"No one in the industry has seen a 3D movie at 30 foot Lamberts at 120 frames per second. What happens when you get into this hyper-real realm of a movie, that seems to be a window onto reality, is that the entire cinematic language begins to change."

– Douglas Trumbull
Technology Impact on Future Cinema

- Technologies of Engagement and Immersion
- Distributed Collaboration for Creative Workflow
- Digital Storytelling and Worldbuilding
- Virtual Interactive Characters
- Computational Imaging Devices
- Multimodal Device and Interface Development
- Open Source/Crowd Source Cinema
TECHNOLOGIES OF ENGAGEMENT AND IMMERSION
ONR Fast Action HMD (USC & Fakespace Labs, 2003-6)

“Hunger in Los Angeles” Sundance Film Festival 2012 Premiere
“FOV2GO” Plans & instructions for handheld iPhone and iPad Viewers
SCA is establishing a center for creative research and innovation in Stereoscopic 3D media of all kinds.

Three main focus areas:
- Stereoscopic Cinema & Television
- Stereoscopic Games
- New Stereoscopic Media

Stereoscopic R&D
Interactive 360 degree Horizontal-Parallax Light Field Display

Mark Bolas: SCA IMD
Paul Debevec: ICT

Figure 1: (a) An audience interacts with a remote participant (RP) rendered in 3D on an autostereoscopic display. (b,c) A cross-fusable stereo pair where the RP appears life-size in correct perspective, able to make eye contact with the members of the audience. (d) The RP looks back at the audience via geometrically calibrated wide-angle 2D video while being scanned, transmitted, and rendered at 30Hz.
PICTURES AT AN EXHIBITION

A 5-screen visualization for live performance with Michael Tilson Thomas and the New World Symphony Orchestra

Directed by Michael Patterson & Candace Reckinger

Animation by faculty and students of the Division of Animation and Digital Arts, USC School of Cinematic Arts
Gigapixel Images (Hanson, SCA CTAN):

- Hi-rez, explorable panoramas
- Digital backgrounds for visual effects
Immersive and Procedural Audio
Oblong: g-speak spatial operating environment
Touch Surfaces
RGB + Depth Filmmaking
Augmented Reality

“Danger Copter” AR game built with Qualcomm SDK
By IMD MFA students
DIGITAL STORYTELLING AND WORLD BUILDING

Virtual Production
BUILDING A COHERENT AND IMMERSIVE WORLD

[MINORITY REPORT
WASHINGTON DC 2050]
Transmedia storytelling (aka multiplatform, crossmedia, or enhanced storytelling)
OPEN SOURCE CINEMA / CROWD SOURCE CINEMA
Distributed Collaboration
for Creative Workflow
Partners:
Keio University’s Digital Cinema Consortium
WIDE Project (Japan ISP)
Interactive Media Division, SCA
Support by Cisco Systems and IBM Japan
Adding NAIST & Singapore

“Baja”: Collaborative Editing

“Andrew Rivolski”: Collaborative Gaming
Remote master class over CineGrid network with Oscar-winning sound designer Randy Thom
New Tools for Electronic Publication and Distribution
Comparative visualization
Screen density of actors:
*West Side Story* vs. *Strange Days*
“Difference Analyzer”  Comparative Media Analysis
Anderson (2012)
Mobile Media: Linking Physical and Virtual Worlds

“Million Story Building” Project
Ambient Storytelling
in Vehicle/Driver Interaction

Mobile Media: Linking Physical and Virtual Worlds
Play-centric Game Design and Innovation
Collegeology Games
A Portfolio of College Knowledge Games for Underserved Youth

$2 Million Grant
Help kids understand college admission and scholarships

Partners:
Foshay Learning Center Academy of Information Technology
Los Angeles Unified School District
MESA: Mathematics Engineering Science Achievement
MTV Get Schooled
National Association of College Admission Counselors
National College Access Network
So Cal CAN
“Walden: A Game”
$40,000 NEA Grant
Interactive Exploration of Walden

‘Walden Woods’ video game based on philosopher Thoreau’s life

Topics: Henry David Thoreau + Thoreau

Its lack of thrills, spills and multiple deaths means it is unlikely to appeal to fans of Grand Theft Auto and Call of Duty, but a video game based on the years Henry David Thoreau spent living alone in a Massachusetts cabin is in development, following a US government grant.

