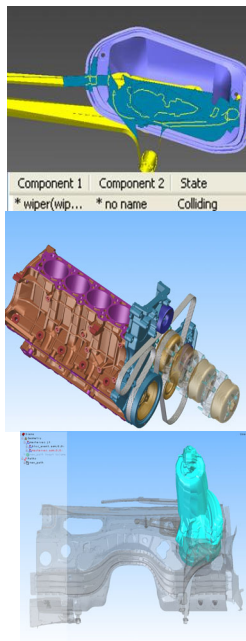


● Build your dedicated 3D application...

Kite Development Studio™ is a software development platform for those who need to develop dedicated 3D applications and 3D robotics taking advantage of a **fully featured software platform**.

- ✓ 3D engine
- ✓ 3D Data readers
- ✓ Graphical kinematics editor
- ✓ Zoom, pan, rotate, multi views,...
- ✓ Static and dynamic clash detections
- ✓ Automated collision-free path computation
- ✓ Obstacle penetration control
- ✓ Path optimization
- ✓ 3D simulation and movie generation
- ✓ Post treatment thanks to XML format
- ✓ Kinematic chains

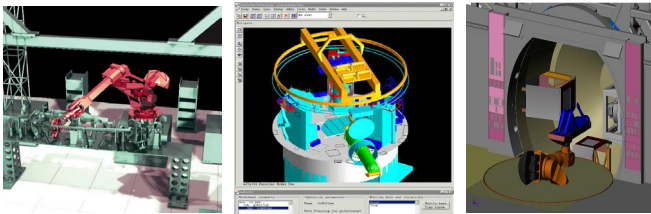


Sell your commercial 3D application

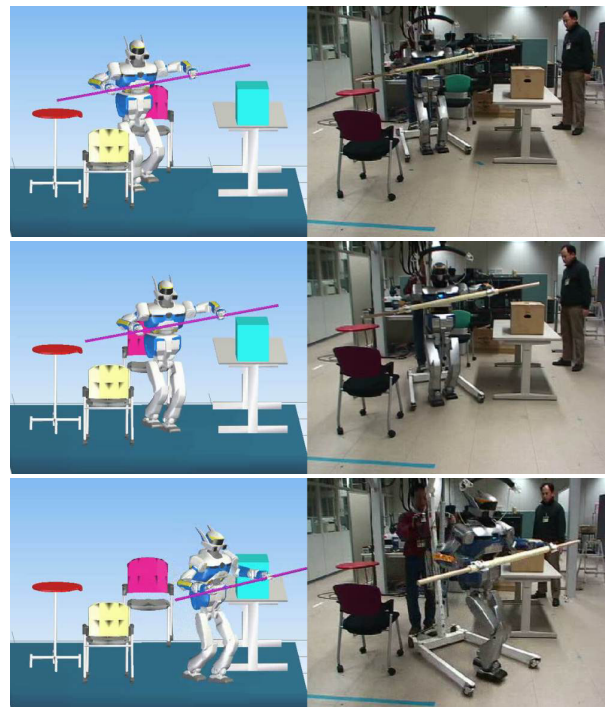
- ✓ adding physical properties to motion,
- ✓ connecting external devices like haptic or 3D recognition,
- ✓ linking Kite™ to specific customer's 3D database,
- ✓ creating dedicated Robot simulator and real-time monitoring,
- ✓ implementing task planning and scheduling,
- ✓ integrating customer's business constraints in simulation,
- ✓ specifying trajectory optimizations,
- ✓ writing proprietary CAD readers,
- ✓ generating Mannequin ergonomic postures,
- ✓ embedding GUI-less Kite™ engine in industrial systems,
- ✓ etc.

*"We were able to integrate all the complexities of our humanoid robot HRP2. The software architecture is largely open and allowed us to develop new path planning algorithms by reusing the reliable basis of the KineoWorks™ core library. In the meantime we benefited from a rich simulation environment to easily develop the add-on dedicated to our applications."* Eiichi Yoshida, co-director of Joint Robotic Lab, Japan.

Kite Development Studio™ allows the user to develop and to run his own custom and proprietary modules through standard **Application Programming Interfaces (API)**. It covers a large range of uses.



Kite Development Studio™ targets not only **in-house developments** but also all the **niche market software developers**. It provides the **core software architecture** needed to build a custom 3D application dealing with static and dynamic collision detection, kinematics, motions, etc.





● Build your dedicated 3D application...

Sell your commercial 3D application

Through a suite of modules, Kite Development Studio™ addresses the **various needs for the development of 3D software** applications in different industrial fields and numerous cases with the most efficient techniques and Return On Investments for a developer and his end-users.

**Regular SDK features**

**3D Engine** allows for OpenGL rendering of the Kite data model into a Kite window, as well as mouse navigation and interaction with the model. It can be extended so as to render custom data types and add custom behaviors.

