

Finger3D HD Quick Users Guide

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1. Introduction to Finger3D HD

Finger3D HD is a three-dimensional modeling software.

Starting from three-dimensional geometric shapes such as spheres, cylinders, cones, cubes, planes, surfaces, discs, curves and using the fingers of your hands and / or the appropriate controls / tools for modeling through the program, you will get any three dimension geometric shape.

Taking advantage of the multi-touch and direct man-machine interaction, the user will have the sensation of carving with his own hands the object and the work will seem easier and more enjoyable.

Also through the use of fingers the tool allows you to navigate the three-dimensional world, to rotate in all directions to increase or reduce the view of the camera in a very very smooth and simplified by providing the user a feeling of mastery of the instrument and completeness state / form of the model and three-dimensional scenario.

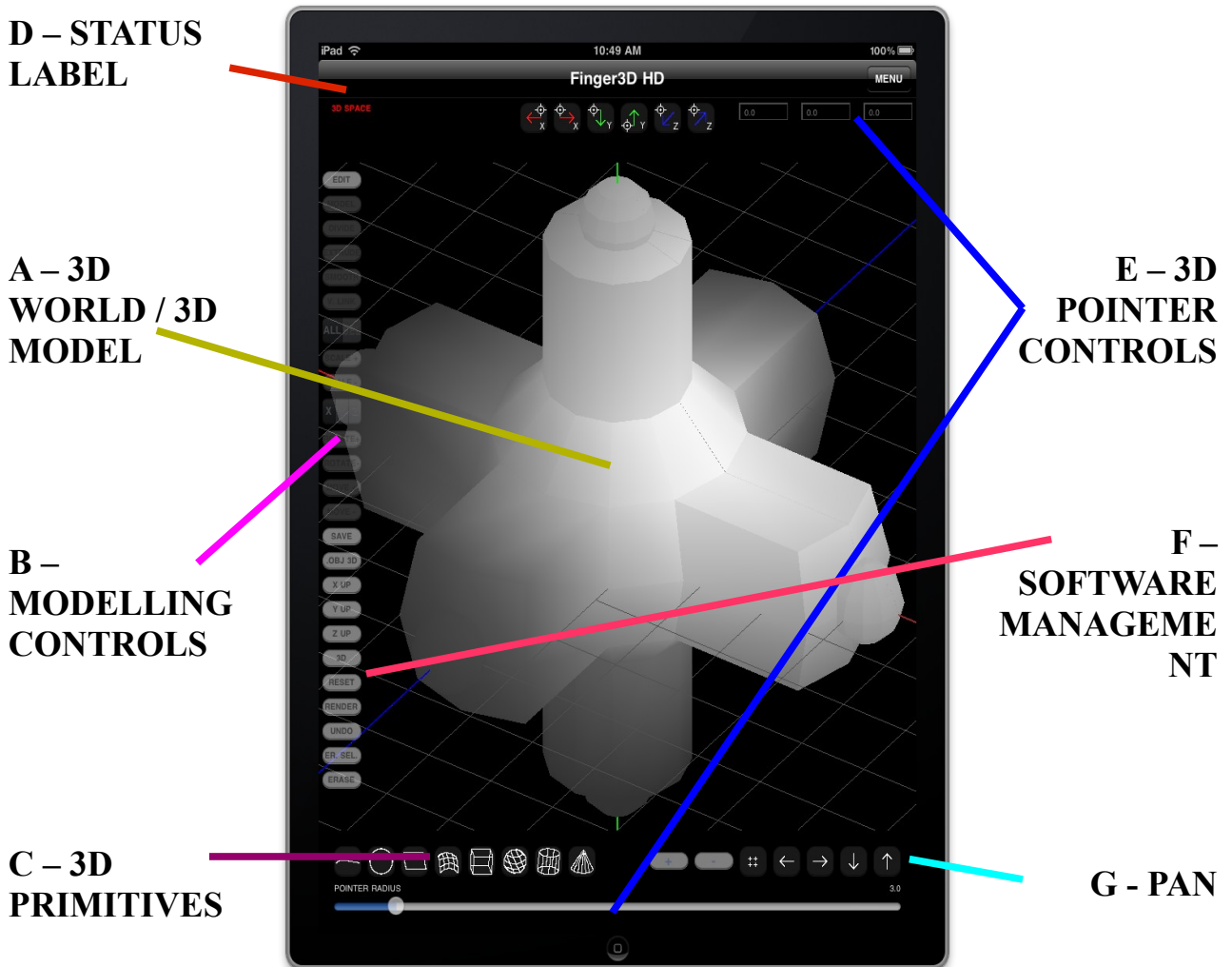
The instrument also provides three-dimensional view along with even the traditional top, front, side, which simplifies the modeling and makes it possible to transform three-dimensional object by touching and moving the vertices of the object directly with their fingers, providing a feeling of direct contact with the object itself. The tool also provides controls for the management of light and materials, allows the animation of the model and provides the ability to export all in OBJ format (Finger3D HD can send the model generated using the mail client integrated in the software itself). Finger3D HD provides to users the "Archive Management" where you can save, load, merge projects / models available. It is also the smallest three-dimensional modeling, high-performance accelerated graphics (using the OpenGL graphics engine) in the world.

