

AGM

The Proven 3D Application Development Framework

AGM, the Application Graphics Manager, provides many layers of functionality including a user interface framework, the specifics of undo/redo for geometry, the rendering engine and everything in between, as well as a tight integration with all other Spatial SDKs.

PROVEN FRAMEWORK

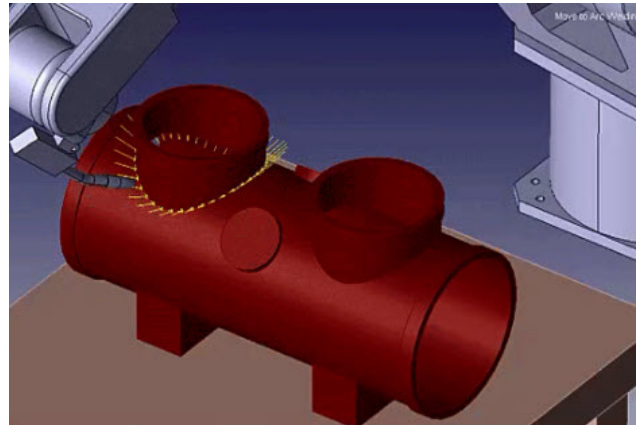
AGM has been adopted by 40+ organizations across a variety of industries, such as Computer Aided Engineering (CAE), Robotics, Metrology, Computer Aided Design (CAD), and more.

EXTENSIBILITY AND TIGHT INTEGRATION

AGM developers have direct access to 3D ACIS Modeler, CGM Modeler, 3D InterOp, and HOOPS Visualize APIs. There is no restriction to the ways that AGM can be customized to fit the needs of a specific application workflow.

RISK REDUCTION AND SHORTER DEVELOPMENT TIME

Using AGM provides developers with a proven solution for 3D engineering application development. With AGM, the risk associated with developing 3D applications is significantly reduced, since development requires a remarkable amount of time and resources when starting from scratch.



AGM FEATURES

Common Functionality for 3D Applications

The core module of AGM provides a comprehensive set of classes and functions for functionality which are common among many types of 3D applications, such as Object Lifecycle Management, Undo/Redo, Save/Restore, Selection and Highlighting, Commands, and more. In addition, several utilities for increasing productivity are also provided, such as Code Generator and Project Wizards, Debug Tools, and so on.

CAE Pre/Post Processing

AGM provides the capability for developing a commercial grade Pre-Post application quickly. With optimized data structures to represent first and second-degree surface and volume mesh structures, comprehensive Pre-Post functionalities are provided. This module also provides templates for integrating your meshers and solvers. Source code for these capabilities are customizable and extensible to fit your needs.

2D Sketcher

AGM provides the means to create solid models using common sketch tools approach: create sketch plane, create a 2D profile, extrude or rotate 2D profile, and so on. The sketcher supports user editable geometries such as NURBS, polyline, rectangle, circle, arc, line, and more.

Robotics

AGM provides for a common foundation of functionality among robotics applications. For example, representing robots, connecting robot controllers, importing work models and jigs, generating welding points, detecting collisions, robot manipulator, playing animations, and more are all integral to successful robotics applications. This enables you to develop your next generation robotics application in short time.

Developed using C++

AGM has been developed and optimized using C++ for more than a decade. The core of AGM is composed of classes and APIs which together are more than 100,000 lines of code. You can access this core C++ code for further enhancement and customization to suit your application workflow.

Flexibility in GUI Framework

The application and the AGM modules are separated and well abstracted. This means that you have flexibility to choose the right GUI framework for your application without being constrained by the existing architecture. AGM includes a sample .NET C# application and you can adopt other GUIs, like MFC and Qt, as well.

Object Lifecycle Management

Object Lifecycle Management is very important from a robustness and memory consumption point of view. AGM's Display Object Lifecycle Manager manages the lifecycle of each object that keeps both proprietary data and visual shape associated with it.

Synchronization Between Objects and Visualization

Unlike a simple demo application, commercial applications must be designed with many considerations. Synchronization between objects and visualization is one of such important topics. Simple modeling functions, for example create, edit and delete of models. Visualization should be synchronized at the same time. Yet, this is not enough for a commercial 3D application. What if a command is canceled in the middle of the operation? AGM does support synchronization between object and visualization no matter if it's a modeling operation or not.

Advanced Implementations Out-of-the-Box

AGM has been designed based on deep knowledge and understanding of the characteristics of each software component. This brings customers the advantages of performance, robustness, and productivity for developing 3D application. AGM source code is provided but customers can use high level functionality without knowing detail about each.

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