CS74.42A Game Dev 1

Spring 2018 ~ Ethan Wilde   *Week 1*

SANTA ROSA
JUNIOR COLLEGE

Welcome

- Homework + Tests

- Grades

- Meeting Schedule

- Course Outline: 3 Levels

- Textbooks

- Software

- World of Game Development

- Introduction to JavaScript

About Me

- Founder of early Web development company, Mediatrope, in 1996

- Created Content Management System software used for museum and cultural organization websites

- Grew up in Cloverdale, graduated Cloverdale H.S. 1985

- Attended UC Santa Cruz and UC Berkeley

- Degrees in Art History and Architecture

- Designed and developed award-winning online and media-based games for children and mass market

- Technology helped shape the path of my life

Homework + Tests

- All homework, quizzes and tests online via Canvas.

- Sixteen (16) Project Assignments

- Two (2) Graded Quizzes

- Midterm *(online like everything else)*

- Final Exam *(online like everything else)*

- **Homework due <u>uploaded</u> to Canvas by <u>11:59pm PST Thursdays</u>**

Grades

- **Grading Policy**

  - **0 pts for missed quiz, midterm, or final exam**, unless prior written arrangements made with me.

- **Late Homework**

  - **due Thursdays 11:59pm PST**

  - 10% reduction in max grade per week late

  - Emergencies? Let me know

- **Attend Online + Participate!**

Points

14 x 30	68% 16 Project Assignments
2 x 130	
15 x 8	12% 15 Discussions (Writing)
2 x 30	6% 2 Quizzes
70	7% 1 Midterm
70	7% 1 Final Exam
1000	**1000 points possible** (100%)

Grades

Points	Percent	
1000 - 900	100% - 90%	A
899 - 800	89% - 80%	B
799 - 700	79% - 70%	C
699 - 600	69% - 60%	D
599 and below	59% and below	F

Meeting Schedule

Online via Zoom
Weekday TBD in Week 2

January 19 - May 25

Course Outline

Week

1	9	11	18

Part 1: JavaScript Programming + Browser-Based Games	Part 2: Planning + Designing Your Own Game	Part 3: Developing + Playtesting Your Own Game

Our journey maps to three distinct parts, or levels.

Each level is a variable number of weeks in duration.

Course Outline

1	World of Game Development	10	Prefabs + Classes / Midterm Project Review
2	Introduction to JavaScript + Systems Thinking	11	Final Project: Design Your Game
3	Get Started with Browser-Based Games + JavaScript	12	Advanced Dev Environments
4	Working with Sprites + Controls	13	Build and Playtest Sprint 1: Final Project
5	Level Maps, Atlases + Tiles	14	Special Topics
6	Animation, UI + Sound	15	Build and Playtest Sprint 2: Final Project
7	Simulating the Physical World	16	Finalizing and Optimizing Game
8	More Physics, Particles + Effects	17	Taking Your Game Further
9	Midterm Exam / Draft GDD	18	Final Exam / Final Project Review Discussion

Get all of the details in the complete syllabus on Canvas.

