Appendix A.
Reference Summary

Topic: Ignore

This appendix provides a summary of the reference items defined in the Advanced Surfacing Component. Just the name and a brief description of each item is given. There is a separate section for each type of item (class, function, Scheme extension, test harness command, etc.).

Classes

Topic: Ignore

AcisLoftingInterface	Passes data from one lofting API function to another and controls the execution of lofting.
AcisSkinningInterface	Passes data from one skinning API function to another and controls the execution of skinning.
AcisSLInterface	Abstract base class that defines the skinning and lofting interfaces.
skin_options	Sets options for skinning.

Functions

Topic: Ignore

api_add_guide_curve_si	Adds a guide curve to a set of skinning profiles.
api_add_mapping_curve_sli	Adds a guide curve to a set of skinning profiles.
api_add_vertex_sli	Adds a vertex to each wire in a list of wires.
api_align_wires_sli	Aligns the directions of the wires in the skinning or lofting profiles.
api_breakup_wires_sli	Creates an equal number of coedges in each wire of the skinning or lofting profiles.

api_build_body_sli . . . . . Builds the sheet body from the data in the lofting interface.

api_build_edges_sli . . . . . Builds a list of edges that represent the extents of the surfaces if the wires or coedges were to be lofted or skinned.

api_build_faces_sli . . . . . Builds a list of skinning or lofting faces.

api_clear_guide_curves_sli . . . . . Clears the guide curves in the AcisSkinningInterface.

api_clear_mapping_curves_sli . . . . . Removes all the mapping curves from the AcisSLInterface.

api_collapse_wires_sli . . . . . Deletes a degenerate coedge in each wire of a list of wires.

api_create_li . . . . . Creates an AcisLoftingInterface object.

api_create_si . . . . . Creates an AcisSkinningInterface object.

api_delete_sli . . . . . Deletes an AcisSLInterface object.

api_estimate_min_rad_curvature_skin . . . Estimates the magnitude of the tangent vector field to build surfaces with a minimum radius of curvature.

api_estimate_tangent_factor_scale_li . . . Estimates the optimal magnitude to scale the takeoff vectors on the loft profile cross section.

api_get_tangent_factors_li . . . . . Gets the current set of tangent factors on the loft profiles.

api_initialize_skinning . . . . . Initializes the skinning library.

api_loft_coedges . . . . . Creates a sheet body that fits a surface through a sequence of coedges, while providing start and end tangent control.

api_loft_faces . . . . . Unites two bodies using lofting between two faces.

api_lose_surface_conditions_li . . . . . Removes the surface conditions from the wires in the lofting profiles.

api_make_mapping_curves_sli . . . . . Gets a list of the mapping curves that currently exist in the AcisSLInterface.

api_make_wires_sli ..... Creates a set of broken up wires used for skinning or lofting.

api_minimize_twist_wires_sli ..... Aligns the start vertices of the wires in the skinning/lofting profiles.

api_modify_wire_sli ..... Modifies the position of a vertex on a coedge of a wire.

api_move_vertex_sli ..... Modifies the position of a vertex on an intermediate skinning or lofting wire.

api_net_sections ..... Creates a sheet body that interpolates a series of sections.

api_net_wires ..... Creates a sheet body that fits a surface through a mesh of wires contained in an array of bodies.

api_reenter_coedges_li ..... Sets the coedge list and remakes the lofting wires.

api_remove_mapping_curve_sli ..... Removes a mapping curve from the AcisSLInterface.

api_remove_vertex_sli ..... Removes a vertex from each wire in a list of wires.

api_set_options_li ..... Sets the options in the lofting interface object.

api_set_options_si ..... Sets the options in the skinning interface object.

api_set_tangent_factors_li ..... Sets the scale factors of the takeoff vectors for the lofting operation.

api_show_guides_si ..... Gets a list of the virtual guide curves that currently exist in the AcisSkinningInterface.

api_simplify_wires_sli ..... Reduces G1 vertices in a wire body.

api_skin_faces ..... Unites two bodies using skinning between two faces.

api_skin_wires ..... Creates a sheet body that fits a surface (or set of surfaces) through a sequence of wires contained in an array of bodies.

api_start_vertex_sli ..... Modifies which vertex in a loop of coedges forming a wire is the starting vertex for traversing the loop.

api_terminate_skinning . . . . . Terminates the skinning library.

api_valid_start_vertices_sli . . . . . Gets a list of valid starting vertices for skinning or lofting.

Options

Topic: Ignore

align_corners . . . . . Controls the alignment method of corners in a profile; used with option match_corners.

loft_estimate_tanfacs . . . . . Controls the calculation of tangency factors for lofted bodies.

match_corners . . . . . Controls the alignment method of corners in a profile; used with option align_corners.

merge_wirecoedges . . . . . Obsolete: Refer to skin:options
Controls whether or not the G1 vertices of wire profiles are removed.