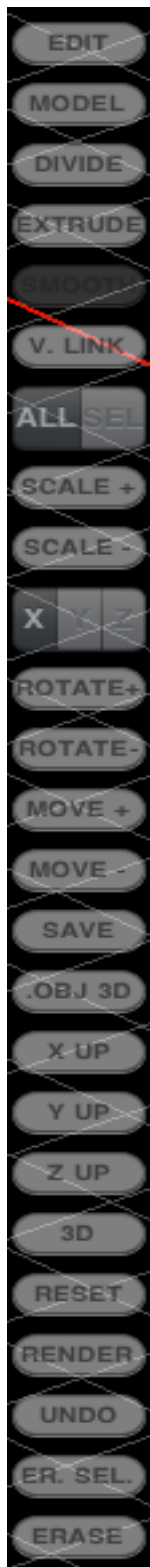
In this introductory guide we will lists the tools that the software provides for modeling the three-dimensional objects.

We will show the use of "Finger3D HD Archive Management", export the model in OBJ format and import it into a three-dimensional modeling software for the PC.

2. User settings and Primitives for *object modelling in 3D World*

Let's start by analyzing the window that appears once you start the program:





- 1 – ENABLE/DISABLE EDIT MODE
- 2 – ENABLE/DISABLE MODELING
- 3 – DIVIDE TOOL
- 4 – EXTRUDE TOOL
- 5 – SMOOTH TOOL
- 13 – VERTEXES LINK TOOL
- 6 – FOR ALL OR FOR SELECTED
- 7 – SCALE
- 8 – FOR X OR Y OR Z
- 9 - ROTATE
- 10 - MOVE
- 11 – SAVE MODEL
- 12 – EXPORT TO OBJ FILE
FORMAT AND SEND IT BY EMAIL
- 19 – X UP VIEW
- 20 – Y UP VIEW
- 21 – Z UP VIEW
- 16 – 3D VIEW
- 17 – RESET
- 18 - RENDER
- 22 - UNDONE
- 23 – ERASE SELECTED OBJECTS
OR FACES
- 24 – ERASE ALL