Textbooks

Week 3
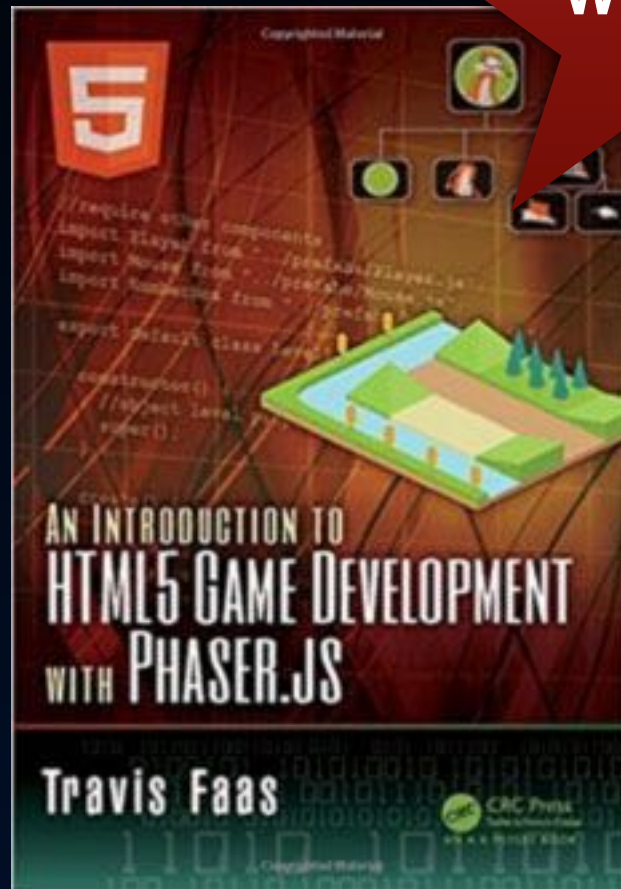
Week 2

An Introduction to HTML5 Game Development with Phaser.js
Travis Faas
ISBN 978-1-138-92184-9 print
ISBN 978-1-315-31921-6 ebook

Eloquent JavaScript

Marijn Haverbeke
Free PDF

Software for Part 1

Text Editor	**Cloud9** (Browser-based Mac + Win)	Brackets (Desktop app Mac + Win, free)	Sublime Text (Desktop app Mac + Win)
Web Browsers	**Google Chrome** (development)	Mozilla Firefox (FireFTP add-on)	Others (browser testing)
File Transfer (SFTP/FTP)	**Cloud9** (Browser-based Mac + Win)	Fetch (Desktop app Mac only)	WinSCP (Desktop app Win only)
Graphics Editor	**pixlr.com** (Browser-based Mac + Win)	Adobe Photoshop (Mac + Win, student cc sub)	Gimp (Desktop app, Mac + Win, free)
PDF Reader	**Adobe Reader** (free)	Adobe Acrobat Pro (part of cc sub)	Apple Preview (Mac only)

Software for Part 1

http://phaser.io/
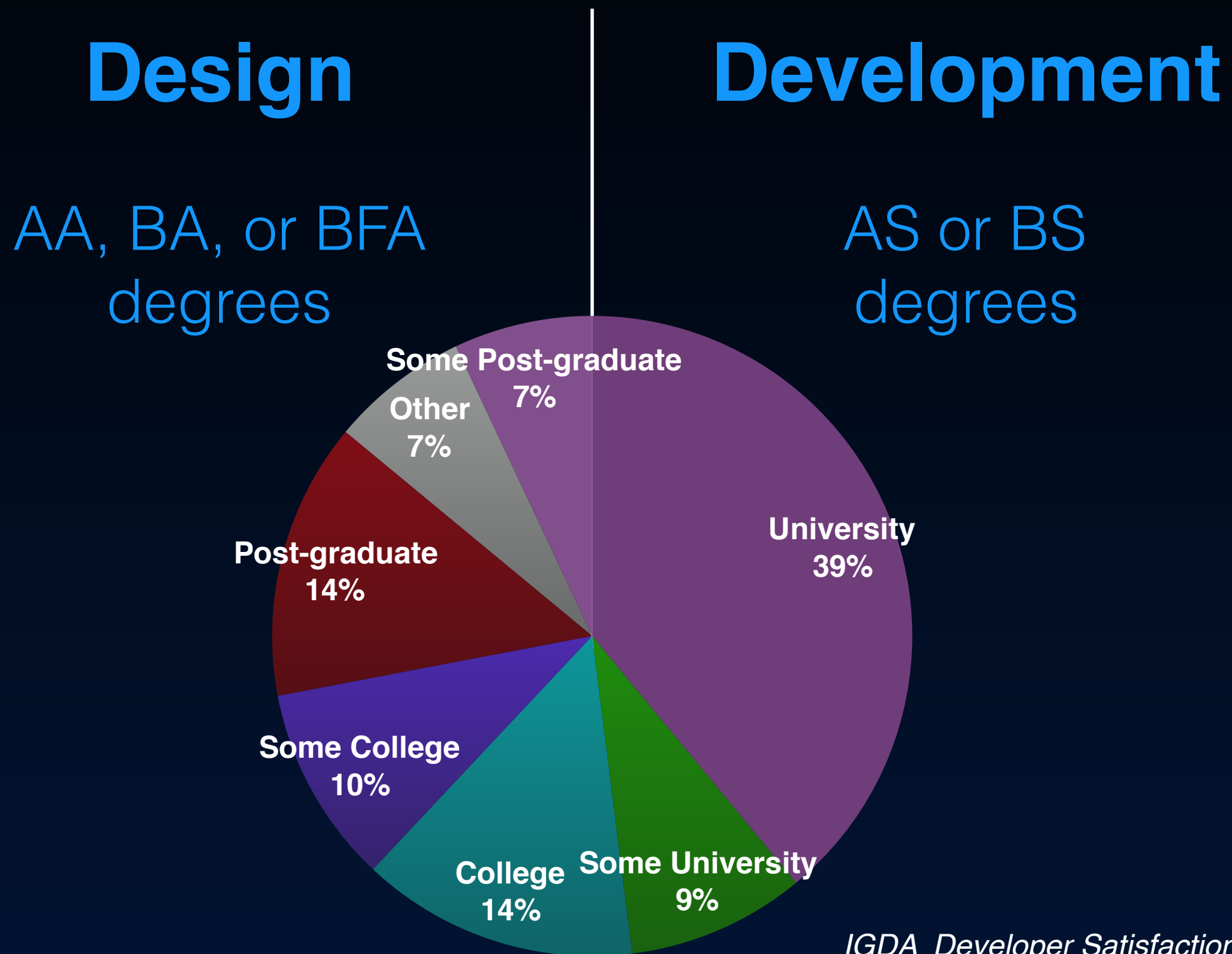
The World of
Game Development

