The Disciplines

By Albert T. Ferrer [06.03.09] Jobs in video game development can be categorized by discipline. In this article reprinted from sister publication Game Developer's Game Career Guide Fall 2008 issue, we explain what the major disciplines are, what kinds of job titles they hold, and what makes each one appealing to different types of people.

Game Designers

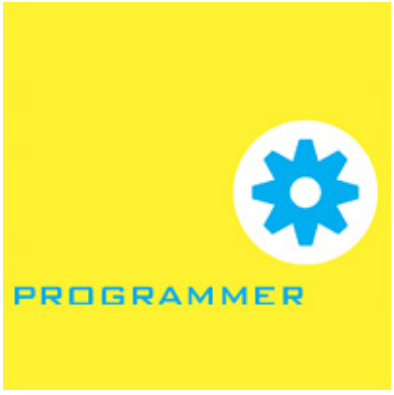
Game designers typically determine the overall vision of a video game. Much like film directors are to movies, designers are known for having a large influence (creative or otherwise) on the direction a game takes, from the early concept stage to final release. Ideally, a designer should be knowledgeable in different aspects of game development, since the role itself calls for collaboration with various departments: art, programming, production, quality assurance, talent (voice actors), audio, and marketing.

Depending on the size of a game development studio and the needs of the product, designers can take on various roles. Sometimes they do a bit of everything, while other times they are assigned only a few specific tasks. These specialized tasks can include designing levels, working on gameplay, placing enemies in a game, or writing the game's dialogue.

The pecking order among game designers is design director, lead designer, and junior designer—and there are dozens of titles in between those benchmarks. Much of a game designer's job involves writing documentation, called the game design document. The design document is made up of both text and diagrams, and it conveys different areas of the game in a relatively clear yet technical manner. Its purpose is to give a sense of how the game will work. The design document is similar to a manual, but with much more detail on how each aspect of the production will work and how it all interrelates.

Being a game designer is a complex role. It's more about maintaining, implementing, and executing ideas than solely coming up with a storyline and some characters. Being an avid gamer is simply not enough, which is why a good designer should have a well-rounded education. Creating a game is a collaborative effort of many talents, and oftentimes results in compromises between what the designer wants and what the other departments can provide.

Programmers



Game programmers or software engineers work at the coding level to simply make a game work. They're responsible for implementing various features requested by the designers, as well as assets provided by the artists. They patch together the individual pieces of the game into what will hopefully become a fully playable piece of software by the end of the production cycle. Without programmers, game ideas would never be made into functional software.

Programmers are the most in-demand type of game developers and are in the shortest supply; therefore, they tend to be paid very well. Programmers typically choose to study computer science, sometimes at the graduate level, though degrees in the more specific field of game programming are popular as well. Game programmers must be knowledgeable in a range of computer languages, the most important being C++. They should also have a grasp of advanced math and be good problem solvers. Some programmers are self-taught, which is perfectly acceptable in the game industry. Employers place more emphasis on what a prospective programmer can do than on where and how they learned to do it.

The position of programmer in a game studio can be broken down into areas of specialty: gameplay programmer, AI programmer, tools programmer, graphics programmer, to name a few. Having clearly defined roles helps ensure that each aspect of a game has a programmer specifically devoted to it. Some of the job titles a game programmer could hold are junior programmer, lead programmer, senior programmer, technical director, and tools engineer (someone who builds proprietary tools).

Programmers are typically the first ones to come on board for a game project (aside from lead designers), and are often the last ones to leave. They tend to work the most overtime, especially in the final weeks before a game is shipped. A test is almost always part of the interviewing and hiring process for game programmers. These tests can range from a take-home test, an in-office computer-based exam, or a live "whiteboard" exam, where the interviewee works out a problem on a whiteboard in front of the interviewers.

Programmers work closely with designers to figure out even the smallest details about how a game should work, using design documentation as a guide to begin connecting all the complex pieces of game development into a functional piece of software.

Though code is what makes a game work, it can also create problems which programmers must constantly fix as the game grows with additional functions and assets. Programmers are an integral part of quality assurance. Working with game testers, programmers are notified of bugs or broken aspects of the game, communicating with testers regularly throughout the development cycle.

Artists

Game artists bring to the players' eyes the vision set out by the designers, art director, and producers. From the concept artist, who works with the art director to establish the game's style, to the 3D modelers, who realize those concepts, artists play a critical role in breathing life into a game.

Game artists and animators should be familiar with at least one major 3D software application (examples include 3ds Max, Maya, Softimage XSI, and Blender) as well as 2D graphics tools, especially Photoshop. They should have a foundational knowledge of fine arts first, upon which they can build additional digital skills. Some game artists have added experience in web site design, while others have studied handdrawn animation, and still others are former sculptors and painters. A non-university post secondary education is common for many artists in the industry, and while a bachelor of fine arts degree is not required, it doesn't hurt. Having a broad knowledge of art is seen as an asset.

Occasionally, there is a specialized person in the art department called the technical artist. It's a role that's becoming more and more common as technology becomes more advanced. Technical artists are still considered artists, but they specialize in the hardware and software side of things, and are typically in mid- to senior-level positions. These artists oftentimes use scripting languages to come up with ways to customize the art workflow. They can also deal with lighting, shaders, and particle effects, as they pertain to game engines.

Other titles a game artist might hold include animator, rigger, modeler, user interface artist, character artist, environment artist, concept artist. Many smaller game studios prefer generalists who can work in different roles when required.

