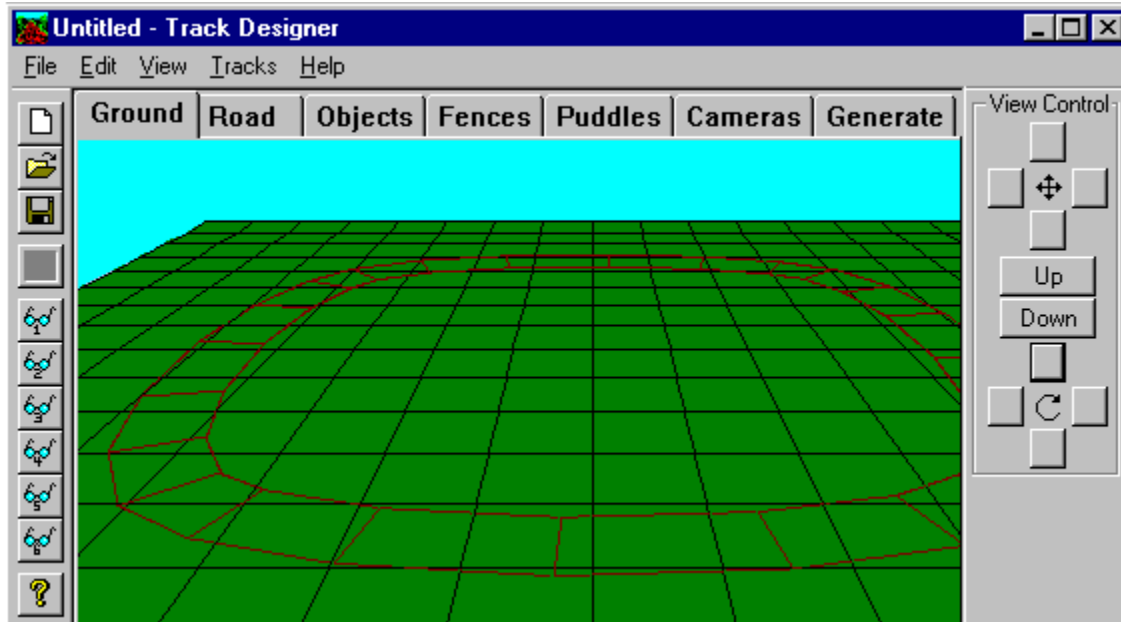**What is the Track Designer?**

The Track Designer allows you to build custom off-road racetracks for use in SODA Off-Road Racing.

You can design the terrain, lay out the track, assign surface types to the road, position cameras, select sky and horizon textures, and load and position objects around the track from a directory of provided objects - including trees, checkpoints, boulders, billboards, tire barriers and fences. Track source files may easily be exchanged with others.   Existing track source files may be re-loaded into the tool, modified, and re-generated as a new track

SODA Off-Road Racing is a Windows-95 simulation of racing off-road vehicles loosely modeled after the SODA (Short Course Off-Road Drivers Association) World Series of Off-Road Racing.

Track Designer Overview

Create a new track source file.   The Track Designer starts you off with level ground and a circular track.

Open an existing track file to edit and/or generate.

Save current track file.

The Track Designer comes with six preset views.   Customize views by holding down a view button until prompted to save the current view.

Access Track Designer's Help.

Move the view forward, backward, left and right.

Move the view up.

Move the view down.

Rotate the view left, right, up and down from the current position.

Create, open and save tracks.

Delete the selected object.

Use and change view presets, and toggle the display of polygon edges, status bar, toolbar and textures.

Remove tracks from SODA Off-Road Racing.   Once removed from the game, tracks are no longer available from the Track Select screen in the game.   The tracks can be regenerated from the original source file if you want to install the track again.

Access Track Designer's Help.

Select ground sectors and vertices with the mouse.   Press the Up and Down buttons to raise and lower the selected ground polygons to customize the terrain.   Designate the horizon and sky.

Grab and drag the road with the mouse to add vertices and reposition the road.   Assign one of two surface types to various sections of the road.

Select the object to be placed and click anywhere on the track.   The object appears and can be dragged and rotated for precise positioning.

Click on the ground and drag out a line to determine the location and length of the fence.   Select from various fence types.

Click on the ground and drag out the length and shape of the puddle or pond.   Designate the depth to determine how deep your vehicle will sink into it when you go through it.

Click in the ground sectors where cameras are to be located.   Define the height of the camera from the ground.   Click in surrounding ground sectors to define the areas covered by the selected camera during Camera View.