Design

2D background artist
3D animator
3D modeler
art director
character artist
content designer
creative director
effects artist
game designer
texture artist

Development

2D game programmer
animation engineer
audio programmer
content programmer
engine programmer
game programmer
game tester
tools engineer
network programmer
online AI programmer

The World of Game Development

Design

AA, BA, or BFA degrees

Development

AS or BS degrees

IGDA Developer Satisfaction Survey 2015

The World of Game Development

California	Texas	Washington
853 Companies	**268 Companies**	**221 Companies**

Top States by Number of Companies

State	Number of Active Game Companies
Oregon	67
Pennsylvania	68
Georgia	90
Florida	92
Illinois	97
Massachusetts	128
New York	219
Washington	221
Texas	268
California	853

Number of Active Game Companies
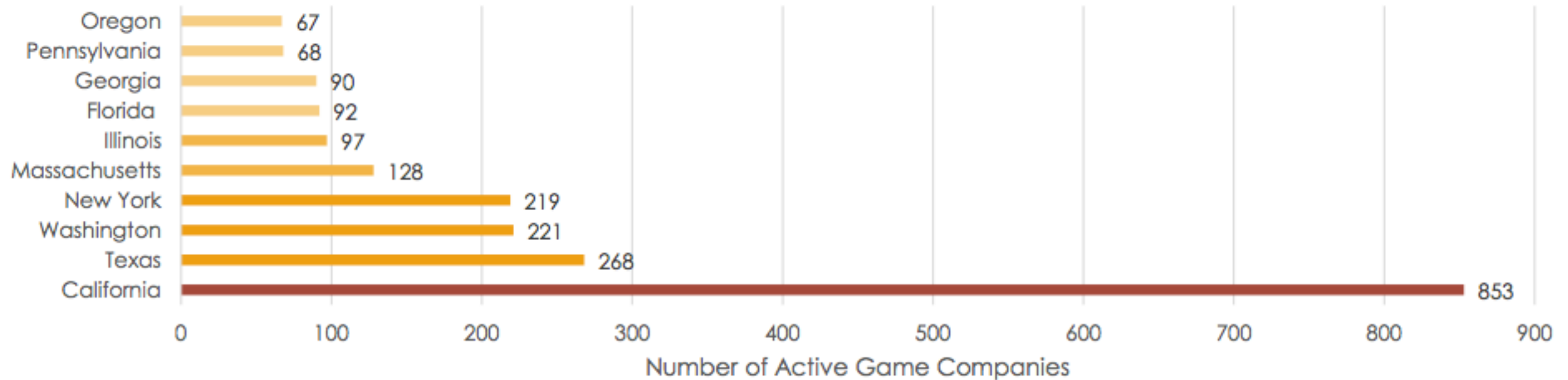
The World of Game Development

