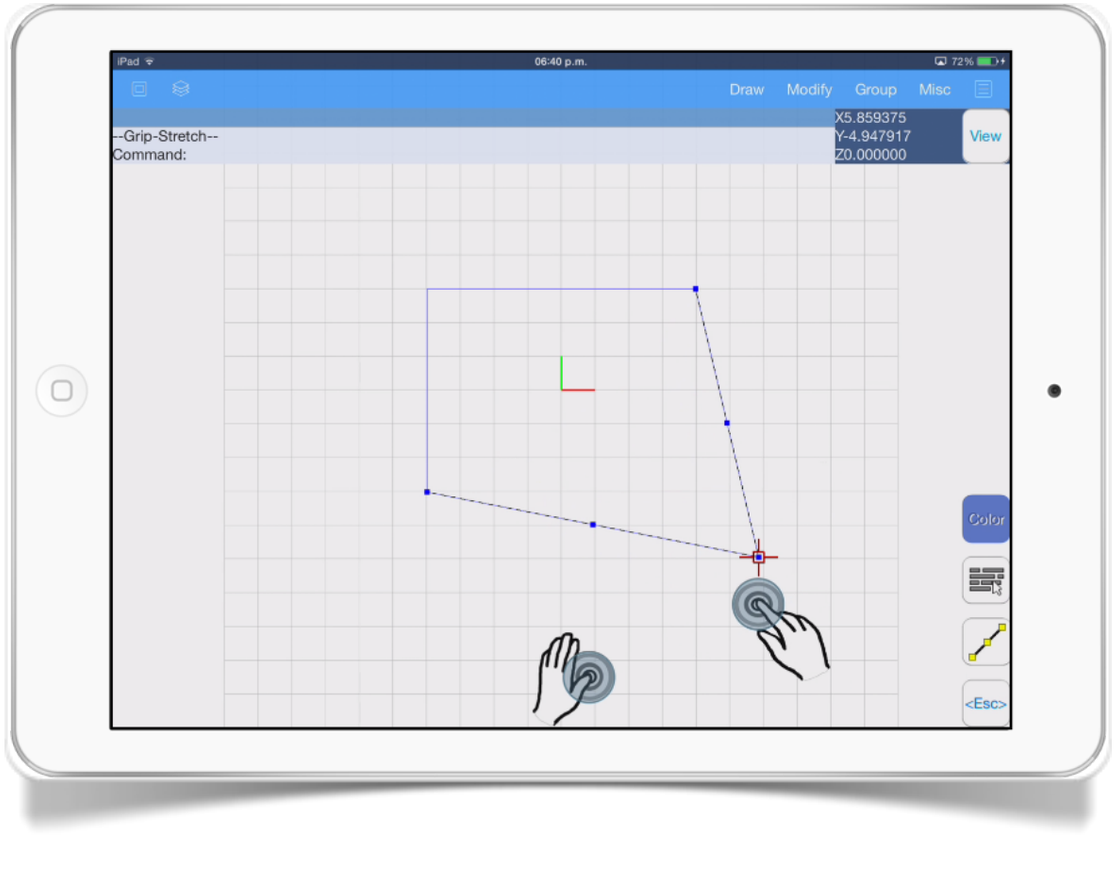
First select the two lines of the rectangle

Then move the cursor to the vertex and tap the screen with another finger. A context menu appears

Select the *Stretch* option.



Move down your cursor. Tap the screen with another finger to apply the changes or press <*Esc*> button to cancel.


iPad
06:40 p.m.
72%
Draw
Modify
Group
Misc
X5.859375
Y-4.947917
Z0.000000
View
--Grip-Stretch--
Command:
Color
<Esc>

SECTION 8

Applying textures

YOU WILL LEARN

1. Load textures files into your project.
2. How to apply texture file to an object.

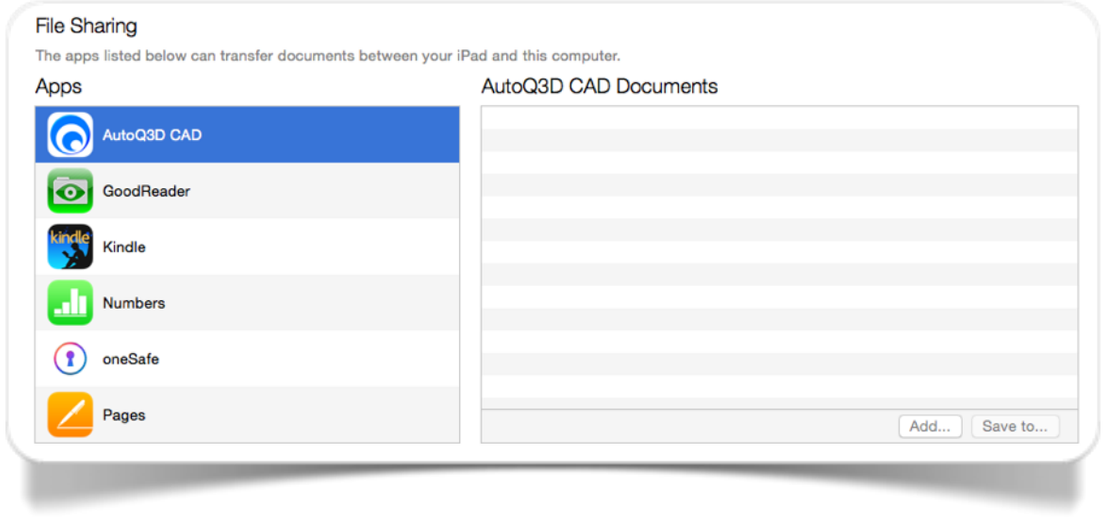
Texture files are images files you are able to apply them to objects.

Currently AutoQ3D CAD for iPad and iPhones supports these file formats to be used as textures:

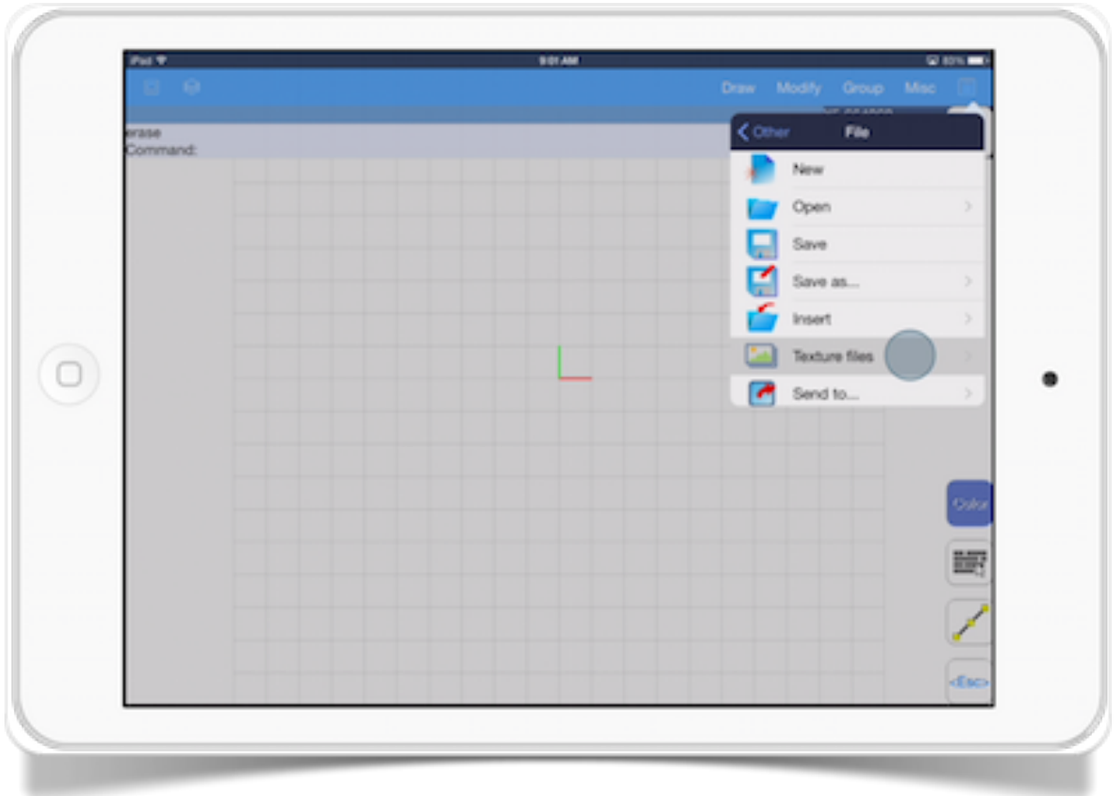
- BMP
- JPG
- PNG

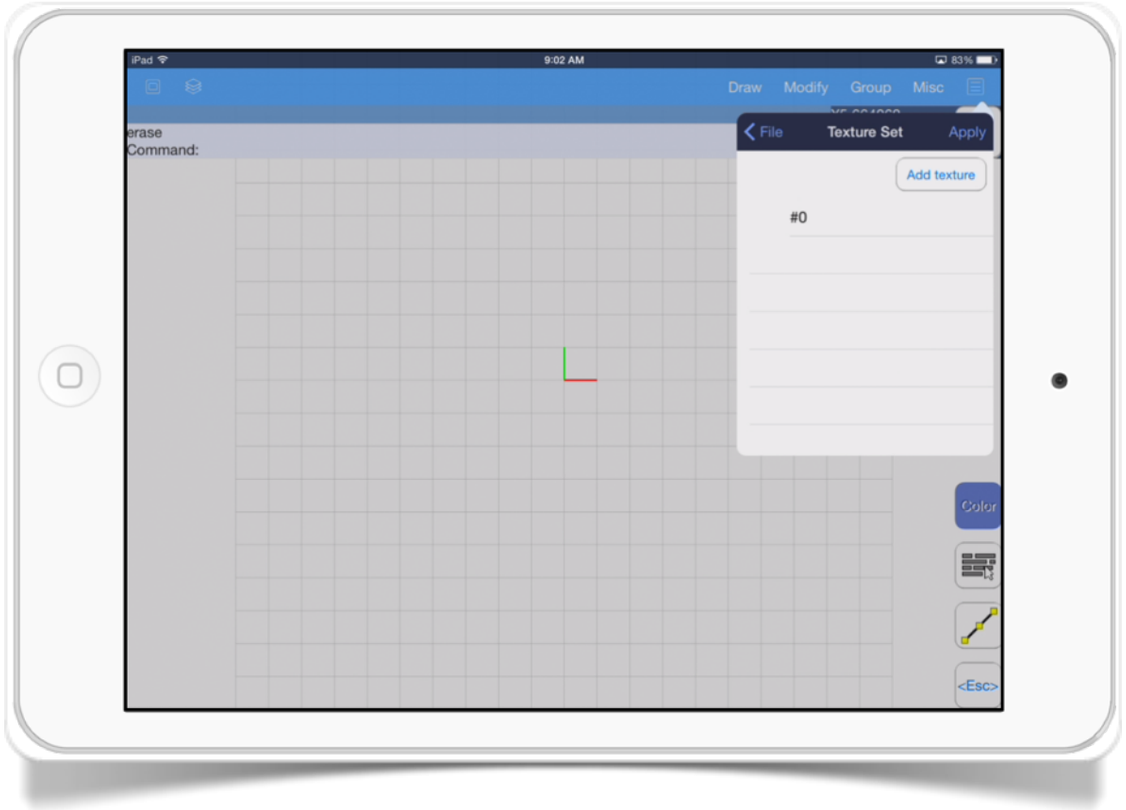
To add files to your iPad or iPhone you can use iTunes software to load your image files to AutoQ3D CAD application.

When you have the texture files on the application you can start applying to the objects.



The first step is to go to *File* -> *Texture* files option.





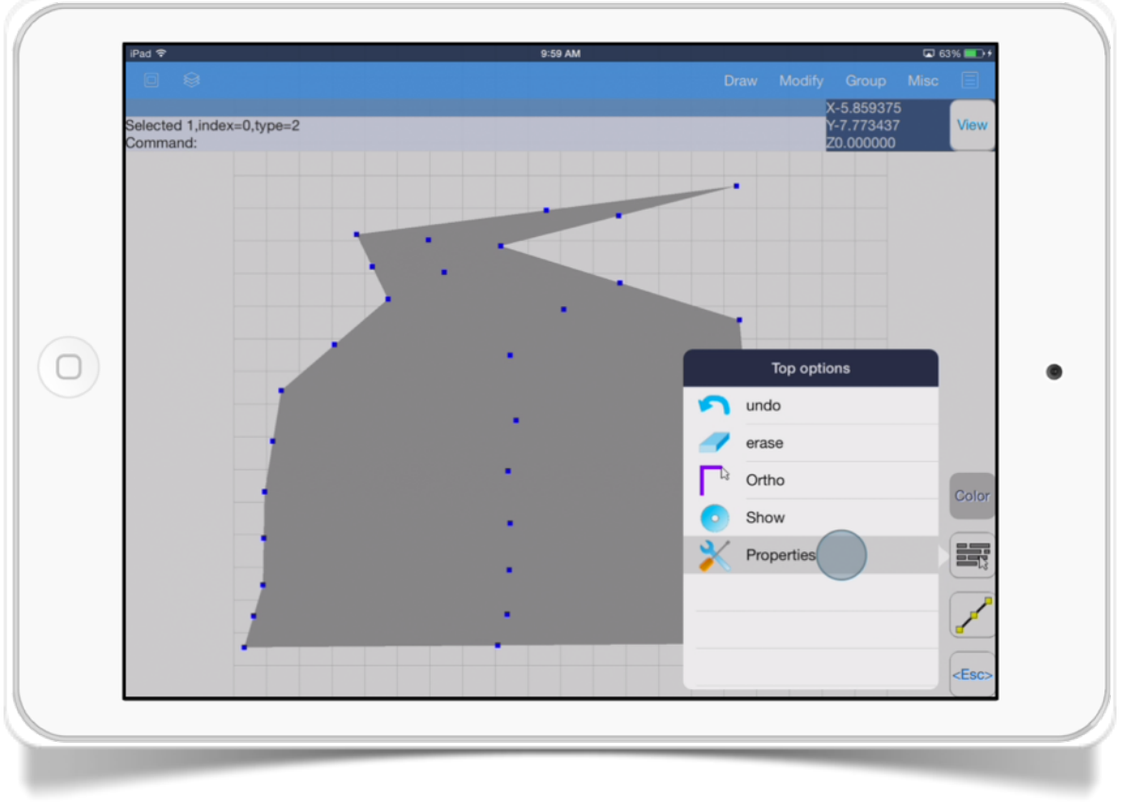
Now you will see a button called *Add texture* that will help you to load up some images files. Select the image file and then tap on the apply button.

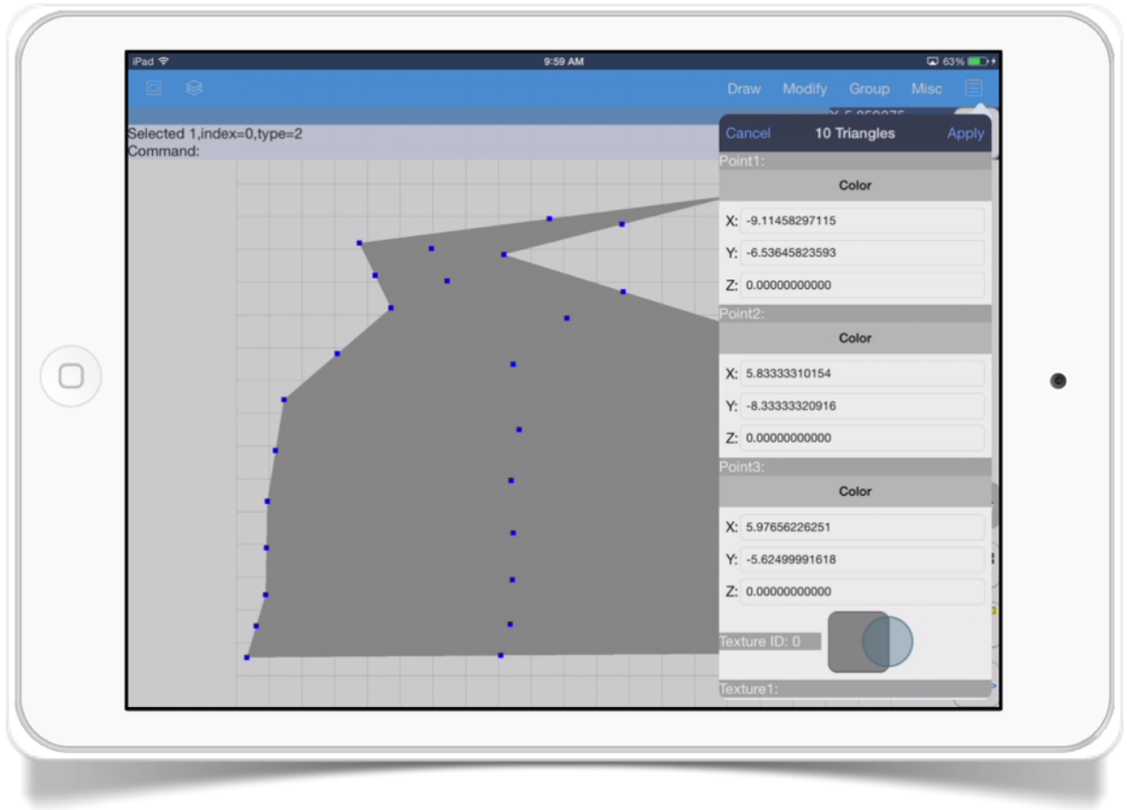
In the following example you see a gray object that we will use to apply a texture on it.

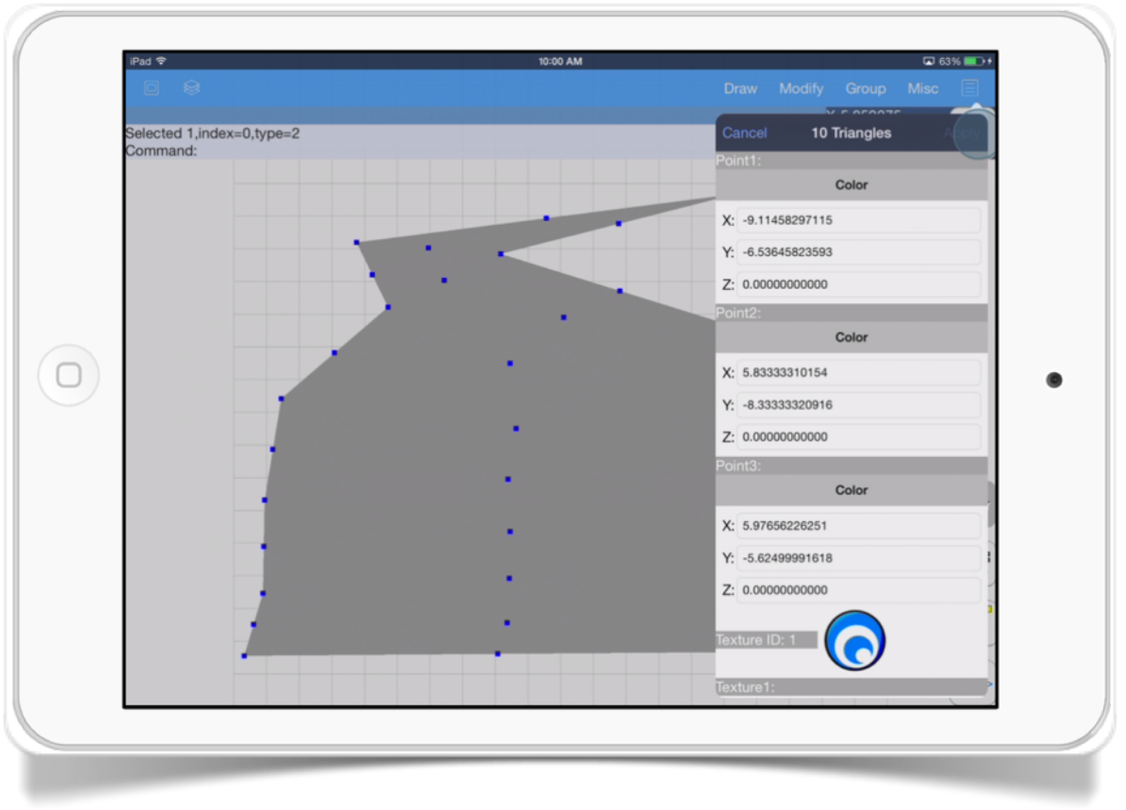
First select the object(s), then tap on *Properties* button

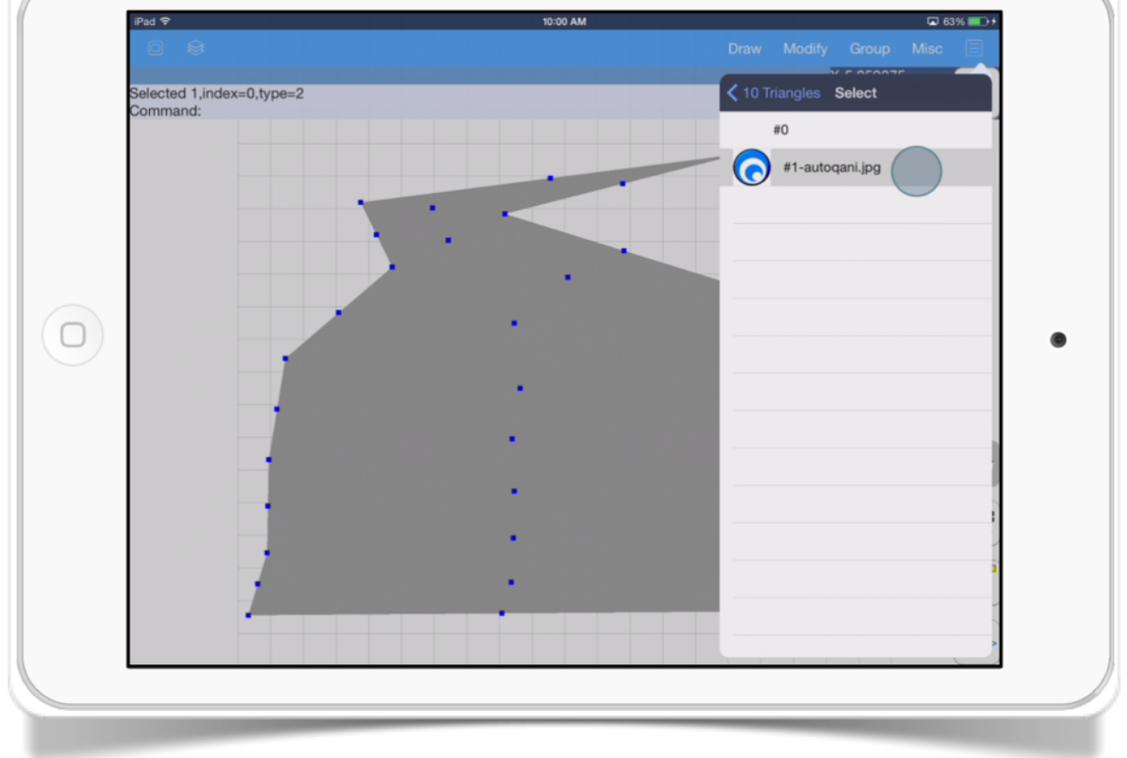
Now look for Texture ID and tap the square button.

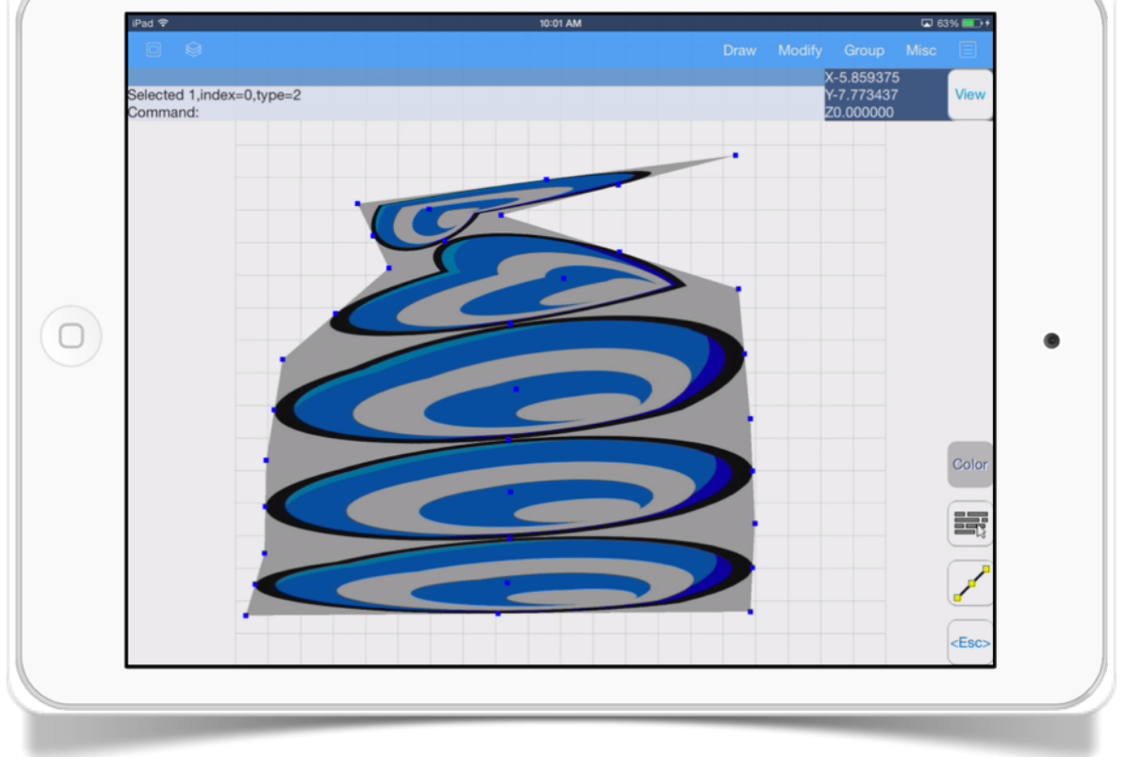
Then select one of the texture images and last tap on the apply button.




iPad
9:59 AM
63%
Draw
Modify
Group
Misc
Selected 1,index=0,type=2
Command:
Cancel
10 Triangles
Apply
Point1:
Color
X: -9.11458297115
Y: -6.53645823593
Z: 0.00000000000
Point2:
Color
X: 5.83333310154
Y: -8.33333320916
Z: 0.00000000000
Point3:
Color
X: 5.97656226251
Y: -5.62499991618
Z: 0.00000000000
Texture ID: 0
Texture1:


iPad
10:00 AM
63%
Draw
Modify
Group
Misc
Selected 1,index=0,type=2
Command:
Cancel
10 Triangles
Point1:
Color
X: -9.11458297115
Y: -6.53645823593
Z: 0.00000000000
Point2:
Color
X: 5.83333310154
Y: -8.33333320916
Z: 0.00000000000
Point3:
Color
X: 5.97656226251
Y: -5.62499991618
Z: 0.00000000000
Texture ID: 1
Texture1:


iPad
10:00 AM
Draw
Modify
Group
Misc
Selected 1,index=0,type=2
Command:
10 Triangles
Select
#0
#1-autoqani.jpg


iPad
10:01 AM
63%
Draw
Modify
Group
Misc
Selected 1,index=0,type=2
Command:
X-5.859375
Y-7.773437
Z0.000000
View
Color
<Esc>

CHAPTER 3

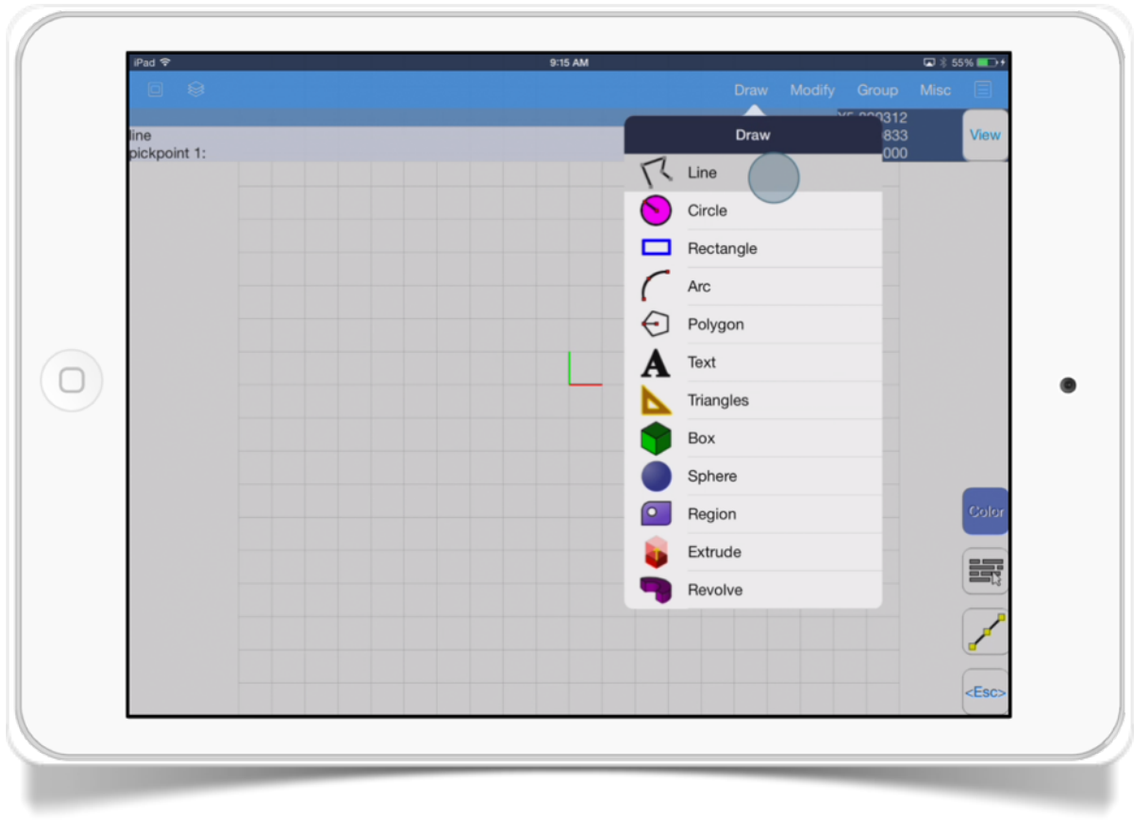
Drawing Tools

In this chapter you will learn the basic elements and tools to create 3D models.

