

Activities of SEDRIS in Korea

SEDRIS™ Technology Conference
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Content

- Corresponding industry status in Korea
- Introducing Korean SEDRIS Forum
- 3D data translation software using SEDRIS
- Future works

Corresponding industry status in Korea

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3D Data Translation Software using SEDRIS

Future Works

First-string internet infrastructure

- Internet Citizens – 2.4 million people(Market Size-World 5th)
- Broadband Supply - Best in the World (2002)

The steady growth and development of digital contents industry

Unit : 100 Million Korean Won

Business Area	1999	2001	2003	Annual Growth Rate
Computer Game	9,014	9,985	15,655	14.8%
Character (Avatar)	32,200	41,200	59,332	16.5%
Animation	2,700	3,360	4,050	10.7%

Korean Market Size of Digital contents

- Digital contents – Computer Game, Animation, Character, Cartoons, Music, e-book, Mobile, Internet contents etc.
- Next generation strategic industry in Korea

Corresponding industry status in Korea

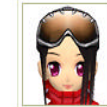
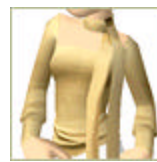
Introducing Korean SEDRIS Forum

3D Data Translation Software using SEDRIS

Future Works

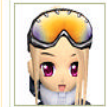
The Representative business areas of digital contents industry

– 3D Avatar internet service



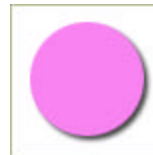
구입하기
선물하기
조르기
쇼핑백
3200

오라다크스트레이트



구입하기
선물하기
조르기
쇼핑백
3200

하이트오라클라



구입하기
선물하기
조르기
쇼핑백
1400



구입하기
선물하기
조르기
쇼핑백
1000

– 3D Online Game



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The activities of organizations for game industry

– KGDI - Korean Game Development Institute

- Developed process management tools and S/W Quality Evaluation System
- Developed and distributed 3D Game Engine and development tools
- Standardized the development process
- Developing Technical reference model and standard profile for Game Industry

– ETRI - Electronic and Telecommunications Research Institute

- Developed online 3D game engine "Dream3D"
- Operating mobile 3D standardization Forum
- Developing 3D game engine for PDA
- Online game data interchange format (Plan)

– KOCCA – Korea Culture & Contents Agency

- The standardized technology for search and transfer of digital contents
- Digital contents interchange technology based on international standard

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Objectives

- Apply to several technical areas-computer online game, GIS, 3D animation, CAD etc.
- Adaptation to national standard (KS-Korean Standard)
- Promotion and education of SEDRIS Technology
- Applied technology development for related industry sectors

History

- 02. 2003 –Ministry of Commerce, Industry and Energy designated as a technical forum funded by MCIE
- 06. 2003 –Held SEDRIS seminar in Seoul, Korea
- 12. 2003 –Development of two Korean standards
EDCS, EDCS language binding

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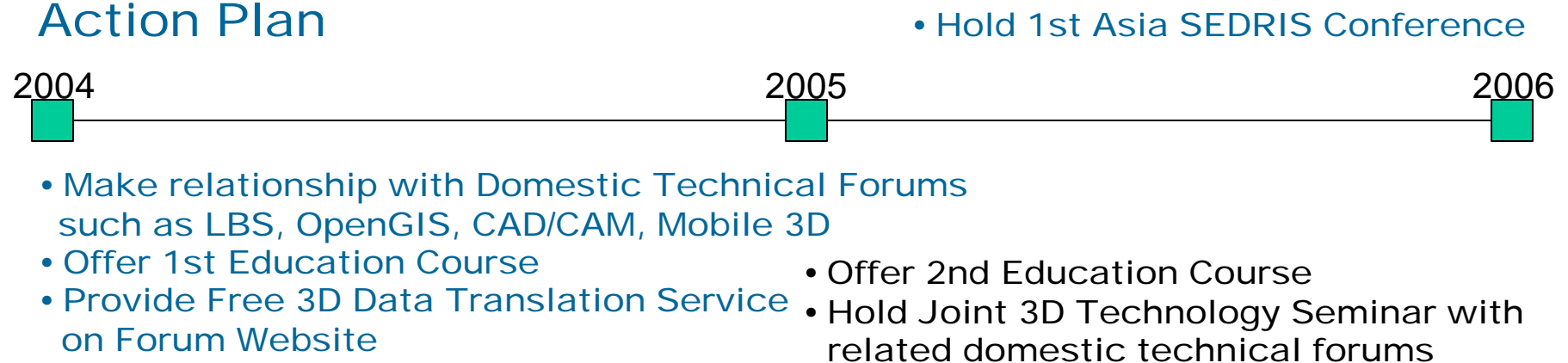
3D Data Translation Software using SEDRIS

