VIDEO GAMES in the 21st CENTURY

THE 2010 REPORT

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Executive Summary

Video Games in the 21st Century: The 2010 Report measures the economic contributions made by the U.S. entertainment software industry to the American economy during the period 2005-2009. *The 2010 Report* updates and expands upon an earlier study that quantified, for the first time, the economic benefits provided by the entertainment software industry to the U.S. economy as a whole[1].

The 2010 Report concludes that:

- The U.S. computer and video game software publishing industry directly employs more than 32,000 people in 34 states.
- In 2009, these employees received total compensation of $2.9 billion.
- The total U.S. employment, both direct and indirect that depends on game software now exceeds 120,000.
- For the four-year period 2005 through 2009, direct employment in the U.S. computer and video game software publishing industry grew at an annual rate of 8.65%.
- The U.S. computer and video game software industry's value added to U.S. Gross Domestic Product (GDP) was $4.9 billion.
- The real annual growth rate of the U.S. computer and video game software industry was 10.6% for the period 2005-2009 and 16.7% for the period 2005-2008.
- During the same periods, real growth for the U.S. economy as a whole was 1.4% for 2005-09 and 2.8% for 2005-08.
- In 2009, the average annual compensation per employee (wages, salaries and employer contributions for pensions, insurance and government social insurance) was $89,781.

[1] Siwek, Stephen E., *Video Games in the 21st Century: Economic Contributions of the U.S. Entertainment Software Industry*, Entertainment Software Association (2007).

I. Introduction

The U.S. industry that develops and publishes video game software creates wholly new forms of entertainment for consumers worldwide. The industry also generates sales in the billions of dollars and creates thousands of American jobs. The U.S. interactive entertainment software industry is, and has been, one of the most rapidly growing industries in the United States. From 2005 through 2009, the computer and video game industry achieved real annual growth of 10.6% per year. By comparison, the entire U.S. economy grew by only 1.4% per year during the same four-year period. If one were to ignore the difficult economic climate in 2009, the video game industry's annual growth rate for the three-year period 2005-2008 was 16.7%. In these years, the U.S. economy grew at a real annual rate of only 2.8% per year.

This publication, *Video Games in the 21st Century: The 2010 Report*, presents a number of statistical measures that quantify the economic contributions of the computer and video game software publishing industry in the period 2005-2009. Many of the statistical measures included in this report were either taken directly from U.S. government sources such as the U.S. Census Bureau or were derived using public data from those sources. A basic difficulty that arises when using U.S. government data to assess the computer and video game software industry is that many (but not all) of the most relevant statistics measure broader industry groupings such as software publishing. For this reason, certain estimates presented in this report were derived initially using statistical data for a broader industry grouping than game software publishing. Subsequently, where possible, these broader measures were adjusted to better reflect the known characteristics of the game software publishing industry.

In addition to government sources, certain information on the number of U.S. computer and video game developer and publisher establishments *by state* was obtained from a non-government source entitled http://gamedevmap.com. This source, created by Gaurav Mathur, identifies and locates publishers, developers, organizations, mobile/handheld developers and online developer locations or establishments throughout the world. In this report, the developer locations in the United States were combined with other data sources to estimate the current level of "direct" employment in the computer and video game software publishing industry on a state-by-state basis.

II. The U.S. Computer and Video Game Software Publishing Industry

In 2009, U.S. retail sales of computer and video games reached $10.5 billion (See Table A-1). U.S. consumers play video games on game players (usually called "consoles") such as the Sony PlayStation 3 and the Microsoft Xbox 360 and on personal computers ("PCs"). Increasingly, U.S. consumers also enjoy video games on mobile video players such as the PlayStation Portable "PSP", the Game Boy Advance and the Nintendo DS. Video games are also played "on-line" among multiple players who interconnect over the Internet and other proprietary online networks. Computer and video game designers frequently configure their games to be played on many of these "platforms."

According to industry statistics, U.S. sales of computer and video games have grown from $7.0 billion in 2005 to well over $10.0 billion today. In the same period, unit sales of computer and video games have risen from 226.3 million units in 2005 to more than 273 million units in 2009.

Table A-1: U.S. Computer and Video Game Sales 2005 – 2009

	2005	2006	2007	2008	2009
Annual Sales (in billions of USD)	$7.0	$7.4	$9.5	$11.7	$10.5
Annual Percent Change	N/A	5.7%	28.4%	23.2%	-10.3%
Annual Sales (in millions of units)	226.3	240.7	267.8	298.2	273.5
Annual Percent Change	N/A	6.4%	11.3%	11.4%	-8.3%

Source: The NPD Group, Inc. / Retail Tracking Service.

While the growth of the industry can be clearly seen in private source data, most government statistical references in the United States do not report software game publishing as a separate U.S. industry. In U.S. statistics, software game publishing is typically included within the broader industry category of software publishing. In the North American Industry Classification System ("NAICS"), the software publishing industry (NAICS 511210) "comprises establishments primarily engaged in computer software publishing or publishing and reproduction. Establishments in this industry carry out operations necessary for producing and distributing computer software, such as designing, providing documentation, assisting in installation, and providing support services to software publishers. These establishments may design, develop, and publish, or publish only."[2]

While U.S. government sources generally do not report separate statistics for the U.S. software game publishing industry, there is at least one exception to that rule. As part of its last detailed census for the years 2002 and 2007, the U.S. Census Bureau provided "Product Line" information for individual products and services within the broader category of software publishing. The product line information includes total product line receipts for the years 2002 and 2007. In Table A-2, we report the product line receipts for game software publishing, total applications publishing and total software publishing for the years 2002 and 2007.

Table A-2: Product Line Receipts for U.S. Software Publishing Industries 2002 – 2007

	2002	2007	Percent Change
Entertainment Software Publishing	$3,903,938	$8,879,821	127.5%
Total Application Software Publishing	$46,747,671	$42,260,711	-9.60%
Total Software Publishing Industry	$103,505,848	$128,937,975	24.57%

Source: U.S. Census Bureau, 2002 and 2007 Economic Census, Information Industry Series: Product Lines by Kind of Business for the United States.

As shown in Table A-2, the annual product line receipts of the entertainment software publishing industry in 2007 were $8.8 billion. This figure reflected an increase over 2002 of more than 127%. As shown in the table, the game software publishing industry reported total receipts in 2002 of only $3.9 billion.

For the broader product line category of application software, receipts in 2007 actually declined by 9.6% as compared to 2002. The total U.S. software publishing industry achieved product line receipts of $128.9 billion in 2007, an increase of more than 24% since 2002.