Producers

"Game producer" can be a confusing and somewhat nebulous title. They are essentially the project managers of game making, though the role of project manager is to manage the development team, while the producer deals with high level issues overseeing the project at large. Both fall under the production staff department, and responsibilities for either can varying from studio to studio. Their job is to organize and facilitate the game's production. Producers create and enforce schedules and budgets. They serve as mediators between departments, and sometimes also between the studio and the publisher. They assign tasks, make sure deadlines are adhered to, and generally make sure the team has everything it needs to make the game.

Producers have to be leaders. They absolutely must be able to communicate and get along with a wide variety of people, from gregarious designers to terse programmers, from introverted artists to over-caffeinated testers. They don't necessarily have to be likeable, but being respected by their team is important. They are the point of contact for the lead programmers, lead artists, and directors within the studio.

There are creative producers, who add their design sensibilities and opinions to the benefit of the project, and the not-so creative ones, whose attempts at being creative do more harm than good.

Some of the titles a producer can have include assistant producer, associate producer, and producer, executive producer, and director of production.

Audio Designers

A game audio designer (or sound designer or audio engineer) is responsible for creating the sounds and music to match the visuals of a game. They should be familiar with all the aspects of sound design, from foley to production sound mixing, dialogue editing, and the technology that drives the job, such as Pro Tools and MAX/MSP.

The audio designer's objective is to give the game a unique and distinct sound, like a game's visual style. The job is one part creative aesthetic, and one part technical. Game audio people can also be composers, writing and recording original music for the projects they work on. Ideally, audio designers need a good sense of hearing, adept to the intricacies of sound, and should love music.

There are fewer positions for audio designers than artists, programmers, or designers. A game team may employ dozens of artists and programmers, but only hire one or two audio designers, and even then they are often contract employees. Because they tend to work on contract, audio designers can pursue other musical gigs outside the game industry too; often they take work in film, television, and advertisement.

Quality Assurance Tester

Considered the last line of defense before a game hits the shelves, game testers help ensure that the quality of the game meets strict guidelines set by the development studio and the publisher. Game testers often work part-time and are paid by the hour. They do not need to hold college degrees—in fact, college and high school students sometimes take testing jobs as part-time work or as a summer job.

People in the department play the game or portions of the game while looking for and recording bugs, glitches, or other major problems. When they find a bug, they test to see if they can repeat it, and if they can, they record their bugs in writing for the programmers or artists to fix later; testers need to have solid communication skills. Using a complex database, the process of testing a game becomes a well-oiled machine with a lot of back and forth communication between departments.

Tester is an entry-level position but is still seen as a way to get one foot in the door to the game development industry. Testers who prove they have great communication skills and understand the different priorities that come into play while developing a video game can become leads, who then can sometimes move into associate or assistant producer roles.

Other Jobs

Community managers. Community managers are involved with the online community aspect of a specific game title. They manage and tend to the concerns of the game players through forums, web sites, email, and chat rooms. The community manager then relays those concerns to marketing teams, publishers, or the developers, operating as the liaison between the public and the people behind the curtain. This is most often seen when developers release beta test versions of their games for the public to play, and the players in turn send feedback, bugs, or other concerns to improve the game.

Play testers. Play testers are unpaid game testers who play the game much like a focus group. Play testers are different from testers and focus testers in the sense that the information obtained from a play tester is more about the individual's thoughts about a game (rather than seeing their opinions as representing a market share of potential customers). Their job isn't to find bugs, but rather to share their overall thoughts on a game.

PR and marketing. Public relations and marketing people are important to getting a game exposure and into the field of view of the consumer. Marketers use the power of the press, advertising, mailing lists, and web sites to entice players to purchase their games. PR people entice the press to review their games or otherwise mention it in their publications. Getting preview and review copies of games to the media early can help or hinder a game's success. They work with publishers and producers to determine the timing of the marketing, sending out press releases, and launching video teasers, trailers, screenshots, and other assets.

The press. Journalists, video game reviewers, the media, or simply "the press" are critical to the success or failure of a game. Their opinions or ratings of a game are highly influential to consumers; they can sway the purchasing decisions of the public. Through the internet or print media, journalists write reviews, previews, commentary, opinion-editorials, and features about video games and the game industry. They are the source the consumer looks to and trusts to get a serious opinion on the latest games. Many game writers get their foot in the door by writing on their own time, either via a blog or on forums, where editors of magazines and professional web sites see their work and make contact with them. A formal education isn't required to become a game journalist, but knowledge of grammar, sentence variation, paragraph and story structure, and copy editing goes a long way.

Tech support. Tech support, also known as "production technology" or IT, is the backbone of any game development studio.

Within a developer lies a large complicated network of servers and computers that the technical support staff maintains, doing much more than doling out keyboards and computer monitors. They make sure that the valuable information stored within the studio's network is secure. An understanding of networking and programming languages, such as Python, is important. Every game company requires tech support to run a fast network of computers and servers, and to meet the everyday technical needs of employees at game companies.

HR. Like any other employer, game studios need human resources professionals. HR staff help manage employees' benefits, protect employees, and typically have to have an understanding of state employer laws. HR staff are also an integral part of recruiting, hiring, firing, and training employees. They keep track of all employee information, and are typically the first people an applicant meets during an interview. Although HR is an administrative role common to all businesses, game companies like to hire people who love video games and know a thing or two about them.

[Albert T. Ferrer is an artist, animator, and freelance contributing game writer from Vancouver, currently working in the game industry.]

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