Week 7 - Lecture Product Visualization

Lecture Topics

- Design Visualization Overview
- Benefits and Case Studies
- Autodesk® Showcase®
- Future of Design

Product Lifecycle – Week 7



3D Design Use



Design Visualization

 Take and transform digital 3D product design models into compelling imagery, movies, and real-time presentations.



Design Visualization Use Cases

- Marketing Brochure Images
- Create Fictional Scenes



- Sales Configurators for CTO and ETO
- Enhanced Sales Proposals
- Design Review Meetings
- Customer Feedback



Design Visualization Benefits

Improve Time-to-Market



- Start Selling Products from Digital Versions
- Save Money with Digital Assets
- Gain Quick and Early Customer Feedback
- Rapidly Explorer Design Variations
- Clearly Communicate Product Designs





Comparison



Tesla Motors – Electric Cars Example



Image courtesy of Tesla Motors

Ulysse Nardin - Example



Image courtesy of Ulysse Nardin

Bombardier Aerospace - Example



Image courtesy of Bombardier Aerospace

Parker Hannifin - Example



Image courtesy of Parker Hannifin Corp.

Marriott International, Inc. - Example



Image courtesy of Marriott International, Inc.

Application Tool Examples

- General Visualization
 - Autodesk Inventor
- Real-Time Visualization
 - Autodesk Showcase



- Advanced Visualization (Special Effects)
 - Autodesk 3ds Max / Autodesk 3ds Max Design
 - Autodesk Maya (Game and Movie Focused)







Autodesk Showcase Overview

Autodesk Showcase real-time 3D presentation and rendering enables designers to easily transform 3D CAD data into compelling digital media.



Autodesk Showcase Key Features

- Real-Time Viewing
- Quick and Simple User Interface
- High Quality
- Import Almost Any CAD File



Hyphen Design – Case Study



http://usa.autodesk.com/adsk/servlet/limage?siteID=123112&imageID=16310827&id=6834016&preview=1

VOX Amplification – Case Study



http://usa.autodesk.com/adsk/servlet/limage?siteID=123112&imageID=16310831&id=6834016&preview=1

The Future of Design

- Infinite Computing
- Reality Digitized
- Everyone is a Designer
- Global Challenges
- Amazing Complexity





Infinite Computing

Access to computing power will spread, and processing power will increase significantly.



The speed and ease of capturing reality in the form of a detailed 3D model representing an environment or object.



Everyone is a Designer

Low-cost, widely distributed design tools make it easy for non-designers to shape, manipulate, and manufacture objects.



Example = <u>http://www.kickstarter.com/projects</u>

Our increased capacity to create and evaluate design solutions allows us to build resilience and confront the complex challenges ahead.



Amazing Complexity

As we create and consume more information we face mass complexity, making it critical to distill clarity.



Computer-Cluster Projects (CP7)

Guided Lab Project 1

• Guides instructions for learning the Showcase interface and essentials.



Guided Lab Project 2

Guided instructions for working with materials and lights.



Guided Lab Project 3

 Guided instructions for creating shots, alternates, and behaviors.



Demo Topics

Interface Layout



View Menu

- Fit to View
 - CTRL+F or ALT+L



View Menu

Navigation using Mouse and Keyboard

– CTRL+F or ALT+L

	Keyboard Mouse Combination	Description
Orbit	AIL 4-	You orbit the display by pressing ALT as you click and drag with the left mouse button.
Pan	At 4-	You pan by pressing ALT as you click and drag with the center mouse button. NoTE: You can also pan by clicking the center button without pressing ALT.
Zoom	At 4-	You dynamically zoom in and out of the view by pressing ALT as you click and drag with the right mouse button. NoTE: You can also zoom by rotating the center mouse wheel.
ZoomWindow Around Point of Interest	At 4	You zoom in to a rectangular area around a point of interest by pressing CTRL+ALT as you click and drag the selection window with the left mouse button. The first point you click is the point of interest and is the center of the rectangular window.

Geometry Selection

Select in the Organizer





Visual Styles

- Access
 - Appearance > Visual Styles Library
 - Keyboard Shortcut: V



Importing and Adjusting Geometry

- Access
 - Appearance > Visual Styles Library
 - Keyboard Shortcut: V





About Materials

- Access
 - Menu: Appearance > Materials
 - Keyboard Shortcut: M



Modify Material Properties

Access

- Menu: Appearance > Material Properties
 - Keyboard Shortcut: CTRL+M



Decals

Access

- SHIFT+M, or if the Material Properties



Lights

Access

- Lights Menu: Scene > Lights
 - Keyboard Shortcut: L



Alternatives

Model Lineup

- Menu: Story > Alternatives
 - Keyboard Shortcut: A



Alternatives

Material Lineup

- Menu: Story > Alternatives
 - Keyboard Shortcut: A



Alternatives

Positional Lineup

- Menu: Story > Alternatives
 - Keyboard Shortcut: A



1.2 Introduction to Shots

Access

- Menu: Story > Camera Shots
 - Keyboard Shortcut: T
- Menu: Story > Create Shot > Create Start to End
 - Keyboard Shortcut: CTRL+SHIFT+T
- Menu: Story > Create Shot > Create Still Shot
 - Keyboard Shortcut: CTRL+T



1.2 Introduction to Behaviors

Access

- Menu: Story > Behaviors
 - Keyboard Shortcut: B