Los Angeles-Long Beach-Santa Ana	San Francisco-Oakland-Hayward	New York-Northern New Jersey-Long Island
331 Companies	**307 Companies**	**211 Companies**

The top metropolitan statistical areas (MSAs) by industry volume are led by major cities in California. Los Angeles-Long Beach-Santa Ana has more game companies than any other MSA with 331 companies followed closely by San Francisco-Oakland-Hayward with 307 game companies. Another California MSA, San Jose-Sunnyvale-Santa Clara, is also included in the list with 75 companies. Top MSAs are additionally located in Texas (Austin-Round Rock and Dallas-Fort Worth-Arlington), Washington (Seattle-Tacoma-Bellevue), New York (New York-Northern New Jersey-Long Island), Massachusetts (Boston-Cambridge-Quincy), and Illinois (Chicago-Naperville-Joliet).

Top Metroploitan Statistical Areas by Number of Companies

MSA	Number of Companies
Atlanta-Sandy Springs-Roswell	75
San Jose-Sunnyvale-Santa Clara	75
Dallas-Fort Worth-Arlington	83
Chicago-Naperville-Joliet	84
Boston-Cambridge-Quincy	113
Austin-Round Rock	141
Seattle-Tacoma-Bellevue	193
New York-Northern New Jersey-Long Island	211
San Francisco-Oakland-Hayward	307
Los Angeles-Long Beach-Santa Ana	331

Top MSAs include cities in California, Texas, Washington, New York, Massachusetts, and Illinois

The World of Game Development

% of Employees by Company Subgroup*

Subgroup	%
Services	0.5%
Hardware/Software	2.3%
Distributor	2.8%
Publisher	37.9%
Developer	56.5%

% of Total Employees in Subgroup
(axis: 0.0% – 60.0%)
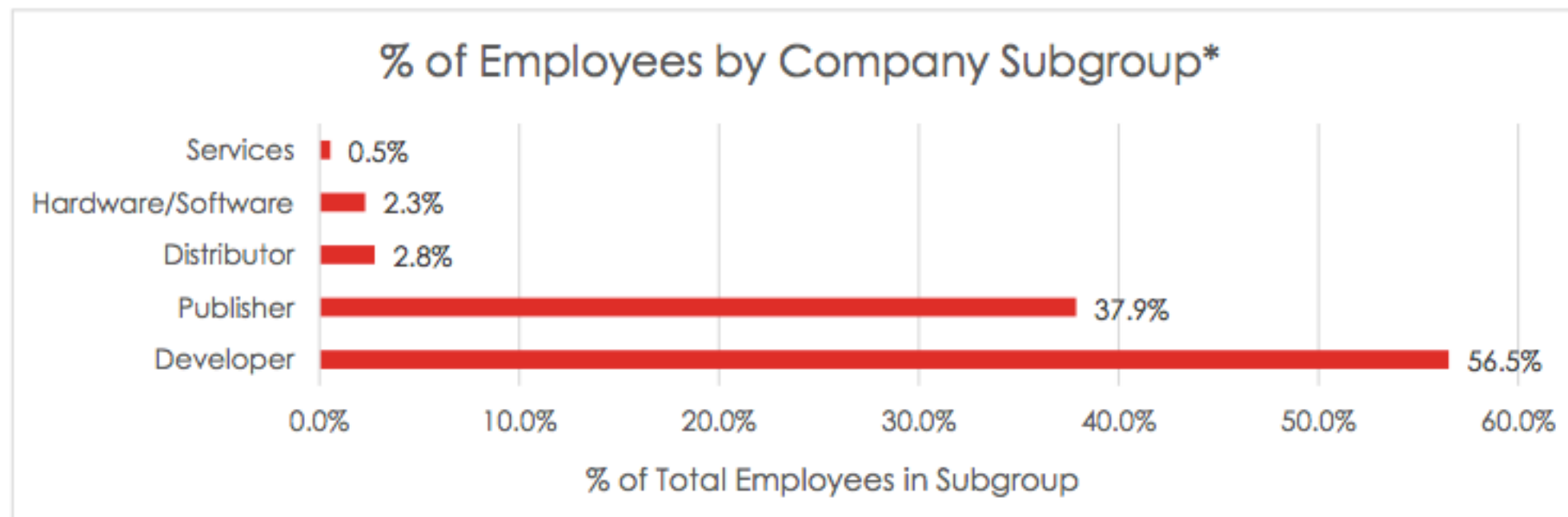
The American video game industry directly employees an estimated 65,678 people