Future Works

Organization

- Chairman – Dr. Kimn Ha Jin (Ajou University, Korean SC24 Chair)
- Secretariat – CoDiC Communications Inc.
- 3 Committees – Industry Com., Technical Com., Standards Com.
- Supporting Organization – Korean Standards Association, Korean Game Development Institute

Action Plan



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Status

Area	Organization	Project
Game	KGDI	Technical reference model and standard profile for Game Industry
	ETRI	Online game data interchange format (Plan)
Defense	ADD	3D war game engine using SEDRIS
	Inha Univ.	Direct STF production tool
Other	KAIST	3D virtual factory
	CoDiC	3D data translation

KAIST - Korea Advanced Institute of Science and Technology

ADD - Agency for Defense Development

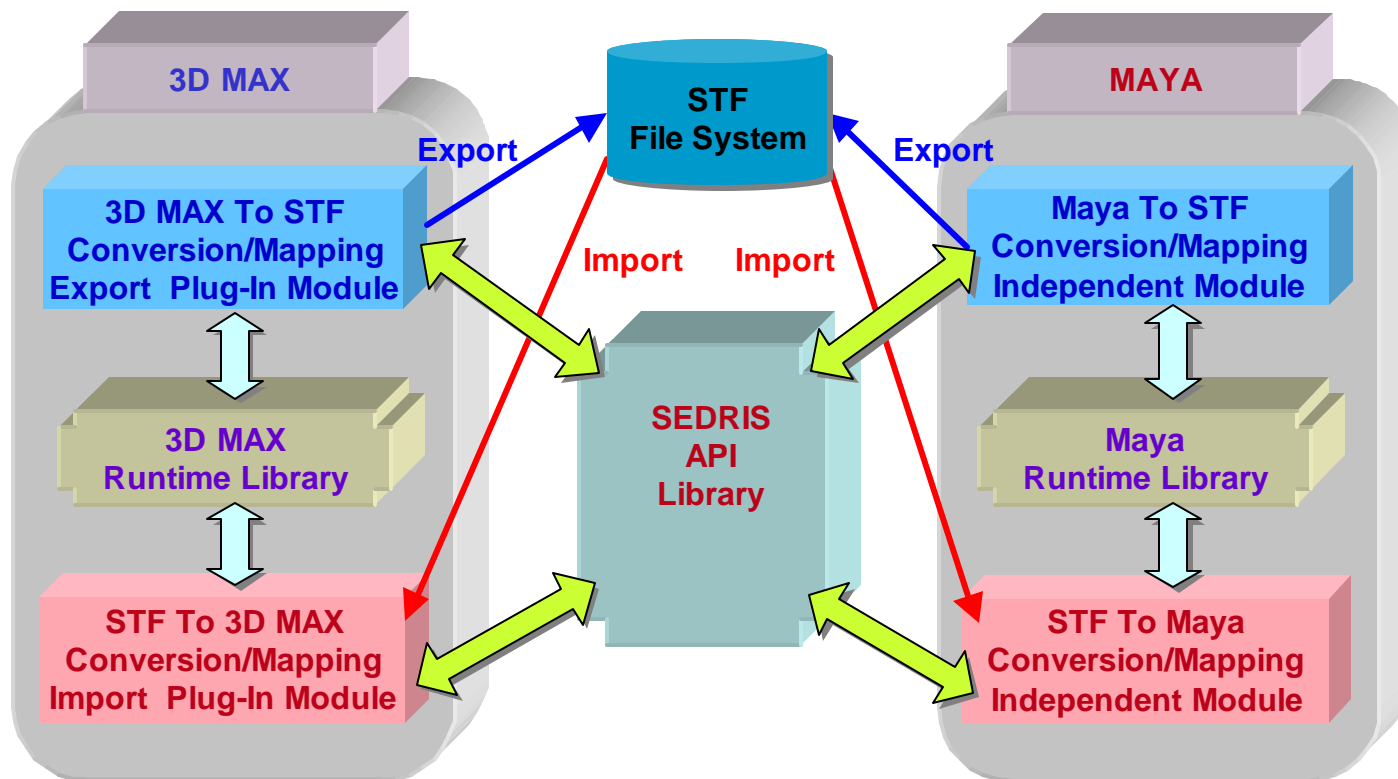
ETRI - Electronic and Telecommunications Research Institute

