

COMPUTER AND VIDEO GAMES OCCUPATIONS

BACKGROUND INFORMATION

The computer and video games industry includes a variety of jobs involving the research, design, programming and production of games across multiple hardware formats. Across these areas job titles will vary to a considerable degree, but will mainly focus on four key groups:

- Games Development Management
- Games Design
- Games Programming
- Games Art

REQUIREMENTS TO DO THE JOB

The above key areas are broken down into many job descriptions, the main ones of which are given in [Annex 1](#). A glossary of frequently used terms in the games industry can be found in [Annex 2](#).

REGISTRATION WITH A PROFESSIONAL BODY

There are no compulsory registration requirements for workers in the computer and video games industry.

CASEWORKER TREATMENT

B&C

All job descriptions provided in [Annex 1](#) will meet the skills criteria unless there is specific cause for doubt on an individual application.

Caseworkers should refer to the IT occupations sheet for information on IT jobs that are less specific to the games industry and are not included in [Annex 1](#), such as programmers/software engineers.

TWES

Training

These occupations are not suitable for TWES Training.

Work Experience

These occupations are suitable for TWES work experience provided the full TWES work experience criteria are met.

SALARY INFORMATION

All salary information appears in [Annex 1](#) alongside the job description.

ADVERTISING

The majority of vacancy advertising within the computer and video games industry uses the following websites and specialist magazines:

GamesIndustry.biz, 18 Surrenden Close, Brighton, BN1 6WF
Website: www.gamesindustry.biz

Jobserve Ltd, Tower Business Park, Kelvedon road, Tiptree, Colchester, CO5 0LX
01621 817335 Website: www.jobserve.com

Edge Magazine, Future Publishing, 30 Monmouth Street, Bath BA1 2BW
01225 442244 Website www.edge-online.com

Develop Magazine, Intent Media, Saxon House, 6A St Andrew Street, Hertford, Herts.
SG14 1JA Website www.developmag.com

FURTHER INFORMATION

TIGA, The Independent Game Developers Association
Brighton Business Centre, 95 Ditching Road, Brighton, BN1 4ST
Tel: 0845 094 1095
Website: www.tiga.org

ELSPA, European Leisure Software Publishers Association
167 Wardour Street, London W1F 8WL
Tel: 0207 534 0580
Website: www.elspa.com

Annex 1 – Job Descriptions

Game Development Management

Job Title/Salary	Alternative Titles	Job Description
Development Director £50,000-£100,000	Director of Development, VP Product Development Head of Development Head of Studio	The Development Director is responsible for ensuring the successful delivery of all projects within a development studio on time and within budget. They control the financial and other resources needed for all projects and co-ordinate the work of all production teams.
Executive Producer £40,000-£70,000	Head Producer, Senior Producer, Senior Development Manager, Production Manager	The Executive Producer is responsible for ensuring the successful delivery of multiple projects within a game franchise, on time and within budget. They control the financial and other resources needed for a project and co-ordinate the work of several production teams, making sure that the quality and vision of the game is maintained across different formats, whatever problems may arise.
Producer £28,000-£55,000	Development Manager, Project Manager	The Producer is responsible for ensuring the successful delivery of a game, on time and within budget. They control the financial and other resources needed for a project and co-ordinate the work of the production team, making sure that the quality and vision of the game is maintained, whatever problems may arise. The Producer has to know the value of everybody's contribution to a game and keep an overview of the entire process from start to finish.
QA Manager £25,000-£50,000	Head of QA, Playtest Manager, QA Project Manager, QC Manager, Test Manager	A manager of testers and lead testers. Responsible for handling personnel issues, equipment needs, and costs incurred by their teams.

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Games Design

Job Title/Salary	Alternative Titles	Job Description
Design Director £50,000-£80,000	Head of Games Design, VP Games Design,	The Design Director will manage the Game Designer team responsible for devising what a game consists of and how it plays across multiple projects.
Lead Designer £30,000-£55,000	Design Manager, Design Lead, Chief Level Designer	The Lead Designer leads the Games Design team responsible for devising what a game consists of and how it plays.
Senior Games Designer £27,000-£43,000		Senior Game Designers are responsible for devising what a game consists of and how it plays. They plan and define all the elements and components of a game: its setting; structure; rules; story flow; characters; the objects, props, vehicles, and devices available to the characters; interface design; and modes of play. A minimum of three years experience as a games designer would be expected. They may supervise other games designers as part of a project team.
Games Designer £20,000-£30,000	Game Scripter, World Designer	Game Designers are responsible for devising what a game consists of and how it plays. They plan and define all the elements and components of a game: its setting; structure; rules; story flow; characters; the objects, props, vehicles, and devices available to

		the characters; interface design; and modes of play. Sometimes the Game Designer is the originator of the game's concept or premise. More often, most of the core ingredients are already defined and the Game Designer must decide how to create the best game using these elements, within the constraints of budget and timescale. Games are usually large projects and the design process might be shared between a number of different people, overseen by the Lead Designer.
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Games Programming

