CoMaya Features

CoMaya incorporates advanced collaboration capabilities into 3D Digital Media Design Tools, Autodesk Maya. CoMaya allows real-time collaboration amongst multi-users.

**CoMaya system requirement:**
This version of CoMaya supports only Maya 8.0 on 32-bit Windows XP Professional (SP2 or higher) operating system.

**A. Start a CoMaya Session**
Please refer to web-browser manual for CoMaya for details.
B. CoMaya System Overview

- a. Maya user interface
- b. CoMaya Radar View
- c. Remote Telepointer
- d. Single View Multi Actor
- e. View Privacy Control
- f. Global View
- g. Synchronizing the view
- h. View buttons

**Figure 1: CoMaya System overview**
a. **Maya User Interface**

As CoMaya retains the “look-and-feel” of Autodesk Maya, users can edit the 3D scene in the Maya main window in the same way as in the normal single-user Maya. An additional window, CoMaya Radar View window, is created and placed at the right of Maya window. Refer to point B. b. CoMaya Radar View (cross reference) for the description of CoMaya Radar View.

![Figure 1: Maya user Interface](image-url)
b. **CoMaya Radar View**

CoMaya Radar View consists of a global miniature document window and collection of view ports indicating view positions of other users collaborating in the same session as can be seen in Figure 2.

![CoMaya Radar View](image)

*Figure 2: CoMaya Radar View’s role*

c. **Remote Telepointers**

Remote telepointers are displayed in the main window to indicate the mouse cursor positions of remote users. Remote telepointers are displayed only for users that share the same 3D view.

d. **Single View Multi Actor**

CoMaya allows single view to be displayed as multi users are working on the scene.

e. **View Privacy Control**

CoMaya users can choose to keep their view private or public from other users. If it is public, the user’s view will be shown in the CoMaya Radar View window. Otherwise, it will be hidden. By default, the view privacy level is set to public. The view privacy can be controlled using ‘Keep view private’ button.

f. **Global View**

Every CoMaya users are having the same global view as a guide.
g. Synchronizing the View

CoMaya users can synchronize their view to other user’s view by choosing available views shown in the radar view and clicking onto ‘Switch to this remote view’ button. These users view will be kept synchronized all the time until the user that request view synchronization release the synchronization. By default, the requester acts only as the viewer, the view control remains on the original view owner. The requester can gain view control if only it is granted by the original view owner through ‘Switch to this remote view’ button. The view control can be revoked using the same button by the original view owner.

Users under the synchronized view are remains capable to concurrently edit the 3D document as before the synchronization.

Remote telepointers of these users are displayed in this editing mode.

h. View Buttons

View buttons consist of 4 different types of view which are:

1. Persp : switch to perspective view
2. Side : switch to side view
3. Top : switch to top view
4. Front : switch to front view
C. CoMaya Editing Features

The features listed below originally belong to Maya. However CoMaya supports some of the features available in Maya, which are:

1. General
   a. Edit
      - Delete, this feature is available from menu bar Edit>Delete and ‘Delete’ key from the keyboard.
      - Duplicate
      - Duplicate special
      - Duplicate with transform
      - Group
      - Ungroup
      - Level of detail, group and ungroup
      - Parent, however ‘add instance’ feature is not available in CoMaya
      - Unparent
   b. Modify
      - Transformation tools: move tool, rotate tool, scale tool, universal manipulator, move normal tool, show manipulator tool, default object manipulator, proportional modification tool.
      - Reset transformations
      - Freeze transformations
      - Snap align objects: point to point, 2 points to 2 points, 3 points to 3 points, align objects
      - Align tool
      - Snap together tool
      - Center pivot
      - Prefix hierarchy names
      - Search and replace names
      - Add attribute
      - Delete attribute
   c. Create
      - NURBS primitives: sphere, cube, cylinder, cone, plane, torus, circle, square
      - Lights: ambient lights, directional lights, point lights, spot lights, area lights, volume lights
- Cameras: cameras; camera and aim; camera, aim, and up
- CV curve tool
- EP curve tool
- Pencil curve tool
- Arc tool: three points circular arc, two points circular arc
- Measure tools: distance tool, parameter tool, arc length tool
- Text
- Locator
- Annotation
- Empty group
- Sets: partition, quick select set

2. **Surface**
   a. Edit curves
      - Duplicate surface curves
      - Attach curves
      - Detach curves
      - Align curves
      - Open/close curves
      - Cut curves
      - Curve fillet
      - Insert knot
      - Extend: extend curve
      - Offset: extend curve
      - Reverse curve direction
      - Rebuild curve
      - Fit B-spline
      - Smooth curve
      - Curve editing tool
      - Modify curves
      - Selection
   b. Surfaces
      - Revolve
      - Loft
      - Planar
- Extrude
- Birail: birail 1 tool, birail 2 tool
- Boundary
- Square
- Bevel
c. Edit NURBS
- Project curve on surface
- Trim tool
- Untrim surfaces
- Booleans: union tool, difference tool, intersection tool
- Attach surfaces
- Detach surfaces
- Align surfaces
- Open/close surfaces
- Insert isoparam
- Extend surfaces
- Reverse surface direction
- Rebuild surfaces
- Round tool
- Stitch: stitch surface points, stitch edges tool, global stitch
- Sculpt geometry tool
- Surface editing: surface editing tool
- Selection: grow CV selection, shrink CV selection, select CV selection boundary, select surface border
d. Subdiv surfaces (currently CoMaya only supports ‘Create’ operation)

3. Polygons
   Currently CoMaya only supports ‘Create’ operation.

4. Animations
   a. Animate
      - Set key
      - Hold current keys
      - Set transform keys: translate, rotate, scale
      - Motion paths: set motion path key, attach to motion path
   b. Skeleton
- Joint tool
- IK Handle Tool
- IK spline handle tool
- Insert joint tool
- Reroot skeleton
- Disconnect joint
- Mirror joint

c. Skin
- Bind Skin: smooth bind, rigid bind
- Go to bind pose
- Mirror joint

d. Character
- Create lattice
- Edit lattice
- Create cluster
- Graph editor
- Constraint aim

5. Rendering
   a. Lighting/Shading
      - Material Attributes
      - Assign New Material: anisotropic, blinn, lambert, ocean Shader, Phong, Phong E
      - Assign Existing Material

6. Dynamics
   a. Particles
      - Create emitter
   b. Fields
      - Gravity
D. CoMaya Limitations

1. Undo/Redo function is not supported.
2. Switching view can only be done through view buttons in CoMaya shelf as shown in Figure 1 (only single-view is supported).
3. Polygon modeling and subdivision modeling are not supported.