You can create models using three dimensions shapes such as lines, spheres, boxes, etc. Draw your own surfaces from 2D primitives using extrude and revolve.

Line

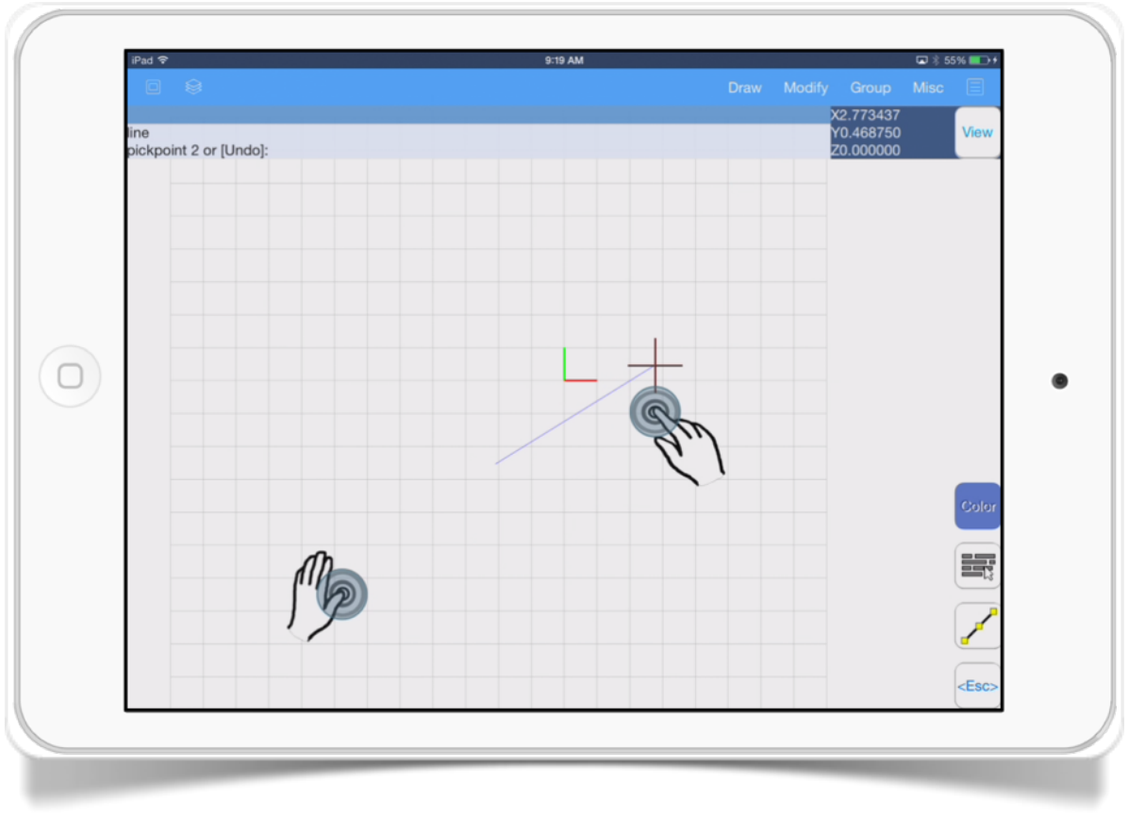
This tool draws one or more segments of a straight line. Each segment is an individual object.



A line is defined with a starting point and an ending point.

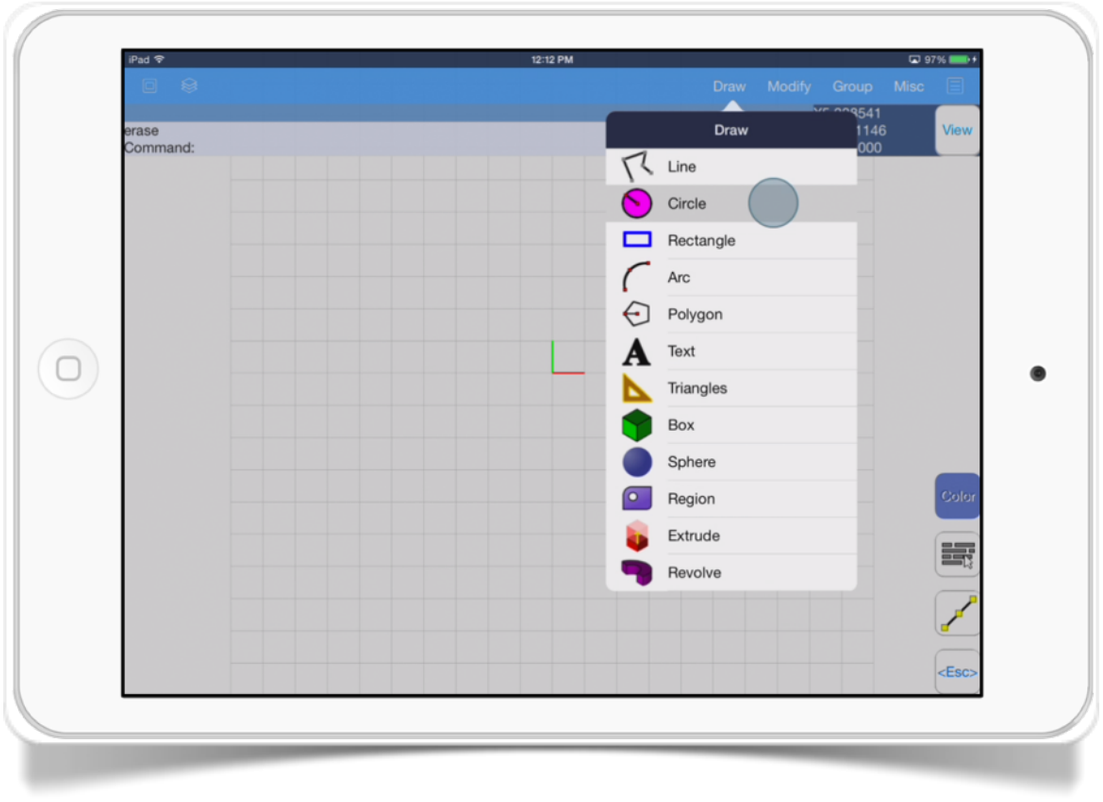
The *Line* tool has these options:

- ***pickpoint 1.*** Specifies the first point of the line.
- ***pickpoint 2.*** Specifies the end point of the line.
- ***Undo.*** This option allows you to undo the last line segment and return to the previous point.
- ***Next point.*** This allows you to continue drawing lines from the last ending point.
- ***Close.*** This option closes two or more lines segments of the line.



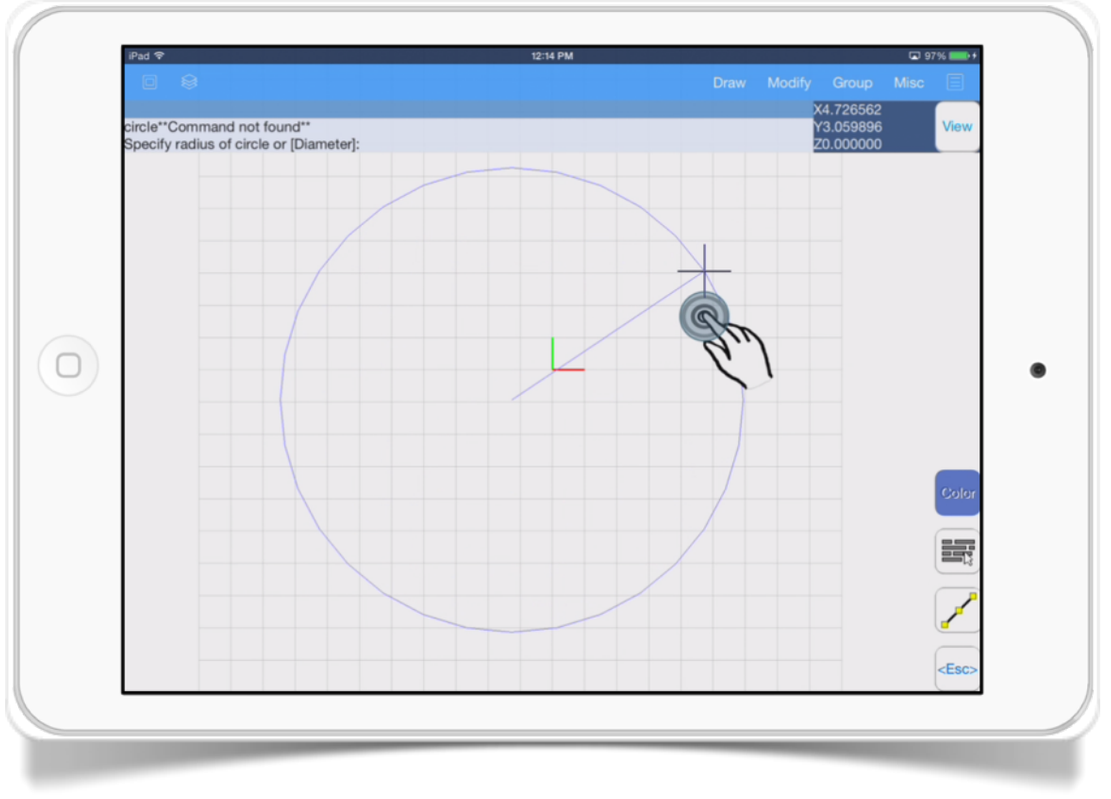
Circle

The *Circle* tool allows you to draw circles using different ways.



The *Circle* tool has these options:

- ***Specify center point.*** This option allows you to choose the central point of the circle. You can use the touch interface or write the point coordinates. Choosing this option allows you to specify the circle radius or diameter.
- ***Radius.*** This option specifies the circle radius, you can use the touch interface to select a point or write a value.
- ***Diameter.*** This option specifies the circle diameter, you can use the touch interface to select a point or write a value.
- ***3P.*** This option draws a circle selecting 3 points in the circumference.
- ***2P.*** This option draws a circle selecting 2 points in the diameter.

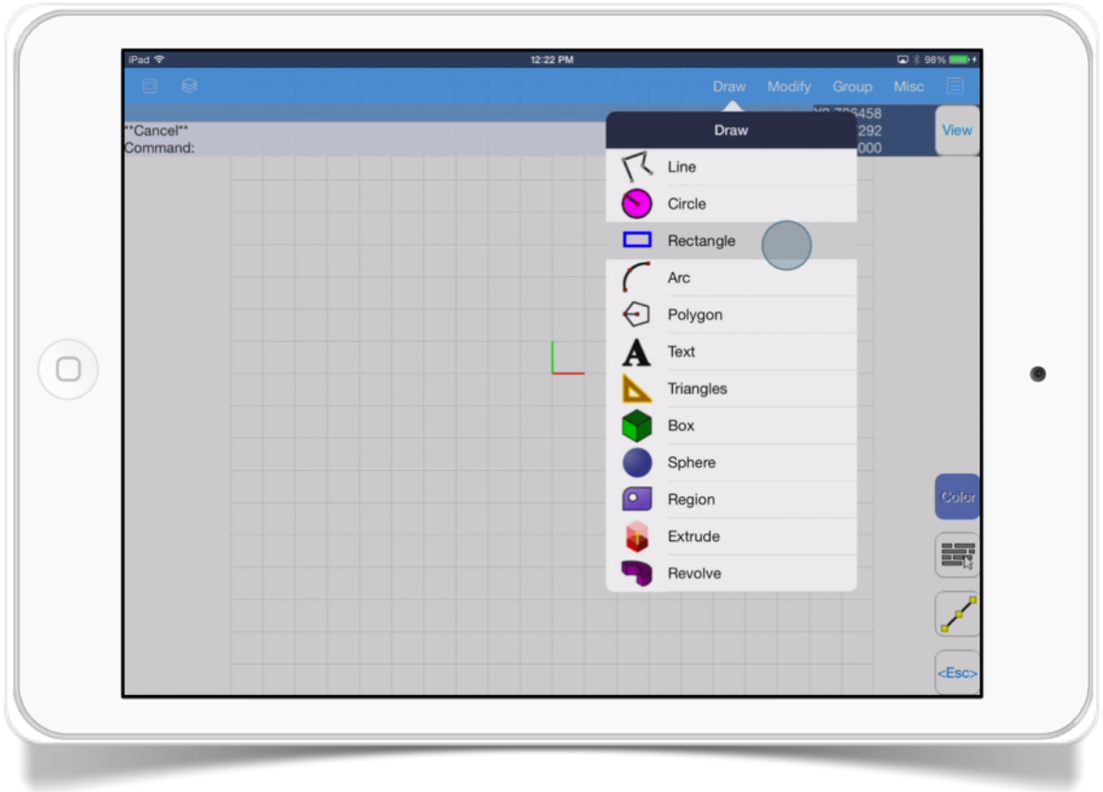


SECTION 3

Rectangle

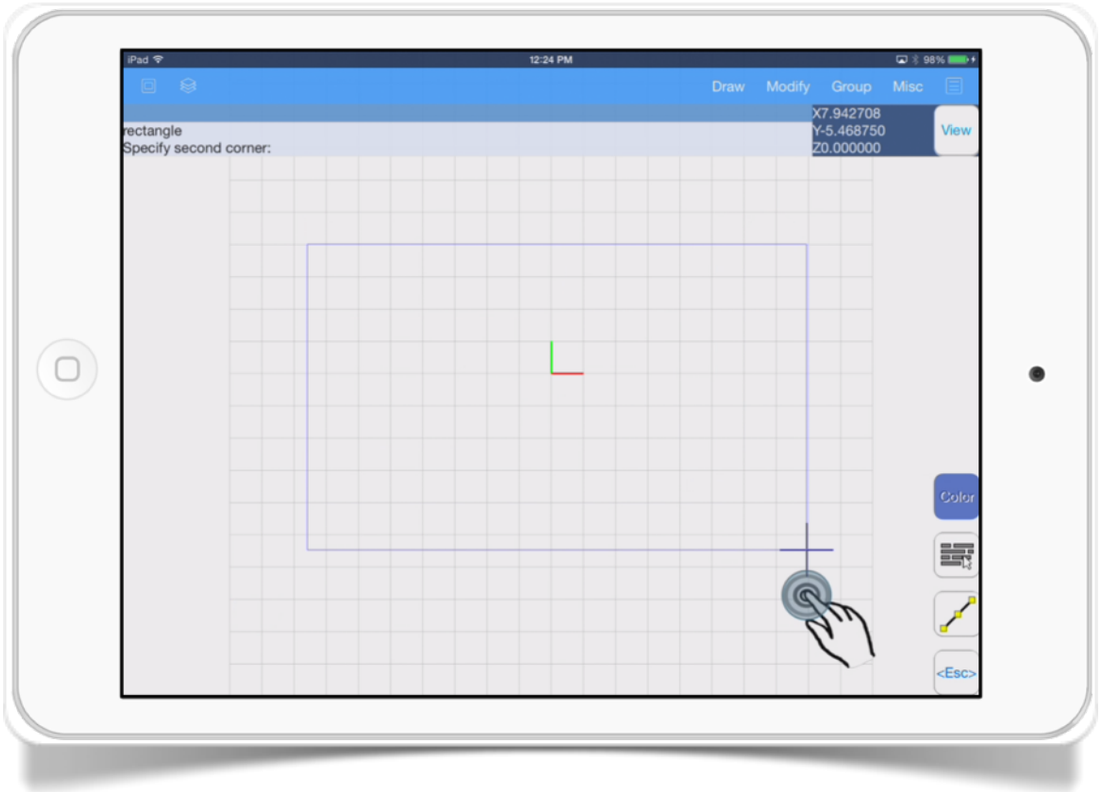
This tool draws a rectangle specified by two corners.

A rectangle is defined with 2 diagonal corners.



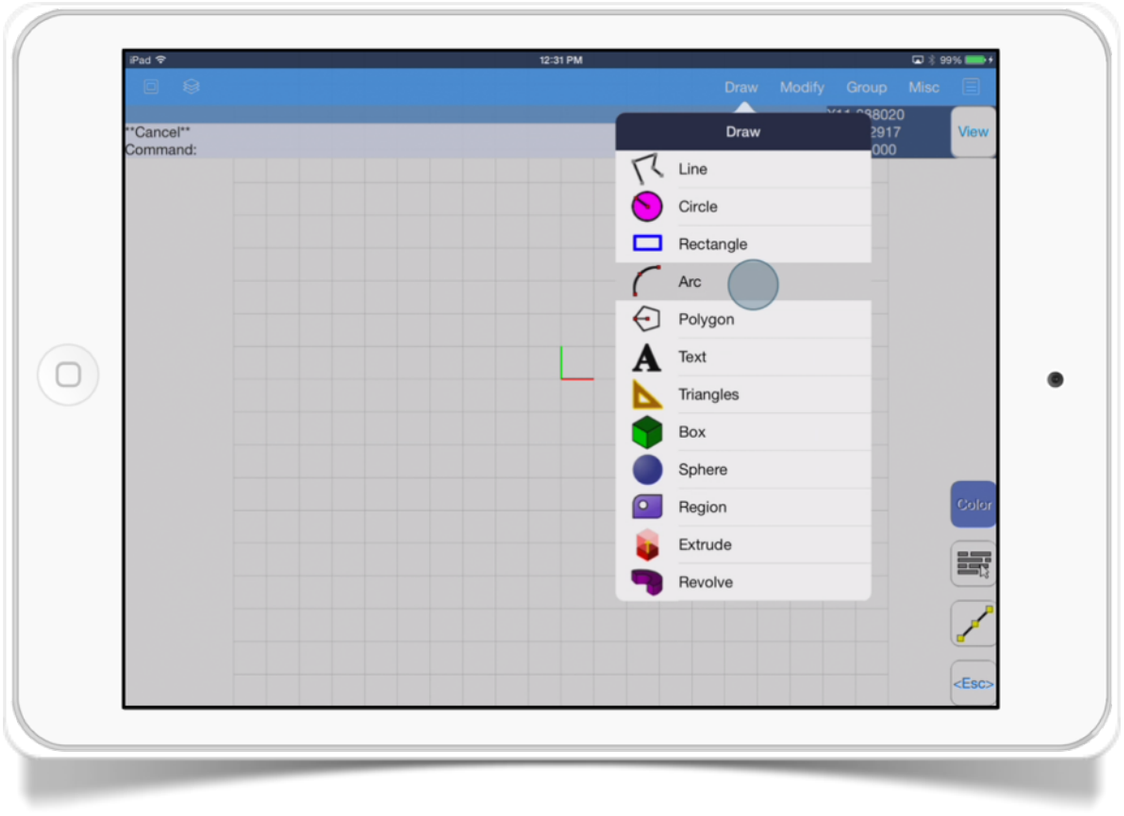
The *Rectangle* tool has these options:

- ***Specify first corner.*** Specifies the rectangle first corner, you can touch the screen to select a point or write a coordinate value.
- ***Specify second corner.*** Specifies the rectangle second corner, you can touch the screen to select a point or write a coordinate value.



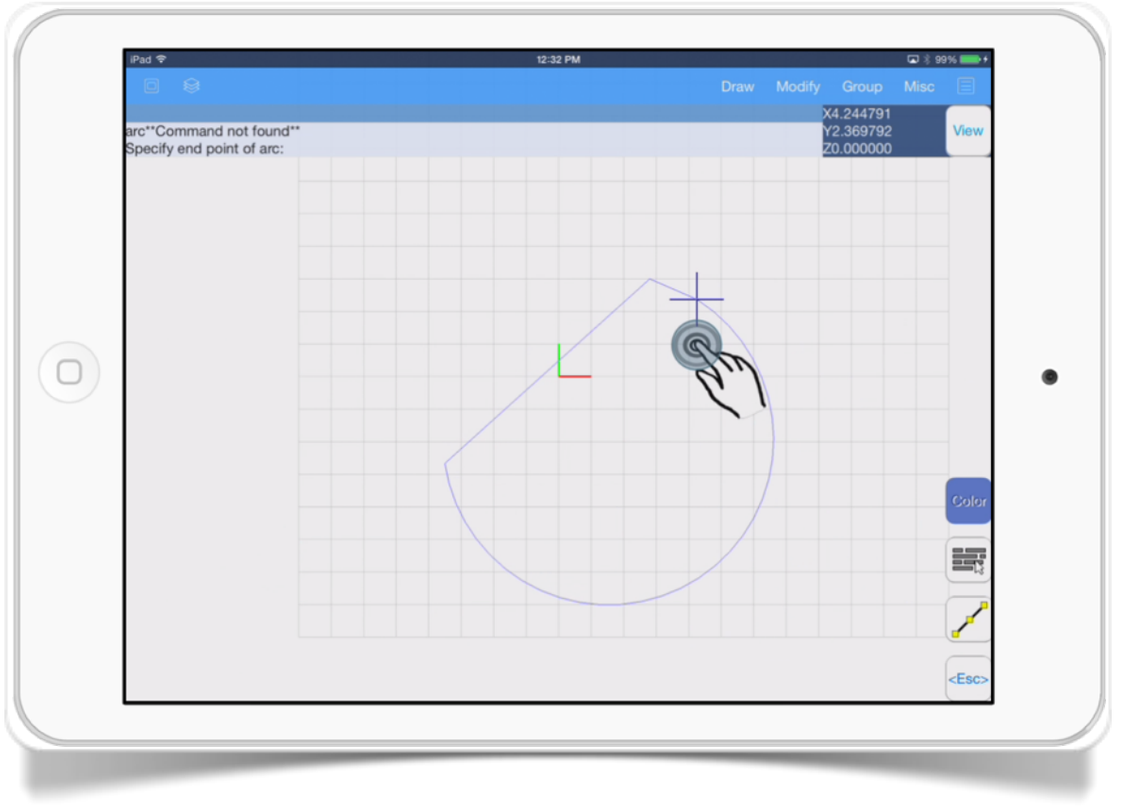
Arc

The *Arc* tool allows you to draw a circular arc.



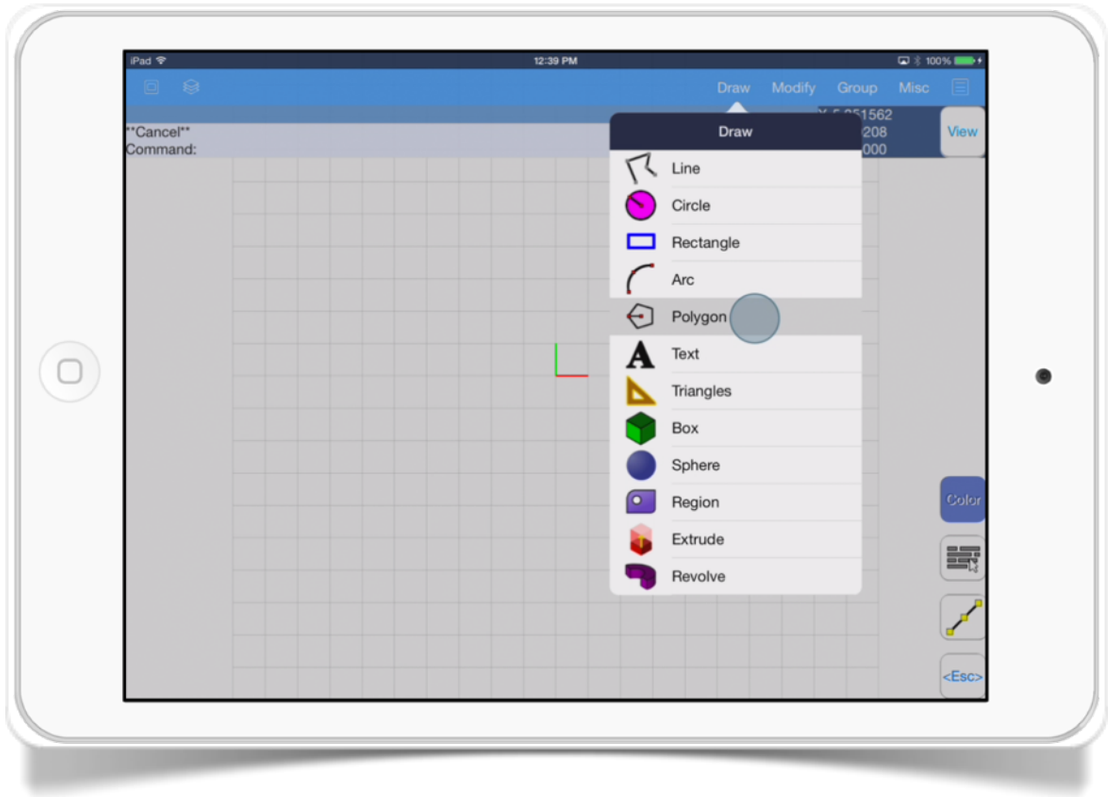
The *Arc* tool has these options:

- ***Specify start point.*** This option allows you to choose the starting point of the arc. You can use the touch interface or write the point coordinates.
- ***Center.*** This options allows you set a central point of the arc.
- ***Specify second point.*** This option allows you to set an arc point, but it is only available after you have set the starting point.
- ***Specify end-point.*** Specifies the arc end-point.
- ***Angle.*** This option is displayed only when you select *Center* option and it specifies the arc angle in degrees.



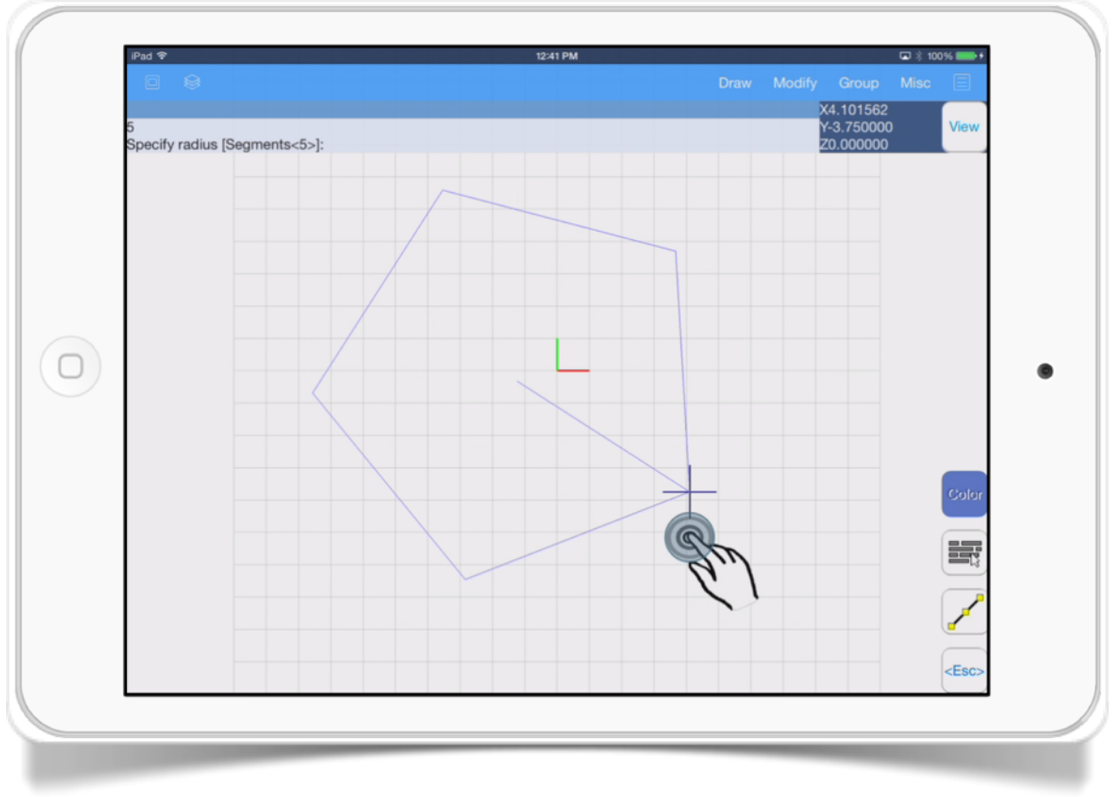
Polygon

This tool draws regular shapes with a specified number of sides.



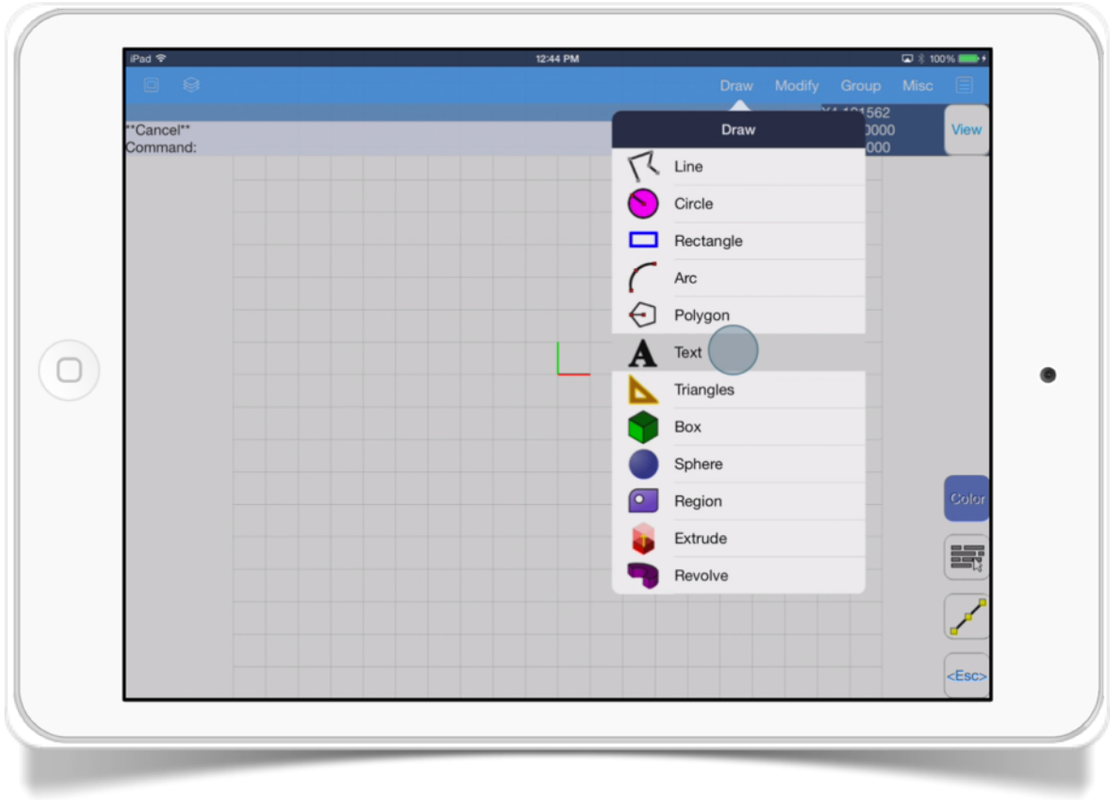
The *Polygon* tool has these options:

- ***Specify center.*** Specifies the center point of the polygon, you can use the touch interface or write a coordinate value.
- ***Specify radius.*** This option draws the polygon from the center point to the polygon vertex.
- ***Poly segments.*** Specifies the number of sides that the polygon will have.