Job Title/Salary	Alternative Titles	Job Description
Technical Director £60,000-£90,000	Chief Technical Officer.	The Technical Director will be responsible for the programming team across multiple projects and is responsible for all technology across the development company.
Programming Manager £50,000-£70,000	Technical Manager, Technical Producer, Technology Manager,	In conjunction with the Producer, the Programming Manager puts together and manages the team of game programmers responsible for creating all the computer code which runs and controls a game. The Programming Manager manages the software engineering of a game from start to finish.
Engine Programmer £25,000-£45,000	Tools Programmer Low Level Programmer R&D Programmer Technology Programmer	Engine programmers are specialist programmers that write the code for a game engine or parts of a game engine that can potentially be used in multiple games. They can also work on R&D or Technology to improve engines for future games.
Graphics Programmer £25,000-£45,000	Rendering Programmer Animation Programmer Shader Programmer	Graphics Programmers specialise in the design and writing of computer code that runs and controls the graphics of a game on screen.
Audio Programmer £25,000-£45,000	Sound Programmer	Audio Programmers design and write the computer code that runs and controls the sound in a game.
Network Programmer £30,000-£45,000	Online Programmer Network Logic Programmer, Server Programmer, Networking Programmer, Multiplayer Programme	Network Programmers specialise in the design and writing of computer code that runs and controls an online game or the online elements of a multiplayer game.
Gameplay Programmer £25,000-£45,000	AI Programmer Physics Programmer	Gameplay Programmers specialise in the design and writing of computer code that runs and controls the gameplay elements of a game including the reactions of enemies and team mates to the actions of player (artificial intelligence) and managing the reactions of objects in the game to abide by the laws of physics.
Special Effects Programmer £25,000-£40,000	Visual Effects Programmer	Special Effects Programmers specialise in the design and writing of computer code that runs and controls the visual effects of a game, such as explosions, smoke, wind and water.

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Game Arts Jobs

Job Title/Salary	Alternative Titles	Job Description
Art Director £45,000-£70,000	Creative Director	The Art Director is responsible for the overall look and feel of the game. Working with the Game Designer in the first instance, the Art Director devises the game's visual style and directs the production of all visual material throughout the game's development. The Art Director may produce much of the initial artwork themselves, setting creative and technical standards and also determining the best tools and techniques to deploy.
Art Manager £35,000-£55,000	Head Artist, Head of Art	In conjunction with the producer, the Art Manager puts together and manages the team of artists and animators who produce the bulk of the art assets for the game (including environments, characters, objects and effects) under the Art Director's direction. The Lead Artist must ensure that the art and animation team works to schedule and within budget. They also work closely with the programming team to make sure that all art and animation assets produced can be easily imported into the game engine.
Lead Artist £35,000-£45,000	Lead 3D Artist Lead Concept Artist Lead Modeller Lead Character Artist	The Lead Artist will manage Graphic Artists that create the visual elements of a game, such as characters, scenery, objects, vehicles, surface textures, clothing, props, and even user interface components.
Senior Artist £25,000-£35,000	Senior 3D Artist Senior Concept Artist Senior Modeller Senior Texture Artist Senior Environment Artist Senior Character Artist Senior GUI Artists	Senior Artists create the visual elements of a game, such as characters, scenery, objects, vehicles, surface textures, clothing, props, and even user interface components. Artists also create concept art and storyboards which help communicate the proposed visual elements during the pre-production phase. A minimum of three years experience as a Graphic Artist would be expected. They may supervise other artists as part of a project team.
Graphic Artist £20,000-£30,000	3D Artist, Concept Artist Storyboard Artist 3D Modeller Texture Artist Environment Artist Character Artist GUI Artist	Graphic Artists create the visual elements of a game, such as characters, scenery, objects, vehicles, surface textures, clothing, props, and even user interface components. Graphic Artists also create concept art and storyboards which help communicate the proposed visual elements during the pre-production phase. Artists work under the supervision of the Lead Artist. They create art assets for the game according to the specification and they are usually responsible for managing those assets. Some Graphic Artists specialise in the design of human figures and characters, others in buildings and landscapes, and some in textures for 3D objects. Graphic Artists must be aware of the technical constraints and capabilities of the platform that the game will be played on.
Special Effects Artist £25,000-£32,000	Visual Effects Artist, Cinematics Artist	Special Effects Artists specialise in the visual elements of a game, such as explosions, smoke and water.
Technical Artist £25,000-£32,000	Senior Technical Artists, Lead Technical Artist	The Technical Artist acts as a bridge between the artists and programmers working on a game. They ensure art assets can be easily integrated into a game without sacrificing either the overall artistic vision or exceeding the technical limits of the chosen platform. One large part of the job involves keeping up-to-date in changes in technology, both in terms of console hardware, art packages and new techniques. The Technical Artist is expected to be able to create custom tools to improve the efficiency of their team. This is usually carried out using the scripting languages included in the main modeling and animation packages. Technical

