ID312 Computer Graphics and Presentation Techniques I

2023-2024 Fall Semester Syllabus

Online
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This course aims to provide students with the skills and knowledge necessary for effective product visualization and computer graphics. Students will learn composition techniques for product presentations, 3D rendering techniques, animation techniques and gain proficiency in relevant software applications.

Learning Activities

Upon successful completion of the course, students will be able to:
- Apply composition techniques effectively to enhance product presentations.
- Create realistic 3D renderings of industrial design projects.
- Demonstrate proficiency in using Keyshot 3D software for rendering.
- Utilize Adobe Photoshop for enhancing and editing product visuals.

NOTE: Attendance in online classes requires having your <u>webcam turned on</u>.

Assessment Methods and Criteria

Assessment in this course will be based on homework assignments and projects. Each assignment and project will be graded on the quality of composition, 3D rendering, and software proficiency demonstrated by the student.

Required Software and Materials:
- Keyshot 3D Software
- Adobe Photoshop
- Adobe Premiere (or an equivalent software)
- A computer powerful enough to run these softwares
  (Students are responsible for acquiring the softwares and hardware)

Weekly Schedule

Week 1: Course Introduction and Overview

- Introduction to the course, syllabus, and expectations.
- Overview of the importance of product visualization in industrial design.

Week 2 -3: Composition Techniques   - Grasping the Fundamentals of Effective Composition

- Introduction to the principles of creating compelling compositions.
- Exploring the essential elements that contribute to effective composition.
- Applying composition techniques to product presentations.

<u>Assignment 1:</u> Produce a composition analysis report for a selected product image.

Week 4 -5: Mastering 3D Rendering Techniques

- Comprehensive introduction to 3D modeling and rendering principles.
- Understanding real-world light and shadow interactions.
- Simulating lighting and shadow effects in 3D renderings using software.

<u>Assignment 2:</u> Create a 3D scene with intricate lighting and shadow effects.

Week 6 -7: Exploring Cameras for Composition Enhancement

- Understanding how camera lenses, angles and movements can impact composition.
- Exploring Keyshot 3D camera interface

<u>Assignment 3:</u> Create a product presentation that utilizes various camera techniques to enhance its visual narrative.

Week 8: Exploring Material Visualization Techniques

- Delving into techniques for visualizing different materials (e.g., metal, glass, wood).
- Analyzing the interplay between material properties and lighting.
- Creating detailed material visualizations.

<u>Assignment 4:</u> Produce a material showcase highlighting the visual qualities of various materials.

Week 9: Advanced Rendering, Material Creation

- Advanced exploration of 3D rendering techniques.
- Crafting custom materials and mastering lighting optimization.

<u>Assignment 5:</u> Find an object and re-create the material of the object on Keyshot

Week 10: Explor ing Animation

● Introduction to animation techniques in Keyshot for product visualization.

Assignment 6: Render a short animation using animation techniques on Keyshot

Week 11 -12: Post -Production with Adobe Photoshop and Adobe Premiere

● Introduction to post-production techniques using Adobe Photoshop.
● Exploring how Adobe Premiere can be used for video editing and enhancement.

Final project: Create a product presentation using Keyshot 3D, apply post-production techniques to enhance product visuals and create a short video presentation.

Week 13 -14: Final Project Presentations and Showcase

● Finalization and refinement of the product visualization projects.
● Individual project presentations.
● Peer and instructor feedback.
● Course wrap-up and review.

Grading

Assignment 1: 5 points
Assignment 2: 10 points
Assignment 3: 10 points
Assignment 4: 10 points
Assignment 5: 15 points
Assignment 6: 15 points
Final project: 35 points
Total: 100 points