

The Vault Family

2-D | 2:30 - 3:45 pm

Instructor: Mike Carlson

Digital Prototyping and Autodesk Vault

Digital Prototyping gives conceptual design, engineering, and manufacturing the ability to virtually explore a complete product before it becomes real. With Digital Prototyping, manufacturers can design, visualize, and simulate products from the conceptual design phase through the manufacturing process, boosting the level of communication, while getting more innovative products to market faster. Autodesk Vault is the tool to bring the data to a centralized location for exposure of that data to the necessary parties at the necessary time.

Understanding Data Management

Data management is a broad term that means different things to different people. A manufacturing company that has an initiative for ISO 9000 is concerned about getting their data process documented and following those processes. When manufacturing medical device products it is necessary to comply with FDA rules on Design Controls and CFR 21 regulations. Because of this many different products exist to address these needs and buzz terms for managing this data such as Product Data Management (PDM), Product Lifecycle Management (PLM), and Enterprise Resource Planning (ERP).

Document Management vs. Item Management

To clearly understand your company's needs, it is necessary to differentiate between document level, file management and item level management.

Work in Progress (WIP) Data Management

Work in Progress data management deals with the designers and engineering building up the design and access to the files and documentation in that design. The ability of the team to version control data, search data, and integration with the design tools is critical in this environment. Also, this includes extended file management capabilities such as batch plotting, role based access, and other "wizard-based" functionality.

Lifecycle Management

Lifecycle states enforce our state based security model and make sure the right user gets access to the right files at the right time, protecting your data integrity.

Revision Management

Digital Prototyping with Vault allows the use of multiple revision schemes which are interchangeable and provide drawing write back to automatically and correctly manage drawing revisions. This flexibility matches existing company workflows and standards.

Categories

Categories bring together behaviors within lifecycles, permissions, revisions, and release policies for an automated method of Data Management. The use of categories allows finer control over properties, revision and lifecycle schemes, permitting document classification and ultimately behaviors.

Replication of Data to Other Offices

Within organizations communicating across multiple offices via a Wide Area Network (WAN) it is necessary to reduce the bandwidth footprint data management software can create. Thus, the ability to replicate the data is a must.

Item Management

To prepare the data for enterprise type systems the necessity is to prepare that data for a more effective transition. This begins with the transition to an item based world in the PDM environment. The individual files are now taken through a promotion process to become Items.

Bill of Materials (BOM) Management

At a file level the BOM is more of an "as modeled" type of BOM. Meaning the parts list of the assembly is building up the BOM. This is not entirely accurate though as bulk material items (paint, coatings, Loctite, etc.) are not included.

Enterprise Integration

To complete the Digital Prototype within data management it is necessary to bridge the gap between Vault and an enterprise wide system (PLM, ERP, MRP, etc.). The connection can exist on a number of levels from a single push of the BOM from Vault into the ERP or a more synchronous approach from actions that occur on either side of the bridge, and that have an immediate effect on both systems.