KGDI - Korean Game Development Institute

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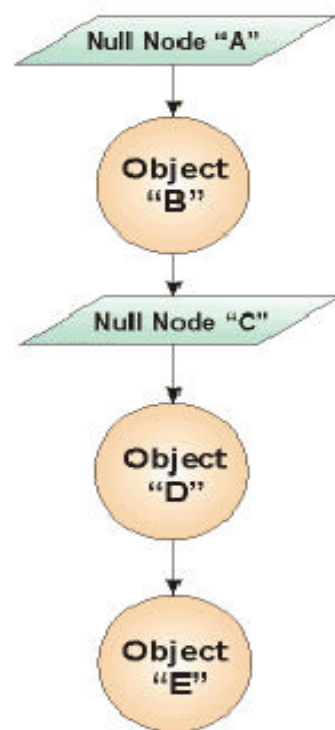


3D Data conversion between 3D MAX and MAYA

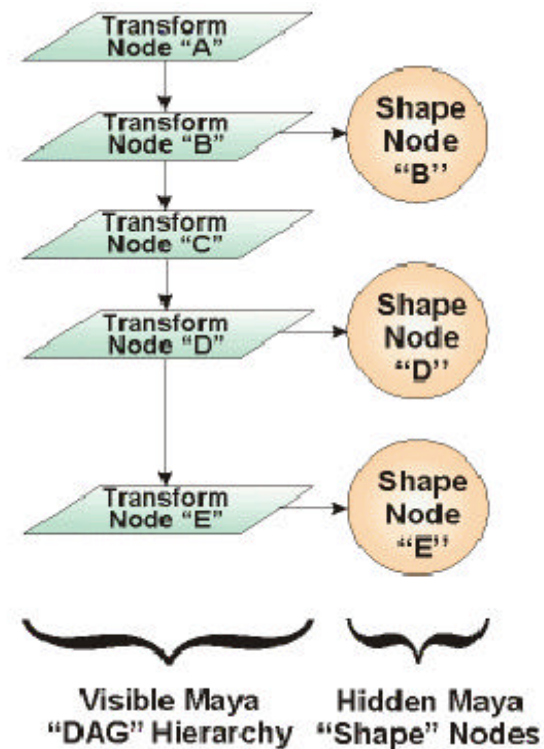
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3D MAX Object Hierarchy



