Building Game Developers

Michael Zyda, Director
USC GamePipe Laboratory
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Michael Zyda
Short Bio
Michael Zyda

Naval Postgraduate School - 21 years Professor
  Pioneer in computer graphics, networked virtual environments, modeling & simulation, entertainment & serious games
  Did fundamental work on the networking of games
  Founded the MOVES Institute
  Drafted the operating & research plans for the USC Institute of Creative Technologies

Directed the development of America’s Army Game
  The America’s Army Game created the serious games field & transformed US Army Recruiting …

Founded the USC GamePipe Laboratory, the USC CS/Games Program & the Advanced Games course.

Have worked for 20+ game companies as technical expert in patent litigation.
E3 -
22 May 2002
Some former students

Christian Buhl, EA

Technical Director
• Madden NFL 15
• NCAA Football 14
• Madden NFL 13 (Core Stability Team)
• NCAA Football 13

Lead Software Engineer
• NCAA Football 12
• NCAA Football 11
• NCAA Football 10
• NCAA Football 09

Software Engineer
• NCAA Football 08
• NCAA Football 07
• NCAA Football 06
Some former students

Michael Capps, Epic Games
President Emeritus, Epic Games
- sold 46% of Epic to Tencent Games for $330M

Founder/President of Scion Games -
Formed to take over the Unreal franchise, freeing Epic to focus on new IP.
Served as lead designer of Unreal Championship 2 for the Xbox, and laid design foundation for Unreal Tournament 2007, which later became Unreal Tournament 3.
Sold the company to Epic Games in March 2004, and became President of the combined company.
Some former employees

Alex Mayberry

Star Citizen
Executive Producer

Blizzard
Lead Game Producer - Diablo III
Sr. Game Producer - World of Warcraft: Cataclysm
Sr. Game Producer - World of Warcraft: Wrath of the Lich King
Sr. Game Producer - World of Warcraft: The Burning Crusade
Executive Producer/Creative Director - America's Army: Special Forces
Executive Producer/Creative Director - America's Army: Operations
Creative Director/Art Director - America's Army: Recon
USC GamePipe

Degree Programs
Game Industry Hiring Demand

- Designers: 5%
- Artists: 30%
- Programmers: 65%
Degrees

BS in Computer Science (Games)
MS in Computer Science (Game Development)
The USC Game Pipe Laboratory has graduated some 1,500 students from these two degree programs over the last ten years.

Our alumni have shipped games played by over 880M players.

The USC GamePipe Laboratory Program is THE academic program that has had the largest impact on the Game Industry.
**MS in Computer Science (Game Development)**

### CS Core (9 credits)
- **You must take the following two courses:**
  - CS 570 Analysis of Algorithms (3)
  - CS 580 3D Computer Graphics & Rendering (3)

### Game Development Core (11 credits)
- CTIN 488 Game Design Workshop (4)
- CS 522 Game Engine Development (4)
- CS 423 Native Console Multiplayer Game Development (4)

### Electives - choose a concentration area & Complete Two Classes in That Area (6 credits)
- Infrastructure
- Cognition & Games
- Immersion
- Serious Games

### Project Classes (7 credits)
- CSCI 529a Advanced Game Projects (4)
- CSCI 529b Advanced Game Projects (2)

### Infrastructure
- CS 503 Parallel Programming (3)
- CS 520 Computer Animation & Simulation (3)
- CS 523 Networked Games - Design & Implementation (3)
- CS 524 Networked AI (3)
- CS 526 Advanced Mobile Devices & Game Consoles (3)

### Cognition & Games
- CS 524 Networked AI (3)
- CS 534 Affective Computing (3)
- CS 543 Software Multiagent Systems (3)
- CS 567 Machine Learning
- CS 573 Probabilistic Reasoning (3)

### Immersion
- CS 425 Immersive Game Design (4)
- CS 520 Computer Animation & Simulation (3)
- CS 523 Networked Games - Design & Implementation (3)
- CS 574 Computer Vision (3)
- CS 588 Specification & Design of UI Software (3)
- CTAN 502A Virtual Reality & Stereoscopic Animation (2)
- EE 619 Advanced Topics in Speech Recognition & Spoken Language Engineering (3)

### Data Analytics
- CS 523 Networked Games - Design & Implementation (3)
- CS 585 Database Systems (3)
- CS 567 Machine Learning (3)
- CS 573 Probabilistic Reasoning (3)
- CS 686 Advanced Big Data Analytics (3)
Advanced Games Course

Advanced Games Contest in Spring

– We do a general call for game designs.
– An industry & faculty panel reads & decides which games to build in Fall & Spring semester of the following year.
– A winning submission has well-chosen leads & the core development team signed up.
Advanced Games Course

Fall Semester

– 3.5 hour course every Thursday.
– Agile development.
– Goal - playable prototype with 20 - 60 minutes of game play.

Fall End of Semester Showcase

– December GamePipe Showcase shows live game play from all the games built in the GamePipe Laboratory throughout the semester.
Advanced Games Course

Spring Semester
- Mid-course corrections & continued development.
- Two to four hours of gameplay by the end of the semester.

Spring End of Semester Showcase
- Live Games in the GamePipe Showcase

USC GamePipe
# Showcase Attendance & Placement

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Dance Pad
Get Your Finger Dance On!

Dance.
Watch.
Create.