Text A

This tool creates text objects.

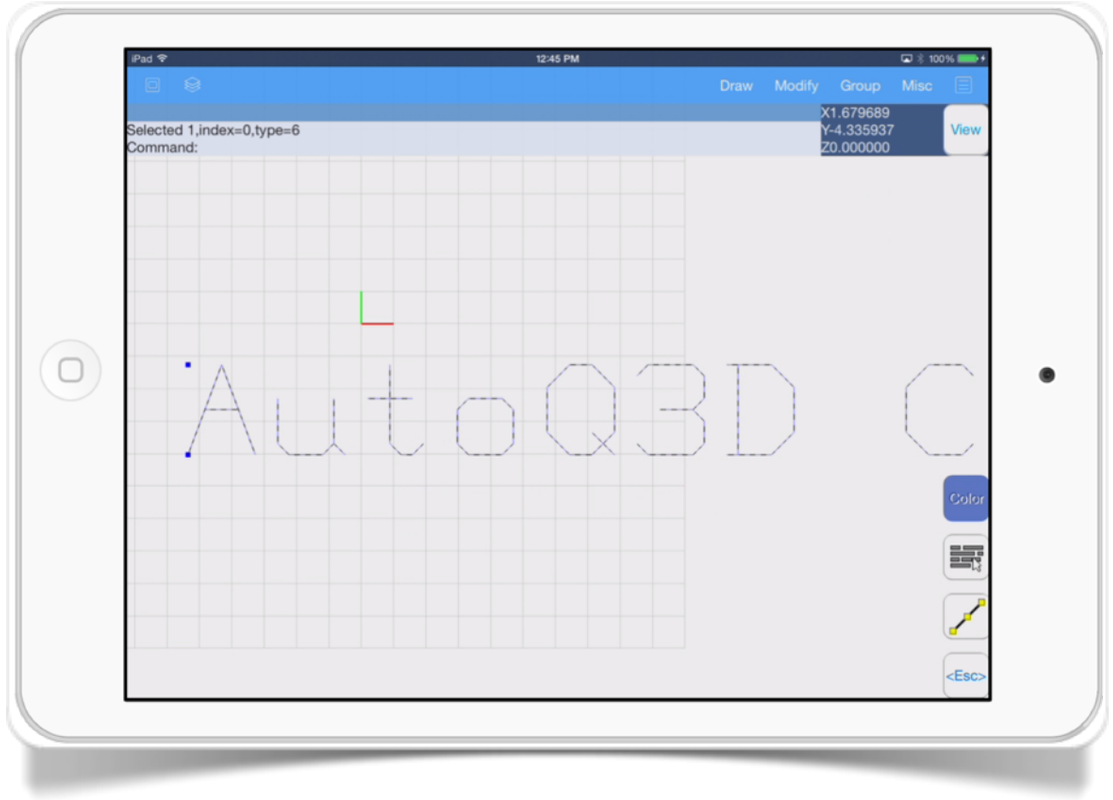


The *Text* tool has these options:

- ***Specify point.*** Specifies the point where the text will be inserted.

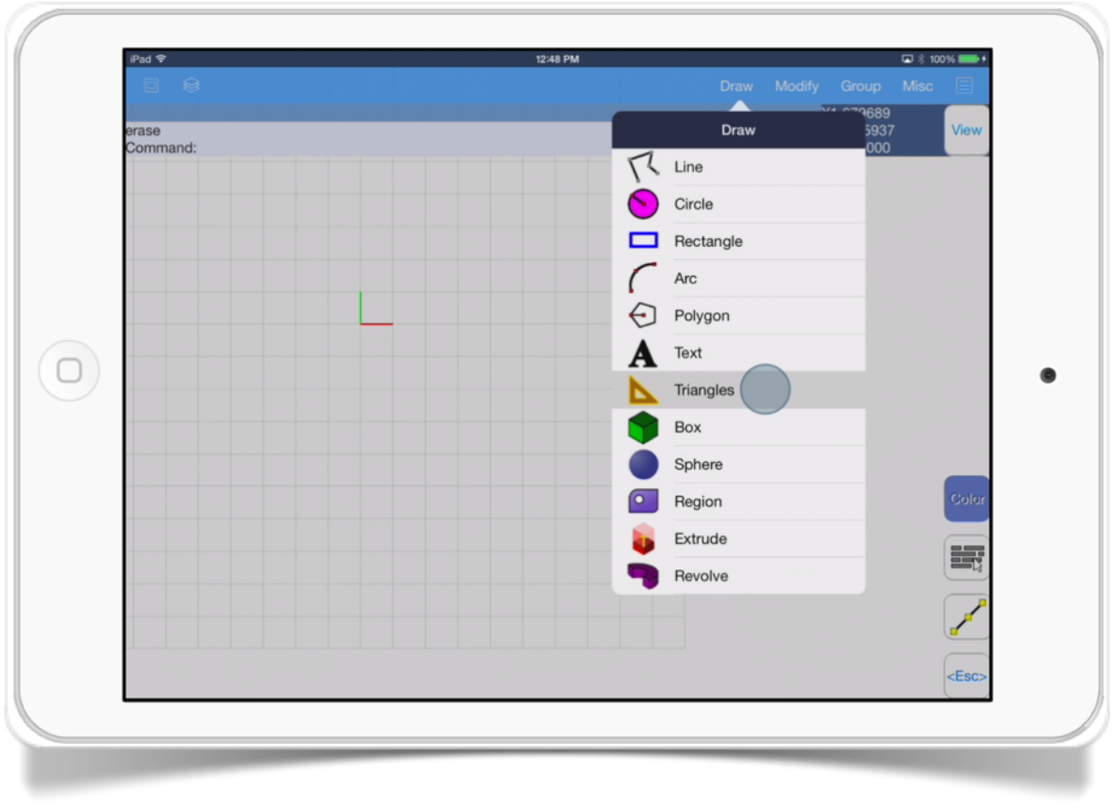
- ***Height.*** This option specifies the text height selecting the default value or writing a new one.

- ***Set text.*** This option allows you to write the text string you want to insert.



Triangles

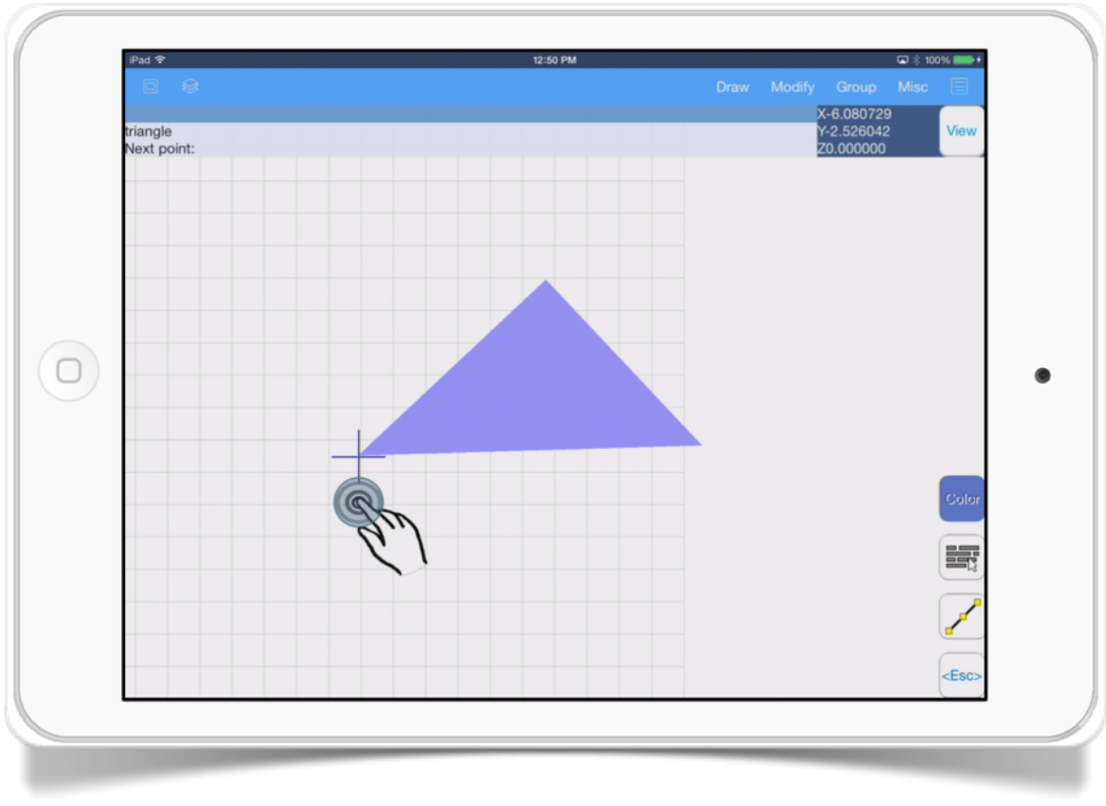
This tool draws a triangle surface.



Each triangle front surface is painted with a bright color and the back of each triangle surface is painted with a darker color.

The Triangle tool has these options:

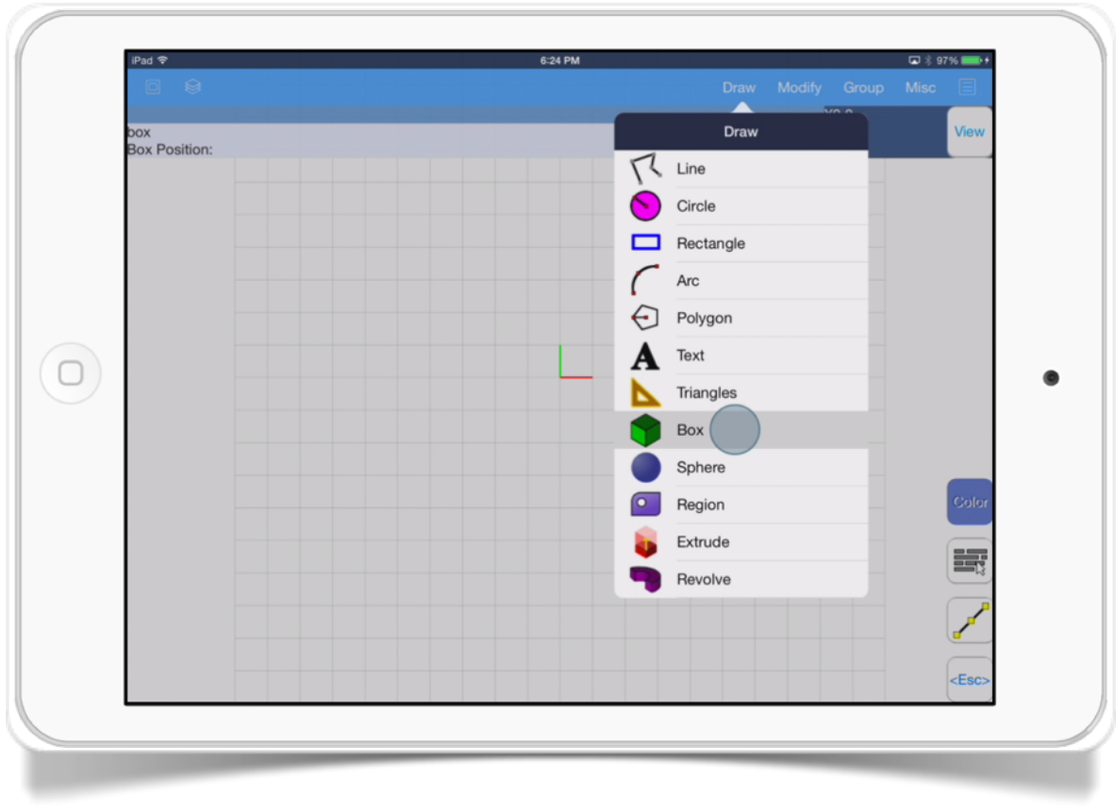
- ***pickpoint 1.*** Specifies the first point of the triangle.
- ***pickpoint 2.*** Specifies the second point of the triangle and allows you to close the triangle if you touch the cursor on screen.
- ***Undo.*** This option allows you to undo the last line segment and return to the previous point.
- **Next point.** This allows you to continue drawing triangles from the last ending point.



SECTION 8

Box

This tool draws a three dimensional box.



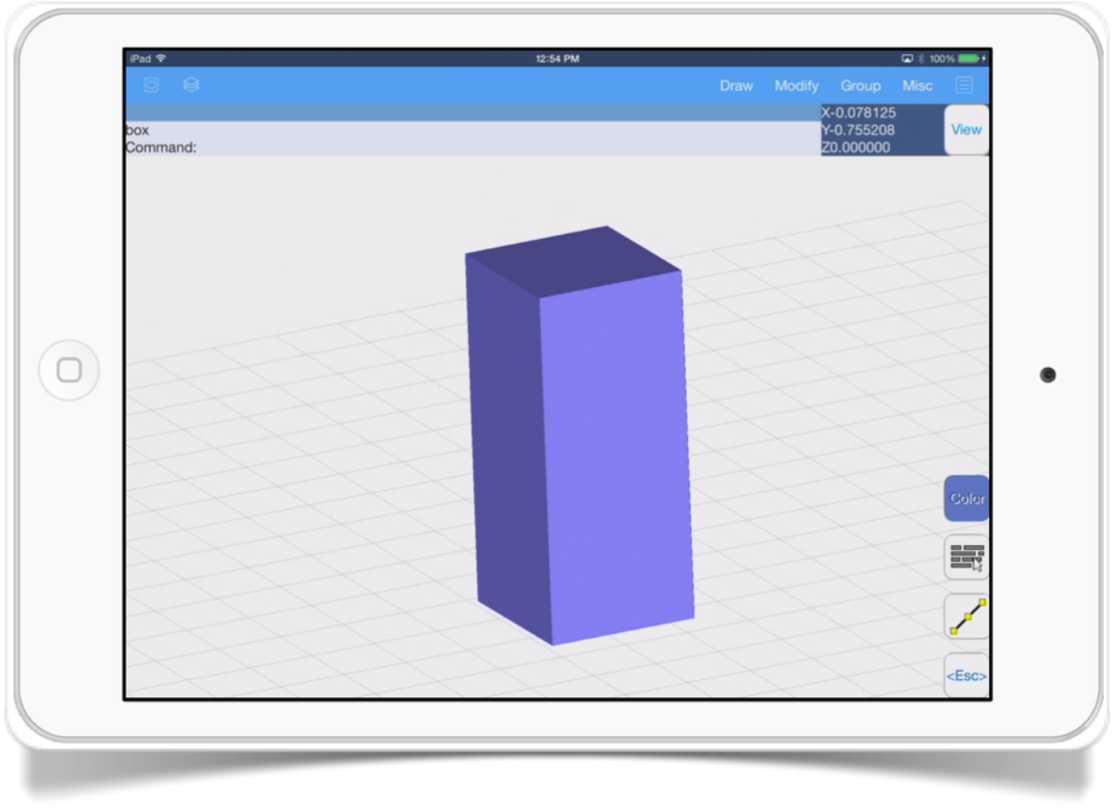
The *Box* tool has these options:

- ***Box Position.*** Specifies the location point where the box will appear, you can use the touch interface or write the coordinates value directly.

- ***Box (Length).*** This option specifies the length of the box, you can use the touch interface to set the length or write a value directly.

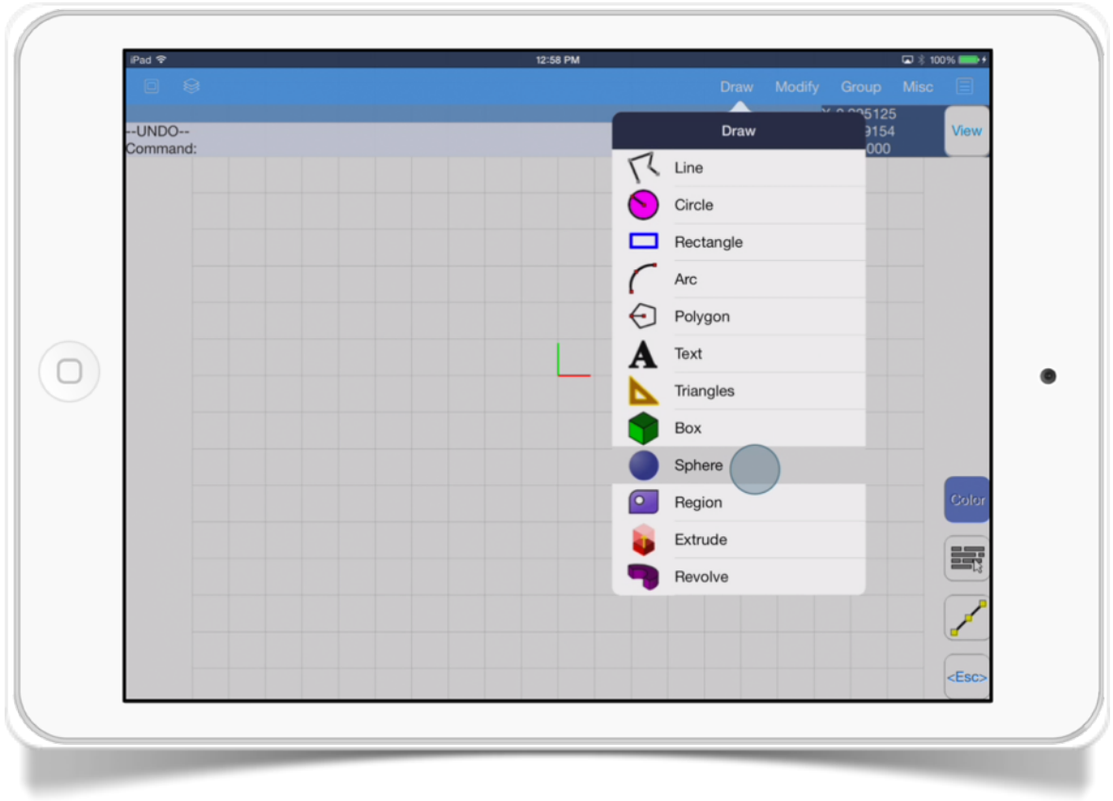
- ***Box (Width).*** This option specifies the width of the box, you can use the touch interface to set the length or write a value directly. This option only appears if you wrote a single value on the Length option.

- ***Box (Height).*** This option specifies the height of the box, you can use the touch interface to set the length or write a value directly.



Sphere

The Sphere tool creates a sphere .

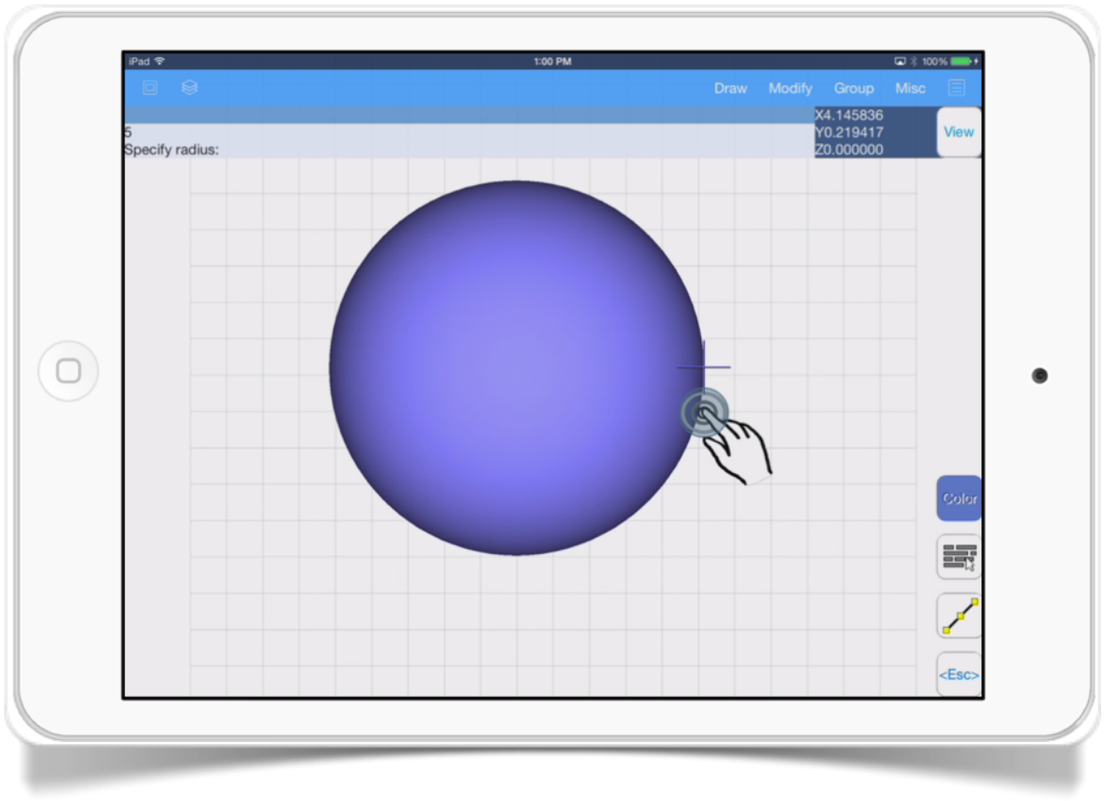


The Sphere tool has these options:

- ***Specify center.*** This option allows you to choose the central point of the sphere. Optionally you can set a detail level for the sphere.

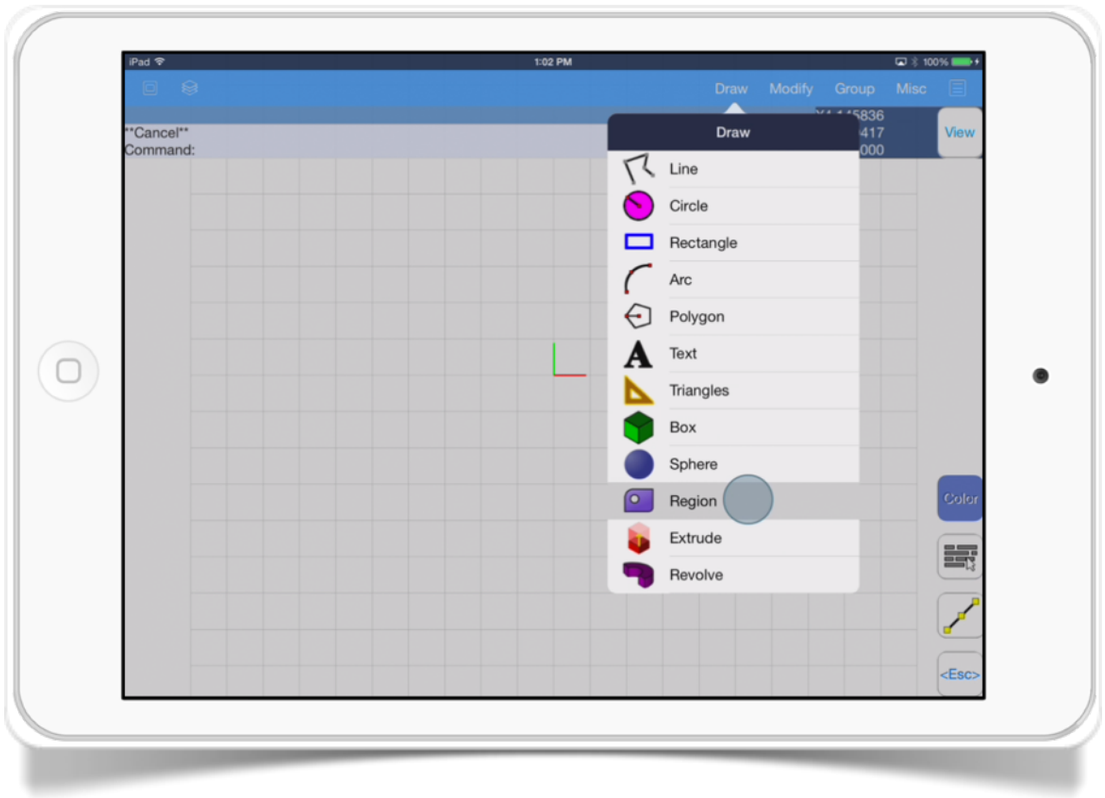
- ***Sphere Detail Level.*** This option specifies a detail level, this value range from 1 to 6, where 6 means more detail. If you use values above 6 your system may experiment some delays because of the extreme detail used.

- ***Specify radius.*** This option specifies the sphere radius, you can use the touch interface to select a point or write a value.



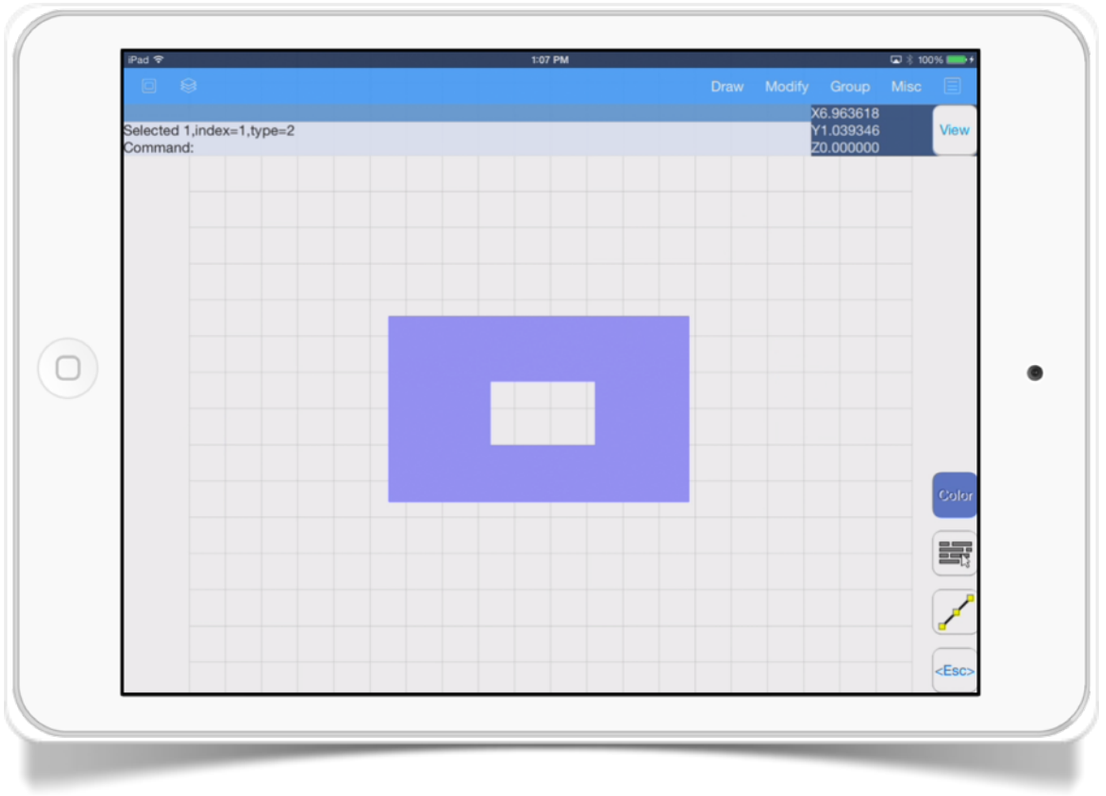
Region

This tool creates a surface from the selected polygons.



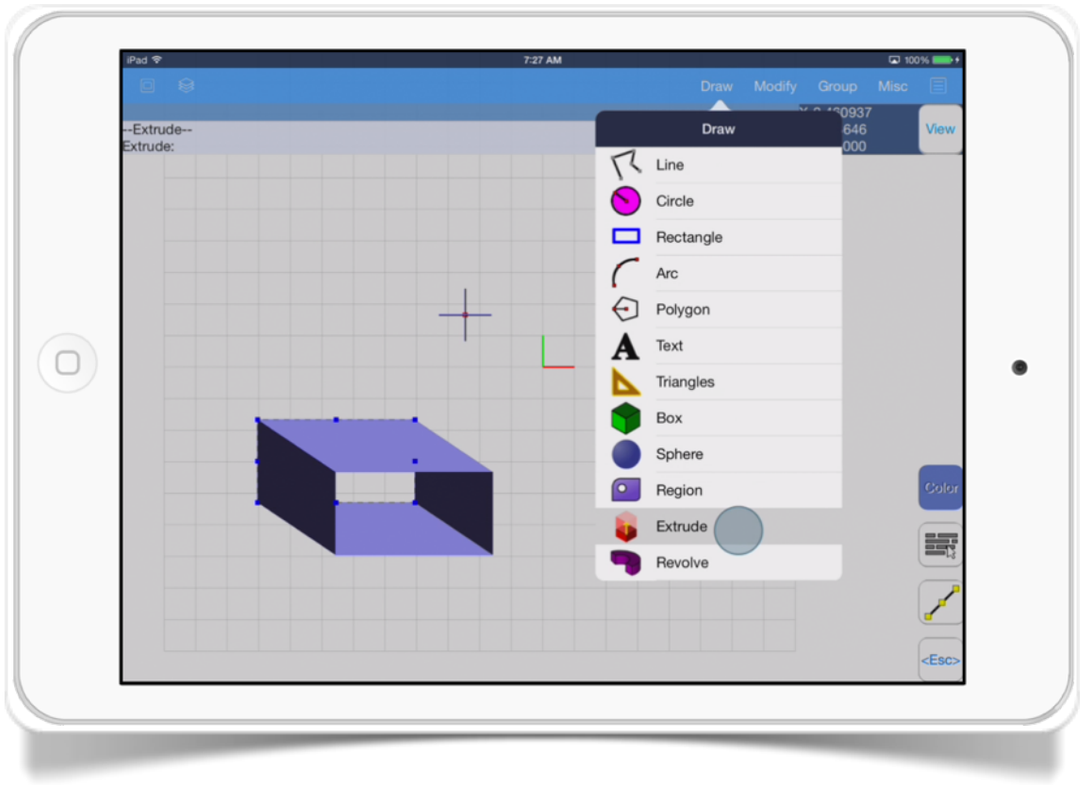
The Region tool has these options:

- ***Select outer polygon.*** Specifies the objects that limits the polygon.
- ***Select holes polygons.*** Specifies the polygon that will substract from the outer polygon.
- ***Finish.*** This option allows you to finish selecting objects.