Enter your name and name your track.   Determine the view of your track that you want to see when you pick it from the Track Select screen in the game.   Click the Generate button and your track is generated and added to the game.   You are ready to race on it!

The View displays your track.

Ground Tab Overview

The first tab in the Track Designer is the Ground Tab.   The Mode, Ground, and Sky tools on the right-hand side of the screen are specific to ground design.

Mode
Select the ground in three different ways.   Use Vertex mode to select a single point.   Use Edge mode to select sides of sectors.   Use Sector mode to select sectors.   Hold down the shift key while selecting to make multiple selections.

Ground
Use the Up and Down buttons to move the current selection.   When in Vertex Mode, the Special button allows you to attach and detach vertices.   When in Sector Mode, the Special button allows you to toggle the diagonal of the sector.

Sky
Two horizon and sky combinations are available in each environment.

Selecting a Vertex

A vertex is a corner, or point, of a sector of the ground.

To Select a Vertex:

1.   Select **Vertex** in the **Mode** box.

2.   Click on the corner of the sector that you want to select.   The selected sector changes to blue and the selected vertex is a black point.   Hold down the shift key to select multiple vertices.

3.   Use the Up and Down buttons in the **Ground** box to change the elevation of the selected vertex or vertices.

See **Detaching a Vertex** and **Attaching a Vertex** for creating cliffs.

Selecting an Edge

To Select an Edge:

1.   Select **Edge** in the **Mode** box.

2.   Click on the side of the sector that you want to select.   The selected edge is the line between the two selected vertices.   Hold down the shift key to select multiple edges.

3.   Use the Up and Down buttons in the **Ground** box to change the elevation of the selected edge(s).

Selecting a Sector

A sector is one square unit of the ground, which is approximately equal to 32 square feet in the game.

To Select a Sector:

1.   Select **Sector** in the **Mode** box.

2.   Click on the sector that you want to select.   The selected sector is the square area surrounded by four selected vertices.   Hold down the shift key to select multiple sectors.

3.   Use the Up and Down buttons in the **Ground** box to change the elevation of the selected sector(s).

Changing the Elevation

To change the elevation:

1.   Select the areas of the ground to be changed.

2.   Use the Up and Down buttons in the **Ground** box to change the elevation of the selection.

Detaching a Vertex

The **Detach** button is in the **Ground** box.   **Detach** is visible when the selected vertex is joined to all four surrounding sectors.

To Select and Detach a Vertex:

1.   Select **Vertex** in the **Mode** box.

2.   Click on the corner of the sector that you want to detach.   The selected sector changes to blue and the selected vertex is a black point.   While creating a long ledge or complex cliff, it may be easier to select some vertices by repositioning the view.

3.   Click the **Detach** button in the **Ground** box.   After clicking **Detach**, the detached corner joins the level of the adjacent detached corner, if one exists.   The selected point remains on the ground level, while the detached point raises up above it.

4.   When you detach a vertex, you have made another vertex – one that exists directly above the vertex you selected.   If you want to raise the vertex you just created, select it and use the Up and Down buttons.   If you don't select the raised vertex after detaching, the Up and Down buttons act on the vertex you originally selected.

Attaching a Vertex

The **Attach** button is in the **Ground** box.   **Attach** is visible when the selected vertex is not connected to each surrounding sector.

To Select and Attach a Vertex:

1.   Select **Vertex** in the **Mode** box.

2.   Click on the corner of the sector that you want to attach.   The selected sector changes to blue and the selected vertex is a black point.   While creating a long ledge or complex cliff, it may be easier to select some vertices by repositioning the view.

3.   Click the **Attach** button in the **Ground** box.   The detached corner of the sector joins the level of the adjacent ground sector.

Assigning Horizon and Sky

Each environment comes with two horizons and skies.   Choose the horizon and sky by selecting Sky #1 or Sky #2 from the drop-down-list.

Note that cliff surfaces are different depending on the sky that is chosen.

Hints for Designing Ground

Test the ground and road design before adding objects
Finalize the ground and road before adding objects, puddles, fences and cameras.   What looks to be gentle hills in the track designer may be much different than expected when you are driving on them.   The time required to generate a track full of objects is lengthy compared to one that has none.

Expect to pop back and forth between the track designer and the game when designing your track.

Road Tab Overview

The second tab in the Track Designer is the Road Tab.   The Surface Type, Road Width, Start Line, and Points tools on the right-hand side of the screen are specific to road design.

Surface Type
Choose from two different surface types to assign to various sections of the track.

Road Width
Designate selected areas of road as narrow, normal or wide.