The University of Southern California has been given $40,000 by the National Endowment for the Arts to develop Walden, in which “the player will inhabit an open, three-dimensional world that mirrors the environment of Walden Woods.” With the...
ENTERTAINMENT APPLICATIONS FOR BEHAVIORAL SCIENCE, MEDICINE, AND PUBLIC HEALTH
Reality Starts Here
Freshmen Orientation Game
WHAT TO DO WHEN YOU SEE THE FLAG:

1. DO NOT PANIC.
2. APPROACH THE FLAG. GO IN A GROUP FOR BEST RESULTS.
3. SEARCH THE AREA FOR OUR COMMUNICATIONS.
4. STAY TOGETHER AND FOLLOW DIRECTIONS.
REALITY ENDS HERE
CARD INTERFACE AND DESIGN

LONG TAKE
ON SET AT NIGHT. AS IF SHOT WITH A MILES-
MOBILE.

PERCEPTION
X3 IF YOU HAVE ALL 7 RED-FLY CARDAS.

MATT WATSON

TOUCH OF EVIL
CAMERA OBSCURA

PROJECT STATS
82 PROJECTS
7 PER WEEK
29 COLLABORATORS
PER PROJECT

THE STEPS OF THE GAME
1. To start playing, students must find the secret
Game Office and pick up a packet of cards.
2. Face-to-face play unfolds as players collaborate
with one another to generate a creative prompt
known as a "Seed.
3. Players use creative product titles and
frameworks to make a film, game, event, show, world, or
other artwork based on the cards used in the
Seed.
4. To score points, players submit their project through
the game's website, then bring their cards to the
Game Office to "trigger" how their project fulfills the
terms of their Seed.
5. Completed projects are shared on the web,
leading to peer discovery while also remaining
interest in the game itself.

GAME REVIEW
"THE PASSION THE GAME IS MOTIVATING IN USC
STUDENTS IS PALPABLE. AND I CAN TELL YOU THAT
MANY OF THE FACULTY, WHO HAVE GOTTEN PULLED
INTO THE GAME THROUGH ONE PLAY MECHANIC OR
ANOTHER, ARE FEELING A REAL PRIDE IN THEIR
SCHOOL FOR ITS WILLINGNESS TO EMBRACE THIS
KIND OF EXPERIMENTATION AND INNOVATION."
HENRY JENKINS

PARTICIPANTS
180 PLAYERS
90 FRESHMAN
80 OTHER COHORTS & NON-SCA
21 FACULTY
13 GUESTS
7 GAME RUNNERS
*11% of the freshman class is playing the game

TRAFFIC / ACTIVITY
242 PHOTO BLOG POSTS
1168 COMMENTS
4150 STATUS UPDATES & TWEETS
22,445 PAGE VIEWS FROM 28 COUNTRIES

HIGHEST INDIVIDUAL ACHIEVEMENTS
THE TOP COLLABORATOR WORKED WITH 69 DIFFERENT PLAYERS!
THE MOST PRODUCTIVE PLAYER PARTICIPATED IN 38 DEALS!

* stats are current to November 27, 2011 — 10 weeks of game play (5 weeks remaining)

82 projects
7 per week
29 collaborators
per project

29

5 music videos
25 minute shorts
1 radio play
5 scenes
4 tableaus
4 silent shorts
1 short Gimmick
5 animated shorts
5 documentary shorts
1 interactive film
4 experimental films
6 comedy sketches
1 live video game
1 suspension sequence
1 comic book
1 basic new wave film
1 vision of the future
2 photo sequence
4 sets of character artifacts
3 trailers
1 science fiction universe
1 focus surveillance
1 focus product
2 salons
2 animated shorts
4 flip books
1 one-will play
1 last journal
1 manual

VS.

214

animation - 12/16 - 12% participation - 14% of total
critically shot - 10/14 - 14% participation - 16% of total
production - 32/47 - 47% participation - 48% of total
interactive - 14/77 - 19% participation - 19% of total
writing - 23/90 - 26% participation - 28% of total
animation: 12%
critically shot: 14%
production: 47%
interactive: 19%
writing: 26%
VIEW FROM 34TH STREET & MCCINTOCK

PHASE III – CONCEPT DRAWINGS

USC, Los Angeles, California

29 March 2011