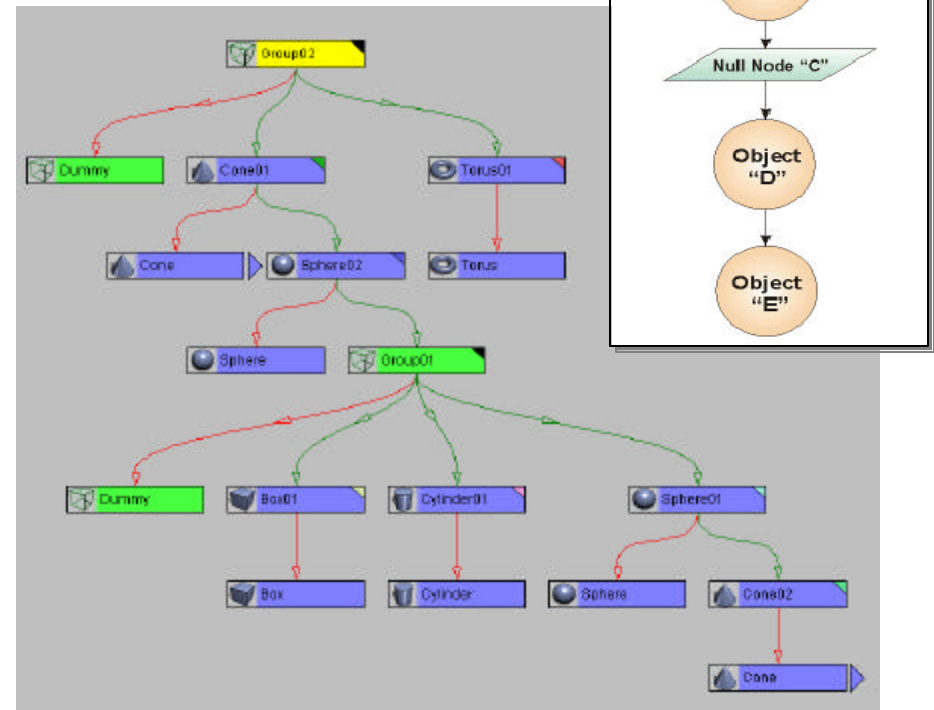
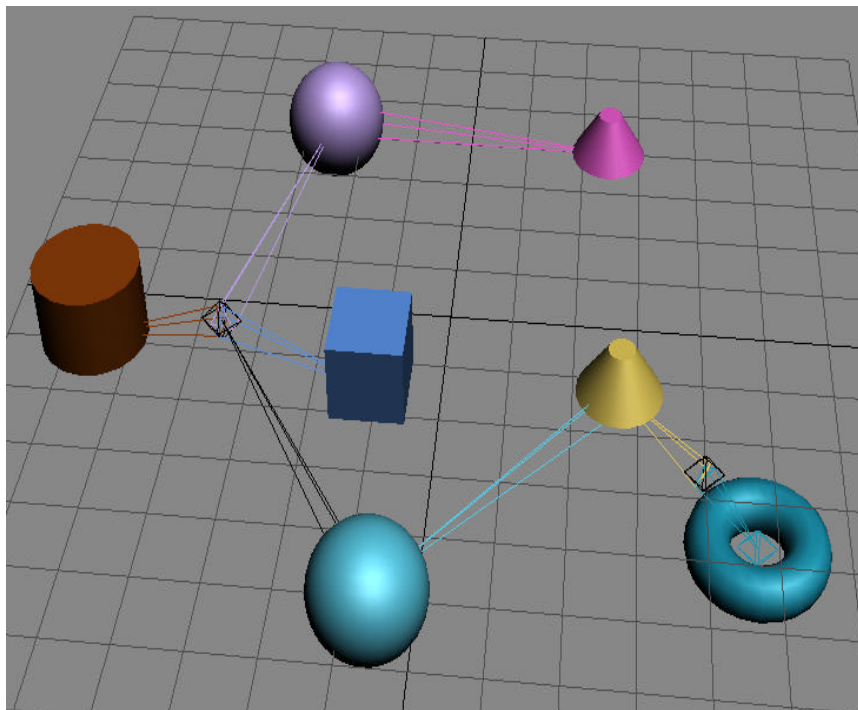
MAYA Object Hierarchy

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3D MAX Semantic Hierarchy

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Format Items	SEDRIS	MAYA
Coordinate	SRM, SRF <AUTM>, <UTM>, ...	Coordinate : Scene(world)- , Relative- Absolute/relative
Transformation (Continuous)	<Transformation>, <World ...>, <LSR ...> → <Location 3D> <Reference Vectors>	Transform node (DAG) (World/geometry/relative) xForm : MSpace
Geometry (Topology) Model	<Primitive Geometry>, [<Topology>] <Polygon> <Finite Element Mesh> / [<Node> <Edge> <Face> <Face Ring>] [Level of Topology] [Boundary]	Shape node (DAG) Mesh Nurbs Subdivision
Structural	Tree Hierarchy	DAG, DG
	Associate (Alternate-representation)	DG node
	Aggregate (Has-a relationship)	DAG node and its hierarchy
	Representation and Behavior (in File)	Representation and Behavior (in Scene)
	: Object 인접 (aggregate, ...) 개념 : Iterators and extract/insert function	: DAG path representation (Parent/Child/...) : Iterators and function set
	Library, Instancing, Association, Component	Shading Network, Instancing, Group, ...
	- %Under-Unique% - (Association, instancing)의 개념 - Library first vs. env-root first	. %Under-Unique% (*) Group : a subset of its shape, defined by shader assignment to it