*Non-Exclusive Developers are not included due to inability to judge the number of employees focused on game industry activities

All game publishers—even those that are considered to be small businesses—employ the most people on a per company basis. Despite only having 220 companies within its subgroup, publishers employ 37.9% of all industry employees. This is due to the prevalence of small companies in the developer subgroup. A developer's average total employment per company is 18 employees while a publisher's average total employment per company is 114 employees.

99.7%
of American video game companies meet the criteria for a **small business**

91.4%
of American video game companies **employ 30 people or less**
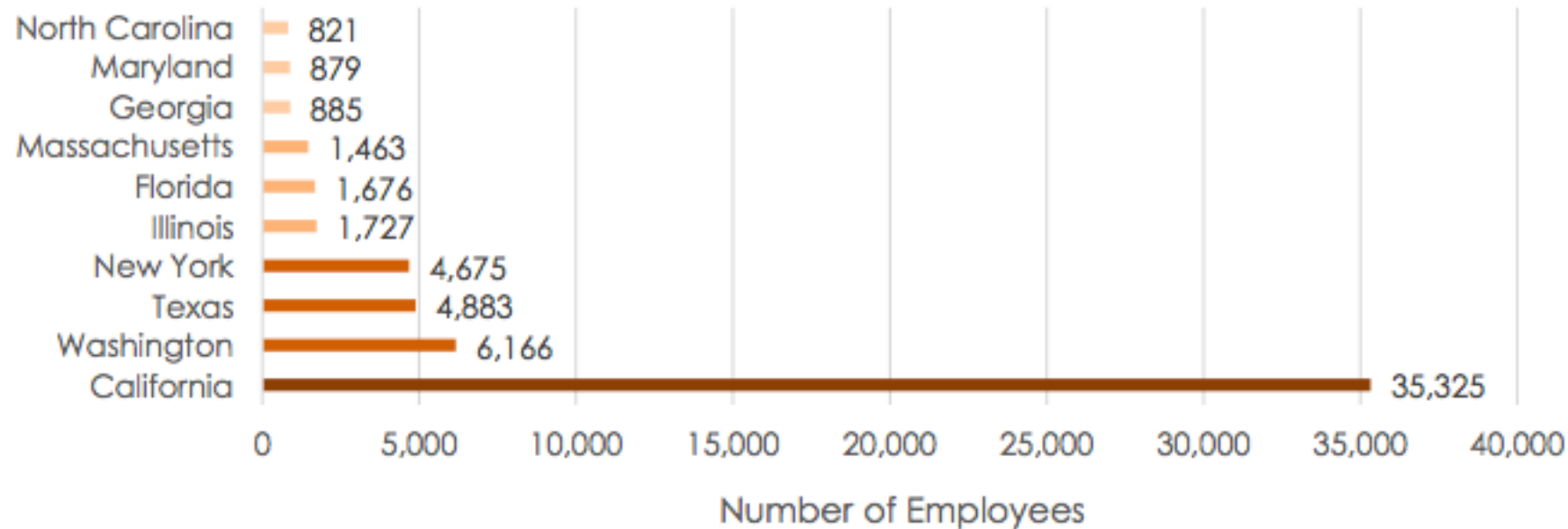
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The World of Game Development