Scheme Extensions

Topic: Ignore

face:get–loft–laws . . . . . Returns the laws of the surface on which the selected face lies.

section . . . . . Creates a data structure used as input to the sheet:loft–wires extension.

sheet:loft–wires . . . . . Creates a sheet body that lofts sections (faces) or a series of wires.

sheet:loft–wires–guides . . . . . Creates a sheet body that lofts sections (faces) or a series of wires following guide constraints.

sheet:net–sections . . . . . Creates a sheet body that interpolates a series of sections.

sheet:net–wires . . . . . Creates a sheet body that interpolates a series of wires.

sheet:skin–wires . . . . . Creates a sheet body that interpolates a series of wires.

sheet:skin–wires–branch . . . . . Creates a sheet body that interpolates multiple series of two or more wires.

sheet:skin–wires–draft . . . . . Creates a sheet body that interpolates a series of two or more wires leaving the outer two wires at an angle specified by the draft angle.

sheet:skin–wires–guides . . . . . Creates a sheet body that interpolates a series of wires with a guide curve.

sheet:skin–wires–normal . . . . . Creates a sheet body that interpolates a series of wires with take off vectors normal to the plane of the wire body.

sheet:skin–wires–vectors . . . . . Creates a sheet body that interpolates a series of wires with take off vectors as constraints.

skin:options . . . . . Sets the options in the data structure to be used by skinning APIs.

slinterface:add–vertex . . . . . Adds a vertex in the middle of the selected coedge.

slinterface:align–wires . . . . . Aligns the temporary skinning or lofting profiles.

slinterface:breakup–wires . . . . . Breaks up each of the temporary lofting/skinning profiles such they have an equal amount of coedges.

slinterface:build–body . . . . . Builds the lofting/skinning body.

slinterface:build–edges . . . . . Builds a list of edges that represent an approximation of the surface extents that would exist if the profiles were to be lofted/skinned.

slinterface:build–faces . . . . . Builds a list of faces that represent an approximation of the faces that would exist if the profiles were to be lofted/skinned.

slinterface:clear–guide–curves . . . . . Clears the guide curves from the interactive interface.

slinterface:clear–mapping–curves . . . . . Removes all the mapping curves from the skinning/lofting interface.

slinterface:collapse–wires . . . . . Deletes a degenerate coedge in each wire of a list of wires.

slinterface:debug . . . . . Displays the current information for the defined slinterface entity.

slinterface:delete–interface . . . . . Deletes the skinning/lofting interface.

slinterface:face–lofting . . . . . Creates a lofting interface structure when lofting from faces.

slinterface:get–tanfac–scale . . . . . Returns a list of two or four numbers that reflect tangent factor scale and curvature radius information.

slinterface:get–tangent–factors . . . . . Gets the current set of tangent factors on the loft profiles.

slinterface:get–valid–vertices . . . . . Gets a list of valid starting vertices for skinning or lofting.

slinterface:lofting . . . . . Creates a lofting interface structure.

slinterface:lofting–options . . . . . Sets the options in a lofting interface structure.

slinterface:lose–surface . . . . . Removes the surface conditions from the lofting profiles.

slinterface:mapping–curve . . . . . Adds a mapping curve to the skinning/lofting interface.

slinterface:min–rad . . . . . Estimates the magnitude of the tangent vector field to build surfaces with a minimum radius of curvature.

slinterface:minimizetwist–wires . . . . . Aligns the start vertex of each of the temporary lofting/skinning profiles in order to minimize the twist of the resulting surface.

slinterface:modify–vertex . . . . . Modifies the vertex.

slinterface:reenter–coedges . . . . . Removes the surface conditions from the lofting profiles.

slinterface:remove–mapping–curve . . . . . Removes a mapping curve from the skinning/lofting interface.

slinterface:remove–vertex . . . . . Removes the corresponding vertex in every temporary wire in the interface.

slinterface:set–start–vertex . . . . . Modifies which vertex in a loop of coedges forming a wire is the starting vertex for traversing the loop.

slinterface:set–tan–facs . . . . . Sets the scale factors of the takeoff vectors for the lofting operation.

slinterface:show–guide–curves . . . . . Returns a list of edges that represent the guide curves.

slinterface:show–mapping–curves . . . . . Returns a list of edges that represent the mapping curves.

slinterface:simplify–wires . . . . . Removes the G1 vertices from the intermediate wire profiles.

slinterface:skin–guide . . . . . Adds a guide curve to the skinning data structure.

slinterface:skinning . . . . . Creates a skinning interface structure.

slinterface:skinning–draft . . . . . Creates a skinning interface structure. Applies a take–off vector corresponding to the draft angles.

slinterface:skinning–normal . . . . . Creates a skinning interface structure. Applies a take–off vector normal to the plane of the wire profile.

slinterface:skinning–options . . . . . Resets the options in a skinning interface structure.

slinterface:skinning–ruled . . . . . Creates a skinning interface structure. Sets a flag such that the resulting skin body will consist of ruled surfaces.

slinterface:skinning–vectors . . . . . Creates a skinning interface structure. Applies a take-off vectors.

slinterface:wires . . . . . Returns the temporary wires from the skinning or lofting interface.

solid:loft–faces . . . . . Unites two bodies by lofting between two faces.

solid:loft–faces–guides . . . . . Unites two bodies by lofting between two faces with optional guide curves.

solid:skin–faces . . . . . Creates a body that interpolates two faces.

wire:get–net–curves–u . . . . . Returns the list of *u*–direction curves underlying a skinned surface.

wire:get–net–curves–v . . . . . Returns the list of *v*–direction curves underlying a skinned surface.

wire:get–skin–curves . . . . . Returns a list of curves underlying a skinned surface.