		Artists will also have an overseeing role when it comes to providing feedback or debugging complex assets such as character skeleton rigs and skinning systems.
Animator £20,000-£42,000	Senior Animator, Lead Animator, Animation Manager	Animators in the games industry are responsible for the portrayal of movement and behaviour. Most often this is applied to give life to game characters and creatures, but sometimes animations are also applied to other elements such as objects, scenery, vegetation and environmental effects. Specialist software packages are used to create the animations, which are used for both automated or 'in game' behaviours and predefined sequences or 'cut scenes'.
Outsource Manager £25,000-£40,000	Outsource Production Manager, External Art Manager	The Outsource Manager is responsible for ensuring the successful delivery of the elements of a game that have been subcontracted to another developer, on time and within budget. They control the financial and other resources needed for outsourced elements of a project and co-ordinate the work of the sub contracted developer, making sure that the quality and vision of the game is maintained, whatever problems may arise.
Asset Manager £20,000-£32,000		Asset Managers are responsible for managing the collection of graphic files, movie files, sound files, music files that are used to make a game.

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Annex 2 – Glossary of Terms

- **Aftermarket** - Phase that occurs after post-production. The game is now in the marketplace, and opportunities now exist for add-ons, expansion packs, sequels, and other ancillary marketing opportunities.
- **A.I.** - Artificial Intelligence. The routine or algorithm that controls the actions and movements of the computer-controlled characters in a game.
- **Alpha** - Term used for a phase of development in the process of making an electronic game. Exact definition varies, but essentially it means "most or all of the assets are implemented, and most or all of the functionality is implemented." Anyone picking up an alpha game should certainly be able to get a very clear idea of the game's central idea and gameplay, but quite a bit of work remains to be done before the game is complete.
- **Assets** - (1) Graphic files, movie files, sound files, music files that are used to make a game. (2) Skills and talents of an individual that make him a desirable employee or employee candidate. (3) Equipment, real estate, staff, and IP of a game company being evaluated by a potential buyer.
- **Beta** - A term used for a phase of development in the process of making an electronic game. Exact definition varies, but essentially it means "all of the assets are implemented, and all of the functionality is implemented. The game just needs a few adjustments here and there." Anyone playing this game is getting very nearly the same experience someone will get when they play the final released game.
- **Beta Test** - Not to be confused with Q.A. (see below). Beta testing is usually done to get user feedback to aid in the final tweaking process, to take a nearly-complete ("Beta") game and tune it and make it into the best possible playing experience. Contrary to testing in a Q.A. lab, beta testing is unpaid work that can be done at home. Beta testing does not count as work experience.
- **C.G.** - Computer graphics. Graphics created and displayed on a computer, as opposed to graphics created by hand on paper.
- **Code Release** - The point in the development of a game at which the game is deemed finished, ready for manufacture.
- **Coding** - The act of writing source code, that which a programmer creates.
- **Concept** - The basic idea behind a game. The central point of difference between this and other games. Set forth in a "Concept Document" or "Concept Paper".
- **Creative Director** - A job title for someone who has responsibility for (or management authority over) artistic and/or design aspects of games.
- **Debug** - The process of fixing a "bug" (coding problem), or sometimes of merely determining the source of a bug so that it can be fixed.
- **Debug Station** - May be used to refer to one of two different kinds of hardware. A "debugger" is a machine formerly used specifically for the purpose of "trapping" (identifying) the source of a bug. These days, "debug station" is used in reference to a game console that can be used to play a game that has not yet been encrypted or authorised for release by the console manufacturer.
- **Design Director** - Job title that may be used in some game companies to refer to a game designer who has risen to a high level of authority and responsibility. Analogous or possibly even equivalent to "creative director."
- **Designer** - A person who creates, who designs. By contrast, a person who executes, who builds a thing based on a design is an implementer (not a designer). Not to be confused with the term "programmer."
- **Developer** - Usually used to refer to a company that builds games but does not publish or distribute them. May also be used as an all-encompassing term to refer to anyone involved in the building of games. Some game companies may use the term to be equivalent to "programmer".