The World of Game Development

Play Games

The World of
Game Development

Last Semester's Games

The World of Game Development

Think About Games: *Jane McGonigal*
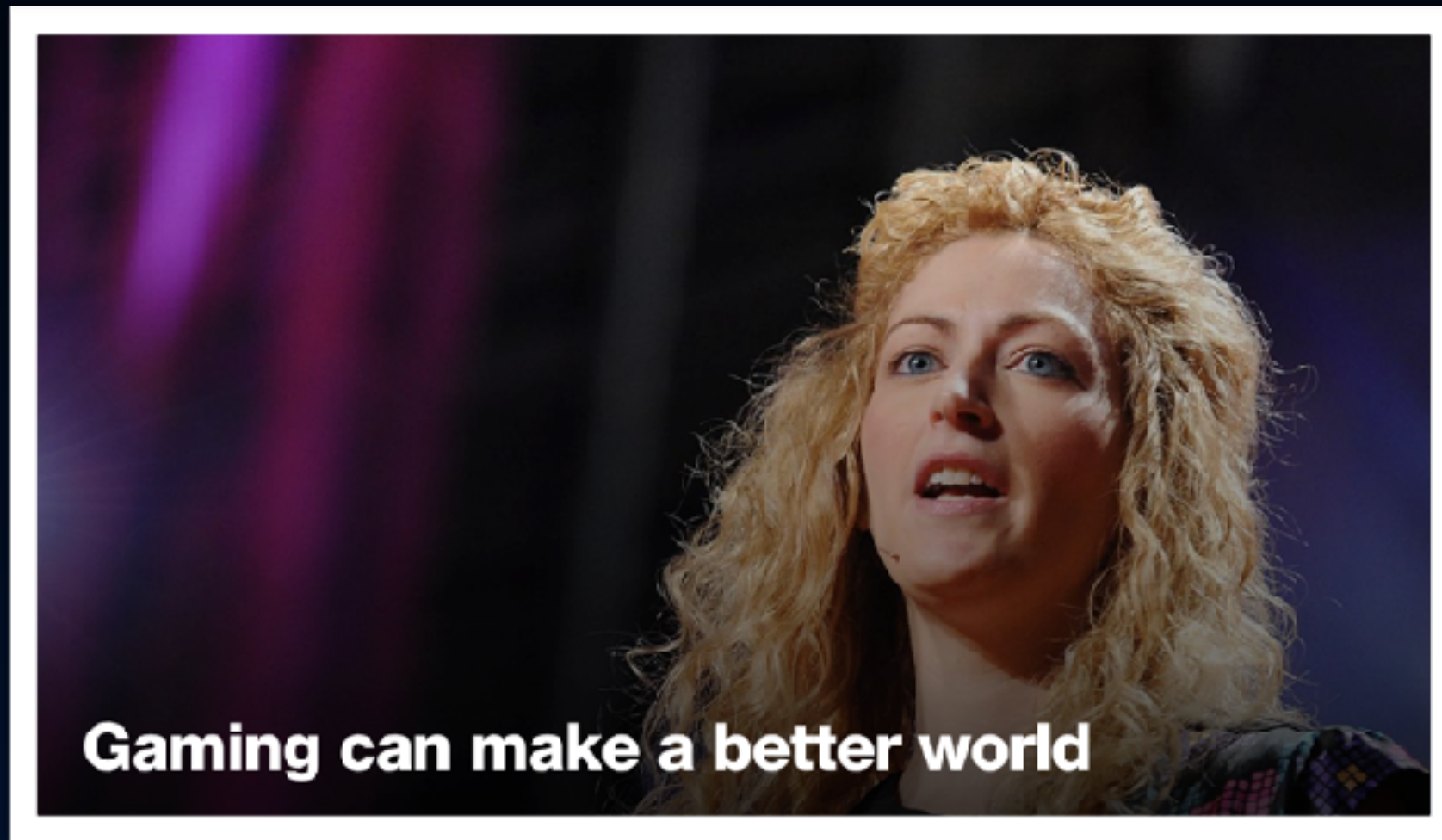
Gaming can make a better world