Geometry	Union of Primitive, [In Library] Model, ...	Shape Node(instance), Mesh, (Mesh-siblings)
	- %Unique%	. %Unique%
	~ Related Geometry, Control-link Template	Xforms with Multiple Shape, [DG-Driven]
	- %TDV%	. %TDV%
	- [LOD, Spacial, ...]Related Geometry	. Modification-history, Animation, ...
	- Control-link and Interface-Template	. (*) <i>Underworld</i> : "Parameter space"
	Union of Hierarchy	Scene
	- %Finite%, %TDF%	. %Finite%, %TDF%
	- Recursion-depth (%TDF%)	. Generalized instancing
	. <Polygon>	. Polygonal mesh
	. <Union of Primitive Geometry>	. Group of Polygonal-meshes
	. <Union of Geometry Hierarchy>	. Group of Groups

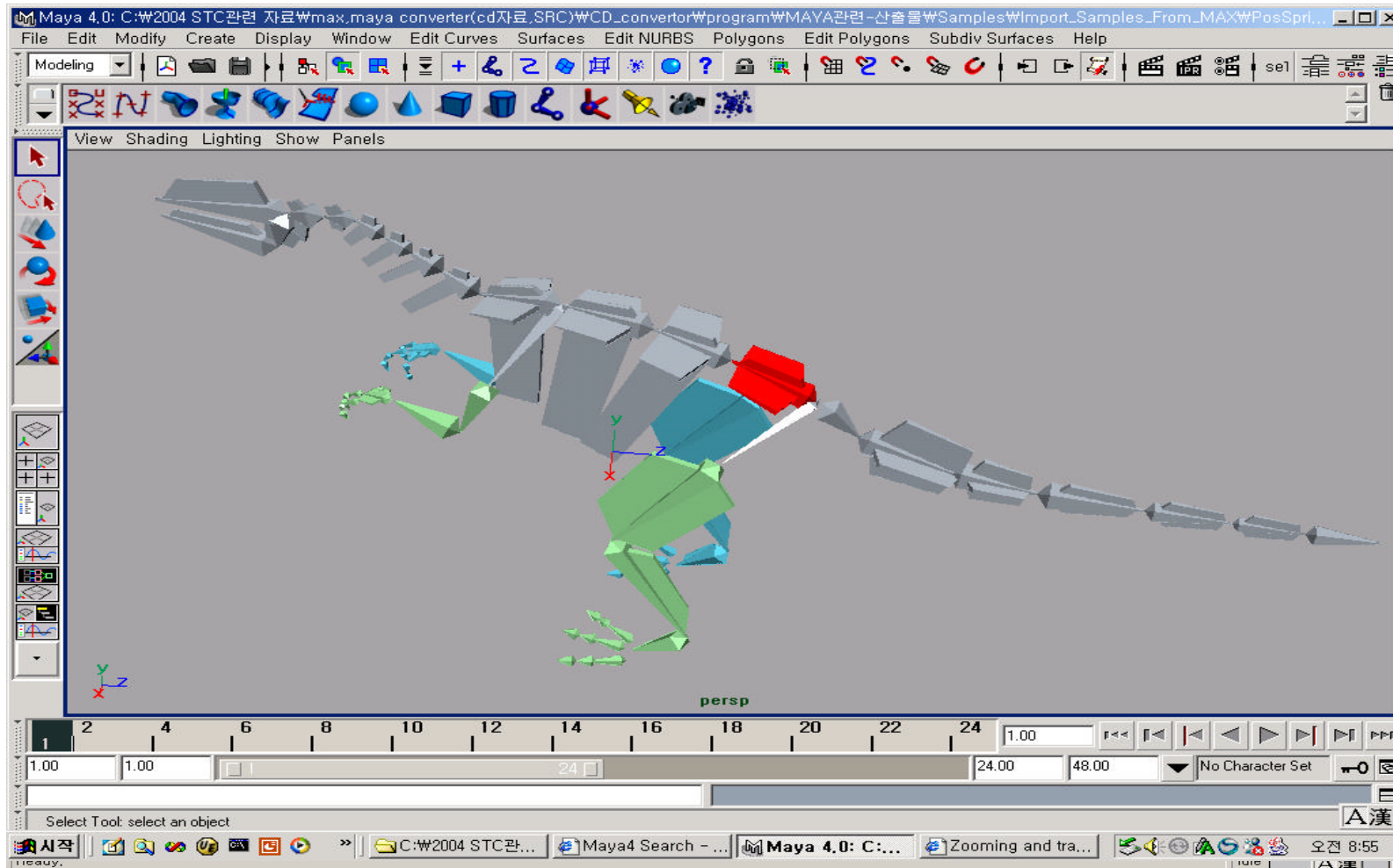
The Part of MAYA-STF Mapping Document

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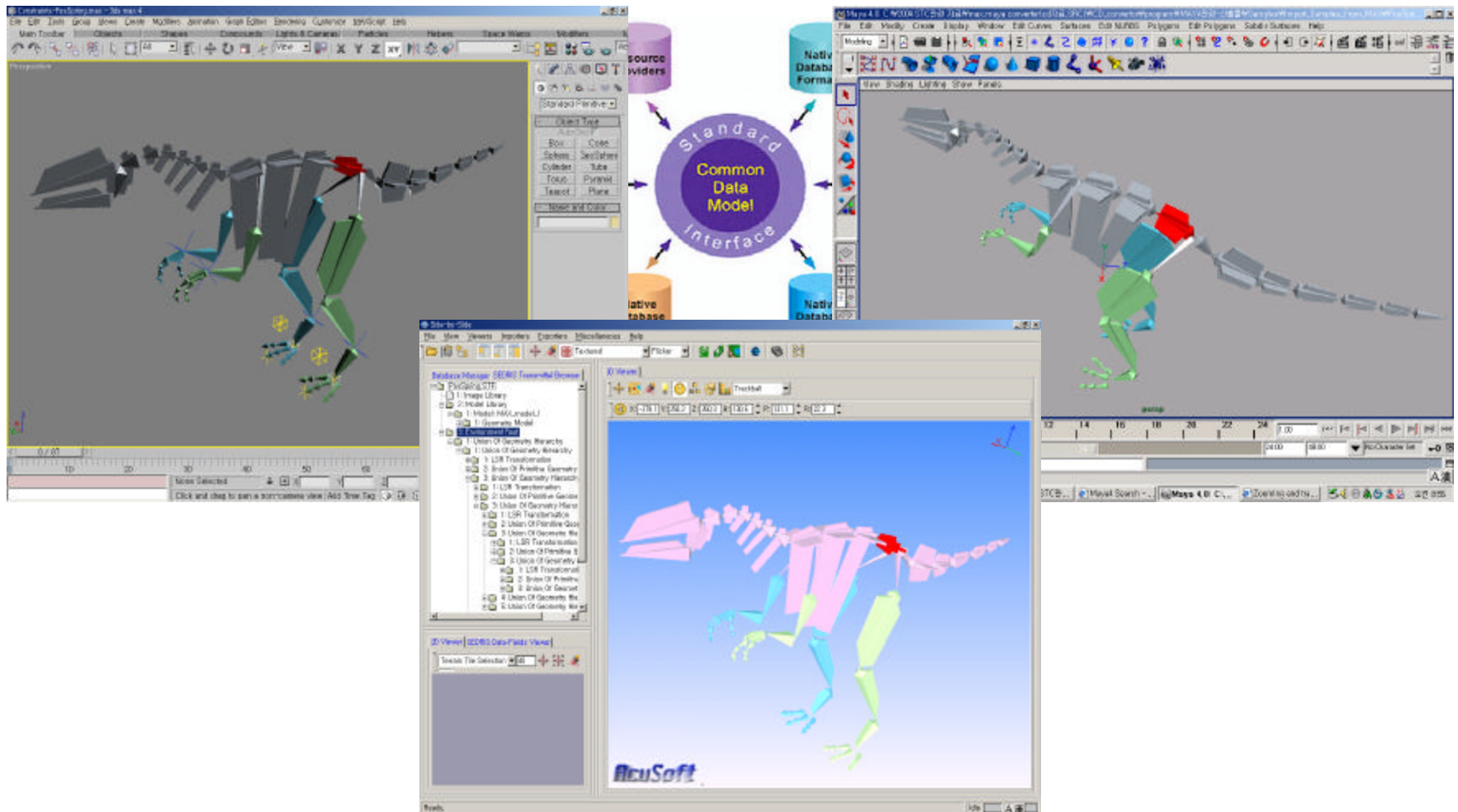
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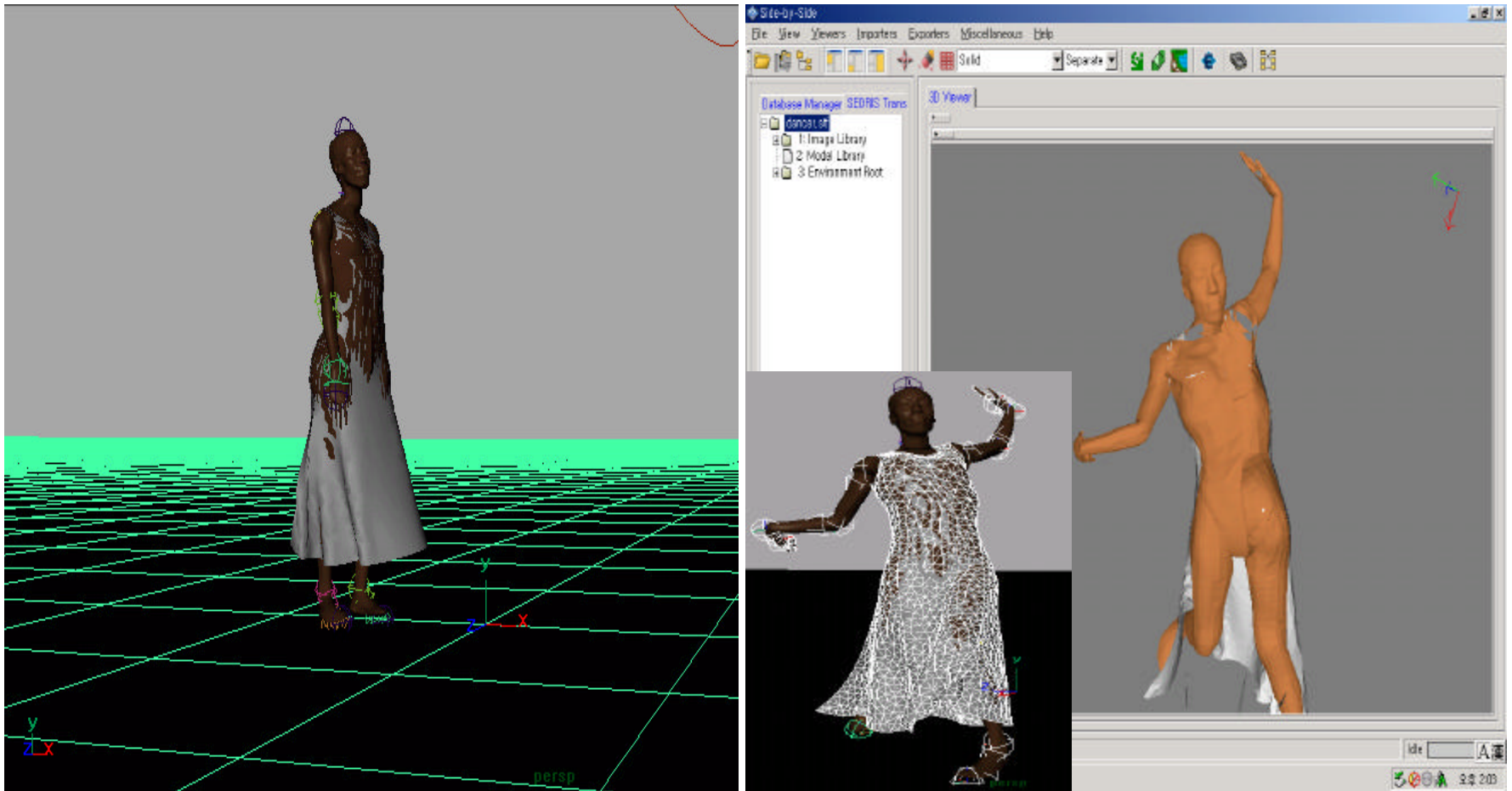