[2] U.S. Office of Management and Budget, *North American Industry Classifcation System*, United States, 2002, 511210 – Software Publishing, page 657.

III. Trends in Software Publishing as a Whole

While the product line information shown in Table A-2 provides a critical starting point for assessing the economic importance of the U.S. computer and video game software publishing industry, these data do not provide a sufficient basis for estimating the industry's economic contributions, particularly since 2007. In this analysis, more current estimates of game software publishing employment and value added are developed by combining government and industry source references.

U.S. Census data for the broader software publishing industry represent one of the more important of these sources.

Table B-1 provides information on trends in the U.S. software publishing industry for the years 2005-2009. Annual revenues for the U.S. software industry have grown from $119.9 billion in 2005 to $144.3 billion in 2009. Software industry revenues actually exceeded $150 billion in 2008 but declined somewhat as general economic conditions worsened in 2009. Gross annual payroll for the U.S. software publishing industry was $49.5 billion in 2005 rising to $57.5 billion in 2008.

Table B-1: U.S. Software Publishing Industry 2005 – 2009

	2005	2006	2007	2008	2009*
Estimated Revenues (in billions of USD)	$119.9	$130.7	$142.8	$151.7	$144.3
Annual Percent Change	N/A	9.0%	9.3%	6.2%	-4.9%
Gross Annual Payroll (in billions of USD)	$49.5	$52.1	$56.6	$57.5	N/A
Percent of Revenue	41.3%	39.9%	39.6%	37.9%	N/A

Source: U.S. Census Bureau, 2008 Service Annual Survey. Table 3.6.2. Revenue for 2009 is sum of 1Q 2009 through 4Q 2009 from U.S. Census Bureau's Quarterly Services Survey, Table 1.a.

More detailed information on software publishing employment is reported in Table B-2. As shown in Table B-2, total industry employment stood at 359,769 in 2007. In the same year, the software publishing industry reported total establishments of 7,916 and total employees per establishment of 45.5. While total software industry employment grew only nominally for the years 2002 through 2007, industry payroll increased by nearly 24% in the same period. Payroll per employee in the software publishing industry rose from $97,937 in 2002 to $121,178 in 2007.

Table B-2: U.S. Software Publishing Industry 2002 – 2007

	2002	2007	Percent Change
Number of Employees	356,708	359,769	0.86%
Number of Establishments	9,953	7,916	-20.47%
Employees Per Establishment	35.84	45.45	26.81%
Payroll ($000)	$34,934,949	$43,596,219	24.79%
Payroll / Employee	$97,937	$121,178	23.73%

Source: U.S. Census Bureau, 2002 and 2007 Economic Census, Information Industry Series: Comparative Statistics for the United States.

In Table B-3, the software publishing employment data from Table B-2 is disaggregated to illustrate the subset of software industry workers who are employed at firms with 500 or more employees. The data show that for this subcategory, the average number of employees per establishment in firms of 500 or more employees was 102.38 in 2006. For firms with less than 500 employees, the average number of employees per establishment was 17.40.

Table B-3: U.S. Software Publishing Industry 2006

		Total Software Industry	Firms with 500 or More Employees	Firms with Less than 500 Employees
Paid Employees	#	339,833	226,157	113,676
	%	100.0%	66.5%	33.5%
Number of Establishments	#	8,741	2,209	6,532
	%	100.0%	25.3%	74.7%
Employees Per Establishment			102.38	17.40

In Table B-4, the software publishing employment figures reported in Table B-3 are adjusted to provide separate employment figures for firms above and below 1,000 workers rather than 500. As shown in Table B-4, the average number of employees per establishment for firms of 1,000 or more employees was estimated at 107.29 employees. The number of software employees per establishment at firms with less than 1,000 employees was calculated as 20.39 employees.

Table B-4: U.S. Software Publishing Industry Adjustment for Firms with 501–1000 Employees

	Employment	Establishments
500 or More Employees	226,157	2,209
501–750 Employ/Estab.*	12,440	163
751–1000 Employ/Estab.*	14,165	186
Sub-Total 501–1000	26,605	349
500 or More Employees	226,157	2,209
Less: 501–1,000	-26,605	-349
Equals 1,000 or more	199,552	1,860
	Employees per Establishment	107.29
Less than 500	113,676	6,532
Plus: 501–1,000	26,605	349
Equals Less than 1,000	140,281	6,881
	Employees per Establishment	20.39

** Data for these firms taken from U.S. Census Bureau, Statistics of U.S. Businesses, 2004: NAICS 5112 – Software Publishers.*

In Tables B-5A and B-5B, we make one further adjustment to estimate the number of software industry employees who work at firms with 0–4 employees. It is necessary to make this adjustment in order to estimate the number of game developers and publishers who similarly work at such firms. The data source used in the next part of this report does not capture game software locations with less than five employees.

In Table B-5A, we identify the number of software publishing industry employees at firms with 0–4 employees. In 2006, there were 4,584 such employees. These employees are then removed from the overall employee counts. In Table B-5B, a similar calculation is made for software publishing industry establishments at these very small firms. In Table B-5B, the adjusted counts for software industry employees and establishments are then combined to produce a revised estimate of software employees per establishment at firms with less than 1,000 employees. That estimate is 32.98 employees.

Table B-5A: U.S. Software Publishing Industry Adjustment for Firms with 0–4 Employees

	Total Software Industry	Firms with Less than 1,000 Employees
Paid Employees	339,833	140,281
	100.0%	41.3%
Less: Employees in Firms with 0–4 Employees	(4,584)	(4,584)
Adjusted Employees	335,249	135,697

Table B-5B: U.S. Software Publishing Industry Adjustment for Firms with 0–4 Employees

	Total Software Industry	Firms with Less than 1,000 Employees
Number of Establishments	8,741	6,881
	100.0%	78.7%
Less: Establishments in Firms With 0–4 Employees	(2,767)	(2,767)
Adjusted Establishments	5,974	4,114
Adjusted Employees Per Establishment*		32.98

** Adjusted Employees from Table B-4A divided by Adjusted Establishments from Table B-4B.*

The software publishing information presented here will be used in the analysis of the entertainment software industry that is described in the next section of this report. However, these calculations clearly indicate that in the U.S. software publishing industry, the average number of employees per establishment has remained quite stable since our original report. As shown in Table B-4, in this report, we estimate the average number of software employees per establishment for firms with 1,000 or more employees at 107.29 employees. In our earlier report, at Table B-2, the average number of employees per establishment for firms with 1,000 or more employees was 110.72.