- Development - Sometimes refers to the entire process in which a game is made. Sometimes used mainly in reference to the earlier process of researching the feasibility of a game, as opposed to the later actual building of the game (which is then called "production").
- Development Kit - A collection of software utilities, documentation, and sometimes hardware that enables a programmer or programming team to build software for a particular platform. Also called "S.D.K." (Software Development Kit).
- Encryption - In games, this usually refers to a technology that's used to prevent the unauthorised publication of games or to prevent user piracy.
- End User - The person who buys a game for the purpose of playing it.
- Engine - Software that enables the creation of a game without having to create every line of code from scratch. A game engine provides the ability to create environments, objects, and characters, as well as the ability to move the characters and detect interactions between characters and environments, objects, and other characters. The engine usually also includes routines that interact directly with the hardware to display graphics and play sounds.
- First Party - Used in the video game business to refer to games published by the console hardware manufacturer. Also known as platform holder.
- First Person - Used in reference to the point of view in a video game. In a first-person game, the player sees the game world through the eyes of the player character. By contrast, in third-person games, the player sees the player character. Until the advent of good 3D engines, just about all games were third person. There is no such thing as a second-person game.
- Freeware - Software that is distributed for free, usually over the Internet.
- Full Version - A complete game (as opposed to the demo version or the shareware version).
- Game Mechanic - Play pattern. For example, a crossword puzzle entails a different activity than a card game.
- Gameplay – Can be used in a variety of ways to refer to different aspects of playing a game. Sometimes used to be synonymous with the phrase "play pattern." ("What kind of gameplay is it: is it 'run and dodge,' or is it 'sit and puzzle'?") Sometimes used in attempts to quantify the level of fun of a game. ("Does this game have better gameplay than that game?")
- G.D.D. - Game Design Document. Usually a very lengthy and detailed document or collection of documents.
- Gold Master - A copy (usually on a DVD these days) of the game in its final incarnation, after Q.A. has certified the game as final and the programmers have ceased working on it.
- G.U.I. - Graphical User Interface. Onscreen information presented for the user to interact with the computer program, presented in a graphic way.
- Hardware Manufacturer - Company that manufactures console game systems.
- High Concept - A very short statement of the basic concept or "hook" of a game.
- I.G.D.A. - International Game Developers Association.
- Installed Base - A number which represents the number of households owning a particular game machine. For example, if a company has manufactured two million game machines but half a million of them are in stores and store warehouses, then the installed base is a million and a half (not two million).
- Library - (1) A collection of DLLs or routines in an SDK. (2) A collection of IPs owned by a game company or other licensor. (3) A collection of sound effects offered by a sound effects provider.
- Licensed Developer - A company who makes games under the permission of the hardware manufacturer.