USCGamePipe
USC GamePipe

Game Industry Alumni
Activision
Spider-Man 3
Transformers
- Revenge of the Fallen
Call of Duty - World at War
Call of Duty - Modern Warfare
Call of Duty - Modern Warfare 3
Call of Duty - BlackOps
Call of Duty - BlackOps 2
Call of Duty - Ghosts
Call of Duty - Advanced Warfare
DJ Hero
156.43M

Electronic Arts
SimAnimals Africa
Dante's Inferno
Medal of Honor: Airborne
Sims 2 Pets
MySims
MySims Kingdom
MySims Agents
Monopoly Streets
Littlest Pet Shop Friends
Scrabble (mobile)
Simpsons (mobile)
Madden (mobile)
Tetris (mobile)
Sims 3
Dragon Age: Legends
Rock Band 3
Command & Conquer
Medal of Honor - Warfighter
Sims 4
36.49M

Blizzard
Starcraft 2
Diablo 3
Hearthstone - Heroes of Warcraft
19.1M

Rockstar
Grand Theft Auto V
33M

Kabam
Kingdoms of Camelot
15M

Gearbox
Duke Nukem Forever
Borderlands 2
5.77M

Sony Computer Entertainment of America
God of War III
God of War: Ascension
4.46M

Riot Games
League of Legends
70M

USC GamePipe
Graduates Have Developed Games Reaching 880M Players

Disney
Ultimate Band (DS)
Cars 2
Club Penguin!
Disney Infinity
Where's My Water
Where's My Perry
Where's My Mickey
28M

Bungie
Destiny
20M

2K Games
NBA 2K9
The Bureau - XCOM Declassified
2.63M

Microsoft Game Studios
Kinectimals
1.25M

Insomniac Games
Resistance 3
1.97M

Crowdstar
Top Girl
2M

RockLive
Mad Chad
Mike Tyson's Main Event
Heads Up with Cristiano Ronaldo
3M

Crystal Dynamics
Tomb Raider: Underworld (2008)
Lara Croft & the Guardian of Light (2010)
3.18M

Zynga
Farmville
CityVille
Texas HoldEm Poker
Mafia Wars
Mafia Wars 2
Yoville
Empires & Allies
Cafe World
Hidden Chronicles
The Ville
Farmville 2
Words with Friends
Scramble with Friends
460M
Sumeet Jakatdar
Principal Software Eng, Treyarch
Call of Duty World at War
Call of Duty Black Ops 1 & 2
Engineers

- Pravin Babar
- Amit Bhura
- Penny Chock
- Adam Demers
- Ryan Feltrin
- Mark Hu
- Tommy Keegan
- Bryce Mercado
- Juan Morelli
- Bharathwaj Nandakumar
- Jamie Parent
- Timothy Rapp
- Diarmaid Roche
- Caleb Schneider
- Lucas Seibert
- Varun Sharma
- David Young

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Multiplayer Black Ops 2 Credits
- 5 USC Games Engineers
Ali Timnak
Activision - Sledgehammer
Call of Duty - Advanced Warfare
USC Games Alumni at EA Redwood Shores
Artem Kovalovs, Software Eng
EA, Medal of Honor - Warfighter
Artem Kovalovs, Software Eng
Naughtydog, The Last of Us
(PS-4)
Frank Gibeau, EA President & USC Alum
Testing USC Student Games
Anshul Dhawan, Senior Software Eng, Zynga Poker
Raymond Xiang,
Senior Software Engineer
Zynga - Farmville, Farmville 2
Zynga acquires mobile gaming startup Wild Needle - report
by Mike Rose [Smartphone/Tablet, Business/Marketing]

May 14, 2012

Social games giant Zynga has made another acquisition, this time for a social mobile gaming studio comprised of entrepreneurs who have had experience at companies like Microsoft, PayPal and Playdom, according to media reports.
Mike Grattan, Technical Designer
Sony Santa Monica
God of War Ascension

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Sony Santa Monica
God of War Ascension
Travis Primm, Programmer
Sony Santa Monica - God of War Ascension; Rockstar San Diego
Travis Primm & Aaron Martin
Gameplay & Tools Programmers
Rockstar San Diego

Grand Theft Auto V

USC GamePipe

Travis Primm & Aaron Martin
Gameplay & Tools Programmers
Rockstar San Diego
Grand Theft Auto V
Travis Primm & Aaron Martin
Gameplay & Tools Programmers
Rockstar San Diego
Grand Theft Auto V
Disney Infinity Central Technology
Director, Technology
Jose Villeta
Greg McBride
Senior Manager, Technology
Tolga Tekin
Programmer
Alejandro Villagomez
Associate Engineer
Sean Hueber
Graduate, Game Software Engineering
David Landau
Contractor, Server Programmer
Alex Shmelev

Disney Infinity Global Brand Marketing
Senior Manager, Global Brand Marketing
Janice Balgemo
Senior Manager, Global Brand Marketing

USCGamePipe
Rachelle Davis, Associate SE
Blizzard, Hearthstone - Heroes of Warcraft
Michael Scipione
Tech Designer, Blizzard,
Starcraft II - Legacy of the Void
Arzin Chibber,
Gameplay Programmer
2K Marin
The Bureau - XCOM Declassified
Pratik Thakare
Bungie, Tools
Programmer
Destiny (10M on Day 1)
At USC Games we are dedicated to redefining the potential of games in entertainment, art, society, education and more.

Our program is known for innovative, leading-edge design and development, creative leadership, and entrepreneurship. **We don’t play by the rules, we make them.**

It’s why The Princeton Review has ranked USC #1 in game design for five straight years.

games.usc.edu