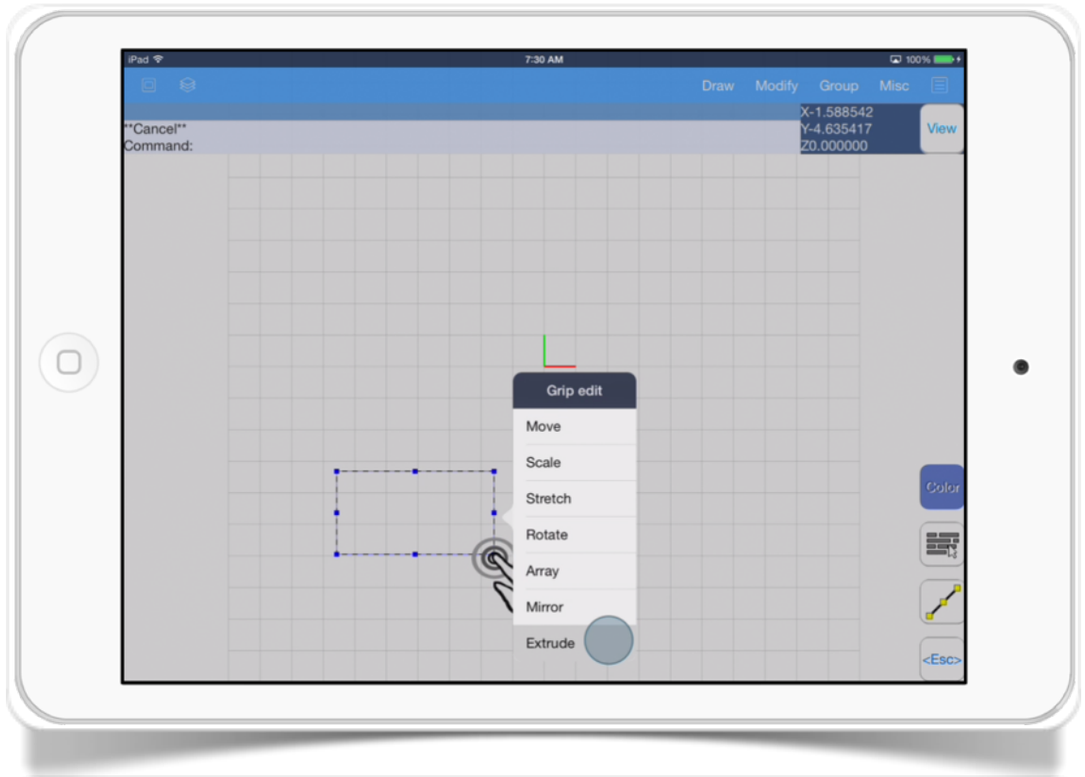
Extrude

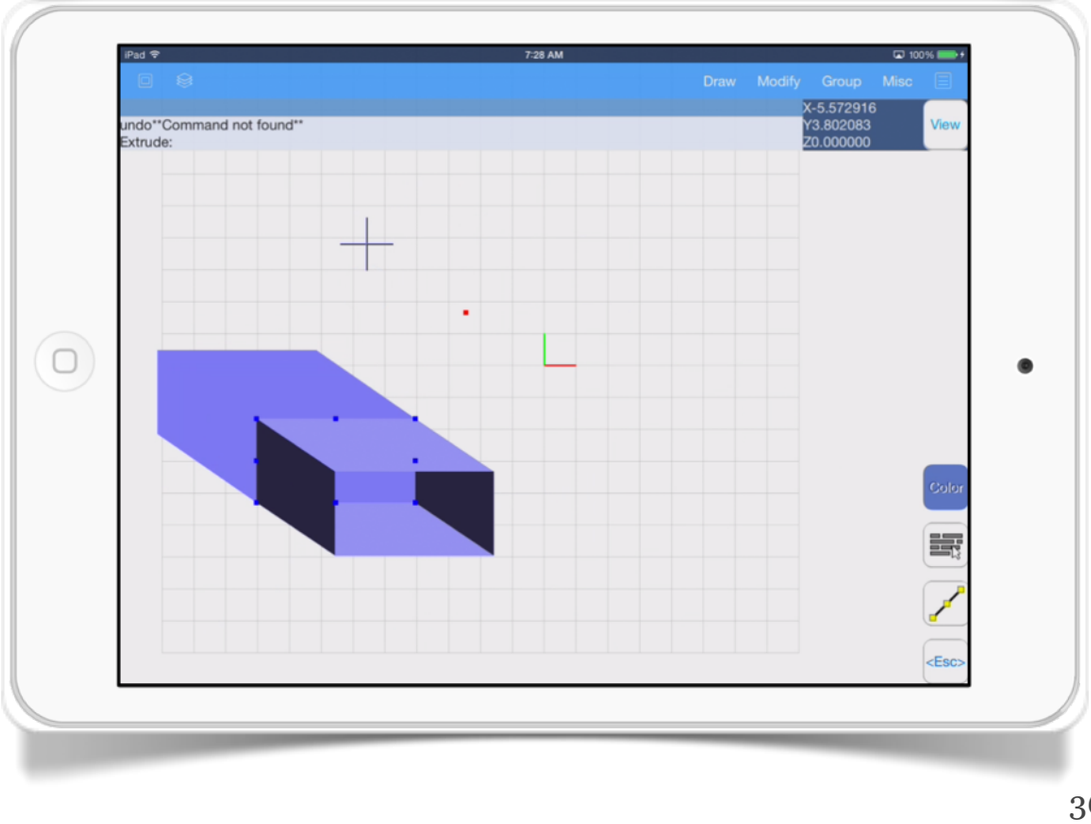
This tool creates a surface extending a line or a triangle surface.



- To use this tool just select the object and then select *Draw->Extrude* menu or select one of the object grips and touch the screen, the *Grip* menu will appear with the *extrude* option.

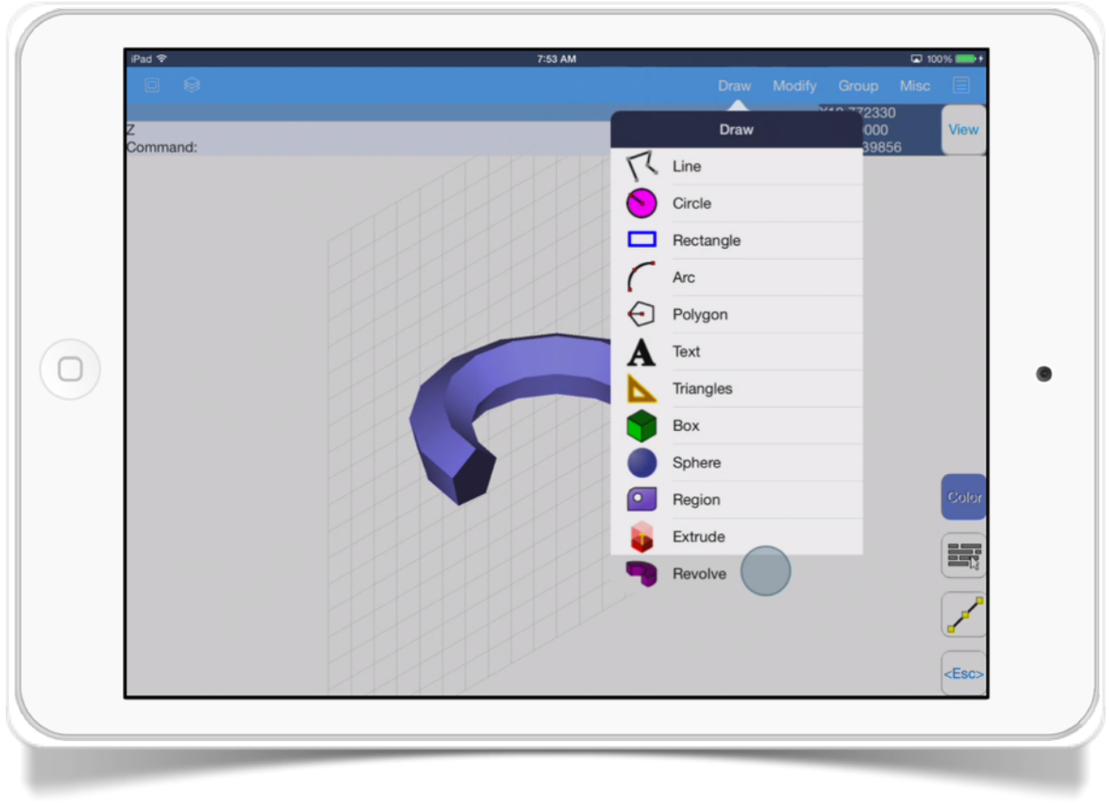
- Just move your cursor on the screen to see how the object will extend.





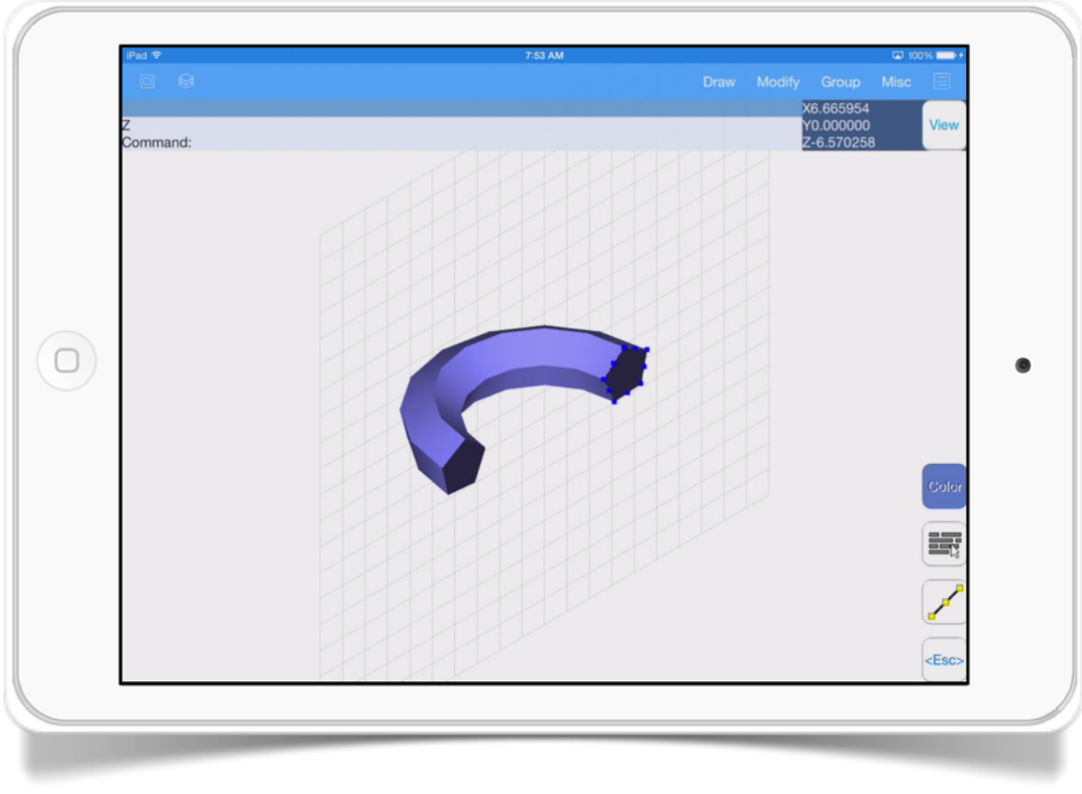
Revolve

This tool creates a surface object by sweeping it around an axis.



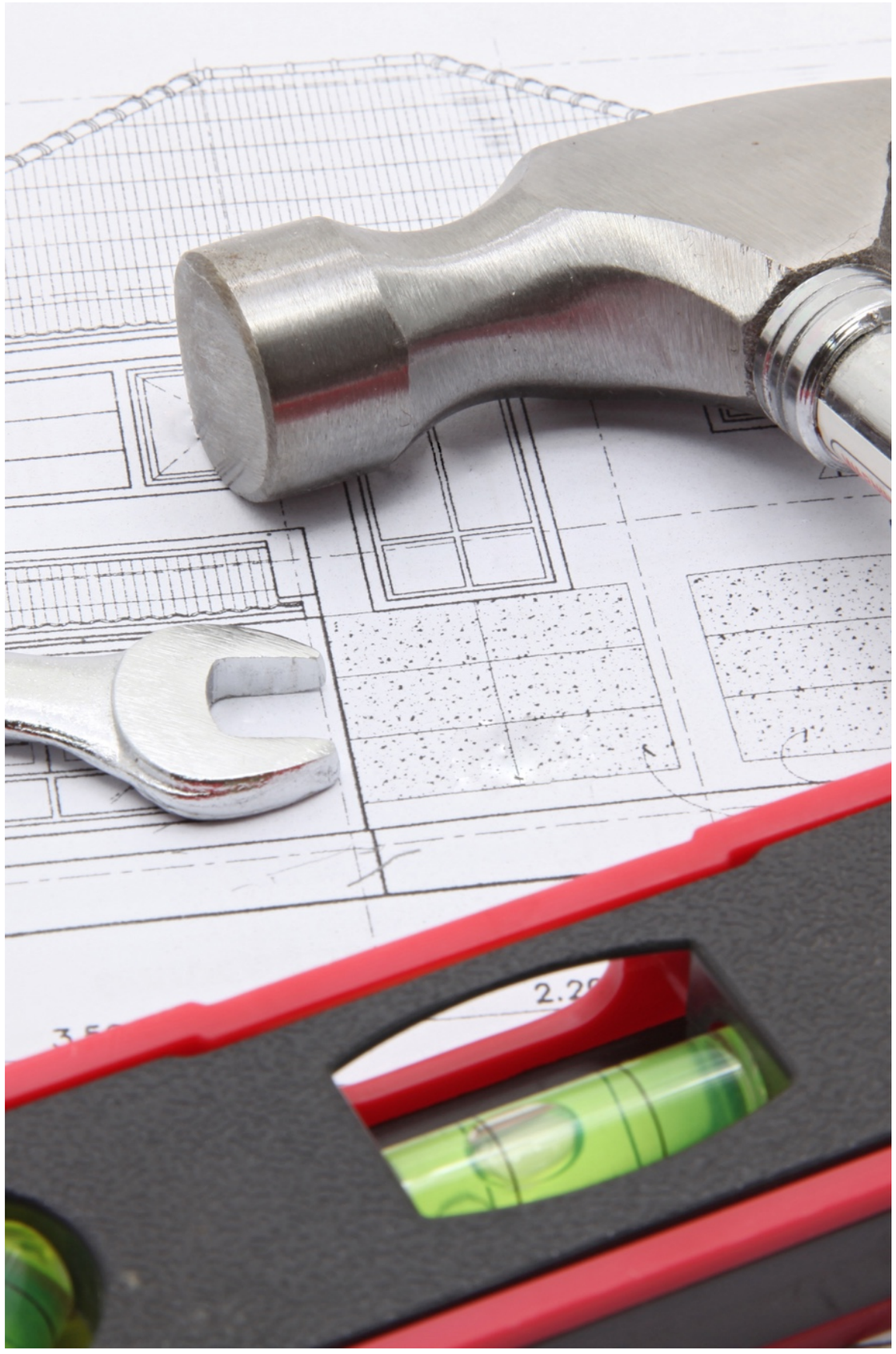
The *Revolve* tool has these options:

- ***Revolve Angle.*** Specifies the revolve angle that the object will be swept.
- ***Revolve Segments.*** Specifies the number of segments of the final revolve object.
- ***Revolve Basepoint.*** It is the pivot point of the revolve.
- ***Revolve X.*** Select the X plane to revolve.
- ***Revolve Y.*** Select the Y plane to revolve.
- ***Revolve Z.*** Select the Z plane to revolve.



CHAPTER 4

Modification Tools

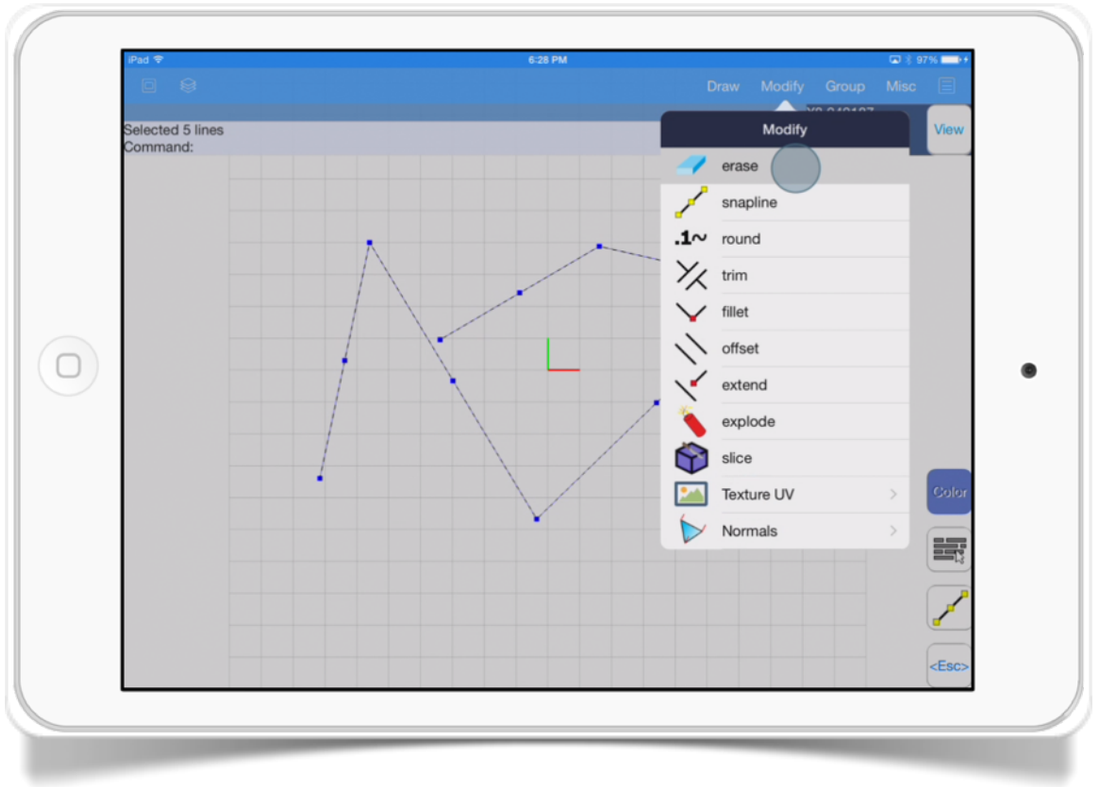


These tools will help you to edit 3D models using some basic operations.

Trim, Fillet, Extend, Explode and Slice are some of these tools which are discussed in this chapter.

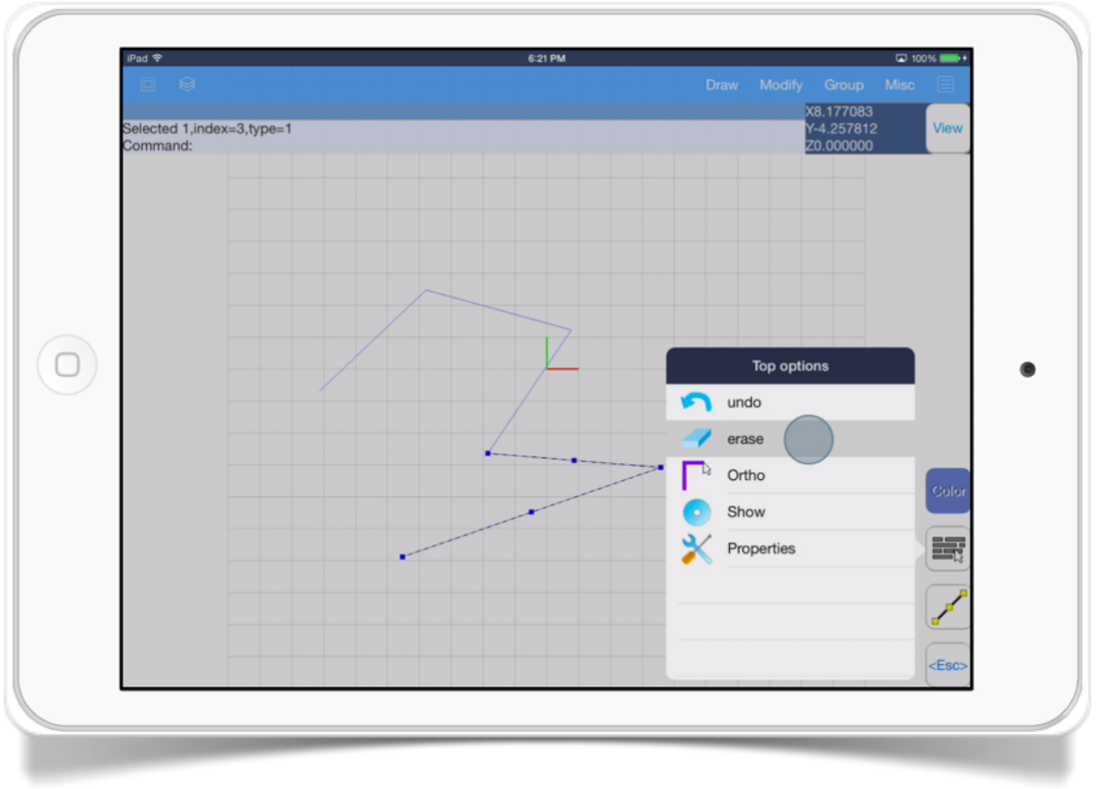
Erase

This tool allows you to select an object or group of objects and delete them from the drawing.



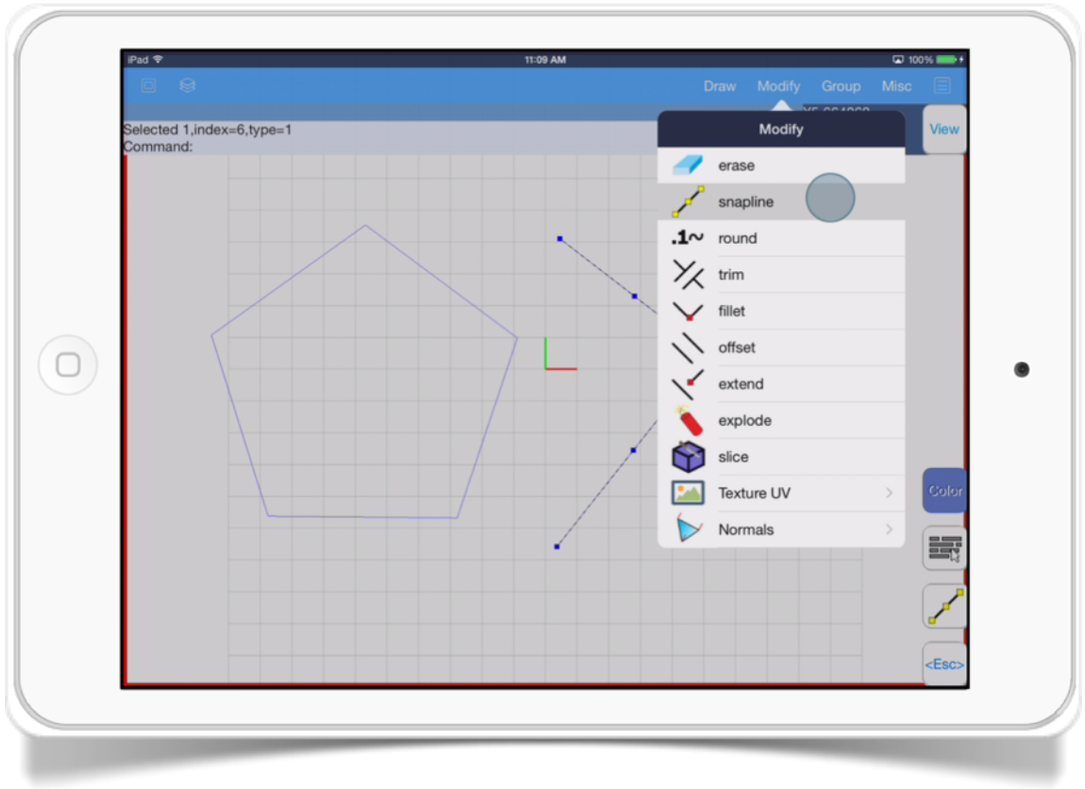
The *Erase* tool has these options:

- ***Select objects.*** Specifies the the object(s) that you want to delete from the drawing.
- ***Finish.*** This option allows you to finish selecting objects.



Snapline

Set the *Snap* property to a value of 1 to the selected lines to transform this line to a Snapline when it is grouped. These lines are used as end-point snap of groups.

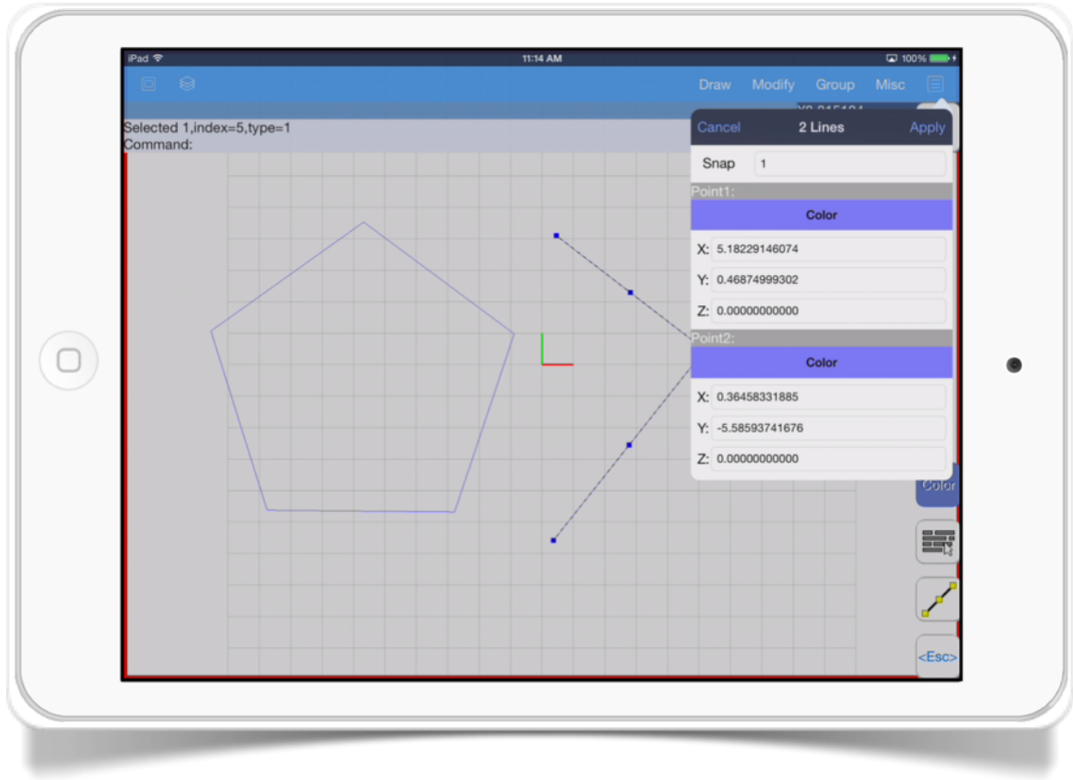


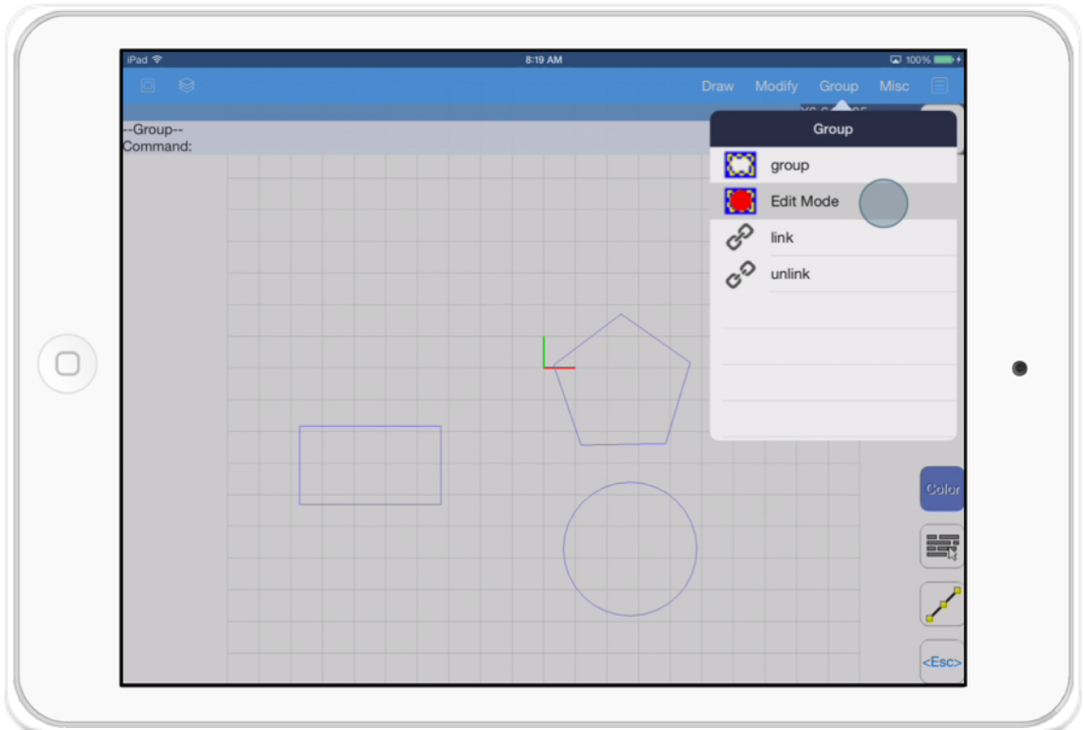
The *Snapline* tool allows you to customize any snap you want.