29 – 3D OBJECTS



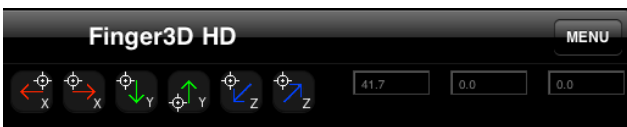
30 – 3D POINTER RADIUS



14 – ZOOM

26 – ENABLE / DISABLE GRID

25 – PAN

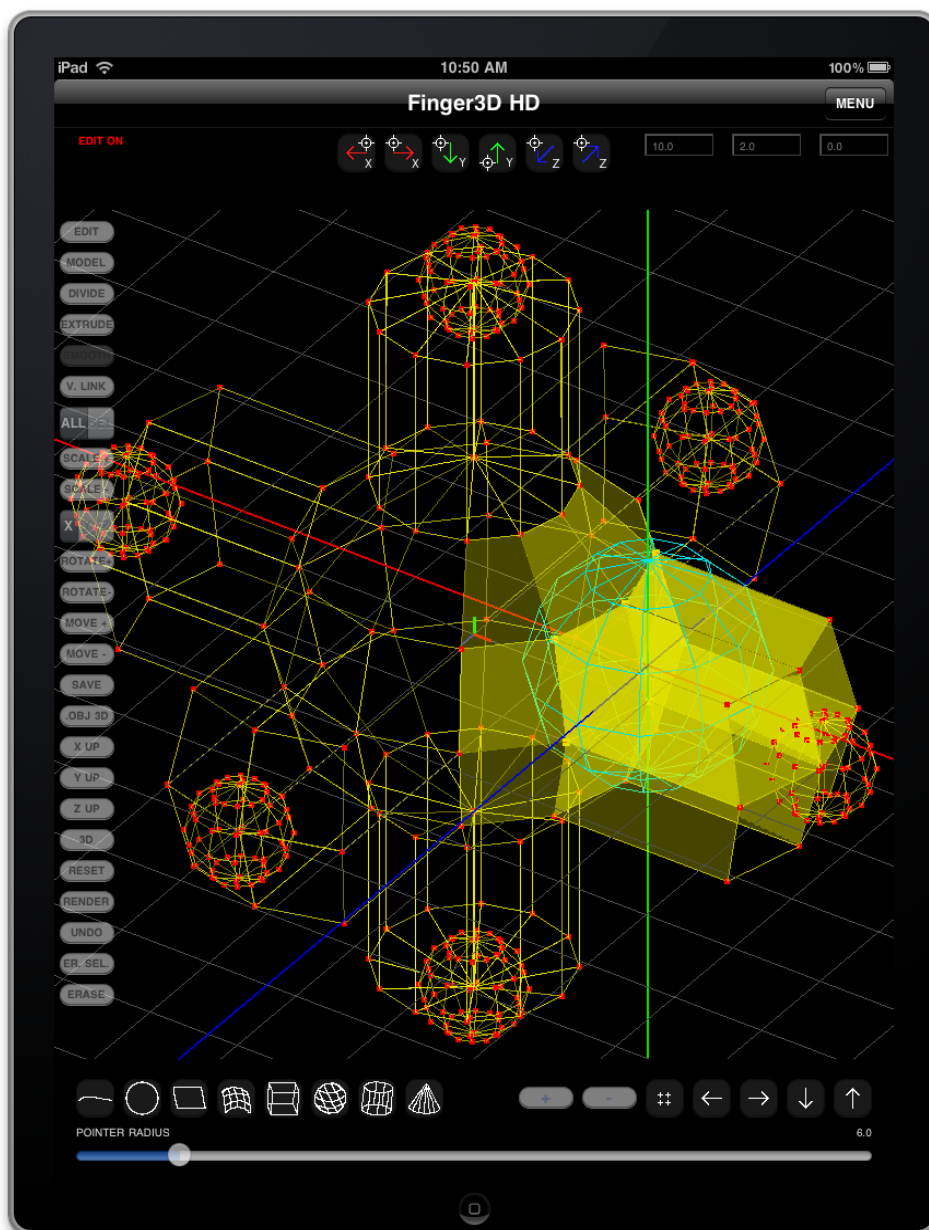


15 – OPEN SETTINGS WINDOW

27 – 3D POINTER POSITION

28 – MOVE 3D POINTER

1 – ENABLE/DISABLE EDIT MODE: press this button to switch between "3D View" mode to "editing" mode for the three-dimensional objects. "EDITING" mode will be shown the top left of the screen by the status label and the structure of the objects will be displayed. In this state you can enable the "MODELING" tool for modeling three-dimensional objects or for select objects using the "3D POINTER". The "3D POINTER" can be also moved with your finger (in XUP, YUP, ZUP views). When you select an object using the "3D POINTER" the vertices and the faces of the object you have select will appears in yellow as shown by the figures below:



2 – ENABLE/DISABLE MODELING: press this button to activate the "MODELING" mode through which you can model three-dimensional objects. The selected vertexes/faces of the objects move itself in the "3D World" together with the movement of the "3D POINTER" or the movement of the fingers on the screen (XUP , YUP , ZUP views). With this feature you can model the three dimensional objects giving them the desired shape

3 – DIVIDE TOOL: select one or more surfaces and press this button to transform the selected faces into 4 faces each face

4 – EXTRUDE TOOL: select one or more sides and press this button to extrude the selected faces. The extrusion has two parameters: the direction and module, the direction is determined by the direction of the vector joining the center of the face / faces selected and the center of the "3D POINTER" the module is determined by the module of this vector

5 – SMOOTH TOOL: in the "MODELING" mode if SMOOTH is activated (by pressing the SMOOTH button) the heads of the three-dimensional objects will move together with the "POINTER 3D" (or the movement of fingers on the screen) following a soft curve in the "3D world". Vertices closer to the center of the "3D POINTER" will move more of the vertices farthest from this point (the movement of vertices is inversely proportional to the distance of these vertices from the center of the 3D Pointer)

6 – FOR ALL OR FOR SELECTED: specifies whether the actions of "scaling" of the objects need to be applied to the selected object or only to the selected vertexes ("PARTIAL SCALING" FOR OBJECTS)

7 – SCALE: Press these buttons to scale the selected object in the manner set out in paragraph 6 ("FOR ALL OR FOR SELECTED"): "SCALE +" increases the size of the selected object, "SCALE -" decreases it

8 – FOR X OR Y OR Z: specifies whether the actions of "ROTATION" or "SHIFT" must take place around or along the relative axis of the selected object. The relative object axis is parallel to the axes of the "3D World" but centered in the center of gravity of the selected object itself (each object has three relative axes)

9 – ROTATE: press these buttons to rotate the object around its own relative axis selected in the control 8 ("FOR X OR Y OR Z") use "ROTATE +" or "ROTATE -" to rotate the selected object in the two possible directions (rotation clockwise or counterclockwise)

10 – MOVE: press these buttons to move the object along its relative axis on the selected control in 8 ("FOR X OR Y OR Z") use "MOVE +" or "MOVE -" to move the selected object to the positive or negative direction on its axis

11 – SAVE MODEL: press this button to save the current model (it will be automatically reopened at next reboot of Finger3D HD). To save the template in the Finger3D HD "Archive Management" see the "PROJECTS" section

12 – EXPORT TO OBJ FILE FORMAT AND SEND IT BY EMAIL: press this button to export the three-dimensional model in OBJ file format and open the Finger3D HD integrated mail client to send the generated file. obj by e-mail

13 – VERTEXES LINK TOOL: use this tool to move with a single click all the selected vertices position to the center of the "3D Pointer" (only for the vertexes that are contained in the sphere of the "3D Pointer"). This function is useful for example to join the vertexes of three-dimensional objects or to create sharp objects

14 – ZOOM: press these buttons to zoom in or zoom out the view in the "3D WORLD"

15 – OPEN SETTINGS WINDOW: pressing this button will open the settings window and of the "Archive Management → PROJECTS" of Finger3D HD

16 – 3D VIEW: pressing this button to activate the 3D view of the "3D WORLD"

17 – RESET: press this button to restore the original settings of the 3D view and of the position / size of the "3D POINTER"