Similarly, our current estimate of 32.98 software employees per establishment at firms with less than 1,000 employees aligns closely with our previous estimate of 34.54 employees (See our initial report at Table B-3B).

In this analysis, we assume that the averages for software employees per establishment described above can be used to estimate game software employees per establishment as well. In other words, we assume that the average number of employees per establishment in the game software development subset of the broader industry is not appreciably different from what is observed in the rest of the software publishing industry. With this assumption in hand, we can then derive game software employment based on the number of game software establishments (or locations) that now exist in the United States. As in our past report, for this purpose, we rely on non-government game developer data that is published by gamedevmap.com.

IV. U.S. Employment in Computer and Video Game Publishing and Development

Employees in the U.S. computer and video game industry may work in small game developer shops or in large game publishing companies with thousands of employees. They may be employed as programmers, arts and animation specialists, game designers, game production experts, quality assurance personnel, audio specialists, legal staff members or business and marketing personnel. Developers may specialize in games for specific types of platforms including mobile, handheld and online media.

In the interactive entertainment software industry, websites are available that list the names and locations of publisher and developer establishments both in the United States and abroad. One of these websites, http://gamedevmap.com, provides publisher and developer locations by city and state. Locations are also provided for publisher/developers and for developers specializing in mobile, handheld or online games. In this study, the U.S.–based publisher and developer locations listed in gamedevmap.com were used to estimate the number of game software establishments by type of establishment and the number of workers now employed in the industry by state and for the U.S. as a whole.

The data in gamedevmap.com provides separate listings for game publisher and game publisher/developer locations. As show in Table C-1, in the United State there are at least 55 game publisher locations and 56 publisher/developer locations for a total of 111 locations or establishments in the "publisher" group. These 111 publisher establishments were located in 19 states.

Table C-1: U.S. Publisher and Developer/Publisher Counts by State

Number of States	Number of Publisher Locations	Number of Developer/ Publisher Locations	Total Developer/ Publisher Locations
19	55	56	111

Source: http://gamedevmap.com, pulled January 28, 2010.

The data in gamedevmap.com also included listings for game developer locations by type of developer. As reported in Table C-2, there were 438 nonspecialized developer locations, 53 mobile and handheld developer locations and 106 online developer locations for a total of 597 locations or establishments in the "developer" group. These 597 developer estimates were located in 34 separate states.

Table C-2: U.S. Developer, Mobile/Handheld, and Online Developer Counts by State

Number of States	Number of Developer Locations	Number of Mobile & Handheld Locations	Number of Online Developer Locations	Total Developer Locations
34	438	53	106	597

Source: http://gamedevmap.com, pulled January 28, 2010.

One of the principal reasons for tabulating the publisher and developer counts by location in Table C-1 and Table C-2 was to estimate total game industry employment by state and for the U.S. as a whole. Recall that in Table B-4 and Table B-5B, we calculated the number of employees per establishment for large and smaller firms in the software publishing industry as a whole. We found that for software firms with less than 1,000 employees, the average number of employees per establishment was 32.98. We also found that for software publishing firms with more than 1,000 employees, the average number of employees per establishment was 107.23.

In this analysis, we assume that the average number of employees per establishment in the computer and video game software publishing subset of the software publishing industry is not appreciably different from what is observed in the rest of the software publishing industry. We also assume that in the game software publishing industry, game publisher firms would typically employ at least 1,000 U.S. workers in total while game developer firms would generally employ fewer than 1,000 U.S. employees[3].

When the computer and video game publisher and developer location data are combined with the employment data for the software publishing industry, it is possible to derive estimates of game software publisher and developer employment by location. The U.S. total employment figures are shown in Table C-3.

Table C-3: U.S. Publisher and Developer/Publisher Counts by State

Number of States	Employees in Publisher Locations	Employees in Developers Group	Total Direct Employees
34	11,909.2	19,689.1	31,598.3

Note: Publisher Group includes Publishers, and Developer & Publishers; Developer Group includes Developers, Online Developers, and Mobile/Handhelds.
Employee data is calculated using Net Employees per Establishment with less than 1,000 employees for Developer Group (32.98) and Net Employees per Establishment with more than 1,000 employees for Publishing Group (107.29). See Tables B-4, B-5B.
Source: http://gamedevmap.com,pulled January 28, 2010.

[3] The assumption that game software publisher firms generally employ at least 1,000 people was selectively confirmed by ESA member companies during the course of our initial study for ESA.

As reported in Table C-3, there are now at least 31,598.3 workers directly employed at game software publisher and developer locations in the United States. Of this total, 11,909.2 workers are directly employed at game publishing companies while 19,689.1 people now work directly for U.S.–located game developer firms.

Table C-4: Comparison of Employee Shares Per State – Top Six States

	Employees Per State Current Report		Employees Per State Prior Report
State	Number	Percent	
California	13,041	41.27%	41.84%
Texas	3,307	10.47%	7.07%
Washington	2,986	9.45%	10.24%
New York	1,650	5.22%	4.19%
Massachusetts	1,295	4.10%	5.31%
Ilinois	1,146	3.63%	4.96%
Subtotal	23,425	74.13%	73.61%
Total All States	31,598		23,596

The employee data shown in Table C-3 can also be disaggregated on a state-by-state basis. The total number of workers directly employed at game software publisher and developer firms in the industry's top six states are shown in Table C-4. The states of California, Washington, Texas, New York, Massachusetts and Illinois collectively employ 23,425 workers or 74% of the total direct employment for the U.S. game software industry as a whole.

In Table C-4, we also report the employee percentages previously calculated for the top six states in our 2007 report. In that report, approximately 73.6% of all game industry employees were located in the top six states. These figures confirm that, as a general matter, the top six states continue to employee nearly three quarters of the total entertainment software employees for the country as a whole.

In Table C-5, the employee total for all states that was previously reported in Table C-3 is adjusted upward by 1.37%. This adjustment is needed because, as noted earlier, the publisher and developer locations used in the state-by-state analysis did not extend to establishments with fewer than 5 employees. In Table C-5, data from the software publishing industry are used to estimate the number of game software workers who were employed in small establishments with 5 or fewer employees. On the basis of this calculation, the total direct U.S. employment for the game software publishing industry rises from 31,598 to 32,031 workers.