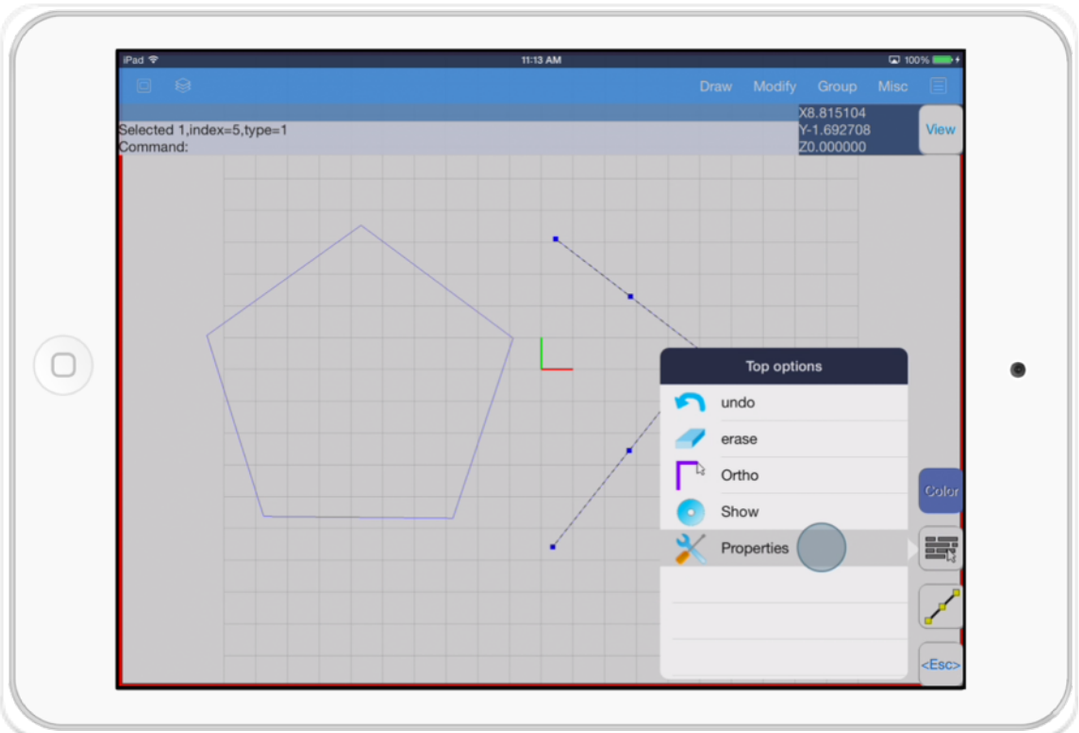
- To use Snapline tool just edit the group and draw the line(s), then select them and go to *Modify* -> *Snapline* option

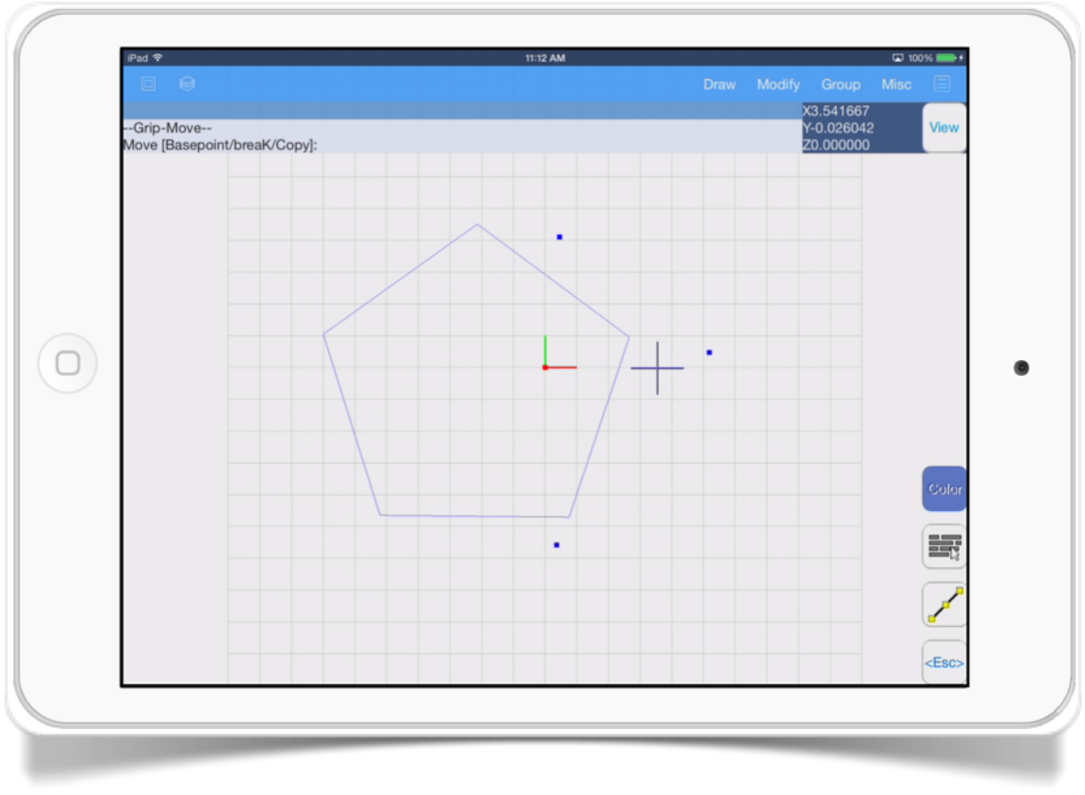
Note: to use the *Snapline* tool you have to apply it as an element of a group using the *Group* -> *Edit* mode.

Another way to use *Snapline* tool is going to *Properties* menu and change the *Snap* property to a value of 1.




iPad
8:19 AM
100%
Draw
Modify
Group
Misc
--Group--
Command:
Group
group
Edit Mode
link
unlink
Color
<Esc>

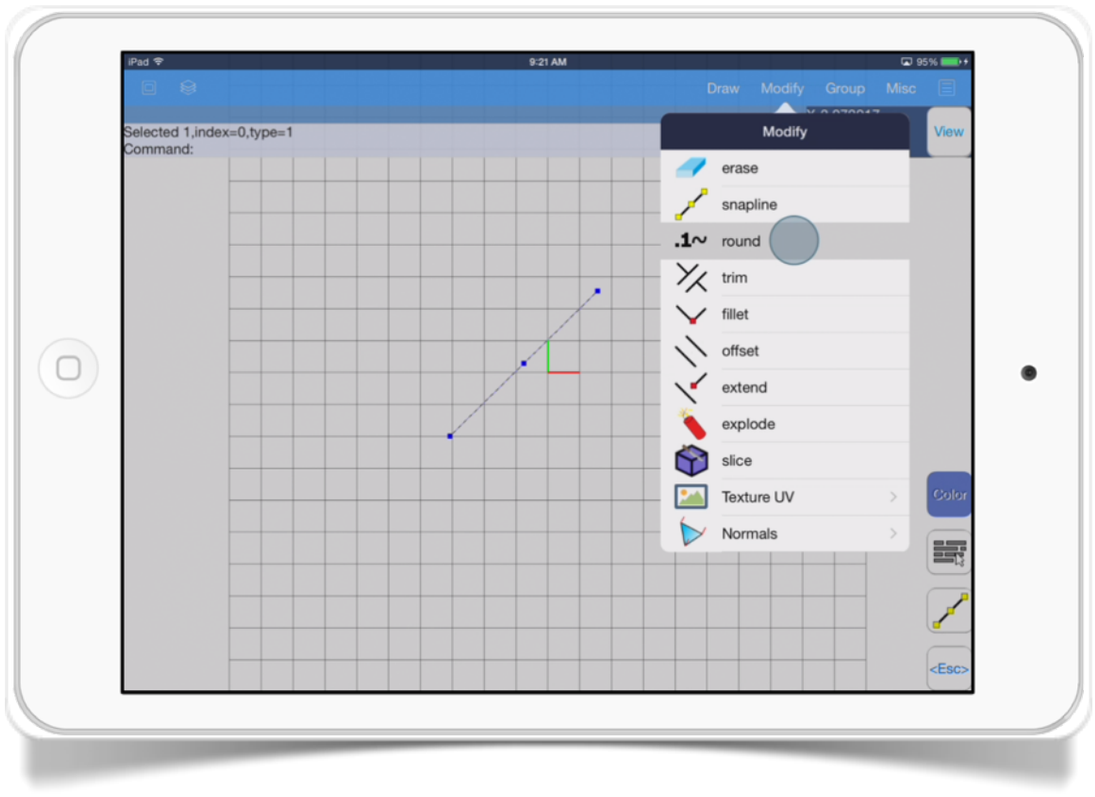

iPad
11:13 AM
100%
Draw
Modify
Group
Misc
Selected 1,index=5,type=1
Command:
X8.815104
Y-1.692708
Z0.000000
View
Top options
undo
erase
Ortho
Show
Properties
Color
<Esc>


iPad
11:12 AM
100%
Draw
Modify
Group
Misc
--Grip-Move--
Move [Basepoint/breaK/Copy]:
X3.541667
Y-0.026042
Z0.000000
View
Color
<Esc>

SECTION 3

Round .1~

This tool allows to modify your selected object coordinates to round them to the decimals you specify.



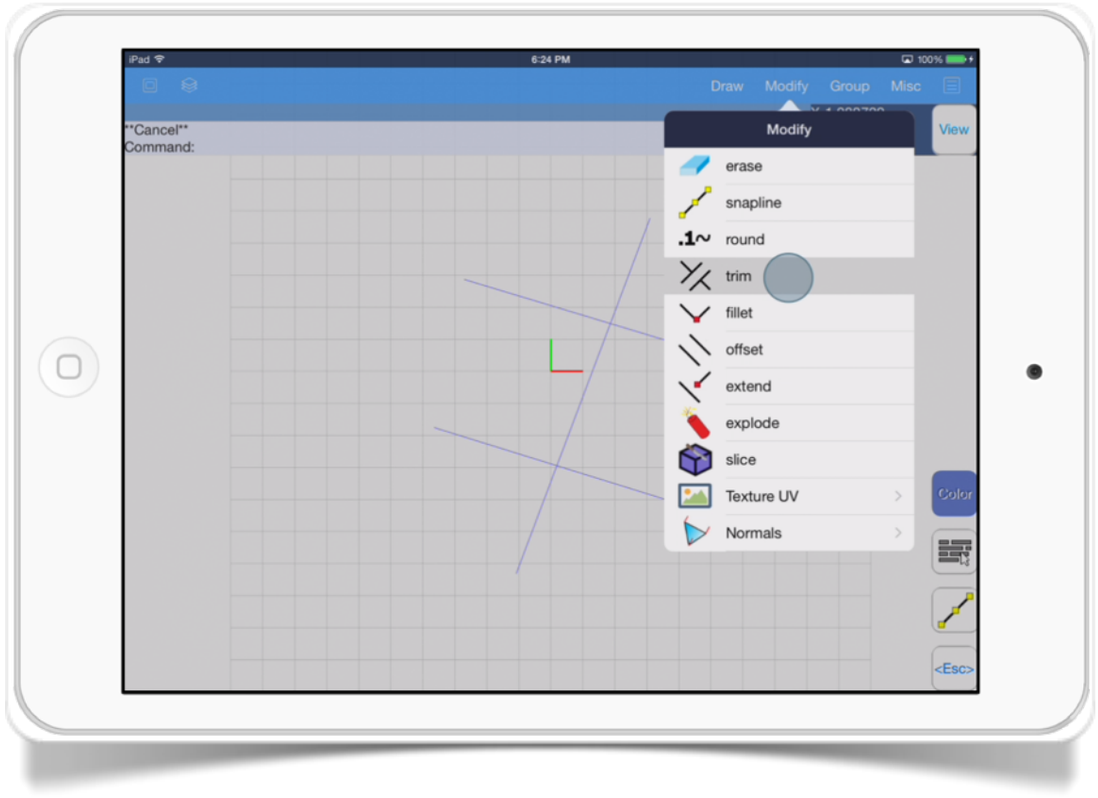
The Round tool has these parameters:

- ***Specify number of decimals.*** Specifies the number of decimals for the selected objects coordinates.

SECTION 4

Trim

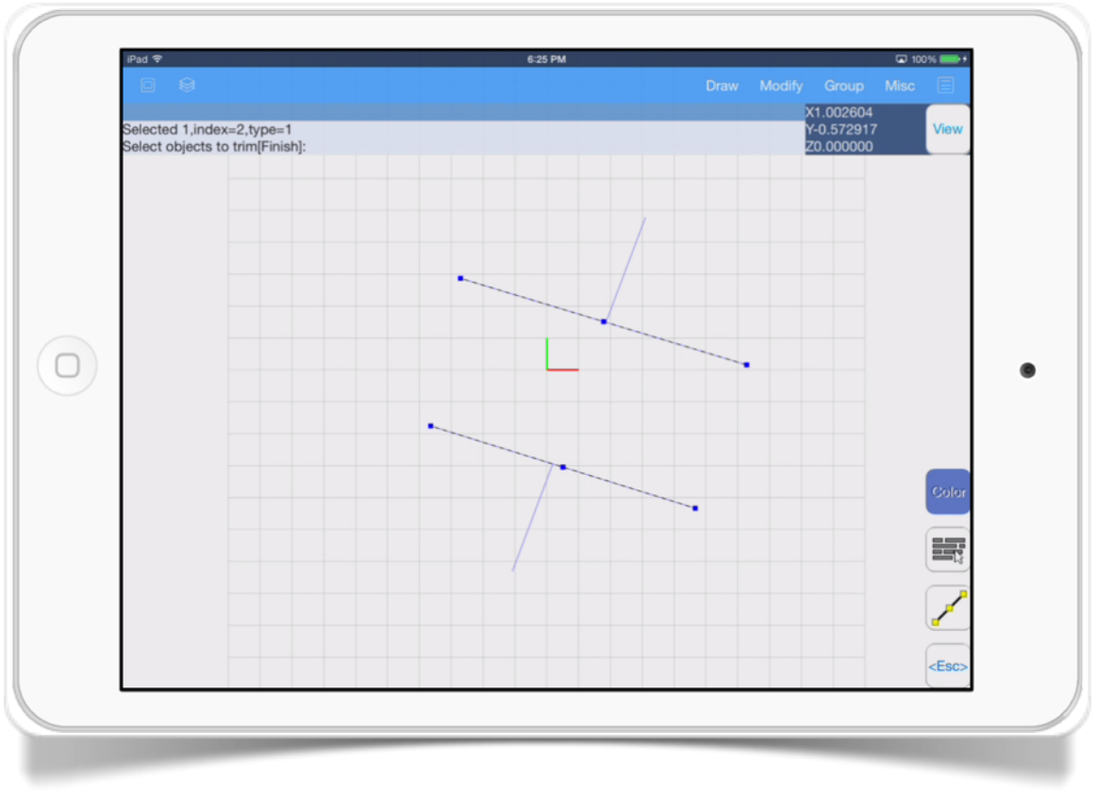
This tool cuts objects sections that cross the selected cut edges.



The *Trim* tool is like scissors that cut objects.

The *Trim* tool has these options:

- ***Select cutting edges.*** This option specifies the cutting edges.
- ***Select objects to trim.*** Specifies the objects to cut.
- ***Finish.*** This option allows you to finish selecting objects.

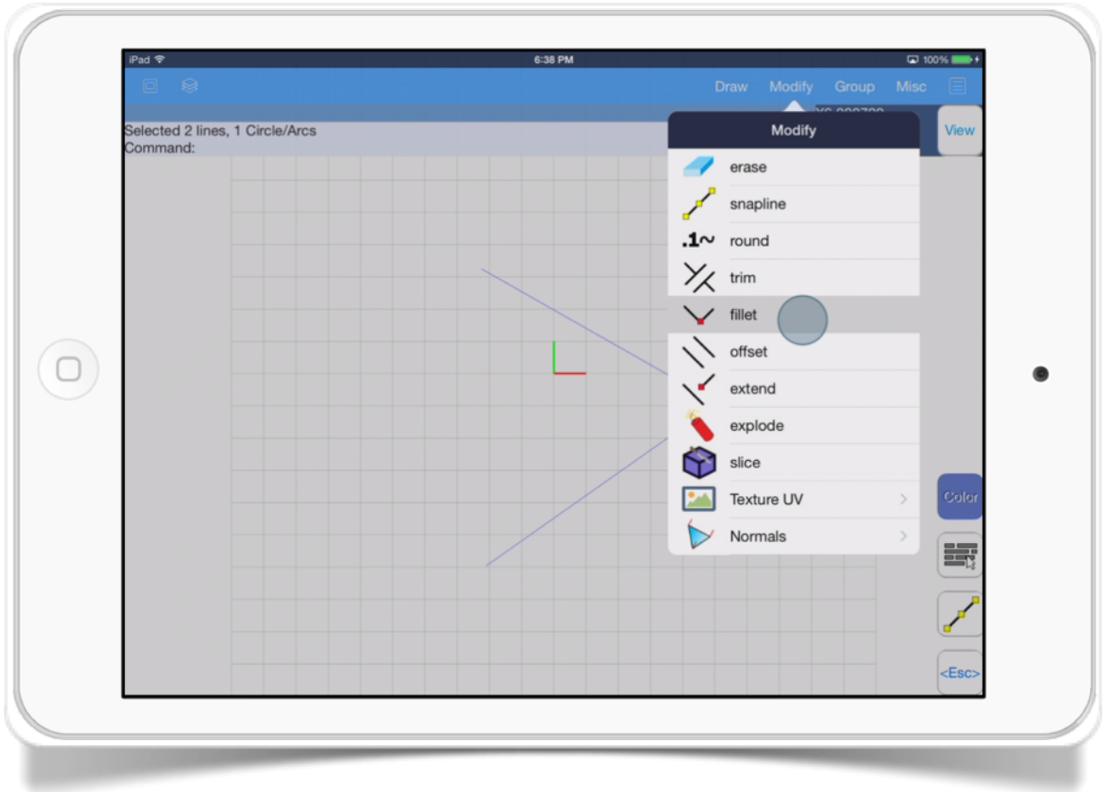


SECTION 5

Fillet

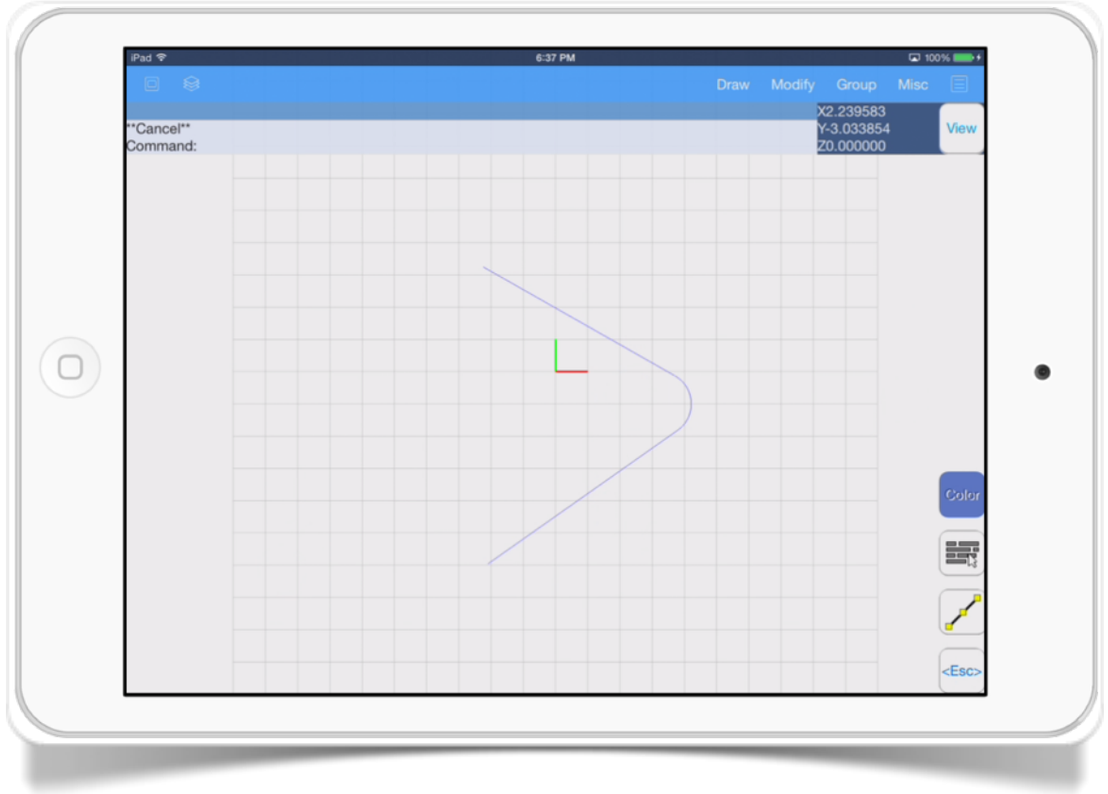
This tool creates an arc between two lines.

The *Fillet* tool rounds a corner.



The *Fillet* tool has these options:

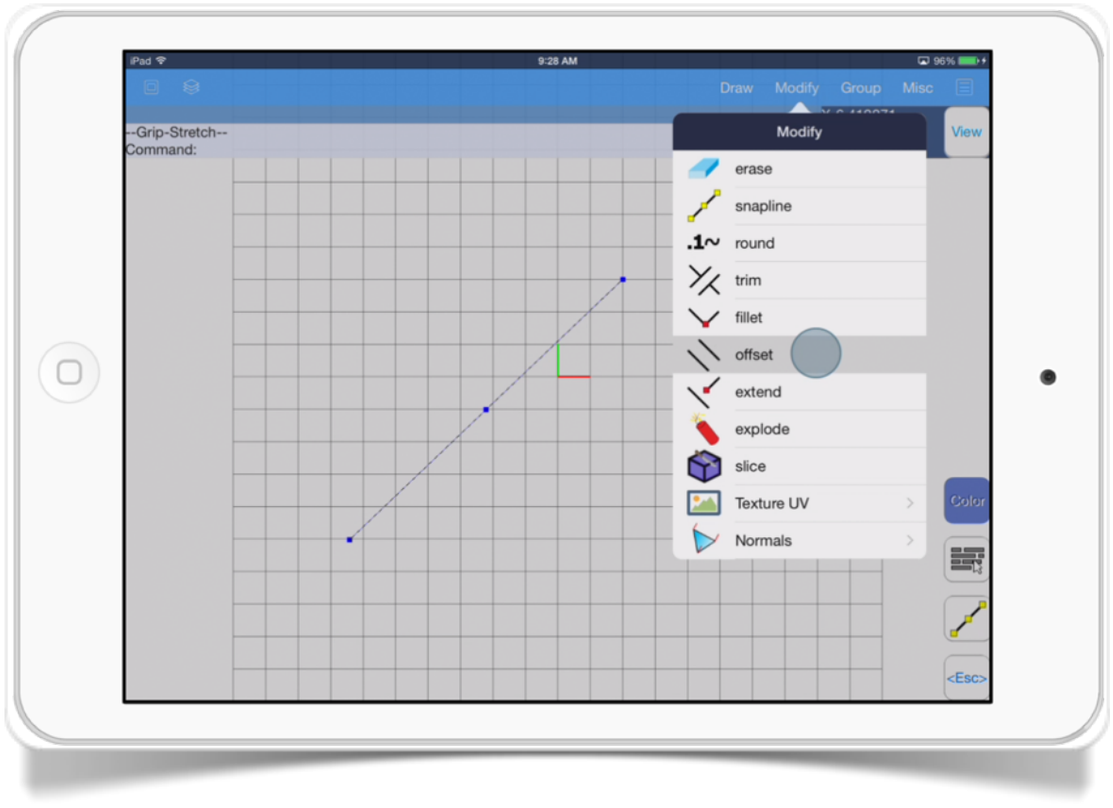
- ***Select Lines.*** This option allows you to select the lines which a round corner will apply.
- ***Enter Radius.*** This option specifies the arc radius that will apply between the selected lines.



SECTION 6

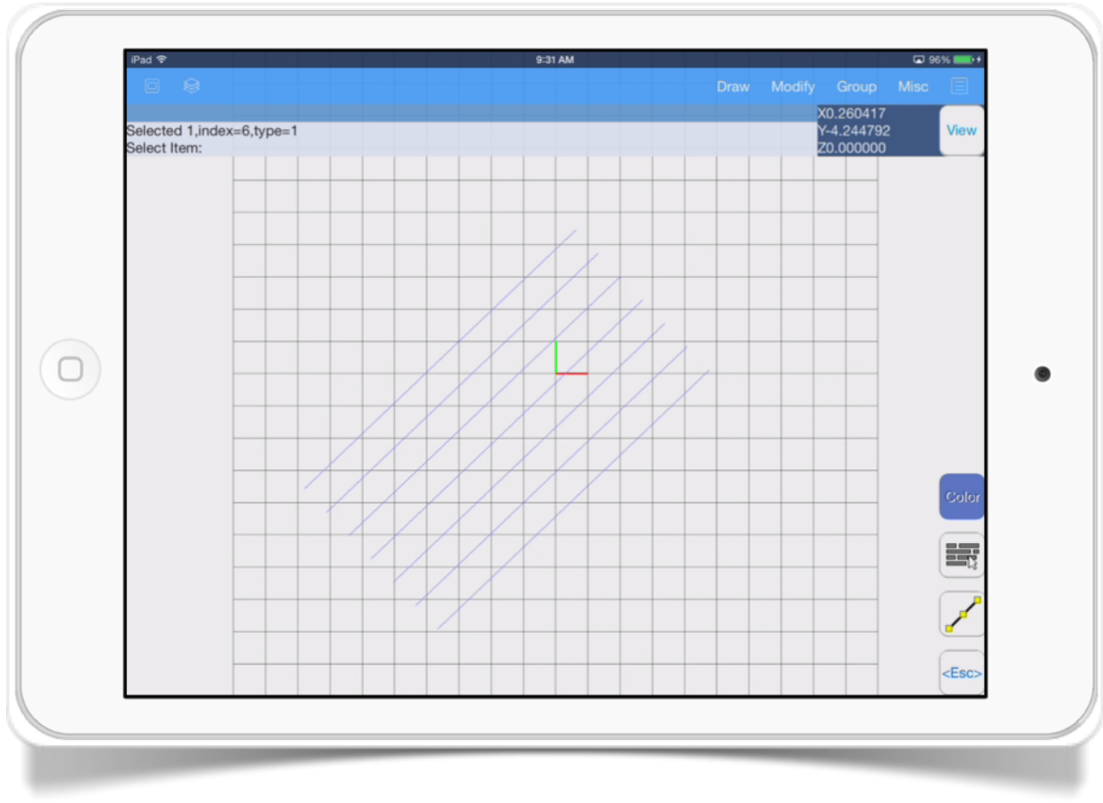
Offset

This tool creates a parallel object to the selected item



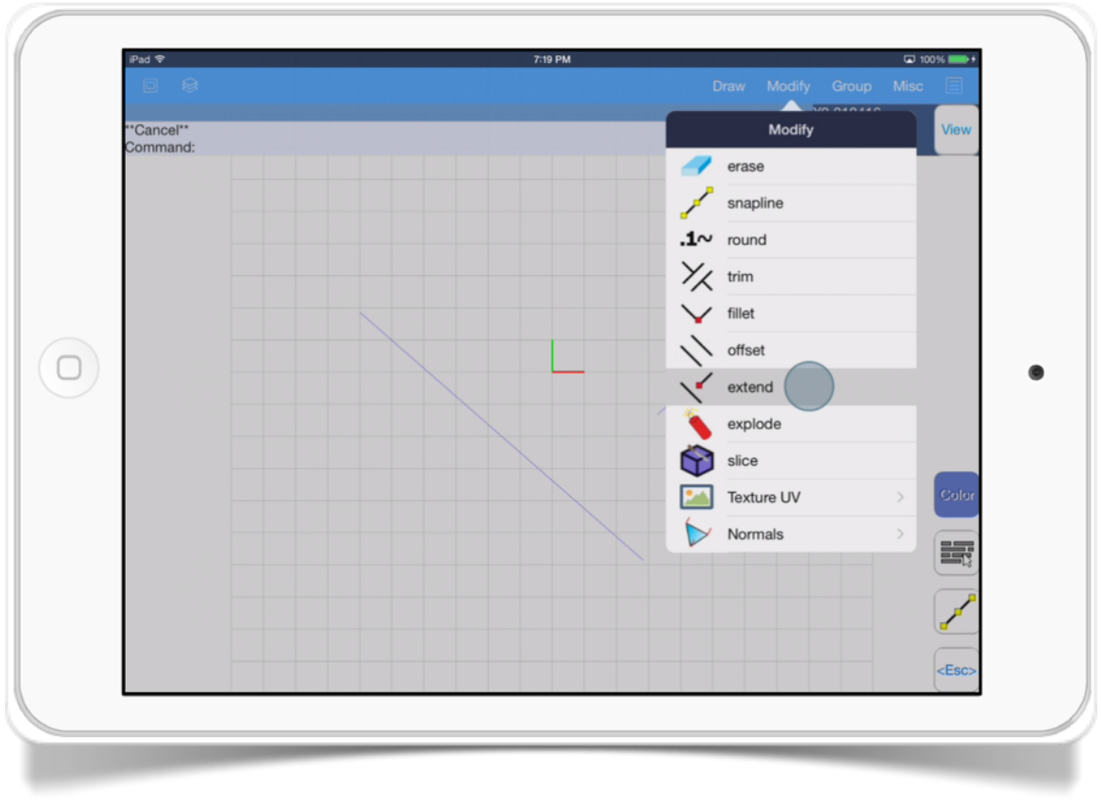
The *Offset* tool has these options:

- ***Select offset distance.*** Set the distance value from the selected item to draw the parallel object.
- ***Select side.*** Set the side where the parallel object will be located.
- ***Select item.*** Set the origin object item.