Introduction to Games

"**Games are defined systems with rules and actors. Flow control, sequencing, and logic are our building blocks for gameplay.**"
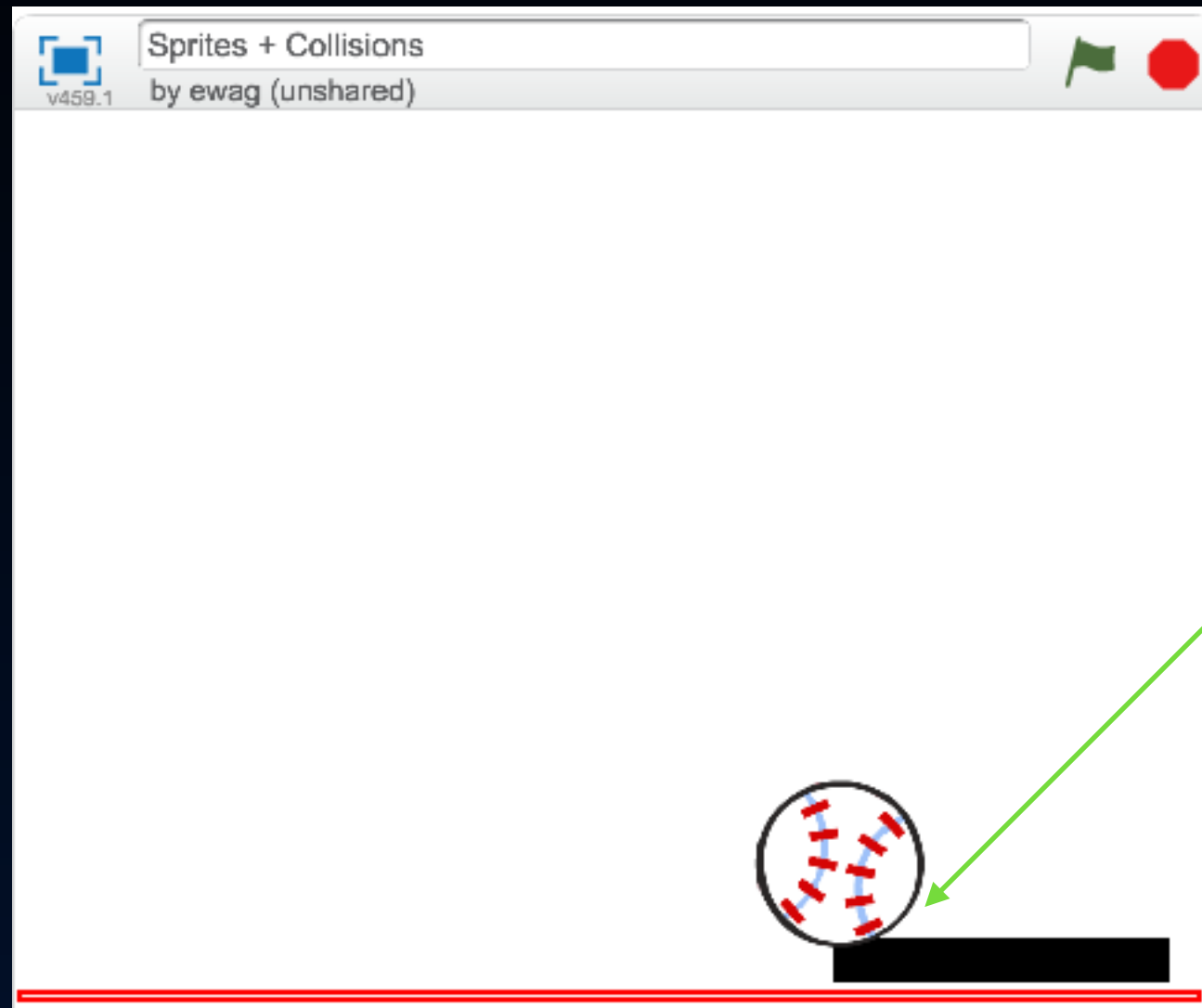
— Me

