VCIM-2470: VIRTUAL REALITY IMAGING

Cuyahoga Community College

Viewing: VCIM-2470 : Virtual Reality Imaging

Board of Trustees:

2003-05-22

Academic Term:

Fall 2020

Subject Code

VCIM - VC-Interactive Media

Course Number:

2470

Title:

Virtual Reality Imaging

Catalog Description:

Technical and aesthetic concepts of virtual reality photography. Use of
computer hardware and software for creating virtual reality images. Images used
for interactive onscreen presentations or output as large scale panoramic
photographic prints.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

VCPH-1450 Digital Imaging I, and VC-1000 Visual Communication Foundation,
or departmental approval.

Outcomes

Objective(s):

1. Demonstrate the principles, concepts, and terminology used in creating digital virtual reality images using QuickTimeVR(r) (QTVR) technology.
2. Demonstrate use of the hardware, software, and materials currently used in creating virtual reality movies and large panoramic digital photographic images.
3. Demonstrate the basic skill used in scanning, modifying, and outputting digital photographs to be used for QTVR.
4. Explain the aesthetic characteristics of electronic photography and the relationship between the technical and aesthetic nature of the medium.

Methods of Evaluation:

1. Classroom exercises.
2. Written reports, essays and/or examinations.
3. Participation in classroom discussions
4. Oral examinations.

Course Content Outline:

1. Virtual reality photographic concepts
    a. Historical concept of panoramic photography
    b. Types of traditional panoramic camera equipment
    c. Limitations of traditional panoramic photographic equipment

    d. Merging of multiple images in Adobe Photoshop(r)
       i. limitations in Photoshop
      ii. special techniques in Photoshop for merging images
     iii. issues related to distortion
    e. Resolution
       i. relationship to usage
    f. Apple QuickTime(r) technology concepts
       i. platform independent issues
      ii. relationships to WEB technologies
    g. Methods of displaying and outputting QTVR
       i. color monitors
      ii. WEB
     iii. multimedia presentation
     iv. photographic printing
    h. Creating linkage between QTVR movies
    i. Creating QTVR scenes
    j. Creating QTVR object movies

2. Digital photographic tools for QTVR
    a. Hardware systems for input, modification, storage and output of QTVR images
    b. Software systems for input, modification and editing of QTVR images
    c. Use and operation of hardware and software for the input, modification, storage and output of digital photographs used to create QTVR's
    d. Specialized tripods and tripod heads used in QTVR photography
    e. Special exposure considerations for QTVR photography
    f. Special leveling techniques for cameras and tripods
    g. Specialized automatic rotational equipment for creating QTVR object movies

3. Scanning and sizing essentials unique to QTVR
    a. Accuracy in sizing images for virtual reality images
    b. Types of scanners to use for QTVR scans
    c. Kodak PhotoCD's application in QTVR as a scanning option
    d. Use of digital cameras as an image source

4. Image editing and modification for QTVR
    a. Critical color correction techniques for accurate VR images
    b. Automation for sizing and sampling images for QTVR
    c. Retouching and image enhancement techniques unique to QTVR

5. Digital output options for QTVR images
    a. Comparison and characteristics of output devices
    b. Preparing files for proper output
    c. Output to film recorders
    d. Output to digital printers (photographic paper)
    e. Output for WEB and multimedia

6. Current and future trends and markets for QuickTime virtual reality photography
    a. Emerging opportunities for photographers
    b. Emerging opportunities for designers and marketing professionals
    c. Changes in the way people will think about and view images
    d. Technology's impact on the meaning of photographs
    e. Photographic images as transmitted information
    f. Legal and ethical considerations for photography's electronic age

Resources

Kitchesn, Susan A. *The Quicktime VR Book: Creating Immersive Imaging on Your Desktop*. PeachPit Press, 1998,

Weinman, Elaine, and Peter Lourekas. *Photoshop 5.0 for Macintosh, Visual Quickstart Guide*. Peachpit Press, 1998,

McClelland, Deke. *MacWorld Photoshop 5.0 Bible*. IDG Books, 1998,

Resources Other
1. Examples of QTVR work both on screen and print from accumulated resources by instructors and students.
2. Handouts covering technical principles and procedures.
3. Lab facilities: digital photographic lab, computer workstations and appropriate software.

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