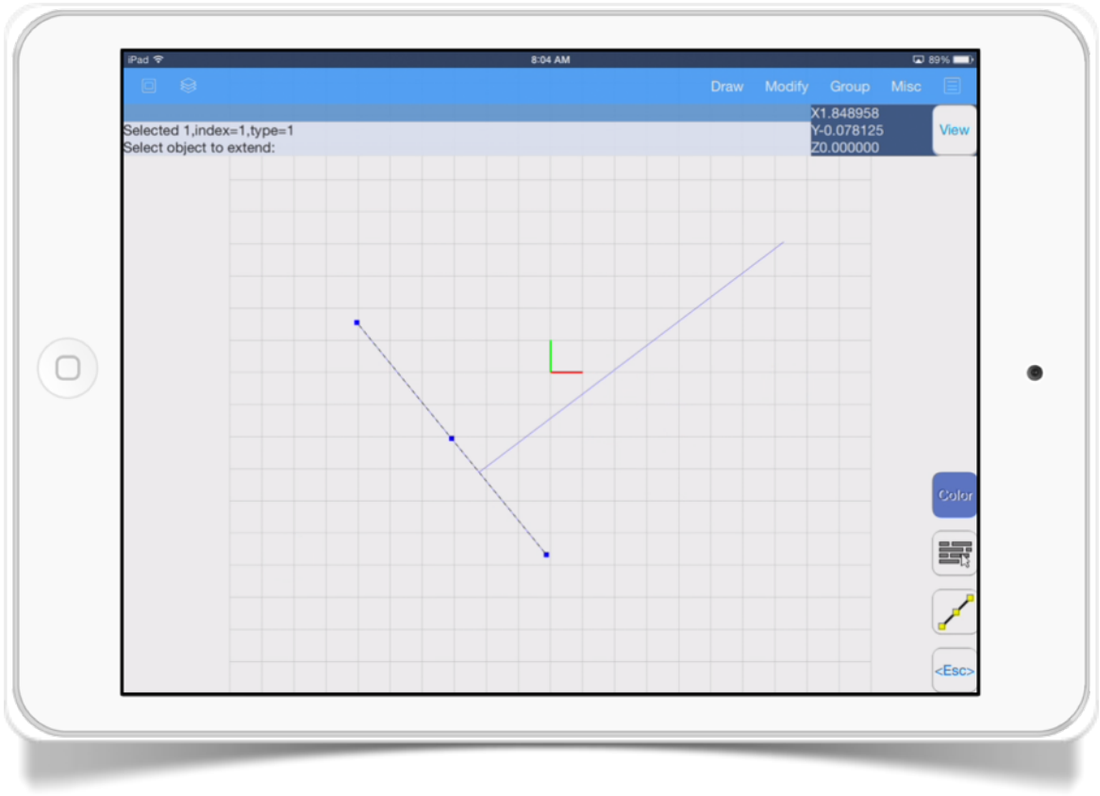
Extend

This tool extends objects towards selected edges.



The *Extend* tool has these options:

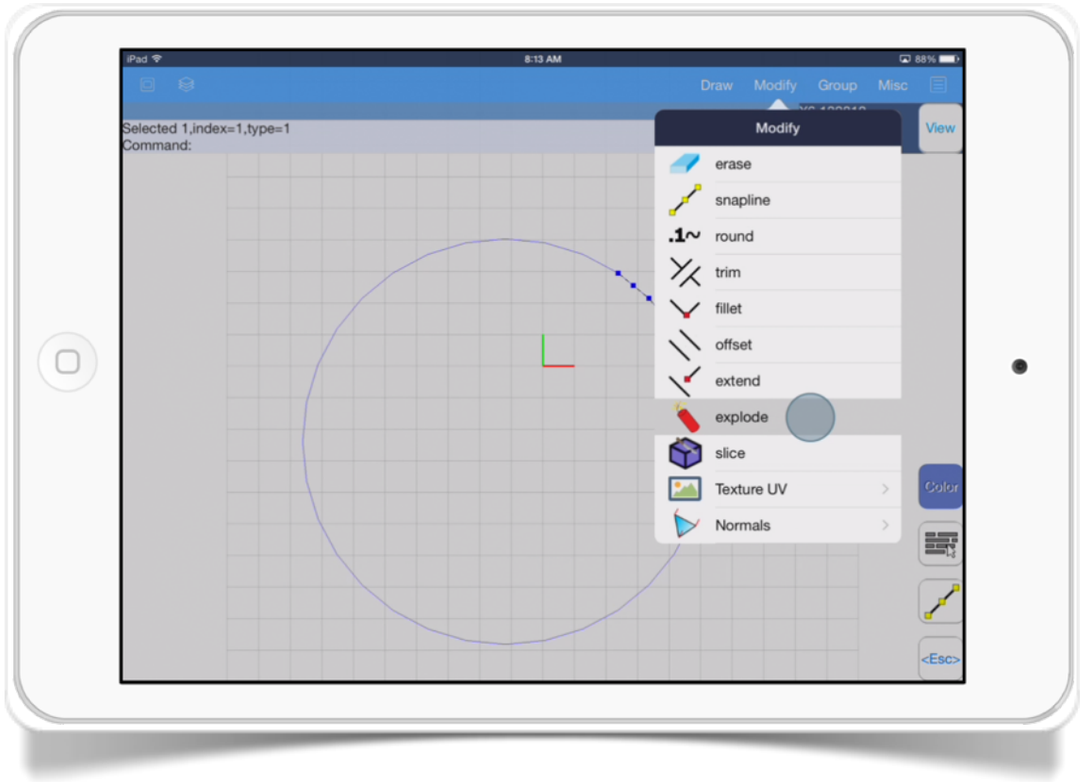
- ***Select Boundary edge(s).*** This option specifies the boundary edge(s).
- ***Select object to extend.*** Specifies the object that will extend towards the boundary edge(s)
- ***Finish.*** This option allows you to finish selecting objects.



SECTION 8

Explode

This tool separate items from a group, in the case of circles/ arcs, it separates them in its lines segments.

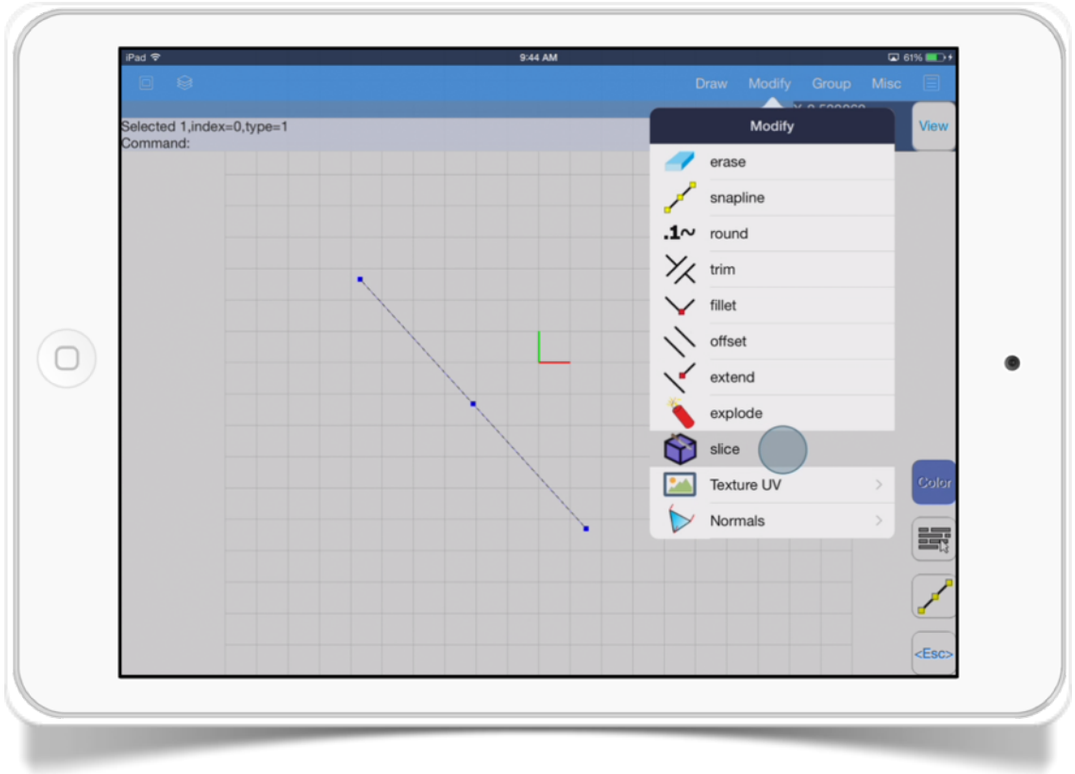


First select the object you want to convert, then apply the Explode option.

The original figure now is configured into its lines segments.

Slice

This tool cuts the selected object.



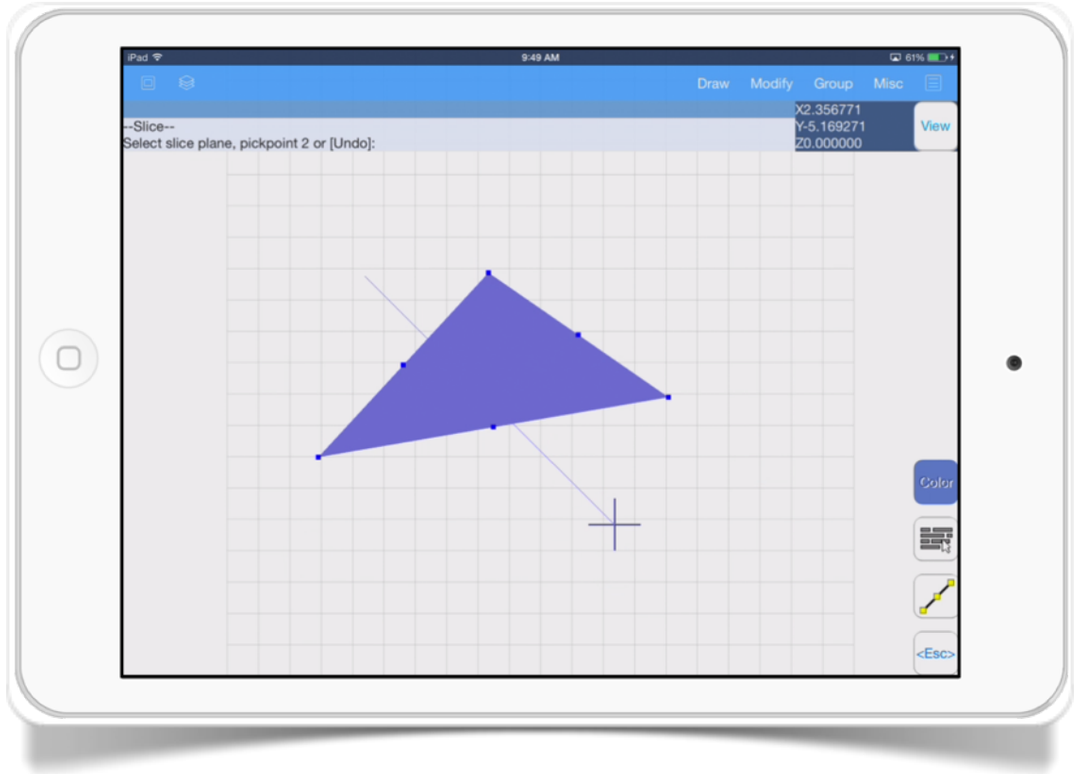
The *Slice* tool has these options:

- ***Select slice plane, pickpoint 1.*** This option specifies starting point of the line that it will do the cut.

- ***Select slice plane, pickpoint 2.*** Specifies the end point of the line that it will do the cut.

- ***Select slice plane, Next point.*** Specifies another point to continue doing the cut.

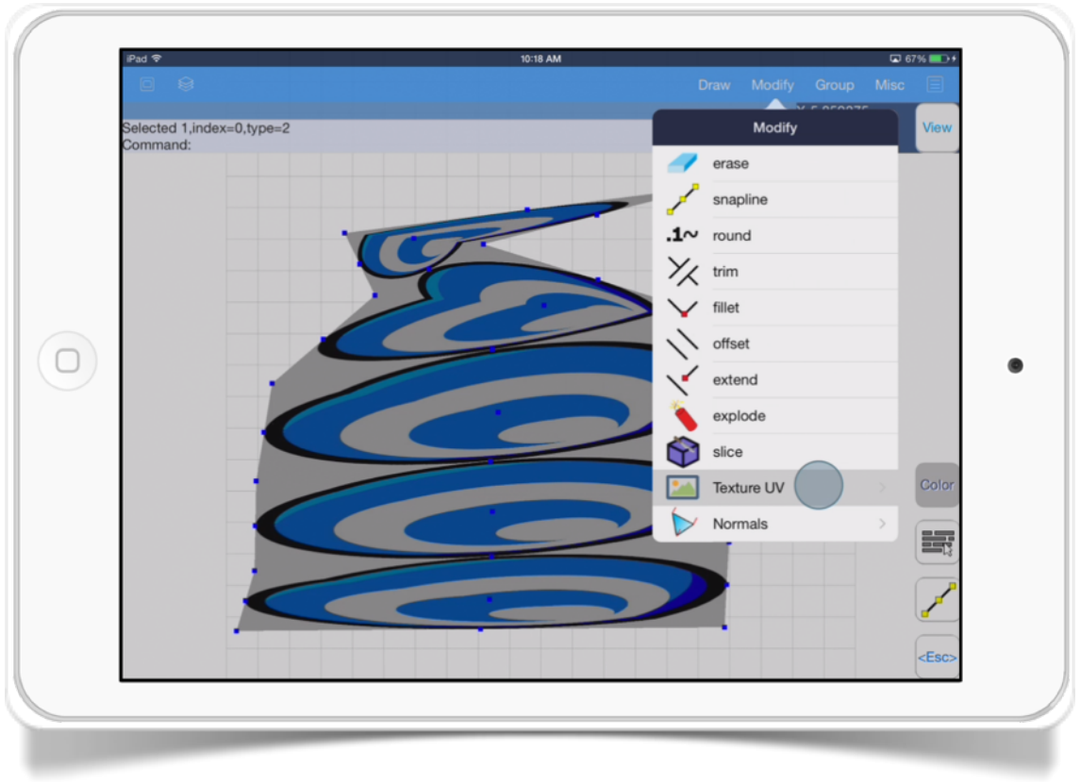
- ***Undo.*** Undo the last command..



SECTION 10

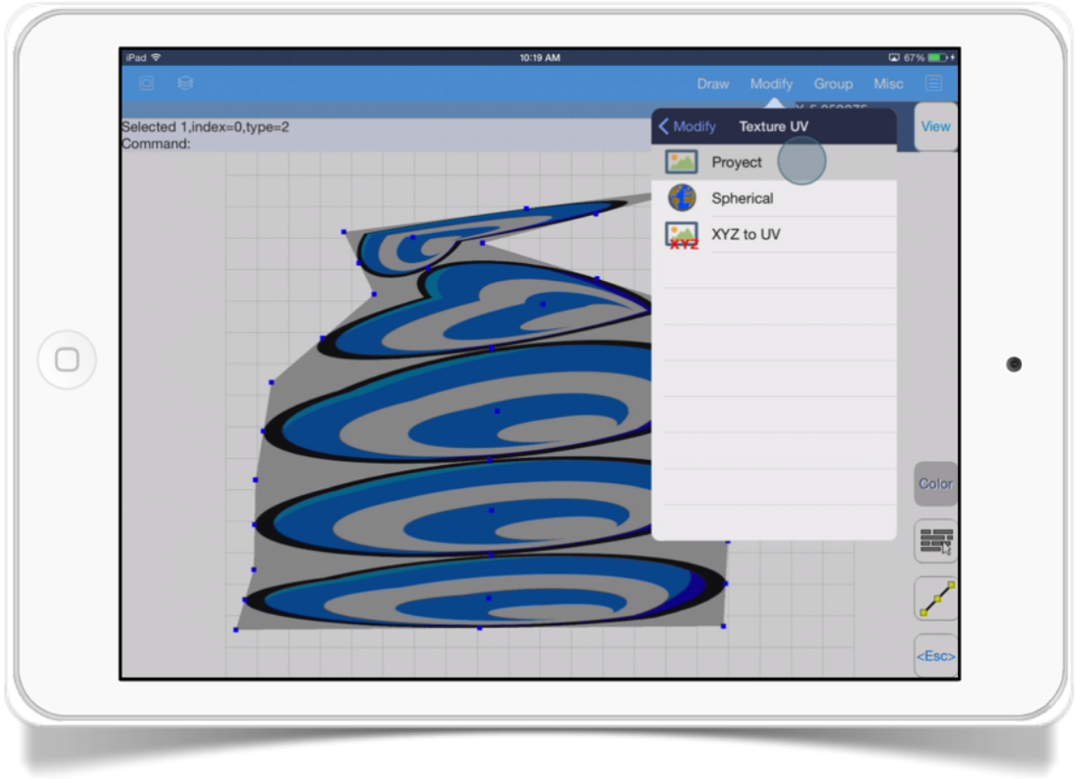
Texture UV

This tool calculates the texture coordinates of the selected items.



The *Texture UV* tool menu has these options:

- ***Project.*** calculates the texture coordinates of selected items projecting the texture in a plane.
- ***Spherical.*** Wraps the selected object with the texture using the normal information.
- ***XYZ to UV.*** Set the position coordinate as texture coordinate.

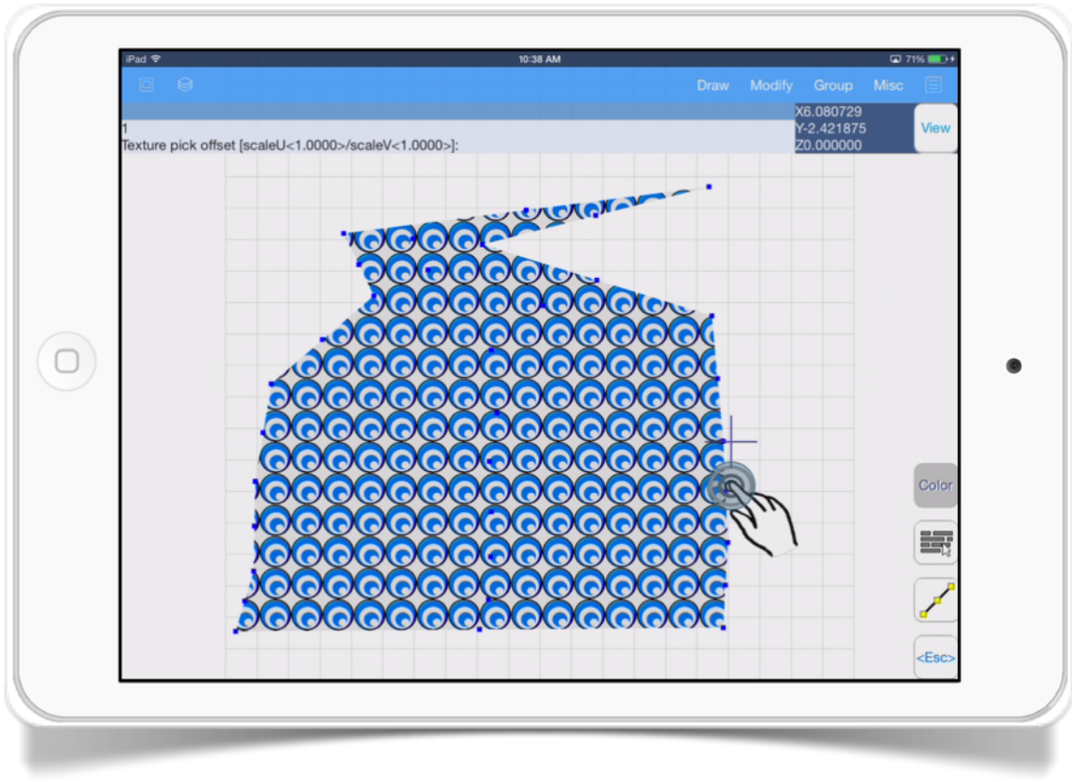


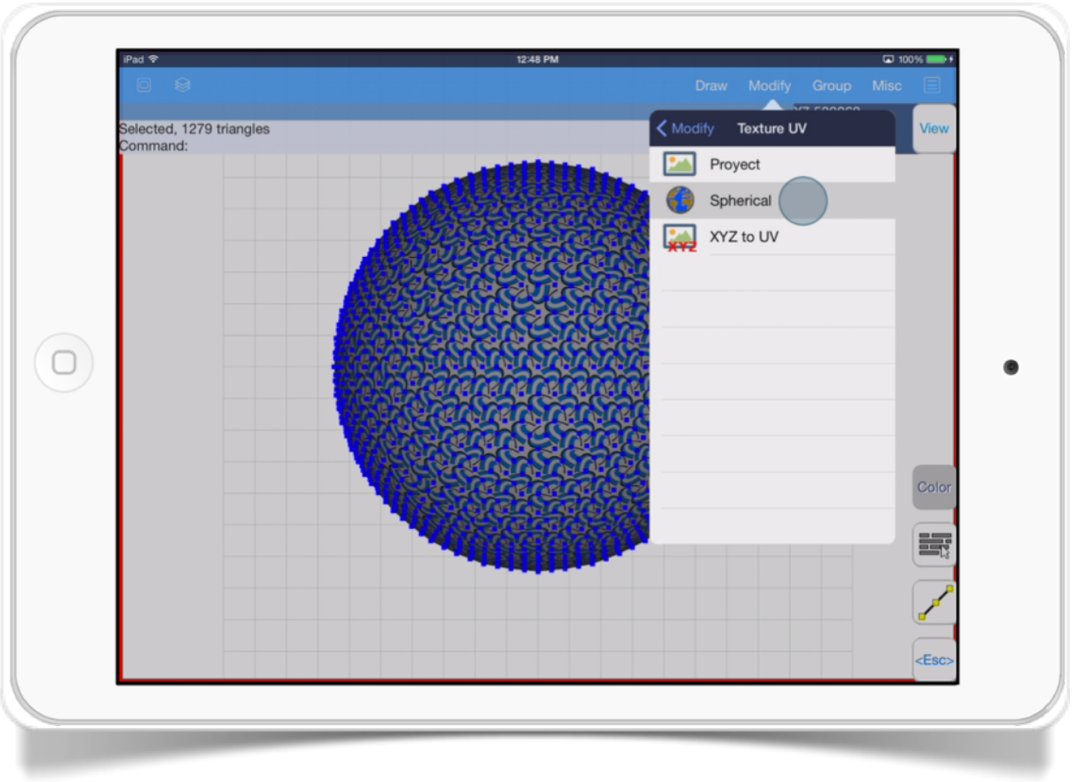
The *Texture UV / Project* tool has these parameters:

Texture pick offset. This option set the texture position coordinate.

scaleU. This option scales the texture width.

scaleV. This option scales the texture height.





The *Texture UV / Spherical* tool has these parameters:

***Texture Spherify*.** This action will set the texture around the sphere with an optional texture scale.

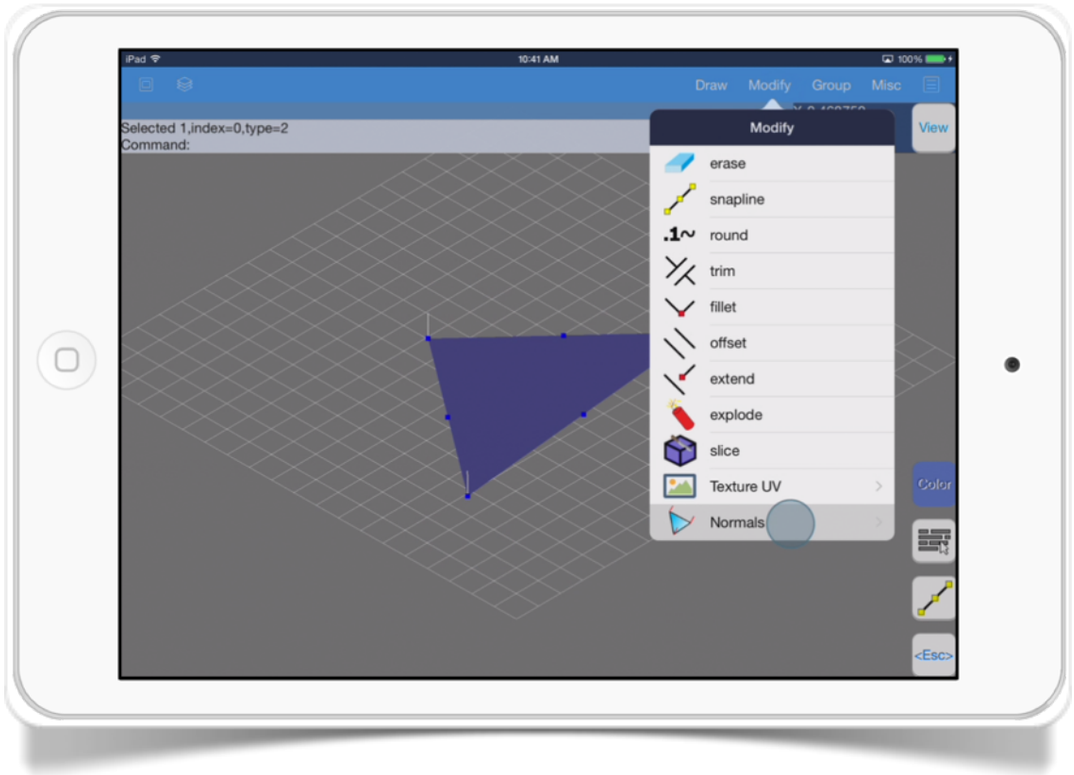
***<Skip>*.** This option take the default option and executes the command.

Note: The *Texture UV / XYZ to UV* tool stretch the texture along an axis.

SECTION 11

Normals

The normals are the perpendiculars lines to the triangle face.

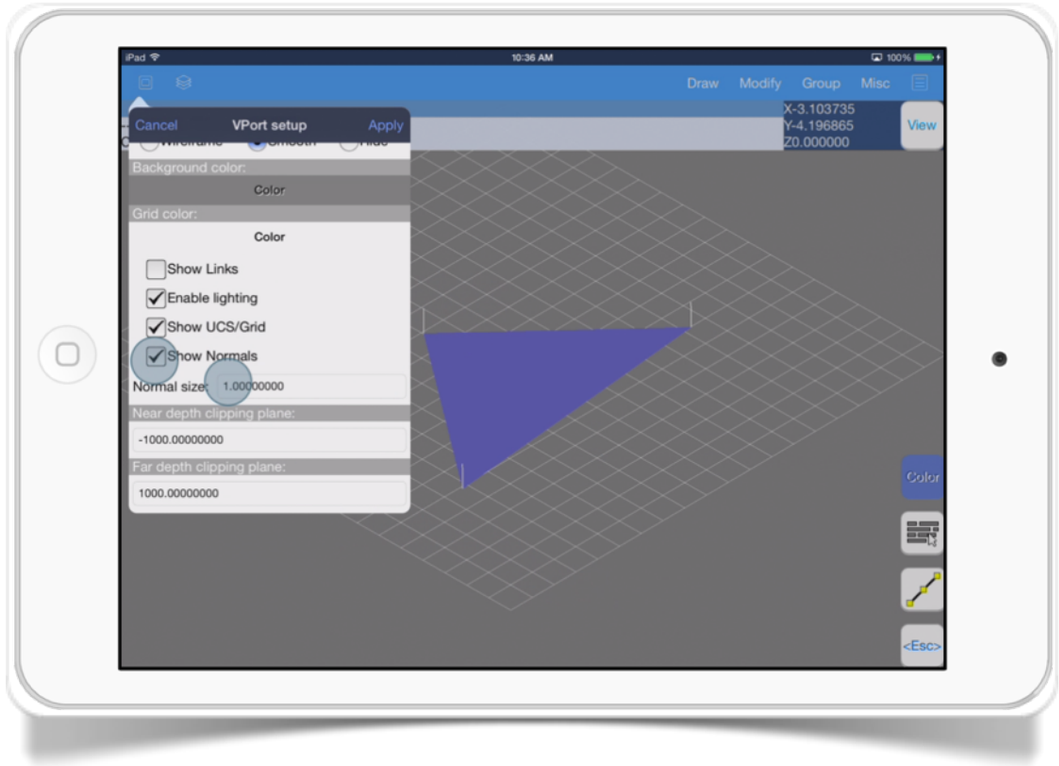


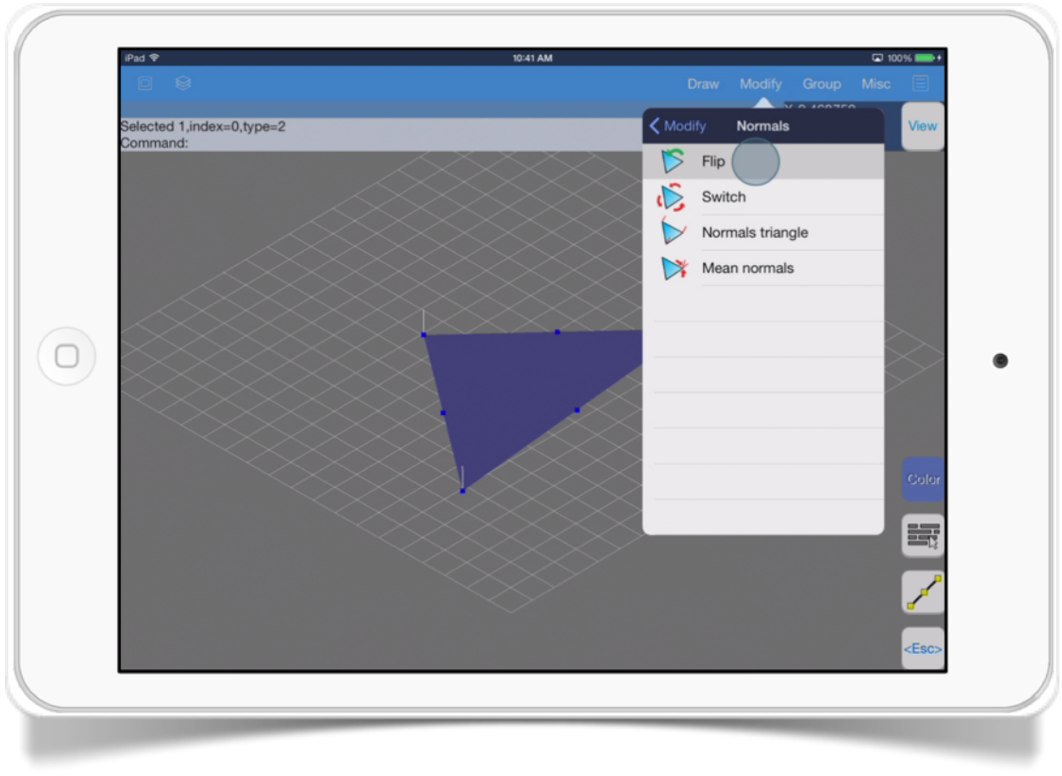
There is one normal for each triangle vertex.