Start Line
Designate the point on the road at which races will begin.

Points
Insert points along the road using the **Insert** button or by simply clicking on the road.   Delete the selected point by using the **Delete** button or by clicking the trash bin icon.

Positioning the Road

The road for a new track appears as a default circle.   To move the road, click on the track and drag while holding down the mouse button.   A road vertex is automatically added to the track when you click on it.

Create Turns of Adequate Turn Radius
While positioning the road, if the outline of a turn becomes red the turn is too sharp.   Fix the turn by dragging the segments before and/or after the turn until the red segments become black, indicating that the turn is of adequate turn radius.

If you can't fix the road segment, select a point near the illegal road segment and click the trash icon, deleting the current point, until the road section clears up and then proceed to create a legal turn.

Adding and Deleting Vertices

To Add a Road Vertex:

1.   Select an existing vertex and click Insert in the Points box.

        -OR-

        Click on the road.

To Delete a Road Vertex:

1.   Select the vertex to be deleted and click Delete in the Points box OR click the Trash Bin
        icon.

Assigning Surface Types

Two different surfaces are available in each environment.

To Assign a Surface Type:

1.   Select the vertex that marks the beginning of the road surface change.

2.   Choose a surface from the list of surfaces in Surface Type.   The selected surface is assigned to the road extending from the selected vertex counter-clockwise to the next vertex.

Changing the Road Width

Road segments can be made narrow, wide and normal.   The default width of the road is Normal.

To Change the Road Width:

1.   Select the vertex that marks the beginning of the road width change.

2.   Choose the width from the list of available widths in Road Width.   The selected width is assigned to the road extending from the selected vertex counter-clockwise to the next vertex.

Designating the Start Line

1.   Select the road vertex where you want the race to begin and end.

2.   Select Start Line.

Hints for Designing Road

Object Tab Overview

The third tab in the Track Designer is the Objects Tab.   The panel of Object icons and the Object Spin buttons on the right-hand side of the screen are specific to object placement.

Object Icons
Select the object to be placed on the track.   Click on the track to place the selected object.

Object Spin
Click on the spin buttons to rotate the selected object.

Placing Checkpoints

The track must have a minimum of three checkpoints.   The Track Designer will not generate the track if three checkpoints have not been placed.

To Place a Checkpoint:

1.   Select the Checkpoint icon.

2.   Click above the road to place the checkpoint.   The checkpoint is automatically positioned precisely over the road.

To Move a Checkpoint:

1.   Select the checkpoint to be moved.

0   2.   Hold the mouse button down and move the mouse up or down to move the checkpoint.   The checkpoint automatically follows the road.

Placing Objects

XX number of objects may be placed on the track.

To Place an Object:

1.   Select the Object icon of the object to be placed.

1.   Click on the track.

Note: When placing numerous objects of the same type, place the object on a clear portion of the track and drag it to the desired location.

Rotating Objects

To Rotate an Object:

1.   Select the object to be rotated.

2.   Click on the Object Spin buttons until the object is oriented as desired.

Note: While creating a track, the polygons that make up the objects are not sorted.   You may have to generate the track and drive around to check out the orientation of some of the objects.

Deleting Objects

To Delete an Object:

1.   Select the object to be deleted.

2.   Click on the Trash Bin icon or choose Delete from the Edit menu.

Hints for Placing Objects

For Optimum Performance and Frame Rate in the SODA Off-Road Racing:

Do not place objects on the track.
Do not place objects on ground segment boundaries.
Keep the number of objects per ground segment to a minimum.

Fences Tab Overview

The fourth tab in the Track Designer is the Fences Tab.   The Fence Type and Control Points features on the right-hand side of the screen are specific to fence creation.

Fence Type
Select from a list of different fences, like stone walls, rope flags, and posts.

Control Points
Insert and delete points from the line defining the fence.

Defining Location of Fences

To Create a Fence:

1.   Click on the track to define where the fence is to begin .

2.   Drag the mouse to where the fence is to end.

Adding and Removing Vertices

To Add a Vertex:

1.   Click on the fence.

To Delete a Vertex:

1.   Select the vertex to be deleted and

Click the Trash Bin icon

or,   click Delete in the Control Points panel

0   or,   select Delete from the Edit menu.

Assigning Fence Types

X different fences may be created.   The fence is created as the currently selected fence type.

To Assign a Fence Type:

1.   Select the fence.   One of the vertices should be red.

0   2.   Select the type of fence from Fence Type.