Table C-5: Total Direct Employment at U.S. Computer and Video Game Publisher/Developer Establishments – 2009

I.	Game Publisher/Developer Employees At Establishments with 5 or More Employees*	31,598
II.	Software Publishers Employees At Establishments with Less than 5 Employees Divided by Software Employees At Establishments with 5 or More Employees**	4,584 / 335,249
		= 1.37%
III.	Apply to Game Publisher / Developer Employees	= 433
IV.	Total Game Publisher/Developer Employees at All Establishments Row I Plus Row II	= 32.031

** Table C-3*
*** Table B-5A.*

The employment figures presented in these tables refer to workers who work directly for entertainment software developers and publishers. However, any estimate of the number of workers who are directly employed in a given industry will not capture the full impact of that industry on the economy as a whole. The U.S. economy functions as an interlocking system where changes in supply and demand for one industry affect supply and demand in other industries as well.

The U.S. computer and video game publishing industry creates products that combine the skills of the industry's employees with other inputs of goods and services that are purchased from other industries. For example, a game developer may need to acquire a specific type of graphic design software from another firm in order to produce the game under development. Revenue from that purchase can be used to compensate employees at the firm that makes the graphic design software product. There would also be similar linkages to suppliers of the graphic design software firm and further linkages to those suppliers and on through the economy.

The U.S. government has developed a widely accepted mathematical model known as the Regional Input-Output Modeling System ("RIMS II") that uses input-output relationships throughout the economy to capture these interlocking affects. The input–output relationships are industry specific and take the form of "multipliers." In this analysis, employment multipliers for the software publishing industry were obtained from the U.S. Bureau of Economic Analysis ("BEA") for all states where game software publishing employment had been located. These multipliers were applied to the direct game industry employee counts on a state-by-state basis. The weighted average multiplier across all states was 3.79796. As shown in Table C-6, these calculations suggest that, in 2006, the total direct and indirect employment for the U.S. game software publishing industry as a whole was 120,008 people.

Table C-6: U.S. Interactive Entertainment Software Industry Direct and Indirect Employment by State

Number of States	Total Direct Employment	Total Direct + Indirect Employment
34	31,598	120,008

** Reflects a weighted average direct effects multiplier of 3.79796.*
*** U.S. BEA RIMS II, Direct Effects Multipliers by State, Industry 511200, Software Publishers, (Type II) Table 3.5.*

V. Employment Growth Since 2002

As noted above, U.S. government sources do not generally report separate statistics for the U.S. interactive entertainment software publishing industry. For this reason, there are no government reports that track the industry's annual growth over time. However, given the statistics that are available, the game software publishing industry's growth since 2005 is undeniable.

In Table D-1, we compare the entertainment software industry employment data developed in this report with comparable employment figures derived in our 2007 study. As shown in Table D-1, direct employment in the video game industry has risen from 23,596 in 2006 to 31,598 in 2009. Note that both of these figures exclude industry workers who were employed at establishments with fewer than 5 employees. The total number of game publisher and developer locations has also increased from 514 to 708 locations over the same period. Since industry employment and locations both increased substantially, employees per location only declined slightly from 45.91 employees to 44.63 employees.

Table D-1: Estimate of U.S. Computer and Video Game Software Publishing Employment (2006 – 2009)

	2009	2006
U.S. Computer and Video Game Software Publishing Estimates Establishments with 5 or More Employees		
Employees*	31,598	23,596
Locations**	708	514
Employees/Location	44.63	45.91

** See Table Nos. C-3*
*** See Table Nos. C-1, C-2*

In Table D-2, we report total direct employment in the video game industry for all workers (including workers at establishments with fewer than five employees) for the years 2005, 2006 and 2009. We then use these figures to calculate the compound annual growth rate in direct employment that the industry achieved over the period 2005 through 2009. That growth rate was 8.65% per year. By contrast, in our initial report, we estimated that the industry's annual growth rate in employment was only 4.44% over the period 2002 through 2006.

Table D-2: Growth in U.S. Game Software Publishing Employment* 2005 – 2009

2005	22,986
2006	24,007
2009	32,031

Compound Annual Growth Rate = 8.65%

** Data for 2005 and 2006 from Table F-1 in 2007 ESA Report "Video Games in the 21st Century". Value for 2009 from Table C-5.*

In order to put the interactive entertainment software industry's employment growth rate into perspective, it can be compared to the employment growth achieved by the broader U.S. software publishing industry for the same time period. According to the U.S. Bureau of Labor Statistics, total employment in all of software publishing increased from 237,900 in 2005 to 256,200 in 2009, an annual growth rate of only 1.87%.[4]

In addition to these figures, there are other references that support the fundamental idea that the game software publishing industry has grown significantly since 2006. For example, the International Game Developers Association ("IGDA") is a non-profit membership organization that advocates globally on issues related to digital game creation. The IGDA reported a total of 15,992 members in 2008, the latest year available. By contrast, as shown in Table D-3, the IGDA membership in 2006 was only 10,829. Thus, in two years, IGDA membership increased at a compound annual rate of 21.52%. During the same period, the total number of IGDA registered free use accounts increased from 107,977 in 2006 to 123,754 accounts in 2009.

Table D-3: Growth in IGDA Members and Free User Accounts

	Number of IGDA Members*	Number of IGDA Registered Free User Accounts*
2006	10,829	107,977
2007	14,168	114,784
2008	15,992	123,754
Compound Annual Growth Rates	21.52%	7.06%

** International Game Developers Association, (IGDA), 2008 Annual Report, Page 2 of 5.*

While the trend data reported in Table D-3 do not directly confirm the employment trends derived in the location analysis, they do add credence to the basic idea that employment growth in the game software publishing industry has been vigorous since 2006.

[4] U.S. Bureau of Labor Statistics, *Employment, Hours and Earnings from the Current Employment Statistics survey (National)*, Software Publishers, NAICS 5112, all employees.

VI. Wages and Supplemental Compensation Per Employee

For purposes of measuring the game software publishing industry's contributions to the U.S. economy, it is important to consider measures in addition to the industry's proven ability to create jobs. One such measure is employment compensation. In Table E-1, we report the annual value added and compensation levels achieved for all publishing industries in the U.S. economy for the years 2005-2008. This industry grouping (NAICS 511) incorporates all forms of publishing in the U.S., including software publishing (NAICS 5112).

