# Technology discuss about ( iges) and (x3d)

Discussion This study aims to review the ability of the XML-enable X3D standard for the representation of engineering design data including Product structure, Bill of Materials and Product Coding and Classification within the context of Collaborative Product Development among others.

Steps:

At first, Right Neutral format was compared with IGES and STEP format. Right neutral was found more advantageous to use in data exchange. Next, the effectiveness of neutral IGES format was compared with web-based 3D XML format. The test designed the Altan Machine Company`s Quick coups and Fork using the Solid works, then it was presented in both 3D XML and IGES format. The researcher compared the results between IGES and Web-Based 3D XML format after carrying the observations. This study collected secondary data was collected prior to the study to analyze and compare with findings of research already conducted in this field.

3D XML:

3D XML is a lightweight XML-based standard. It uses NURBS to represent graphic objects such as freeform surfaces and tessellating polygons. XML schema also includes product geometry, structure, and graphical display properties (3D XML 2008).

Advantages of 3D XML:

Speed up data movement and sharing of 3D product data through its compact method of enchigoding surfaces.

Readily express real-time with 3D applications which have complex interactivity and maintain its compatibility with office productivity software and popular web browsers.

Its Project Life Cycle Management (PLCM) enable easy inclusion of technical

documentation, maintenance manuals, marketing brochures, websites, email communications and many everyday uses of software.

Enables authors and designers to convey 3D information from various systems using a simpler and more direct syntax than straight VRML (Virtual Reality Modeling Language (An Approach to Accessing Product Data across System and Software Revisions, 2007)

Disadvantages

The exact implementation of 3DXML is yet to be determined.

Support for 3D XML is only available from Dassault Systems (wiki 2008).

Includes disadvantages of XML.

IGES Format:

The IGES format is a neutral data format used to transfer the design to a dissimilar system. IGES is a commonly used for data interchange of 2D and 3D CAD model. It is also used to illustrate simple figures of CAD or " drawing" applications. IGES files include parameters of the IGES object such as; its version number, model size, and encoded elements. In March 1994, The IGES Project committee approved the registration of the format as a MIME data type.

Advantages of IGES:

It is popular due to its comprehensive coverage in its use. Since it was setup as an American National standard, it was adopted by virtually every American National Standard commercial CAD/CAM system.

It precisely represent CAD models and geometric representations through its entities of points, lines, arcs, splines, NURBS surfaces and solid elements.

It has little data conversions.

It has smaller data files.

Attains simpler control strategies.(Rapid Prototyping 2003)

Disadvantages

Includes redundant information which is not used by rapid prototyping systems. This is because it is the standard format to exchange data between CAD systems.

Slicing IGES files is more complex than slicing Stereo lithography (STL) files.

Support structures needed in Rapid Prototyping systems such as SLA which can not be created with the IGES format.

Lacks transfer standards for a variety of CAD systems and system complexities, (Rapid Prototyping p. 274).

Conclusion:

The above discussion highlights the existence of more advantages than disadvantages when comparing 3D XML to other formats. It also highlights the more advantages than disadvantages of IGES's. This is mainly because of its comprehensive coverage and user friendly features such as its simple control strategies. It is concluded that advantages of IGES outweighs its disadvantages.