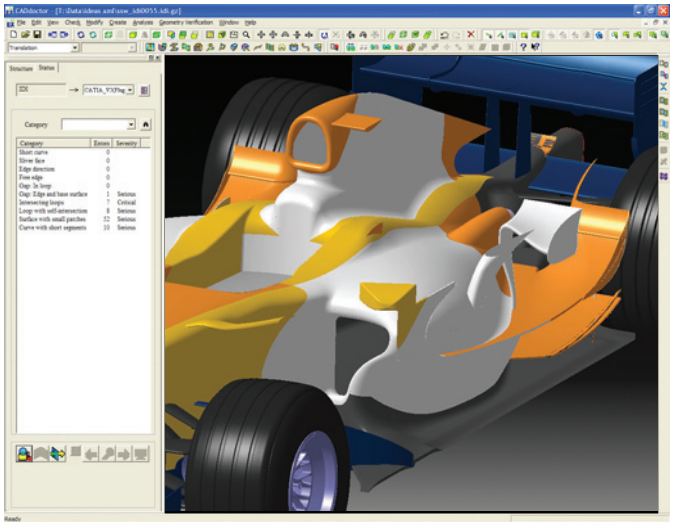
CADdoctor® EX 3.0

Complete CAD Data Checking, Translation, Healing, Validation, Verification and more . . .

CADdoctor provides the Renault F1 Analysis group a tremendous time savings in that we can maximize our ability to rapidly pre-process a 3D model released by the Design group by utilizing the highly automated functions which provide for auto-check and auto-heal, thus removing any chance for design re-work after releasing a part to the Analysis group. Specifically, our engineers can quickly translate a model from our design tool to the analysis tool whilst CADdoctor automatically heals the topology and geometry to allow for a faster meshing process within our CAE tool. This alone saves costly CAE pre-processing time.

Ian Goddard
Senior CAE Engineer
Renault F1 Team



Model Courtesy Renault Formula 1 Team

The Elysium family of data exchange products provides complete solutions from the desktop to corporate services.

For those cases where human intervention is required to select the appropriate solution from multiple options, CADdoctor™ provides the guidance to make good decisions.

Based on the Elysium foundation for data exchange, this tool supports:

- Interactive analysis and repair of 3D CAD data
- A range of tools from automated wizards to detailed diagnostics
- A robust set of rules to tailor data conversion and healing between CAD systems
- A batch utility to process bulk data sets

The Elysium data exchange foundation understands the characteristics of each of the supported CAD systems and can make the required adjustments and corrections required for most any data conversion. CADdoctor provides an additional level of feedback for the user in those cases where problems arise.

CADdoctor is not a CAD system but a data exchange environment that gives the user as much control as they desire of the translation and repair process. By focusing on these tasks, the learning curve is minimized which assists in making translation easy and productive.

Time Saving Options for Specific Tasks:

- Geometry Simplification and enveloping modules are available to provide automated removal of design features (boss, fillets, holes, etc.) to tune models for downstream CAE/CFD analysis which will reduce computational bandwidth and model preparation time.
- Reverse Engineering modules are available to check and heal polygon data and create high quality, validated NURBS surface data in your native CAD format.
- The Mold Manufacturing Quality Check module automatically checks injection mold design criteria to ensure design suitability from a product and mold construction standpoint.
- Geometry Deformation module allows the construction of new native CAD models reflecting estimated spring back for stamped parts or other deformations predicted by CAE analysis tools.

ELYSIUM

www.elysiuminc.com

CADdoctor® EX 3.0

Key Features

› Interactive and batch translation of CAD data
› Over 70 categories of analysis
› Category dependent repair functions simplify problem solving
› Diagnosis and repair based on source and target CAD system
› Support for JAMA / JAPIA PDQ and VDA data verification guidelines
› Complies with Toyota CAD data quality standards
› Geometry Verification and Simplification modules
› Advanced Quality Checking for Mold Manufacturing

Supported Data Formats

AutoDesk
  Inventor (ACIS)
Dassault Systemes
  CATIA V4 and V5
  ACIS/SAT
  Simulia Abaqus
  SolidWorks (Parasolid)
PTC
  Pro/ENGINEER Wildfire series
Siemens PLM Solutions
  I-DEAS NX
  NX
  JT (B-rep & Polygon)
  Parasolid
Toyota
  TOGO/CADCEUS
Standards
  IGES
  STEP (AP203/214)
  STL (read/write)

Platform Support

Windows 2000,
Windows XP Professional 32-bit/64-bit
Windows VISTA,
Business/Ultimate 32-bit/64-bit

Smart Features:

› Complete assembly support and part hierarchical support
› CAD source/target tolerances for entity mapping are preset and user configurable
› Quality checking parameters are preset and are user configurable
› Options include parameters for Toyota PDQ checking and healing
› PDQ Check module can be tuned to address Nissan PDQ NP checking and advanced healing requirements
› CADdoctor can import, check and report on model quality, (PDQ), automatically heal, and export the destination CAD data of your choice
› Geometry and topology for a part or parts within an entire assembly are compared between source and destination models to check for differences using various differential analysis techniques based on Ford requirements.

Some examples of the geometry or topology problems that CADdoctor can diagnose and repair include:

› Self-intersecting Surfaces/Curves
› Intersecting Loops
› Gaps between Edges and Surfaces
› Sliver Faces
› Short Curves

About Elysium

Elysium develops and markets interoperability solutions for the global PLM market with thousands of customers worldwide and millions of files translated. Elysium currently supports data exchange among CATIA V4/V5, I-DEAS-NX, NX, Inventor, One Space Modeler, Pro/ENGINEER, and SolidWorks. Elysium was founded in 1984 in Hamamatsu, Japan, the site of its world headquarters. Its North America headquarters are located in Detroit, Michigan. With over 95 employees world-wide and a network of partners and distributors, Elysium has become the favored solution of many world-class companies for translating and checking 3D CAD/CAM and CAE models. Please visit our web sites: www.elysiuminc.com and www.elysium.co.jp

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