18 – RENDER: press this button to begin the process of rendering for the scene in accordance with the policy "Render What You See." This creates a JPG image of the model displayed and save it in the "PHOTO ALBUM" of the device (go to the "PHOTO ALBUMS" of the device to send this picture via e-mail)

19 – X UP VIEW: press this button to display the side view for the model in the "3D World"

20 – Y UP VIEW: press this button to display the high view for the model in the "3D World"

21 – Z UP VIEW: press this button to display the frontal view for the model in the "3D World"

22 – UNDONE: press this button to undo your last action

23 – ERASE SELECTED OBJECTS OR FACES: press this button to delete the selected faces or the whole object (if you want to "ERASE SELECTED OBJECTS" just select a single vertex of the object to select the whole object)

24 – ERASE ALL: press this button to delete the entire model contained in "3D WORLD"

25 – PAN: press these buttons to move the camera view in the "3D WORLD"

26 – ENABLE / DISABLE GRID: press this button to enable / disable the grid, the unit vectors axes of the "3D World" and the "3D POINTER"

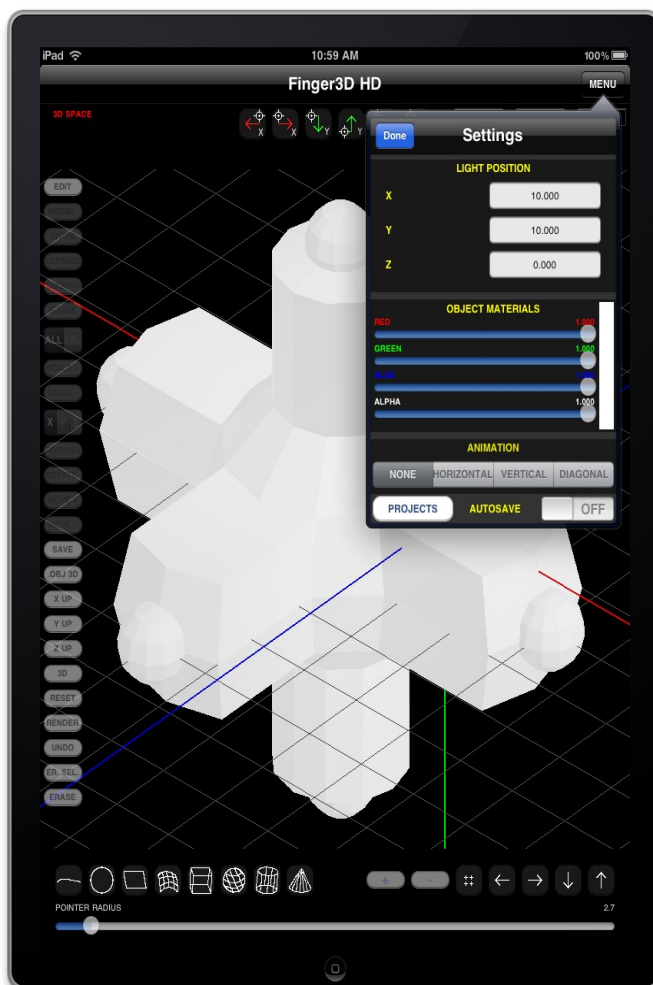
27 – 3D POINTER POSITION: these three text boxes (editable) shows the current position of the 3D Pointer. Press on them and change their value to move the "3D POINTER" in a desired position (X, Y, Z) in the "3D WORLD"