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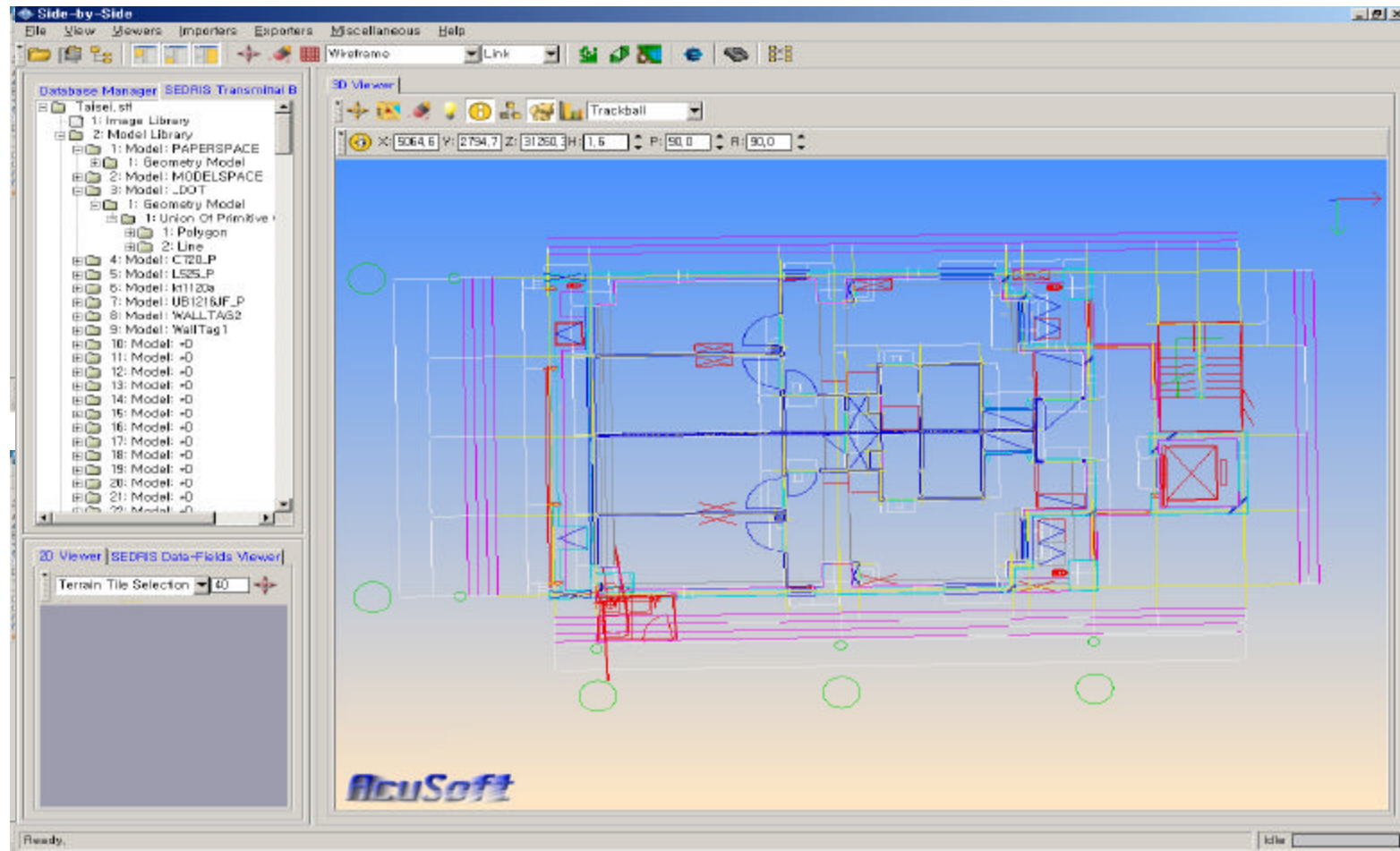
MAYA to STF translation

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The translation example of Autocad DWG format

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Future Works

- The data translation technology development of mechanical CAD data
- The semantic information handling technology for data management
- Apply to several technical areas
- Contribution for SEDRIS activities
- Applied technology development for diverse industry areas