Introduction to Games
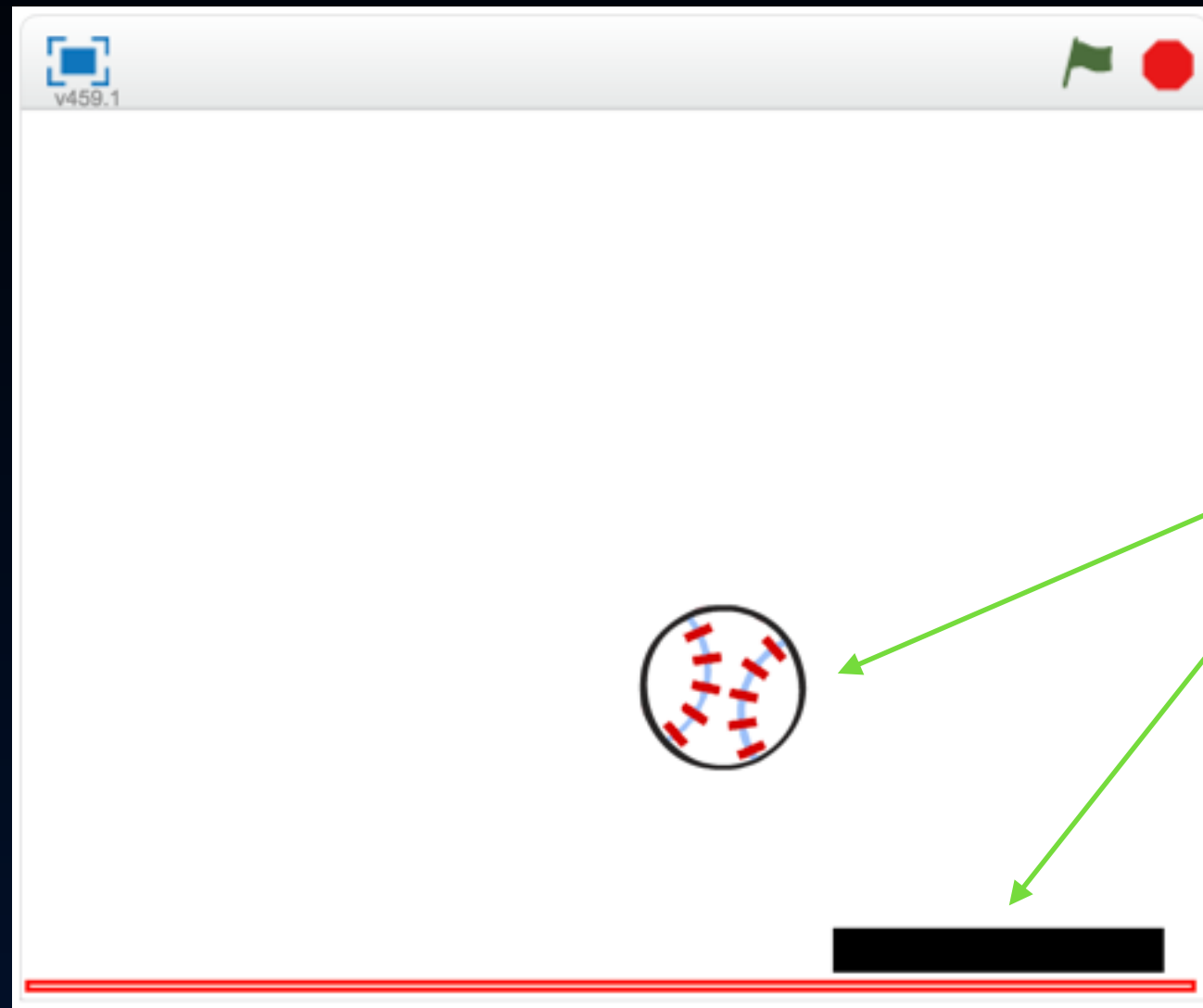
Sprites

We call actors on our game stage "sprites."

https://scratch.mit.edu/

Introduction to Games

Collision

When sprites touch, that is a "collision."

https://scratch.mit.edu/

Introduction to JavaScript

"**JavaScript is the language of the browser and of the people – it is the most widely known programming language in our history.**"

— Me

JavaScript Everywhere

JavaScript is found in many software products besides web browsers.

www.jseverywhere.org

What to Do Next

Play Games

- **Optional Reading**

  - *JavaScript for Cats* online tutorial:
    http://srjc.ethan.com/js4cats/

- **Homework**

  - **Assignment 1: Syllabus Quiz**

  - **JavaScript Self-Evaluation**

  - **Discussion 1: Check-in Discussion:**
    watch Ms. McGonigal's TED Talk and post intro

  - **Student Cloud9 Account Survey:**
    complete survey with your preferred email address

  - Homework due **uploaded** to Canvas by **11:59pm Thursday 1/25**

- **Canvas Site:** class videos, article links and lecture materials available

  - **https://canvas.santarosa.edu/courses/28613**