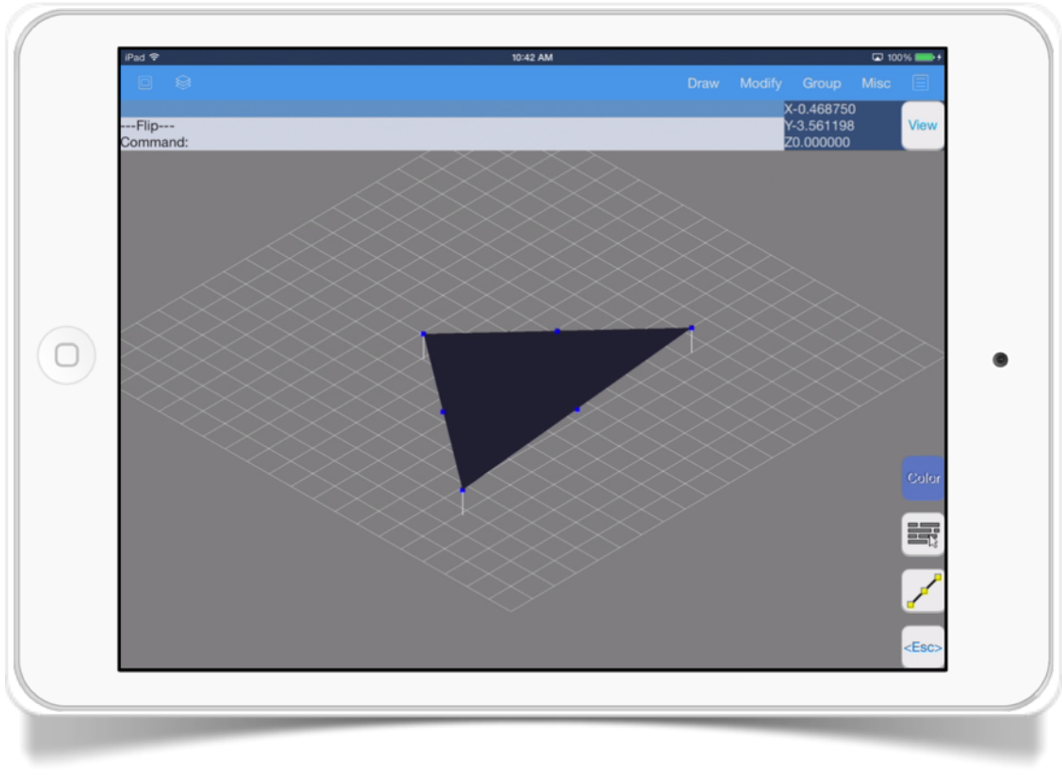
The Normals tool has these menu options:

- ***Flip.*** Turns the triangle side.
- ***Switch.*** Modifies the points order, the texture coordinates, color and normals. The point 1 changes to point 3. The point 2 changes to point 1 and point 3 changes to point 2.
- ***Normals triangle.*** Set normals perpendicular to the triangles surface.
- ***Mean normals.*** Sums up normals of the points in common and then normalizes them.

To make normals visible just tap *VPort* icon and activate checkbox *"Show Normals"* and change the Normal size to a value of 1 or greater.




iPad
10:41 AM
100%
Draw
Modify
Group
Misc
Selected 1,index=0,type=2
Command:
Modify
Normals
Flip
Switch
Normals triangle
Mean normals
View
Color
<Esc>


iPad
10:42 AM
100%
Draw
Modify
Group
Misc
---Flip---
Command:
X-0.468750
Y-3.561198
Z0.000000
View
Color
<Esc>

CHAPTER 5

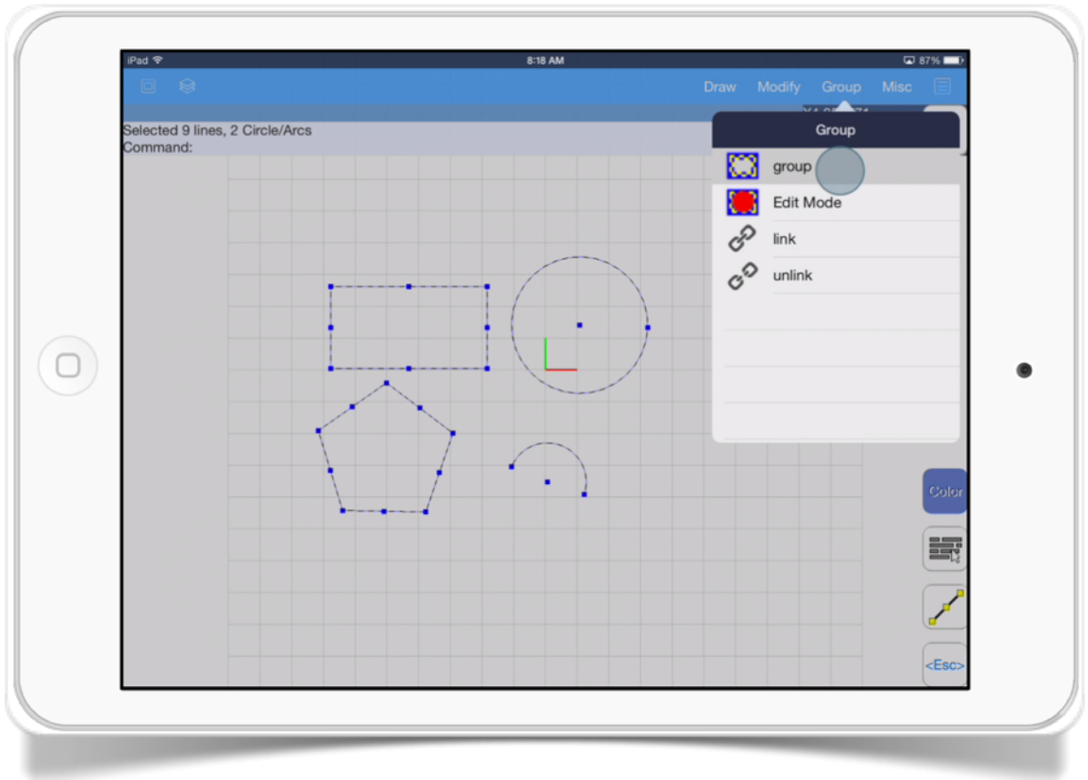
Group Tools

Organize objects by groups allows you to handle easier large 3D models.

Grouping functions are useful to manage several objects as one entity simplifying the process of edit them.

Group

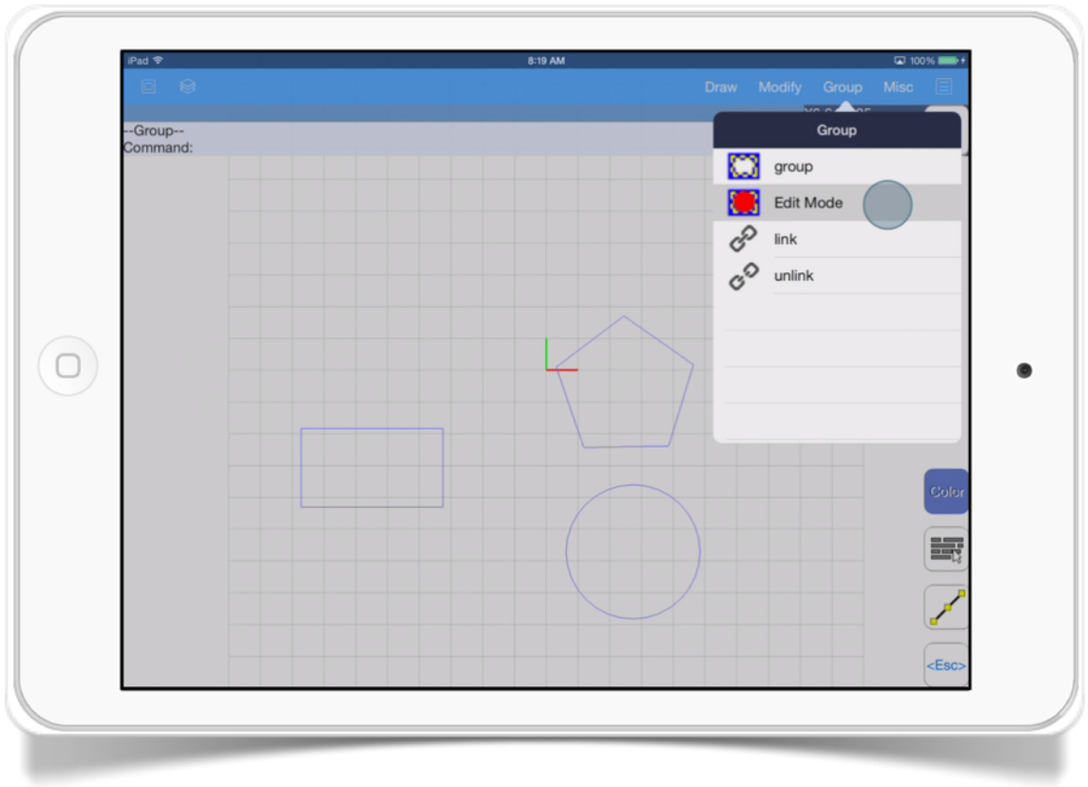
The *Group* tool allows you to select objects to join them as only one object.



To use the Group tool just select the objects you want them joined and select the Group option from the Group menu.

Edit Mode

The *Edit mode* option modifies the items inside the selected group.



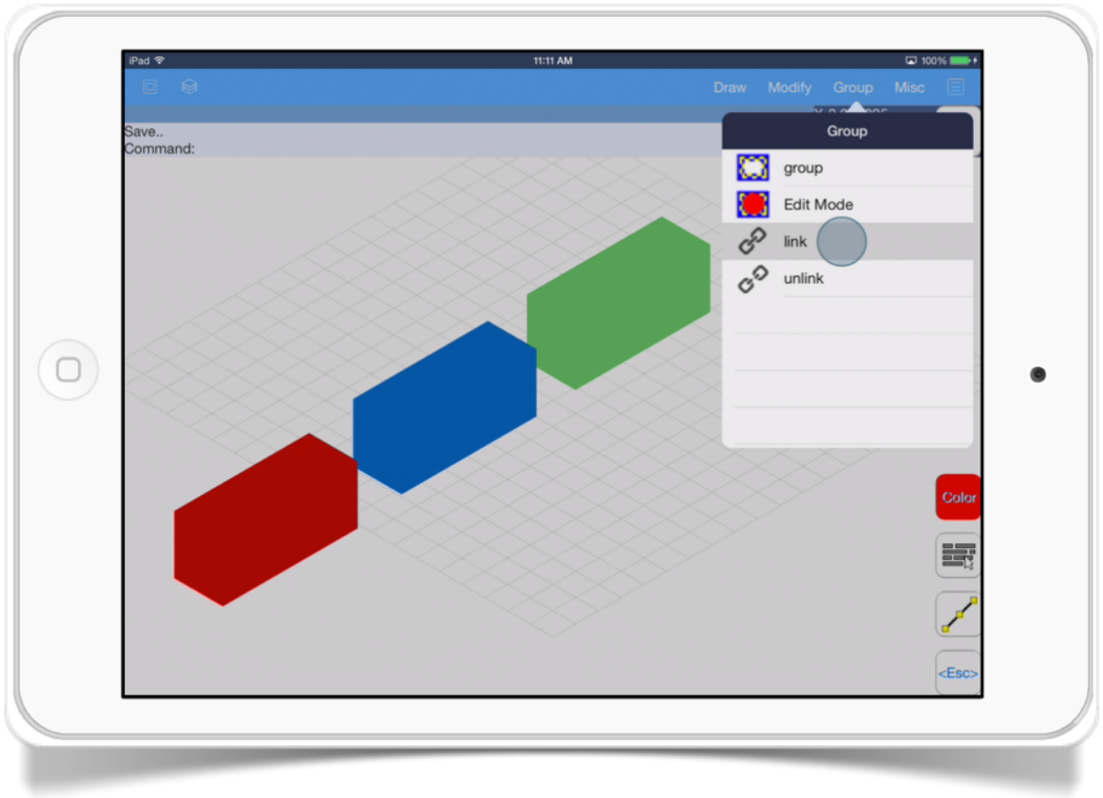
To quit the *Edit mode* just select the Edit mode option again,

Note: the other groups will be hidden if the *Edit mode* is activated.

SECTION 3

Link 🔗 and Unlink 🔗

This tool creates a link from one group to other group.



The *Link* tool has these options:

- ***Select Group (child).*** Select the group which it will be attached to the parent.
- ***Select Group (parent).*** Select the group which it will be attached to.
- ***Esc button.*** Exit the command applying the changes.

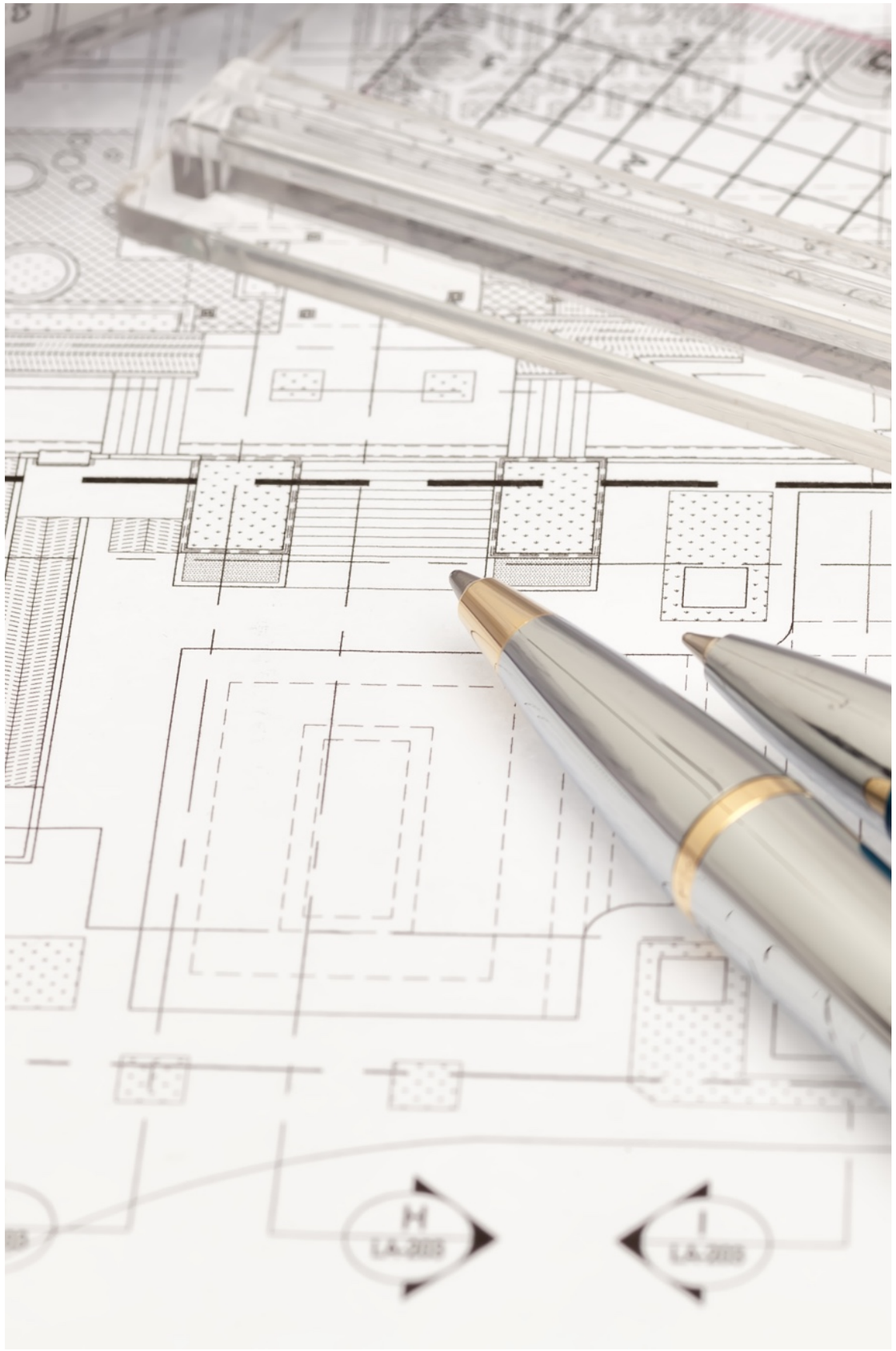
The *Unlink* tool unlink the selected group from the link chain.

Chapter 6

Misc Tools

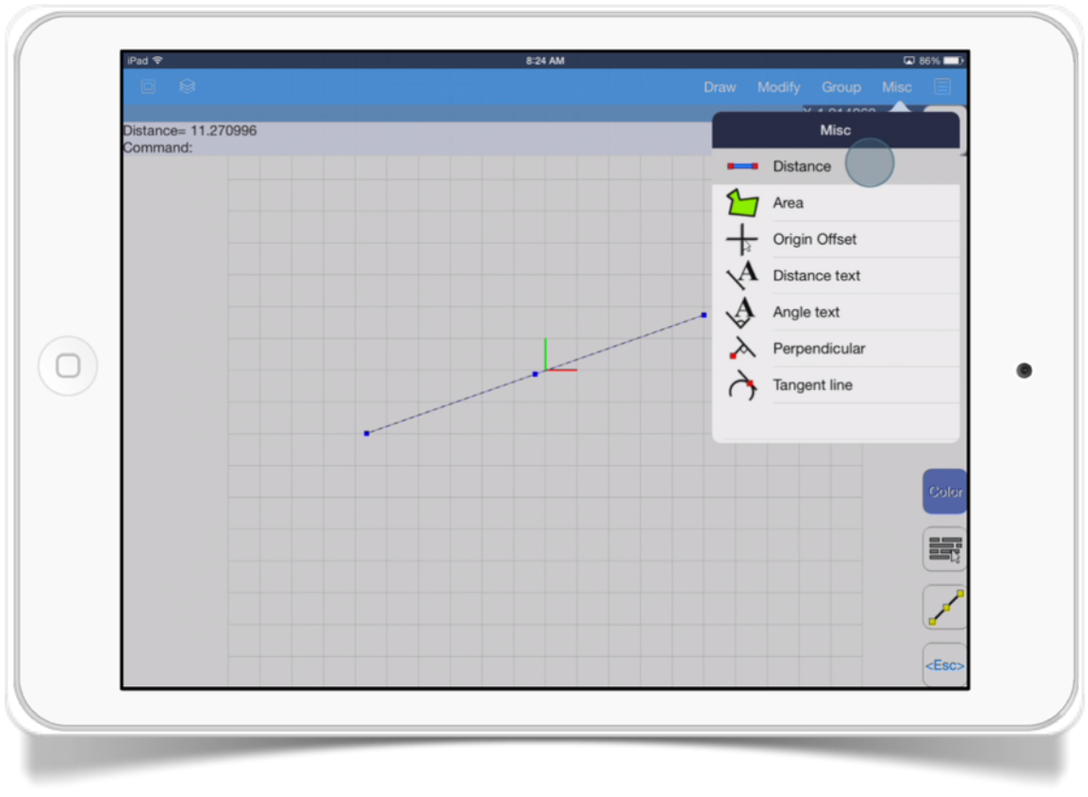
In this group of tools you will learn various functions that give us some drawing information or certain special commands.

Tools like distance, area, distance text, angle text, perpendicular and tangent line are the some you will find in this chapter.



Distance

This tool determines the distance between two points.



The *Distance* tool has these options:

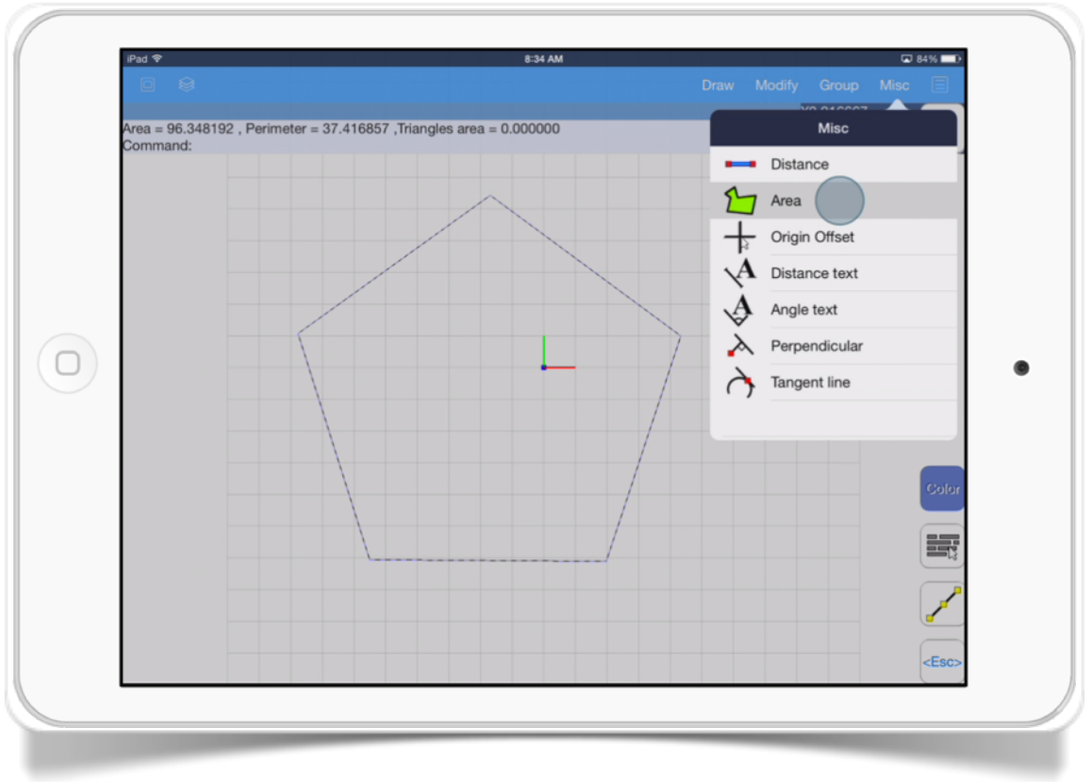
- ***Distance pickpoint 1.*** Select the starting point to measure.
- ***Distance pickpoint 2.*** Select the ending point to measure.
- ***Undo.*** Undo the last action.

Note: the distance result between two points appears on the upper left corner of the screen.

SECTION 2

Area

This tool shows the area of a grouped polygon.



The *Area* tool has these options:

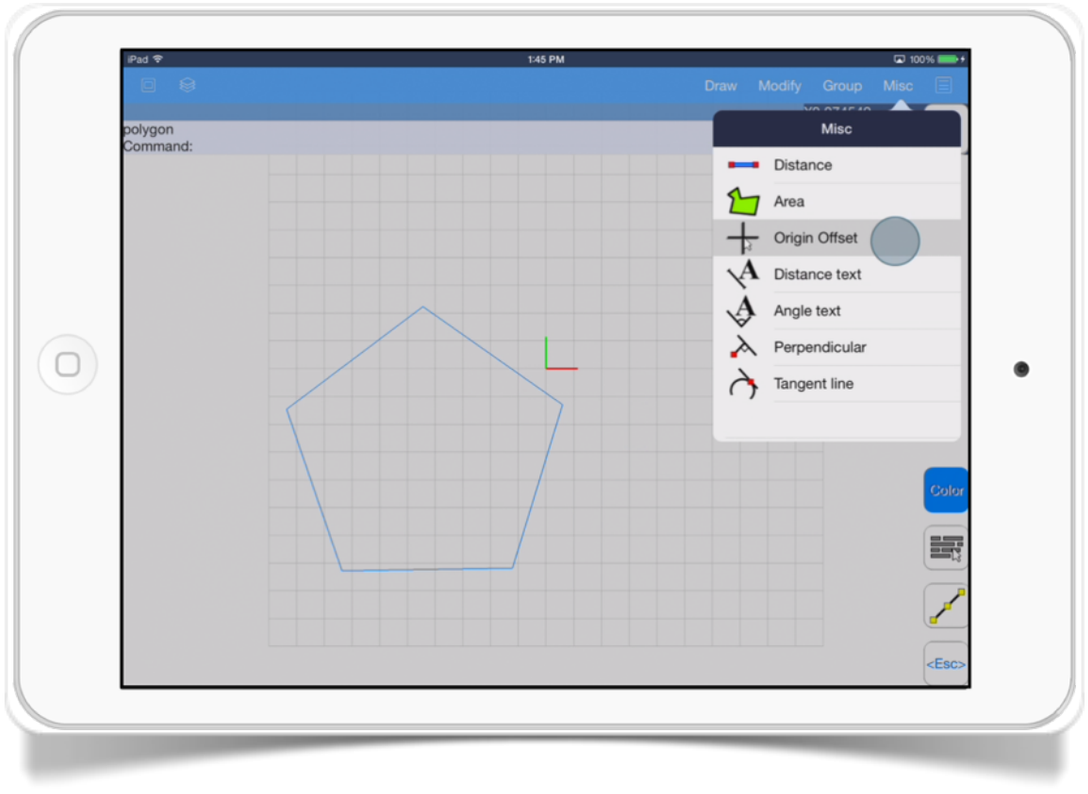
- ***Select group with polygon.*** Just select the group with the polygon on screen to calculate the area.

Notes:

- The grouped polygon should be closed and if the group contains triangles, then shows the triangles area.
- The results appear on the upper left corner of screen and It shows area, perimeter and triangles area.

Origin Offset

This tool changes the origin offset to a specified coordinate.



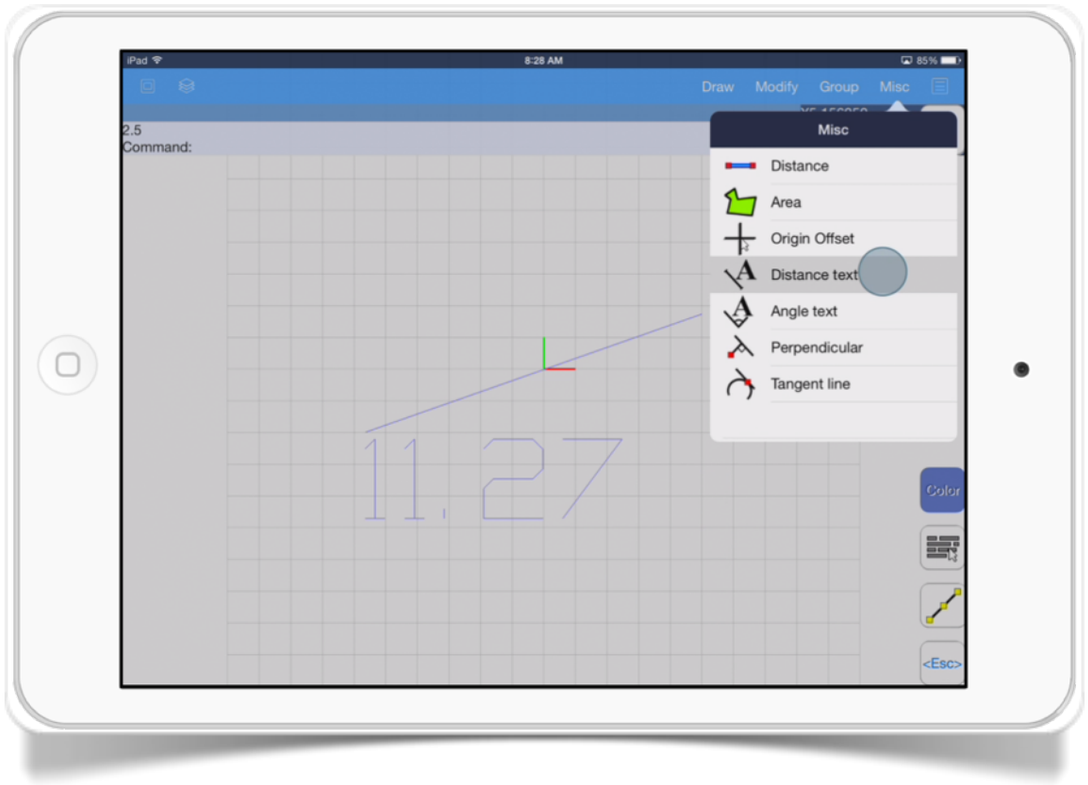
The *Origin Offset* tool displays the next information when the command is executed:

- ***Current offset pickpoint.*** Displays the current offset.

SECTION 4

Distance text

This tool creates a text inside your drawing with the distance of the selected object.