Hints for Creating Fences

For Optimum Performance

0   Do not place numerous flag rope fences near each other.

Puddles Tab Overview

The fifth tab in the Track Designer is the Puddles Tab.   The Puddle Type and Control Points features on the right-hand side of the screen are specific to puddle creation.

0   Puddle Type
1   Select the depth of the puddle from: shallow, normal and deep.

2   Control Points
3   Insert and delete points from the line defining the fence.

Defining Location of Puddles

To Create a Puddle:

1.   Click on the track to define where the puddle is to begin .

0   2.   Drag the mouse to where the puddle is to end.

Adding and Removing Vertices

To Add a Vertex:

1.   Click on the puddle.

0   To Delete a Vertex:

1.   Select the vertex to be deleted and

Click the Trash Bin icon

or,   click Delete in the Control Points panel

or,   select Delete from the Edit menu.

Assigning Puddle Types

Puddles may be designated as shallow, normal or deep.   The default puddle depth is the current Puddle Type.

To Assign a Puddle Type:

1.   Select the puddle.   One of the vertices should be red.

2.   Select the depth of the puddle from Puddle Type.

Hints for Creating Puddles

Keep them small

Cameras Tab Overview

The sixth tab in the Track Designer is the Cameras Tab.   The Camera icon, Pointer icon and Up, Down and View buttons on the right-hand side of the screen are specific to camera placement.

Camera placement is used by the Camera View of SODA Off-Road Racing.

Camera Icons
Create a new camera or move an existing camera.

Up and Down
Position the camera close to the ground or high above the ground.

View
Click the View button to see a 360 degree shot of what the currently selected camera can see.

Defining Location of Cameras

To Place a Camera:

1.   Select the Camera icon.

2.   Click on the sector of the track where the camera is to be located.   The sector containing the camera turns red.   The camera appears as a floating red diamond.

To Move a Camera:

1.   Select the Pointer icon.

2.   Click on the camera to be moved and drag the camera to the desired location.

Cameras can be moved within the current sector or to a completely new sector.   The default position is the center of the sector.

Assigning Height from Ground of Cameras

To Change the Height of the Camera:

1.   Select the Pointer icon and click on the camera whose position is to be editted.

2.   Click the Up and Down buttons in the Camera box to move the camera up and down.

Defining Camera Coverage

Camera coverage determines which camera will follow the currently selected vehicle in the Camera View of SODA Off-Road Racing.

To Define Camera Coverage:

1.   Select the Pointer icon.

2.   Click on the camera whose coverage is to be defined.

3.   Click on the sectors to be covered by the selected camera.   Selected sectors turn to light blue.   The sector where the camera is located is automatically covered by the camera in that sector.

Sectors that are covered by cameras not currently selected are displayed as light grey.   Any sectors not covered by a camera will default to Helicopter View in SODA Off-Road Racing.

Checking Camera View

1.   Select the Pointer Icon and click on the camera whose view is to be checked.

2.   Click the View button in the Camera box.   The Track Designer's main view becomes the selected camera's view and rotates 360 degrees.

Hints for Placing Cameras

Generate Tab Overview

The seventh tab in the Track Designer is the Generate Tab.   The Track Data, Generate button and Statistics on the right-hand side of the screen are specific to generating tracks.

Upon generating a track it is automatically added to SODA Off-Road Racing and ready for racing.

Track Data
Enter author's name and name the track.

Generate Button
Use the View Control buttons to showcase the best view of your track.   Click the Generate button to generate the track.

Statistics
View track generation progress.

Defining Track View for Display

When you generate your track, the current track view is captured and saved as a part of the track file and displayed on the Track Select screen of SODA Off-Road Racing.

Use the View Control buttons to change the track view.

Customizing Track Information

The Author and Track Name in the Track Information section is saved as part of the track when the track is generated.   This information is displayed on the Track Select screen of SODA Off-Road Racing.

To Customize Track Information:

1.   Enter your name next to **Author** of the Track Information panel.

2.   Enter the name of your track next to **Track** of the Track Information panel.

Generating the Track

Click the Generate button to begin generating the track.

While the track is generating, view the progress in the Statistics area.   You may use the View Controls while the track is generating to view your track without affecting the view that will be used on the Track Select screen.

If you want to stop generating the track, click Stop.

When track generation is complete you are informed that the track has been installed in the game and ready for racing.

Hints for Generating Tracks

Save the 'Track Select Screen Shot' View as a Preset
Once you have found the perfect view to be used when displaying your track on the Track Select screen, custom set one of the view buttons so you can return to that view.   Since custom views are saved with the current track, the next time you want to generate that track you can return to your Track Select screen shot view quickly.