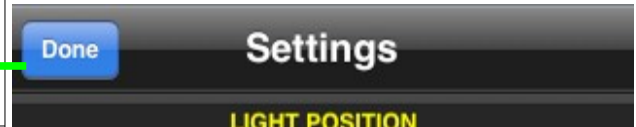
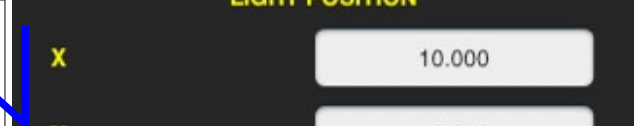
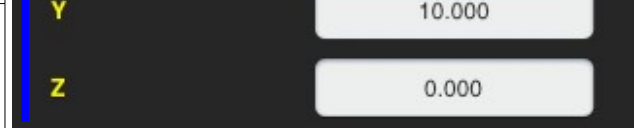
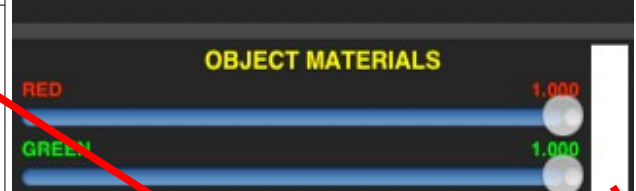
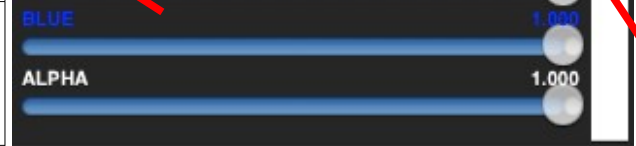

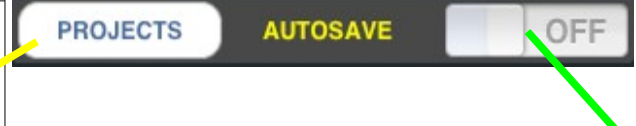

28 – MOVE 3D POINTER: press these buttons to move the "3D POINTER" along the X or Y or Z axes

29 – 3D OBJECTS: press these buttons to enter the selected three-dimensional object in the "3D World". The object will be centered at the current position of the center of the "3D POINTER" and its size will be proportional to the radius of the "3D POINTER"

30 – 3D POINTER RADIUS: use this control to specify the size of the "3D POINTER" radius. Useful to select multiple vertices when the radius is great or a few / one vertex if the radius is small. Determines the size of the new three-dimensional objects that have to be added in the "3D WORLD"

Pressing the button "MENU" 15 ("OPEN SETTINGS WINDOW") it will be opened upper right on the screen of Finger3D HD:



<p>49 – DONE BUTTON</p>		
<p>50 – LIGHT POSITION</p>		
		
<p>51 – OBJECT MATERIAL COLOR AND TRANSPARENCY</p>		
		<p>52 – SELECTED MATERIAL PREVIEW</p>
<p>53 – ENABLE / DISABLE ANIMATION</p>		
<p>54 – ARCHIEVE MANAGEMENT</p>		
		<p>55 – ENABLE / DISABLE MODEL AUTOSAVE</p>

49 – DONE BUTTON: Press this button to confirm your settings (if you do not press this button your settings will not be saved)

50 – LIGHT POSITION: these three values specify the position of the light in the "3D world". The direction of the light will be the direction of the vector from the specified position for the light to the center of the "3D World"

51 – OBJECT MATERIAL COLOR AND TRANSPARENCY: use these controls to specify the color and transparency for the material of the objects that have to be added in the "3D World"

52 – SELECTED MATERIAL PREVIEW: preview of the selected properties of the materials (color / transparency)

53 – ENABLE / DISABLE ANIMATION: enable / disable the animation of the model by rotating the model in "3D World" around the specified axis. This function is useful to see the model created in all its parts

54 – ARCHIEVE MANAGEMENT: pressing the "Projects" button to access the windows for saving, loading, projects fusion feature

55 – ENABLE / DISABLE MODEL AUTOSAVE: enables / disables automatic saving of the created model

