4 Languages to Learn for Game Development

Before Reading

1. **True/False. Read the following sentences. Choose True(T) or False(F). Then read the text and confirm your answers.**

   a. Video games are one of the first contact kids have with technology T / F

   b. The game industry is less innovative now T / F

   c. A video game contains design, art, storytelling and mechanics T / F

   d. HTML5 is one of the most difficult web languages T / F

   e. C++ is used in created console and PC games T / F

2. **Synonym Match: Match the following words with their synonyms.**

1. Designer	a. Action-oriented
2. Storytelling	b. Network
3. To program	c. Text
4. Hands-on	d. Anecdote
5. Web	e. Mechanism
6. Script	f. Effectiveness
7. Engine	g. Inventor
8. Efficiency	h. To compute

One of the first exposures that kids have to computers, coding and technology is in video games. It ranges from educational app games on the iPad to watching grandparents play solitaire on the computer. As a result, interest in becoming a game developer or designer is *on the rise*. Getting started can seem intimidating and overwhelming. While the video game industry continues to grow and reach new technical heights, this makes it more frightening to jump into. So where do you get started and what do you need to learn?

Being interested in coding and video game design, you may have asked yourself a few of these common questions: "How do these games really work?", "What coding languages do I have to learn to make my own games?" "Are there some languages that work better than others?" "Is there one coding language that is easier for beginners?"

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While these are all great questions, inquisitive minds don't like to wait—and they shouldn't have to! In most public schools, kids get little to no chance at pursuing these specialized interests until high school.

Some students won't even get a chance until enrolling in a college or trade school. Because of the time that's passed, an interest not pursued can get lost and fall by the wayside.

It's great that students can go online to find answers to what their looking for when it comes to these questions. There are many forums and tutorials online that help beginners start on their journey towards video game coding and design. There are also plenty of courses that teach both Coding & Video Game Design, as well as HTML5 & Javascript Basics.

Since there are so many facets to what makes a great game, do your best to grasp the answers you find in a general sense. A video game works when **design, art, storytelling, and mechanics are put together by code**. Understanding this pillar idea is the key to your success.

The Easier Programming Languages

The type of languages you learn has everything to do with what type of game you want to create. However, a few languages prove to be easiest and best when you're first starting out. These languages not only help you learn to make video games, but familiarize you with the logic of structure and code.

Basic is the language that made computers personal. Basic is a programming language aimed at beginners, offering a simplified environment to help teach the basics of programming, hence the name. Shortly after its invention in 1963, computers everywhere began using it, spreading the concepts of programming into the average household.

CT eLearning offers a video game programming and design course using Basic. This gives a solid foundation that any student can use to start off on the right foot into video game design. Basic is one of the simplest programming languages you can learn, with only an elementary understanding of computers required.

HTML5 is a web language along with CSS3, SQL and JavaScript. Web languages are among the easiest for a beginner to learn. New developers and coders can easily develop an understanding of programming with these languages. Hence, after some hands-on experience, moving on to more high-level languages will be a breeze.

The Advanced Programming Languages

The two languages below are used as industry standard in the video game industry and are certainly more advanced. Learning these languages will take many hours of hands-on experience. While there may be plenty of support and coding examples online, you must learn how to make these languages your own if you are to find success with them. It's strongly recommended you get the basics down before starting on your journey into the languages below.

C++ is more complicated than web languages and will include knowledge of object-oriented programming. Instead of browser games, C++ is used in created console and PC games. Learning about scripts including Python, Lua or another in-house script will be important since they thread through this code.

C++ offers a lot of control over memory management and is one of the most used languages at a more professional game development level. Many game engines will only take C++. Knowledge of programming in C++ is a valuable skill that will land you a job at big video game companies and advanced software development companies.

C# makes best usage for some consoles, including Xbox, as well as other Windows platforms. Using C# allows the developer more control and options in fine-tuning and maximizing the efficiency of the last result.

Especially relevant, C# can be easier to start with. This is because working with this language will give you a certain framework or template to work within.

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Starting with C# and moving on to C++ often proves the best learning path and you'll be amazed by how many options you have after mastering both.

See The Video Game Languages in Action!

YouTube channel LearnWith Khan does a great job when breaking down, and showing off great examples of what you can do with these languages. They even go a few steps further by mentioning the programming language of Java & ActionScript.

Beginner Online Game Development Tutorials Using HTML

If you don't have prior game development experience, take a look at these online game tutorials. These are great for helping you get started learning game development coding concepts. These use web-based languages which are easy to pick up and use.

Be sure to also explore CT eLearning's courses on programming and video game development.

Build a dodging game to guide a square through a moving maze:

https://www.w3schools.com/graphics/game_intro.asp

Create your own world by writing and building your own choose your adventure story:

http://www.instructables.com/id/Create-Your-Own-Adventure-Game-HTML/

Get back to classics with a basic snake game to wind around your screens:

https://gist.github.com/straker/ff00b4b49669ad3dec890306d348adc4

3. Comprehension Questions

1. What is one of the first contact kids have with technology?

a. TV programs b. Video Games c. Stories

2. How many questions a person who likes coding and video game design should ask himself/ herself?

a. 2 b. 3 c. 4

3. According to the article, where can students find answers to their questions about video games?

a. Online tutorials and forums b. Only blogs c. Face-to-face classes

4. Apart from helping you learn to make video games, what else can the programming languages help you with?

a. Create advanced video games b. Fine-tuning c. Logic of structure and code

5. C++ Programming Language's characteristics for creating a video game are:

   a. Object-oriented programming, used in PC games and fine-tuning options
   b. Object-oriented programming, memory control and acquaintance
   c. Simplicity and memory control
   d. Functional programming and options in fine-tuning

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Key Words

-Coding (n)=The process or activity of writing computer programs.

-HTML5 (n)= Detailed language for the structure and presentation of World Wide Web contents.

-Javascript(n)= Programming language that allows to implement complex features on web pages.

-Mechanics(n)= Rules that govern and guide the player's actions.

-CSS3(n)= Standard used in the styling and formatting of Web pages.

-Script=(n) a type of language for programming computers used for finding and showing websites on the internet.

[i] CTe Learning. (2020). CTe Learning Home/Blog/4 Languages to Learn for Game Development. https://www.ctelearning.com/languages-for-game-development/

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