Table E-1: Value Added and Compensation All Publishing Industries ($ Billion)

	2005	2006	2007	2008
Value Added	$ 151.2	$133.9	$146.1	$145.5
Components of Value Added				
Compensation	$72.9	$76.3	$85.4	$85.5
Taxes (various)	$2.0	$2.1	$2.2	$2.2
Gross Operating Surplus	$76.3	$55.5	$58.5	$57.5
Total VA	**$151.2**	**$133.9**	**$146.1**	**$145.5**
Components of Compensation				
W&S	$60.2	$64.2	$71.9	$72.2
Suppl.	$12.7	$12.1	$13.5	$13.6
Total Comp	**$72.9**	**$76.3**	**$85.4**	**$85.8**
Suppl. as % of Wages and Salaries	**21.1%**	**18.8%**	**18.8%**	**18.8%**

[5] U.S. Bureau of Economic Analysis, www.bea.gov, *Glossary*.

As shown in Table E-1, an industry's value added has three basic components. These are compensation, taxes and gross operating surplus ("GOS"). In 2008, the value added for the entire U.S. publishing industry group (including software publishing) was $146 billion. Of this total, approximately $86 billion (59%) consisted of employee compensation.

Employee compensation in turn can be divided into two separate categories. These categories are wages and salaries and supplements. For the U.S. publishing industries in 2008, about 84% ($72.2 billion) of total compensation was paid in the form of wages and salaries. The remaining 16% ($13.6 billion) of the total publishing industries' compensation payments came in the form of supplements. Supplements consist of employer contributions for employee pensions and insurance funds and employer contributions for government social insurance.[5]

The figures reported in Table E-1 reflect the total amount of wages and salaries and wage supplements paid to employees in the U.S. publishing industry for the years 2005-2008. In order to assess these figures on a per employee basis, it is necessary to divide these values by the number of workers employed in the U.S. publishing industries. The total number of employees in the U.S. publishing industries (including software publishing) is reported by year in Table E-2. These employee totals are derived by the U.S. Bureau of Economic Analysis and they include both full-time and part-time workers. As shown in Table E-2, the total number of U.S. publishing industry employees declined from 939,000 workers in 2005 to 957,000 in 2008.

Table E-2: Employment Trends in All Publishing Industries as Per U.S. Bureau of Economic Analysis

	All Publishing Industries (000)
2005	939
2006	952
2007	973
2007	957

Source: Bureau of Economic Analysis, Gross Domestic Product by Industry Accounts, Full Time and Part Time Employees by Industry, Publishing Industries (includes software), May 25, 2010.

The industry values for employee wages and salaries from Table E-1 can be divided by the employee counts in Table E-2 in order to measure wages and salaries on a per employee basis. These calculations are provided in Table E-3.

For the U.S. publishing industries as a whole, annual wages and salaries per employee rose from $64,111 in 2005 to $75,444 in 2008. The publishing industries' wage increases in 2008 followed earlier increases in employee wages and salaries in both 2006 and 2007.

Table E-3: Wages + Salaries per Employee in All Publishing Industries

	2005	2006	2007	2008
W+S ($ Billions)	$60.2	$64.2	$71.9	$72.2
Employees (000)	939	952	973	957
(W+S) / Employees	$64,111	$67,437	$73,895	$75,444

The wage and salary estimates in Table E-3 reflect average wages for the entire U.S. publishing industry including software publishing. However, the government sources used to compile these figures do not separately report wages and salaries solely for the U.S. game software publishing industry. Accordingly, in this study, an alternative source was used to measure the annual wages paid by game software developer firms. The wage data used in this study were derived from public information that was originally reported in *Game Developer Salary Reports* for the relevant years. The *Game Developer Salary Reports* are compiled and published by Game Developer Research.

For the year 2007, the national average game developer salary, as determined in the *Game Developer Salary Reports*, was reported as $73,600.[6] In 2008, the average wage paid to game developers in the United States rose to $79,000 per year.[7] By 2009, the growing effects of the recession acted to reduce developer wages to a 2009 level of $75,573.[8] These national averages are reported in Table E-4.

In addition to the national average developer wage by year, Table E-4 also contains estimates of the annual wages that were paid to developers in the first, fifth and tenth highest paying states in each year studied. These data were developed by calculating the ratios of developer wages in each top ten state to the average developer wage nationally. These ratios were then applied to the national average developer wage for the years 2007, 2008 and 2009. It should be noted that these wage figures combine wage and salary data for seven separate video game disciplines. These disciplines are: visual arts, programming, game design, audio, production, quality assurance and business and legal.[9] As shown in Table E-4, in 2009, the average annual wage paid to game developer employees in the top ranked U.S. state was $82,223. By contrast, in the tenth ranked state, the average annual wage paid to game developer employees was only $70,132.

[6] See http://www.gainasutra.com/php-bin/news index.php?story= 18212.
[7] See http://games.ign.coin/articles/978/978754pl.html.
[8] See http://www.gainesetwatch.com/2010/04/2009 game developer salary sur.php.
[9] Game Developer Research, *The Game Developer Salary Report 2004-2007*, page 44-47.

Table E-4: Approximate Wages + Salaries for Computer and Video Game Developer Employees

Ranked State	2007	2008	2009
1st	$80,077	$85,952	$82,223
5th	$72,422	$77,736	$74,364
10th	$68,30 I	$73,3 I 2	$70,132
Simple Average	$73,600	$79,000	$75,573

Source: Game Developer Research, Press Releases, Game Developer Salary Reports 2007, 2008 and 2009.

The data in Table E-4 reflects average wages and salaries only. These data do not include the various forms of earnings supplements that are also used to measure total compensation in the U.S. national accounts. For that reason, it is necessary in this study to estimate the supplements that should be added to the average industry wage and salary figures that were shown in Table E-4. This calculation is provided in Table E-5.

In Table E-5, the average game developer wage figures from Table E-4 are adjusted to reflect the estimated payment of employee supplements beyond wages and salaries. As noted earlier in this report, supplements consist of employer contributions for employee pensions and insurance funds and employer contributions for government social insurance.[10]

The estimated supplement payments shown in Table E-5 are based on the reported supplements that are paid to employees in all U.S. publishing industries, including the software publishing industry. The supplement percentages that are used in Table E-5 were originally derived in Table E-1.

Table E-5: Total Compensation per Employee for Game Developer Employees

	2005	2006	2007	2008	2009
Average Wages+Salaries*	$73,170	$73,182	$73,600	$79,000	$75,573
Supplemental Percentage* (Table E-1)	26.22%	26.22%	18.80%	18.80%	18.80%
Supplement to Wages+Salaries	$19,185	$19,188	$13,837	$14,852	$14,208
Total Compensation Per Employee	$92,355	$92,370	$87,437	$93,852	$89,781

** Data for 2005 and 2006 from Table E-4 in 2007 Report to ESA, "Video Games in the 21st Century".*

As shown in Table E-5, in 2005, the average compensation paid to employees in the U.S. computer and video game software development industry in was estimated at $92,355. By 2008, average compensation (including supplements) paid to game developers had risen to $93,852. However, in the recessionary climate of 2009, this compensation figure declined to $89,781 in 2009.