**VRML Importer** a VRML 2 (VRML 97) geometry importer.

**XML Parser** Kite data model can be saved to XML and loaded from XML thanks to Kite's KXML format.

**Monitor** allows to display path planner-related data during a path planning process: roadmap, randomly shot configurations, etc.

**Planner Lab** adds the notion of path planner to the Kite data model. Path planners become standard components that can be composed, linked, edited graphically, thereby allowing the user to design advanced path treatment pipelines quickly and easily. Such components can also be saved and loaded as KXML in order to be reused from the Kite user interface or from client code.

**Python Scripting** makes prototyping, testing and development easier through the means of the Python scripting language. A whole subset of the Kite API is available as a Python API. The Kite user interface can also be scripted. Scripts are standard components of the Kite data model.

**C++ SDK** is a full set of libraries and APIs that give access to Kite as a development platform. Among others, you can target Kite add-ons, command-line or window-based executables, etc. **KineoWorks™** and **KCD™** APIs are available, thereby giving access to a first-class collision detector and a first-class path planner.

**Kite executable included**

**User Interface** is an applicative platform that allows to work with the Kite data model in an efficient way, including geometry import, open/save, object motion, real time collision detection, distance measurement, undo/redo, edition of trajectories, edition of object properties, export of still pictures and movies, etc. It is also highly extensible by the means of add-ons.

**Space Mouse Driver** supports 3Dconnexion's "space mice" in standard.

**Path Authoring** a path editor that works in conjunction with the real-time collision detector. You can create and move waypoints, choose the interpolation method and replay paths.

**Clash Analyzer** allows to detect collisions in real-time during object motion. It can also compute intersections and distances, as well as display colliding triangles. The path analyzer allows to plot distance and collision measurements along a path on a graph. The clash analysis environment allows to explore a static collision in high detail. The clash analyzer is based on collision detector, **KCD™**, which is both extremely fast and very memory-efficient.

**Optional SDK features**

**Path Planner Advanced** is an **optional library** that allows to boost performance and cuts down path planning time dramatically. It also includes **magnet points**, **magnet paths** and **tunnel paths**, which allow the end-user to guide the path planner. Guiding the search can improve performance and/or lead to a trajectory that better matches the user's expectations.

**Optional Application features**

**V5, JT, ProductView Readers** allows to import special geometry into the Kite data model.

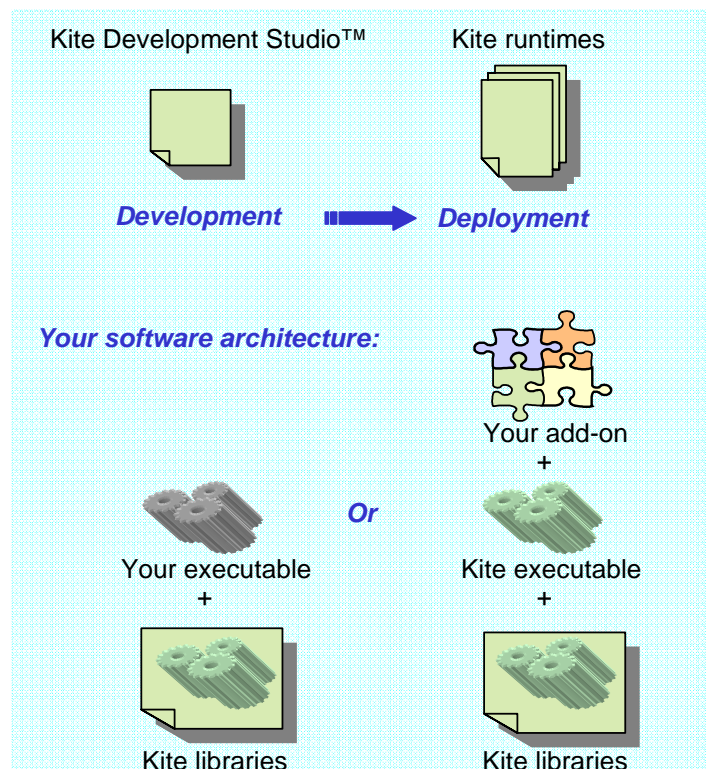
**Kite Advanced** adds several expert path planning features to the Kite user interface. Path Planner Advanced is a prerequisite.

**Kite Wrapping** computes the hollow volume swept by an object during its motion along a trajectory. It can also compute the hollow envelope of a still object. The result can be exported as VRML.

**Kite Disassembly** enables path planning for solid bodies in the Kite user interface.

**Kite Device** builds devices graphically, sets joint limits, self-collision checks, chooses the interpolation method or develop your own. Kite Device can be extended through **Kite Advanced**.

...More details about optional application features on Kite™ one pager



This document is for information purpose only. This information may change at any time without prior notice. This document is property of Kineo CAM and may not be used, reproduced or disclosed without the written agreement of Kineo CAM. All trademarks belong to their respective owner