- Licensed Publisher - A publishing company that has secured permission (from a platform holder) to publish games on a particular platform.
- Localisation - The process of making changes to a game so that it appeals to the players in a part of the world other than that in which it was originally created or originally published.
- Massively Multiplayer - A game that can be played by a very large number of players.
- Middleware - A software package that enables a programmer or programming team to build a game or assets for a game such as 3D graphics engines, modelling tools, etc. Supplements rather than replaces an SDK.
- Minimum System Requirements - Computer games only (does not apply to console games). A description of the lowest operating system, CPU speed, hard disk space, etc. that are required in order to play the game.
- Motion Capture - The creation of animations by means of special equipment to record a live actor's movements.
- N.P.C. - Non-player character i.e. a computer-controlled character in a game.
- Object Code - What Source Code becomes after being compiled. You can play object code, but you have to compile source code before you can play it. You can read source code, but object code looks like gobbledygook.
- O.E.M. - Original Equipment Manufacturer. When a game is bundled with a new machine, that version of the game is called "the OEM version."
- Online Game - A game that can be played against other human players, using the Internet.
- Platform - Term can vary depending. Usually refers to the hardware supported by a game, but sometimes refers to the operating system or even the programming language.
- Platform Holder - Another term for Hardware Manufacturer.
- Play Pattern - Game mechanic. For example, a crossword entails a different player activity than a card game.
- Port - A version of a game made after the initial release, so owners of a different platform can also play the game.
- Post-Production - A phase in the creation of a game that occurs after all the graphics, sounds, and code have been created. During this phase, the majority of the development staff has moved on to other projects, but the core programmers are still busy fixing bugs, tweaking gameplay, etc.
- Pre-Production - A phase in the creation of a game that precedes the creation of the graphics, sounds, and code. During this phase, the designer is writing the design, the producer is making the budget and schedule, deals are made to obtain needed license rights, and the team is selected.
- Production - A phase in the creation of a game that involves the work of artists, programmers, actors, musicians, and sound engineers. Occurs after the design has been written and before the bulk of testing and tuning.
- Q.A. - Quality Assurance. (1) The phase during a game project in which testers scrutinise a game to identify any and all problems, and to verify that the game meets its pre-defined requirements. (2) The name of a department at a game company (usually a publisher) which tests games or equipment. Not to be confused with "Beta testing."
- R&D - (1) What some companies call the game studio. (2) A department which exists to solve problems by developing new technology, usually starting with a known problem in mind. (3) Sometimes: a department of very large game companies that research ideas without a firm budget or schedule.
- Real-Time - A situation in which a clock keeps ticking without waiting for the player to think and act, and in which opposing characters act simultaneously, not taking turns. By way of contrast, see "Turn-Based."
- Release - (1) When spoken by someone involved in developing a game: Code release (game is declared final and is sent off for manufacturing). (2) When spoken by someone in Marketing or the media: Ship (game is manufactured and appears on store shelves).

- Script - A script might be a particular type of code that serves as a list of actions that the game will perform. Or it might be a document that defines lines of voice-over dialogue, or a document that defines onscreen text. As a verb, "scripting" might refer to the creation of a scripted sequence in code, or to the act of writing dialogue or text.
- S.D.K. - Software Developers Kit. A collection of software utilities, documentation, and sometimes hardware that enables a programmer or programming team to build software for a particular platform.
- Shareware - A game that is passed around free of charge and which usually requires the user to pay in order to get the "full version."
- Shell - The part of a game that comprises the entrance and exit points. Usually also includes the main menu.
- Ship Date - The date by which a game is due to be shipped to retailers.
- Simulation - A game that mimics some real life activity.
- S.K.U. - Stock Keeping Unit. Often pronounced "skew." If a game company makes two versions of a game, to work on two different systems, that would be two different SKUs. If, however, a game company makes a game in which the same disc works on both systems, then that would be just one SKU.
- Source Code - That which the programmer writes (usually in C++), which gets turned into Object Code after having been Compiled. You can't play source code (you have to compile it first). But at least you can read source code (object code just looks like gobbledygook).
- Sprite. In 2D games, a "sprite" is a movable object seen in a game.
- T.D.D. - Technical Design Document. A document created by the technical staff after analysing a GDD.
- T.D.R. - Technical Design Review. Alternate name for TDD, or perhaps a meeting in which the TDD is discussed and accepted.
- Third Party - A company who supplies games that run on a game system. There are third party publishers and third party developers. The "first party" is the company which markets the games system itself.
- Third Person - Until first person games became hugely popular this was the point of view most commonly used in games. In a third person POV game, the user sees the player character on the screen (not just the player character's hands, as in a first person POV game).
- Treatment - A 10-20 page document that provides highlights about a game concept. Describes the game's characters, genre, target audience, competition. Sometimes discusses development aspects such as anticipated team size, cost, and timing. Longer than a "concept" and shorter than a "GDD."
- Triple-A (AAA) Game - A game that earns a place among the top ten sellers, usually the product of an extremely expensive production process.
- Turn-Based - A game mechanic for a multi-player game in which the players' inputs are not made simultaneously. Chess is a good example of a turn-based game. Capture The Flag is not turn-based.
- U.I. - User Interface. The connection points between the "game" on one side and the "user" on the other. There are two aspects to a user interface: (1) The information that the game provides so that the user will know what to do (score, icons, status gauges, text messages, character voice prompts). (2) The information that the user provides to the game by pressing keys or buttons, moving a mouse, etc.