[10] U.S. Bureau of Economic Analysis, www.bea.gov, *Glossary*.

VII. Industry Compensation and Value Added to U.S. GDP

In this section of the report, the estimated number of game software publishing employees from Table D-2 is combined with the figures for compensation per employee from Table E-5 in order to derive total compensation for the U.S. game software publishing industry as a whole. These calculations are reported in Table F-1.

Table F-1: U.S. Computer and Video Game Software Publishing – Compensation by Year

	Number of Employees*	Compensation per Employee**	Total Compensation
2005	22,986	$92,355	$2,122,872,030
2006	24,007	$92,370	$2,217,526,590
2009	32,031	$89,781	$2,875,775,211

** Table D-2*
*** Table E-5*

As shown in Table F-1, the total compensation paid out by the U.S. game software publishing industry in 2005 was $2.123 billion. Industry compensation rose somewhat to $2.217 billion in 2006. By 2009 however, the total compensation paid out by the U.S. interactive entertainment software industry had increased to $2.876 billon, an increase of 35% over 2005. This increase in industry compensation is clearly driven by the rapid job growth experienced in the industry during this four year period.

In earlier sections of this study, employee counts for the game software publishing industry were derived separately for game "publishing" and game "development" groups. As noted in Table C-3, these estimates were 11,909 "direct" employees in the U.S. publisher group and 19,689 "direct" employees in the U.S. developer group. In this study, it is assumed that U.S. employees in these two groups do not receive equal compensation for their work. In Table F-2, weighting factors taken from the broader U.S. software publishing industry are used to derive average employee compensation levels for game software employees in each of these two employee groups.

In Table F-2, the average compensation levels for employees in the game software publishing and developer groups are estimated using two equations with two unknown values. The first equation uses employee counts for the two groups to weight the unknown values of P for publisher and D for developer. These two unknowns, as weighted, are then set equal to $2.876 billion, the total game software employee compensation estimated for 2009. The second equation uses data for the software publishing industry as a whole to measure the relationship between the publishing group payroll per employee and the developer group payroll per employee. As shown in Section III of Table F-2, these two equations can then be solved for P and D.

The solutions for the equations in Table F-2 are as follows: average compensation per employee–game software publishing group = $112,717 per employee. Average compensation per employee –game software developer group = $75,908 per employee. These values are used in the subsequent tables in this section of the report.

Table F-2: U.S. Computer and Video Game Software – Compensation Per Employee by Group

I.	Employees (5 or more per firm)*	11,909 (Pub)	19,689 (Dev)
	Employees (1-4 per firm)** +	163	270
	Total Employees	12,072 (Pub)	19,959 (Dev)
II.	Software Publishing:		
	Payroll (000)	$28,235,692	$9,557,736
	Employees***	226,157	113,676
	Payroll Per Employee	$124,850	$84,079
		Pub = $124,850 / $84,079	Dev
		Pub =	1.485 Dev
III.	1	12,072 (P) + 19.959(D) = $2,875,775,211	17925.91699 a
	2	(P) = 1.485 (D)	37884.91699 b
		(P) = $112,717.34	$75,908.18 D
		(D) = $75,908.18	

** See Table C-3.*
***Allocated on the basis of 5 or more per firm breakdown.*
**** See Tables B-2, B-3A.*

In this study, we have estimated that 11,909 workers were employed by the publisher group firms in the U.S. computer and video game software publishing industry in 2009.[11] Using the employee compensation data from Table F-2, we now can estimate that the total compensation paid to these "direct" workers was $1.342 billion in 2009 (See Table F-3A).

[11] See Table C-3.

Table F-3A: U.S. Interactive Entertainment Software – Direct Compensation by Group for State Publishing Group

Number of States	Number of Employees	Compensation per Employee	Total Direct Compensation
34	11,909.2	$112,717	$1,342,368,169

Table C-3.
Table F-2.

We have also estimated that 19,689 workers were employed by the developer group firms in the U.S. game software publishing industry in 2009.[12] Using the employee compensation data from Table F-2, we now can estimate that the compensation paid to these "direct" workers was $1.495 billion in 2009 (See Table F-3B).

Table F-3B: U.S. Interactive Entertainment Software – Direct Compensation by Group for State Developer Group

Number of States	Number of Employees	Compensation per Employee	Total Direct Compensation
34	19,689	$75,908	$1,494,552,612

Table C-3.
Table F-2.

In Table F-4, the estimates for the publishing and developer groups are combined into a single value to reflect the total compensation paid to all direct employees of the U.S. computer and video game software industry in 2006. As shown in Table F-4, that value was $2.837 billion.

Table F-4: U.S. Interactive Entertainment Software – Direct Compensation for Employees Located by State

Number of States	Total Direct Compensation Game Publishers	Total Direct Compensation Game Developers	Total Direct Compensation Publishers & Developers Combined
34	$1,342,368,169	$ 1 ,494,552,612	$2,836,920,781

**Note: Omits direct compensation for industry employees whose location could not be identified.*

[12] See Table C-3.

The direct compensation value of $2.837 billion shown in Table F-4 does not reflect the total compensation paid to all U.S. workers in the U.S. computer and video game software publishing industry. As noted earlier in this report, an industry's "direct" employment does not capture the full impact of that industry on the U.S. economy as a whole. Direct employment counts omit any recognition that other "input" industries labored to make and sell intermediate products and services that ultimately were used to create the basic product at issue.

Earlier in this report, in Table C-6, a mathematical model that is developed and maintained by the U.S. Bureau of Economic Analysis was used to measure the number of "indirect" employees that benefit from the demand for U.S. interactive entertainment software products. That model suggested that the total number of U.S. entertainment software publishing employees (both direct plus indirect) was in excess of 120,000 workers in 2009.

In Table F-5, the same model is used to estimate the total compensation paid to both direct and indirect employees of the U.S. entertainment software industry in 2009. As shown in Table F-5, that figure was $5.630 billion.