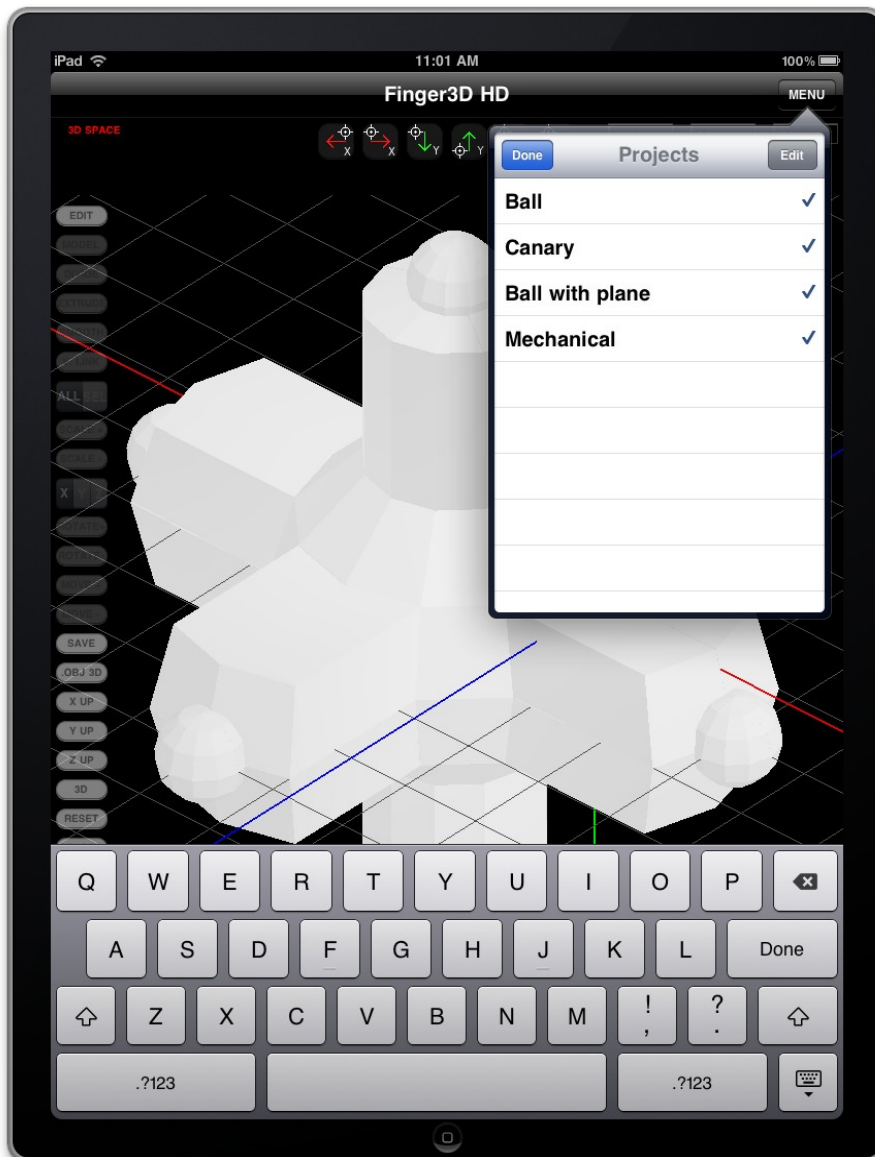
3. Save your project into Finger3D HD Project Archives

To save the model in the "Finger3D HD Archive Management" click on the "PROJECTS" button in the Finger3D HD Settings Window:



Specify a name for the project in the "Project Name" and press the "Save to Project Archives". The project will be saved in the Finger3D HD projects archive. This saved project can be loaded at a later time (replacing the current project) with the "Load Saved Project" or loaded and merged with the ongoing project with the "Load and Merge Project" (the loaded project and the current project will be merged together and displayed in the current project).