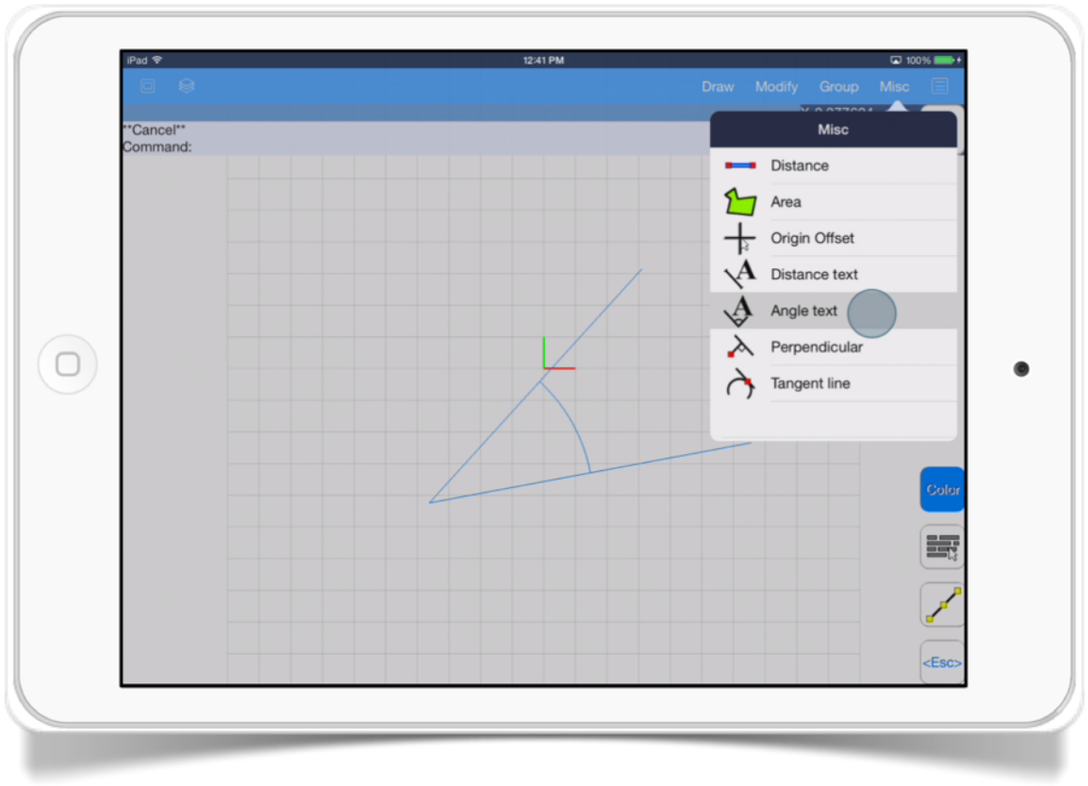


The *Distance text* tool has these options:

- ***Select line.*** Select the the line where distance will be measured.
- ***Specify point.*** Select your starting point where the text will be displayed.
- ***Height.*** Set text height.
- ***Format.*** Set text format in decimals (0.00) or feet/inches (0'0.00")
- ***Decimals.*** Set decimals number of the result.

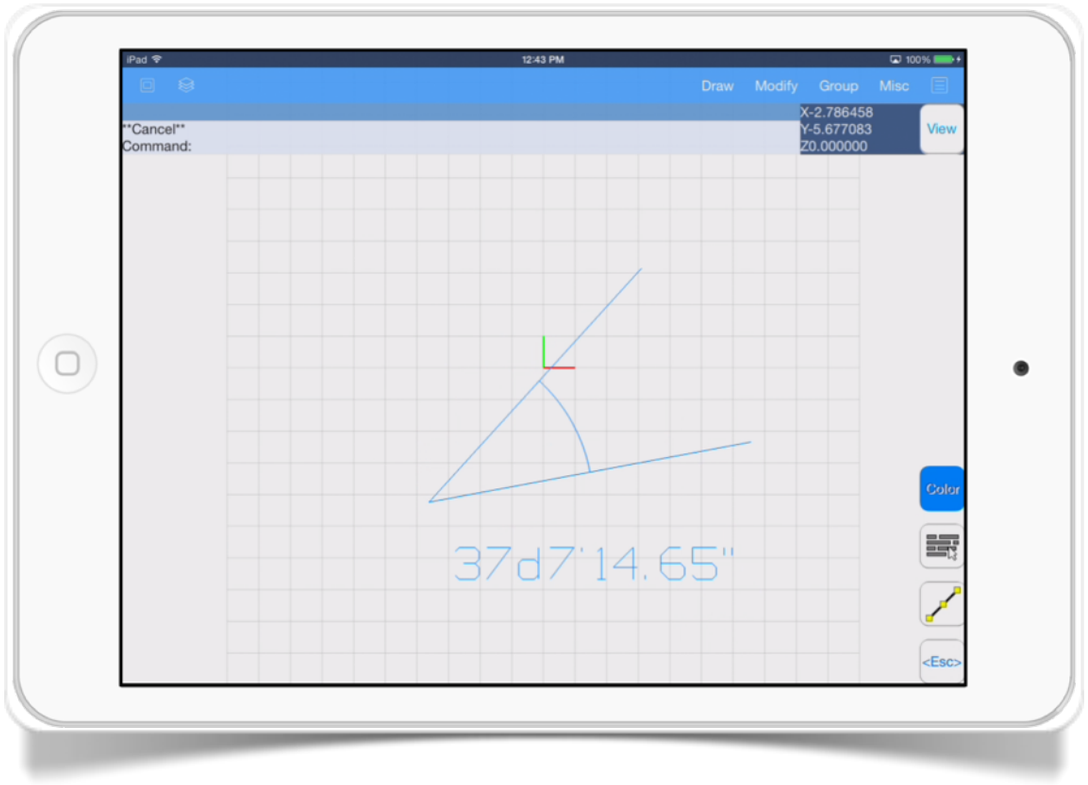
Angle text

This tool creates a text that displays the angle of the selected arc.



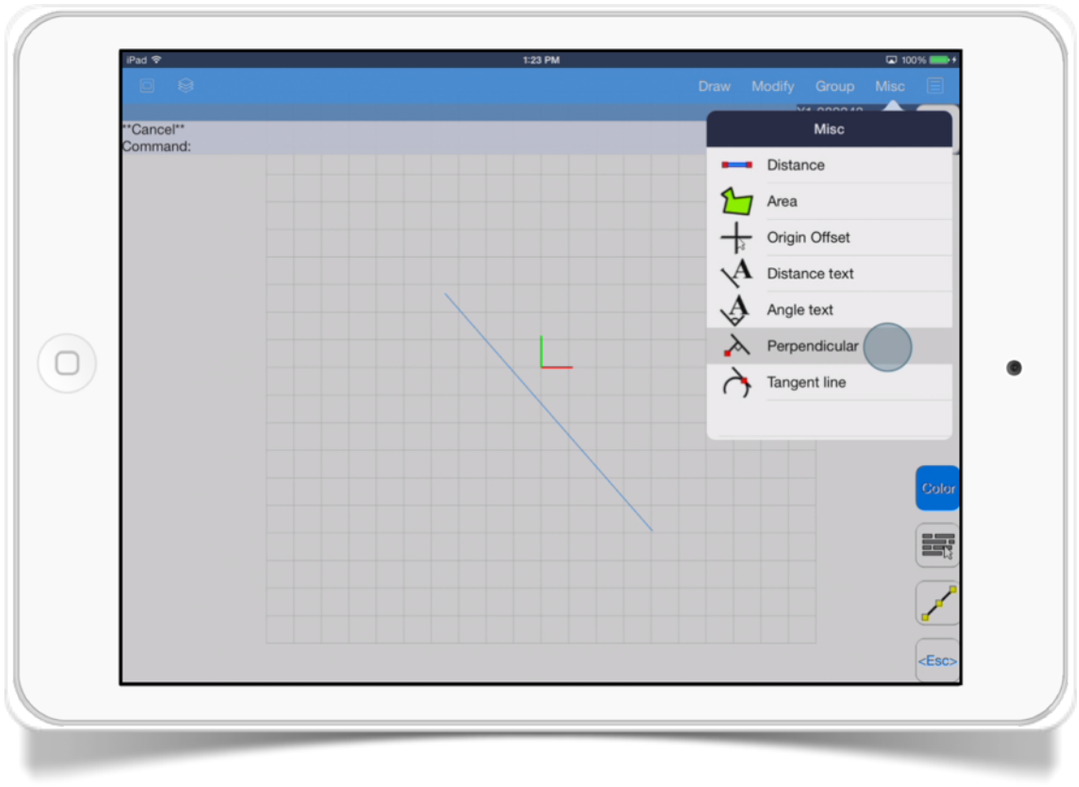
The *Angle text* tool has these options:

- ***Select arc.*** Select the arc where the angle will be measured.
- ***Specify point.*** Select your starting point where the text will be displayed.
- ***Height.*** Set text height.
- ***Format.*** Set text format in decimals (0.00) or degrees/minutes/seconds (0d0'0.00")
- ***Radians.*** Set angle units to radians.
- ***Degree.*** Set angle units to degrees.



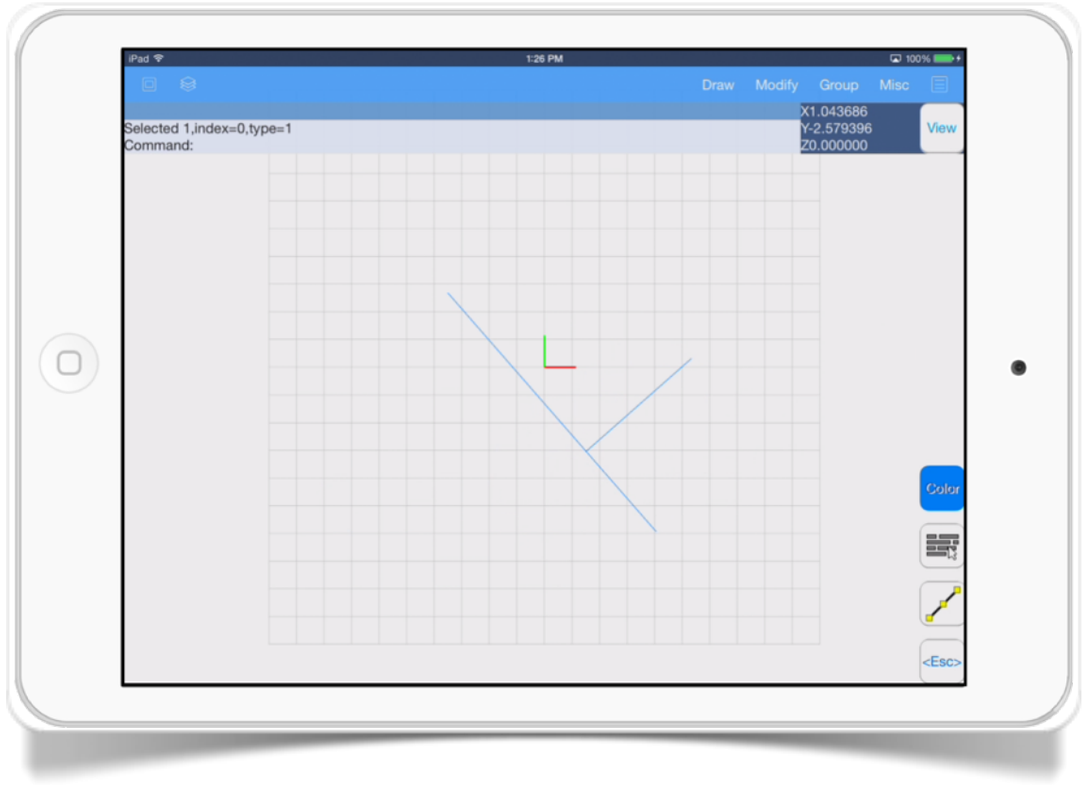
Perpendicular

This tool draws perpendicular lines to other lines.



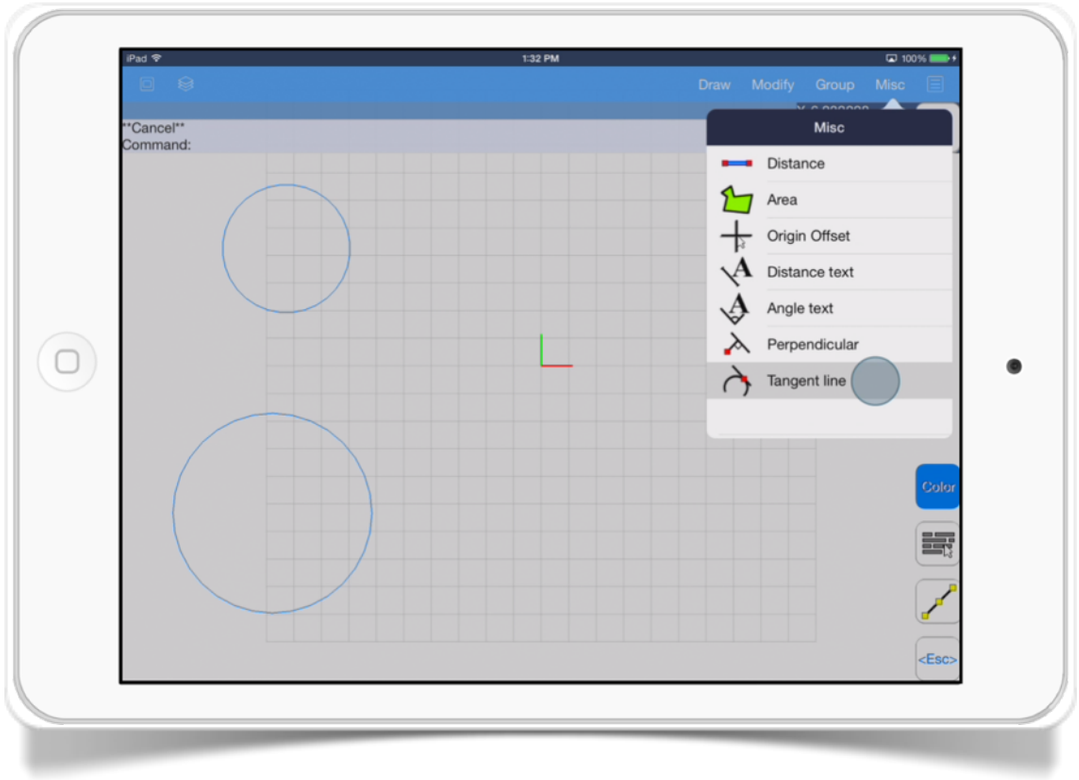
The *Perpendicular* tool has these options:

- ***pickpoint 1.*** This option specifies the first point of the perpendicular line.
- ***Select line or circle/arc.*** Specifies the line, circle or arc where the perpendicular line will be drawn.



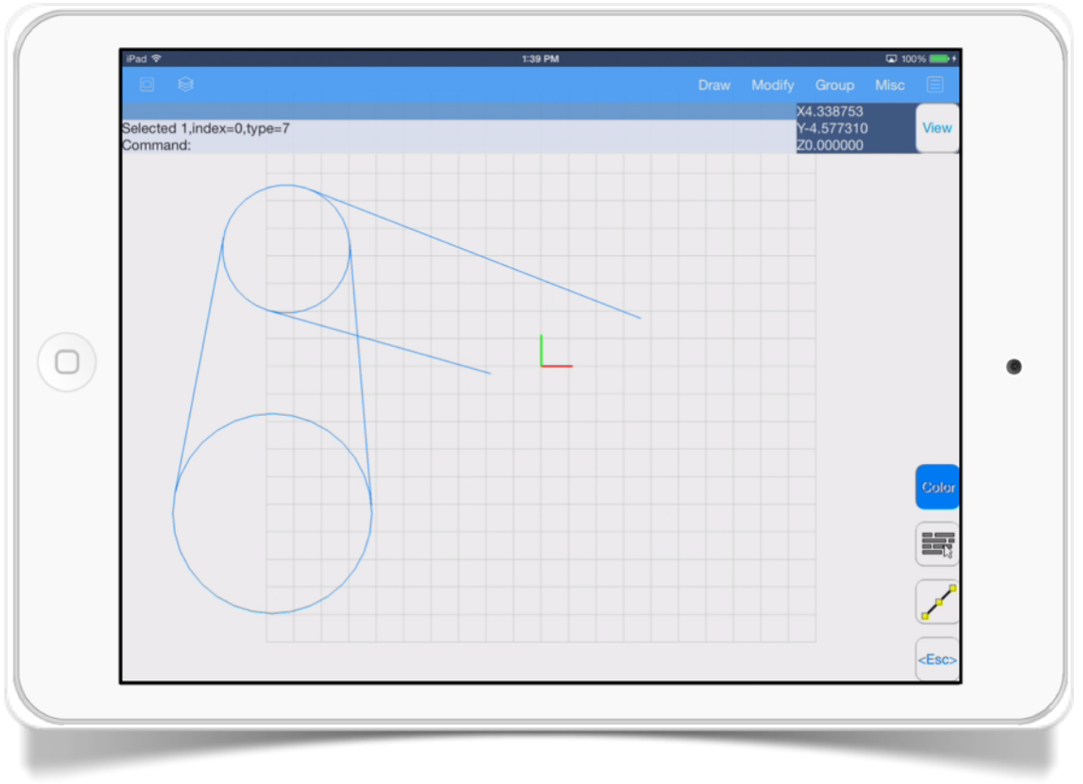
Tangent line

This tool draws tangent lines to circles/arcs.



The *Tangent line* tool has these options:

- ***Select circle/arc.*** This option specifies the circle or arc that will be tangent to the line.
- ***Point.*** Specifies the starting point of the tangent line.



Chapter 7

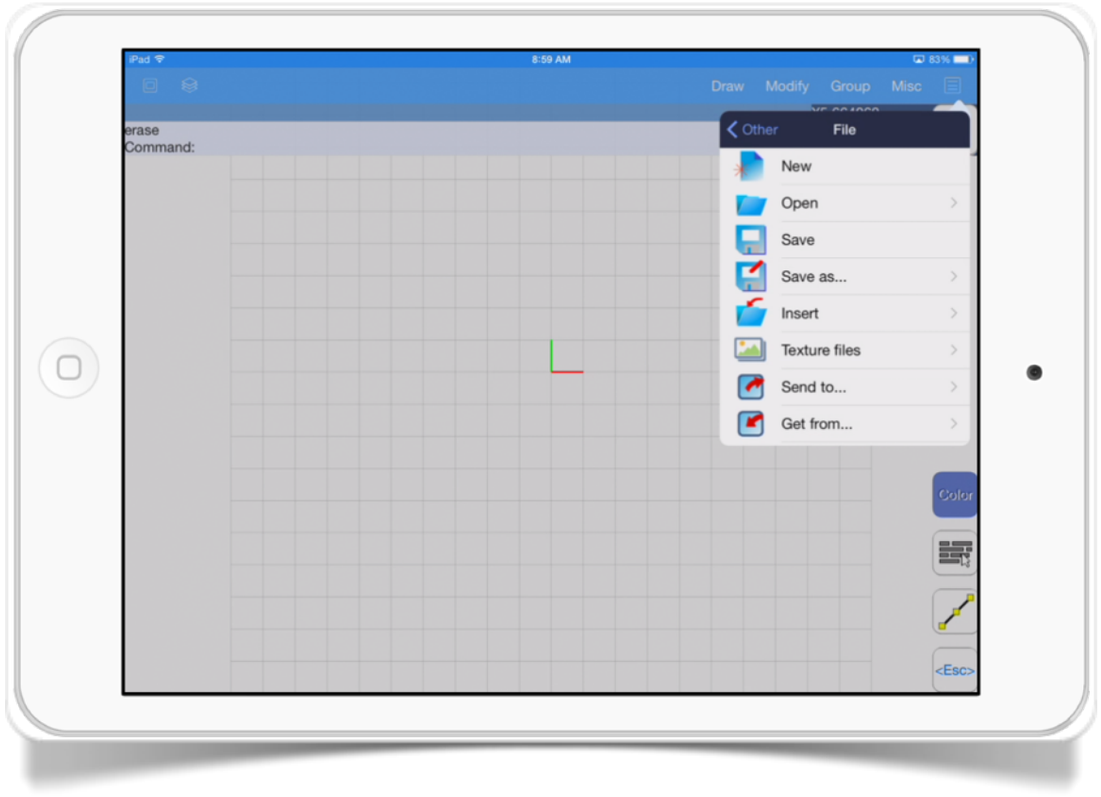
Other Options

In this chapter we will see tools that help manage drawing and textures files.

SECTION 1

File Operations

In this menu section you will find options related with your files



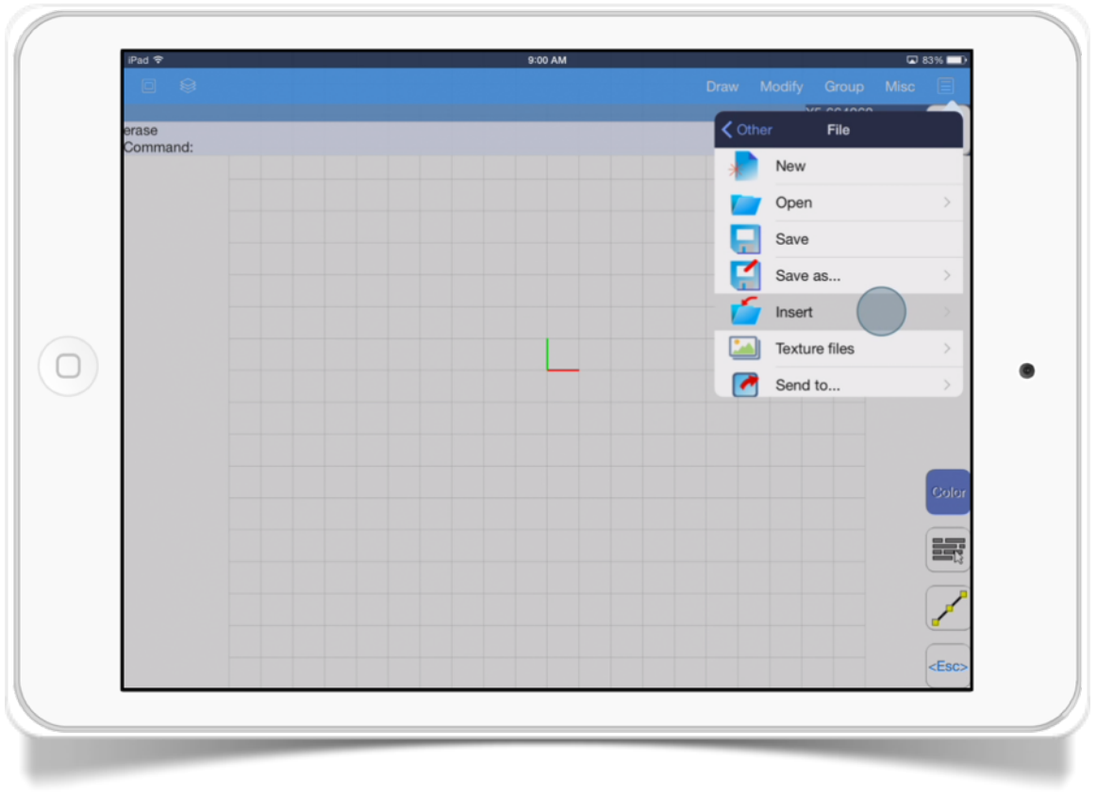
The File menu has these options:

- ***New.*** Creates a new drawing file.
- ***Open.*** Open an existing drawing file on your device.
- ***Save.*** Store your existing drawing file on your device.
- ***Save as.*** Store your existing drawing file with the option to give a file name and a file type.
- ***Insert.*** This option allows you insert another drawing in your existing work.
- ***Texture files.*** Here you can manage your texture files.
- ***Send to.*** This option allows you to send your existing drawing to another person via email, to another app or to the iCloud.
- ***Get from.*** This option allows you to get a drawing file by iCloud.

SECTION 2

Insert drawings

This option allows you to insert a drawing inside your existing drawing.



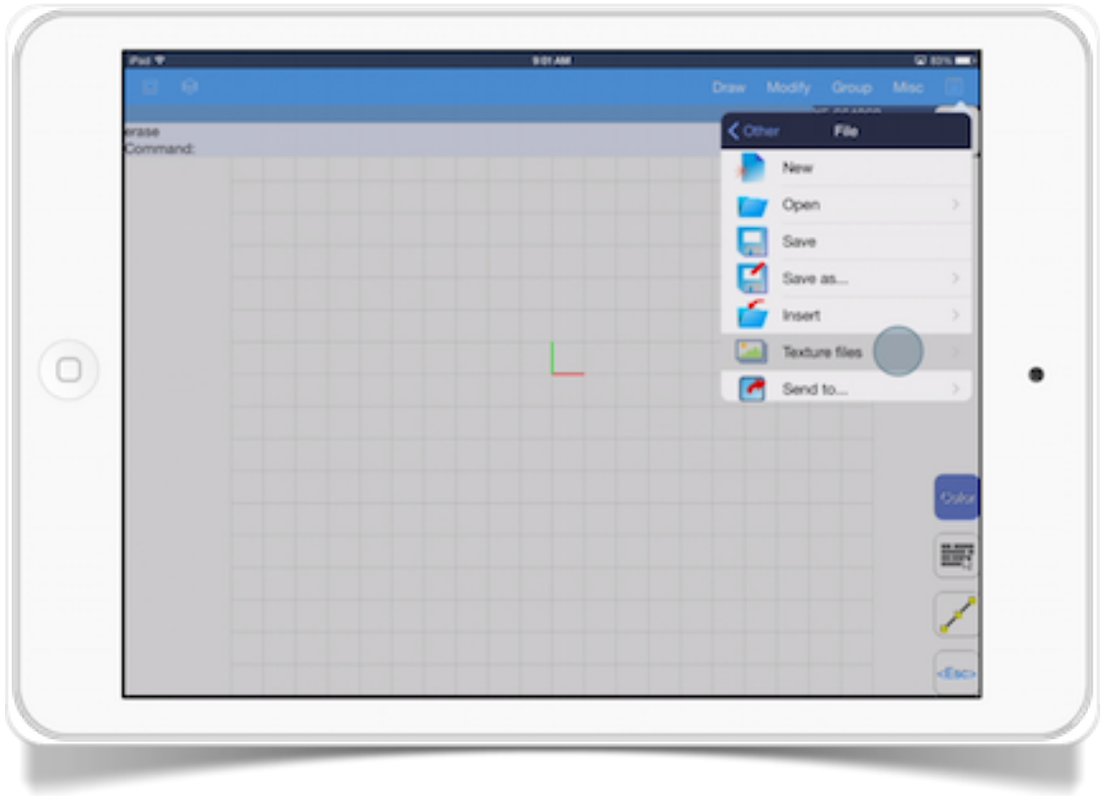
The file types supported are:

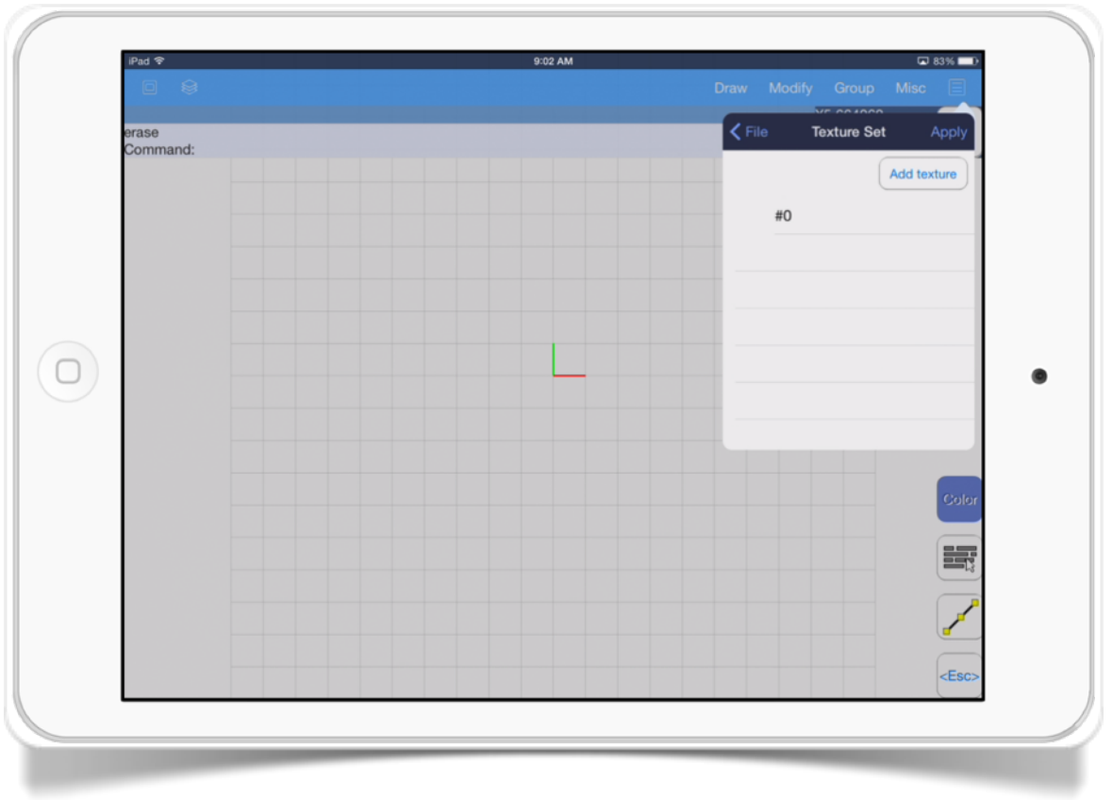
- ***3DQ*** AutoQ3D CAD native file format.
- ***DXF*** 2D file format and 3D face support.
- ***STL*** 3D file format triangles only.
- ***OBJ*** 3D file format triangles only.

SECTION 3

Texture files

This option allows you to manage image files to use them as textures in your drawings.



The Texture files has the following actions:

- ***Add texture button.*** Add an image file to the project.
- ***Swipe.*** When you swipe over an element list you have the option to remove the image file from the project.
- ***Apply.*** Accept the changes in the texture files list to the project.