Table F-5: U.S. Interactive Entertainment Software – Total (Direct & Indirect) Compensation for Employees Located

Number of States	Total Direct Compensation	Total (Direct and Indirect) Compensation
34	$2,836,920,781	$5,630,152,982

** Reflects a weighted average direct-effects multiplier of 1.9846.*

As shown previously in Table E-1, employee compensation is one of three components that make up an industry's value-added. An industry's value-added is the "*contribution* of industries to the Nation's output, or *gross domestic product* ("GDP"). An industry's value added is equal to its *gross output* (which consists of sales or receipts and other operating income, commodity taxes, and inventory change) *minus its intermediate inputs* (which consist of energy, raw materials, semi-finished goods, and services that are purchased from domestic industries or from foreign sources).

The three primary components of value added are an industry's return to domestic labor (*compensation of employees*), its return to government (*taxes on production and imports less subsidies*), and its return to domestic capital (*gross operating surplus*)."[13] (Emphasis Added)

In this study, we seek to measure the value added by the U.S. computer and video game software publishing industry. The first component of value added is employee compensation. As shown in Table F-1, the total compensation paid to employees of the U.S. computer and video game software publishing industry was $2.876 billon in 2009. In Table F-6, we measure the other two components of value added for the U.S. game software publishing industry.

[13] U.S. Bureau of Economic Analysis, Gross Domestic Product by Industry Accounts, Guide, Value Added by Industry.

In Table F-6, we estimate the production taxes and gross operating surplus ("GOS") for the U.S. interactive entertainment software industry for the years 2005, 2006 and 2009. The estimates rely on total U.S. publishing industry values that were previously reported in Table E-1. The values from Table E-1 are used to derive ratios of tax to compensation and GOS to compensation for the U.S. publishing industries as a whole.

These ratios are shown as percentages in Table F-6. The total compensation figures for the video game industry in 2005, 2006 and 2009 are then multiplied by these ratios for the same years. These calculations yield estimates by year of the production taxes and gross operating surplus earned in the entertainment software industry in each year studied.

Table F-6: U.S. Computer and Video Game Software Publishing – Other Components of Value Added

	2005	2006	2009
Taxes on Production and Imports (all subsidies)			
Compensation	$2,122,800	$2,217,487	$2,875,775
Tax as Percent of Compensation	2.580%	2.746%	2.653%
Taxes on Production and Imports	$54,768	$60,892	$76,294
Gross Operating Surplus			
Compensation	$2,122,800	$2,217,487	$2,875,775
GOS as Percent of Compensation	57.38%	69.08%	69.34%
Gross Operation Surplus	$1,218,063	$1,531,840	$1,994,062

**Data for 2005 and 2006 from Table F-7 in 2007 Report to ESA, "Video Games in the 21st Century".*

In Table F-7, we combine the results from Table F-6 with the industry compensation figures first reported in Table F-1. These figures are combined in order to derive the value added by the computer and video game software publishing industry to U.S. GDP for the years 2005, 2006 and 2009. As shown in Table F-7, the total computer and video game industry value added rose from $3.4 billion in 2005 to $4.9 billion in 2009.

Table F-7: U.S. Computer and Video Game Software Publishing Direct Value Added to GDP ($ Million)

	2005	2006	2009
Compensation*	$2,122.8	$2,217.5	$2,875.8
Taxes*	$54.8	$60.9	$76.3
Gross Operation Surplus**	$1,218.1	$1,531.8	$1,994.1
Value Added	**$3,395.7**	**$3,810.2**	**$4,946.2**

**Table F-1.*
***Table F-6.*

In Table F-8, we report the value added for the entire U.S. information sector as a whole. The U.S. information sector (NAICS 51) includes all U.S. publishing industries (including software publishing) plus the U.S. motion picture, recorded music, broadcasting, Internet publishing, telecommunications and web search portal industries. As shown in Table F-8, these industries, in aggregate, generated $633.8 billion in current dollar value added to the U.S. economy in 2009.

In Table F-8, we also provide the value added by the U.S. information sector in "real" terms for the years 2005, 2006, 2008 and 2009. These data are converted to real terms because time trends that are reported using current dollar figures are frequently misleading. Current dollar figures track value added in nominal terms. Over time, these figures combine changes in real economic growth with changes driven solely by inflation-induced price increases. Accordingly, economists generally prefer to review trend data on value added in "real" or inflation adjusted terms. As shown in Table F-8, this conversion generally increases the value added for the computer and video game software publishing industry for the U.S. information sector for period 2005–2009. For example, in 2009, the real dollar value added of the U.S. information sector was $653.0 billion or about $20 billion more than the information sector's current dollar value added in the same year.

The ratio of real to current dollar value added shown in Table F-8 are used subsequently in this report to estimate value added for the U.S. entertainment software industry in real terms.

Table F-8: U.S. Information Sector – Value Added in Billons of Current and Real (2005) Dollars

	2005	2006	2008	2009
Value Added – Current Dollars	$592.6	$593.3	$622.5	$633.8
Value Added – Real 2005 Dollars	$592.6	$598.3	$642.6	$653.0
Ratio of Real VA to Current VA	1.000	1.008	1.032	1.030

Value added data for U.S. Information Sector, NAICS 51.
**Source: U.S. Bureau of Economic Analysis, Value Added by Industry. Release Date May 25.2010.*

In Table F-9, we report employee compensation figures for the U.S. information sector for the years 2008 and 2009. We show that in this sector, the ratio of employee compensation in 2008 to employee compensation in 2009 was 1.0563. This ratio is used below as an input in the derivation of video game industry value added for the year 2008.

Table F-9: U.S. Information Sector – Compensation of Employees in Billions of Current Dollars

	2008	2009	Ratio of 2008 over 2009
Compensation of Employees in U.S. Information Sector	$260.2	$246.3	1.0563

**Source: U.S. Bureau of Economic Analysis, State Personal Income, SA06N Compensation of Employees by NAICS Industry, United States.*

In Table F-10, we present value added figures for the U.S. game software industry for the years 2005, 2006, 2008 and 2009. These estimates are shown in both current dollar and real 2005 dollar terms. The current dollar figures for 2005, 2006 and 2009 were reported previously in Table F-7. The 2008 figure is an estimate based on the game software industry value added in 2009 as adjusted by the ratio of 2008 to 2009 employee compensation reported in Table F-9. The real 2005 dollar values for the game industry in Table F-10 were calculated on the basis of the ratios reported in Table F-8.

As shown in Table F-10, real value added for the interactive entertainment software publishing industry grew at an annual rate of 16.7% for the years 2005–2008. While industry value added in 2009 declined somewhat because of deteriorating economic conditions, the computer and video game industry still grew at a real annual growth rate of 10.6% annual for the period 2005-2009.