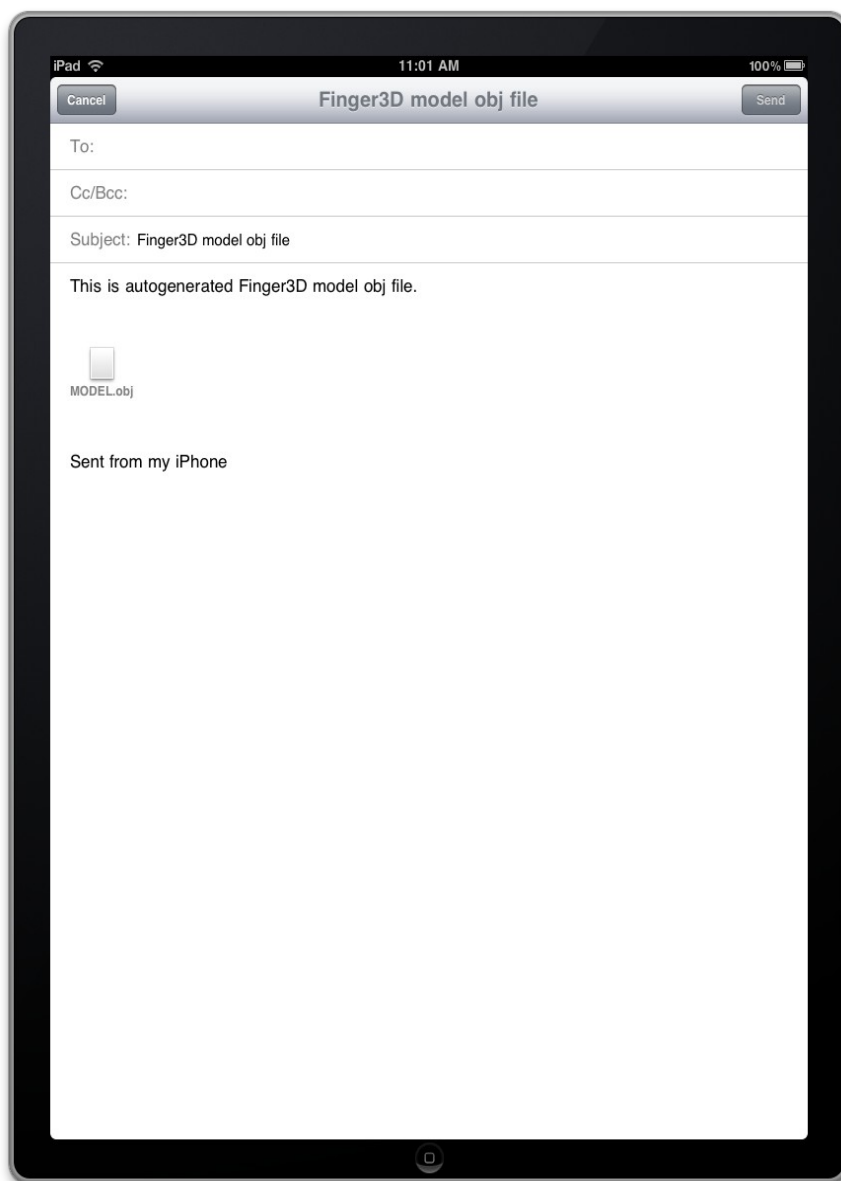
Pressing one of these buttons, it will be displayed the selection window of the projects ("Project Archive"):



To load the project click on the name of the desired project. Click on Done to confirm your choices.

4. Save your work as OBJ file and send it to friends

Press the button. OBJ to export the model in OBJ file format and send it to an e-mail recipient (you must first configure the Mail application on your device). This will open the Finger3D HD e-mail client with message subject, body, signature already preset (you can change them as desired) and attached the generated OBJ file. Enter the e-mail recipient (To) and click on "Send" to send the message via e-mail to that recipient.



5. Use OBJ file in commercial PC modeller software

The generated OBJ file sent via email can be loaded in any three-dimensional modeler for commercial PC(it can be also imported / used in other 3D models as a part of the global model).

The design, if you need, can be modified by the PC's modeler, printed, etc. ...

The first introductory guide to Finger3D HD end here.

In this introductory tutorial I showed only a small subset of the features of this instrument.

I thank everyone for your attention.

For any / further information please send an e-mail to:

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