Table F-10: U.S. Computer and Video Game Software Industry – Value Added and Annual Growth Rate

	2005	2006	2008	2009
Value Added – Current Dollars	$3,395.7	$3,810.2	$5,224.5	$4,946.2
Value Added – Real 2005 Dollars	$3,395.7	$3,842.3	$5,393.2	$5,096.0
Real Annual Growth Rates		2005 – 2009		2005 – 2008
		10.6%		16.7%

Value added (current dollars) for 2005, 2006 and 2009 from Table F-7.
Value Added (current dollars) for 2008 calculated as 2009 value times ratio of 2008/2009 U.S. Employee Compensation in U.S. Information Sector. See Table F-9.
Value Added (real 2005 dollars) calculated as current dollar value times ratio of real to current dollar value added in U.S. Information Sector. See Table F-8.

In Table F-11, we compare the computer and video game industry to the U.S. information sector as a whole. As shown in Table F-11, since 2005, the interactive entertainment software industry's value added grew at a substantially higher annual rate than the growth rate reported by the U.S. information sector as a whole. While the entertainment software industry achieved double-digit annual growth rates, the information sector's growth for the period 2005-2009 was 2.5%. For the years 2005-2008, the information sector's real growth rate was only 2.7% per year.

Table F-11: U.S. Computer and Video Game Software Value Added Comparisons

Year	Game Software Publishing ($ Billons - Real 2005 Dollars)	Information Sector ($ Billons - Real 2005 Dollars)
2005	$3.396	$592.600
2008	$5.393	$642.600
2009	$5.096	$653.000
Growth Rates		
2005 – 2008	16.7%	2.7%
2005 – 2009	10.6%	2.5%

Values are presented in Billions of Real (2005) Dollars.

In Table F-12, we compare real growth in the entertainment software industry to real annual growth for the U.S. economy as a whole. As shown in Table F-13, the real annual growth rate of the entertainment software industry for the years 2005-2008 (16.7%) was nearly *six times* the annual growth rate reported for the U.S. economy as a whole (2.80%) in the same years. For the period 2005-2009, the annual growth rate achieved by the computer and video game publishing industry at 10.6% was more than *seven times* the annual growth rate for real U.S. GDP in the same time frame.

Table F-12: U.S. Computer and Video Game Software Contribution to Real Growth in U.S. GDP

Period	Real Annual Growth Game Software VA	Real Annual Growth U.S. GDP
2005 – 2008	16.7%	2.80%
2005 – 2009	10.6%	1.40%

VIII. Conclusions

The U.S. interactive entertainment software publishing industry achieved retail sales of $10.5 billion in 2009. Unit sales of computer and video games have increased from 226.3 million in 2005 to more than 273 million in 2009.

The statistical agencies of the U.S. government do not release detailed information on the U.S. game software industry. The industry classification system used by the U.S. government (NAICS) includes game software publishing within the broader category of all software publishing (NAICS 5112). For this reason, the estimates presented in this report often combine U.S. government and private industry statistics.

On the basis of the calculations described in this report, we estimate that the U.S. game software publishing industry directly employs more than 32,000 people in 34 states. Of these 32,000 people, we estimate that at least 12,000 are employed by larger "publishing" firms while approximately 20,000 people are employed by smaller "developer" firms.[14] We estimate that the total U.S. employment, both direct and indirect, that depends on game software publishing now exceeds 120,000 workers.

Approximately 75% of the employees in the U.S. computer and video game software publishing industry are located in one of the six states of California, Washington, Texas, New York, Massachusetts and Illinois. California is the largest employer of game software publishing personnel, accounting for approximately 41% of the total number of employees in the U.S. as a whole.

In 2005, the U.S. game software publishing industry directly employed less than 23,000 people. By 2009, with the industry's direct employment at approximately 32,000, industry employment had increased at an annual rate of 8.65%. By contrast, in the same period, employment in software publishing as a whole increased from 237,900 in 2005 to 256,200 in 2009, an annual growth rate of only 1.87%.

In 2009, U.S. game software publishing employees received total compensation (including supplements) of $2.875 billion. For the industry as a whole, average compensation' per employee from wages, salaries and employer contributions for pensions, insurance and government social insurance was $89,781. In game publisher or publisher /developer firms, the average compensation per employee was $112,717. In game developer firms, the average compensation per employee was $75,908.

In 2009, the U.S. interactive entertainment software industry's value added to U.S. GDP was $4.95 billion.

The real annual growth rate achieved by the U.S. game software industry exceeded 16.7% for the years 2005 through 2008. For the years 2005 – 2009, the real annual growth rate of the video game industry was. 10.6%. During the same years, real growth for the U.S. economy as a whole was 2.8% (2005 – 2008) and 1.4% (2005 – 2009).

[14] We estimate than the game software industry also employs approximately 400 employees in very small establishments that could not be identified to a specific state or location.

Methodological Note

Each year Game Developer Research of San Francisco publishes a detailed compilation of salary and employee compensation trends in the video game industry. These data, which appear in the annual *Game Developer Salary Report*, are based on survey responses provided by Game Developer subscribers, Game Developer Conference attendees and Gamasutra.com members. In the ESA study, data from the *Game Developer Salary Reports* are combined with employee counts and other information from a variety of sources to estimate total game industry compensation and value added to GDP.

The most recent *Salary Report* considers three separate categories of compensation: annual salaries, additional compensation and additional benefits.

With respect to annual salaries, the *Report* provides average salaries for seven "disciplines" within the video game industry. These disciplines are: programmers, artists and animators, game designers, production workers, quality assurance personnel, audio specialists and business and legal executives. Within each discipline, salary data are disaggregated by years of experience, level of education, age, gender, state and region.

Note that the salaries published in the *Game Developer Salary Report* do not include many other forms of employee compensation that may be particularly significant for higher level game industry executives. In the *Report,* the following items are identified as forms of "additional" compensation: annual bonuses, project bonuses, royalties, stock options, profit sharing and pensions. The *Salary Report* provides estimates of the percentage of workers in each video game discipline who were offered each type of additional compensation during the year. The *Salary Report* also includes data on the average amount of compensation across all types of compensation that was provided to video game workers during the year.

In addition to annual salary and compensation data, the *Salary Report* also provides information on the following types of benefits: medical, dental, 401k & retirement, vision, health club, life insurance and ESPP. As with the compensation data, the *Report* provides estimates of the percentage of workers in each discipline who were offered each type of benefit during the year.