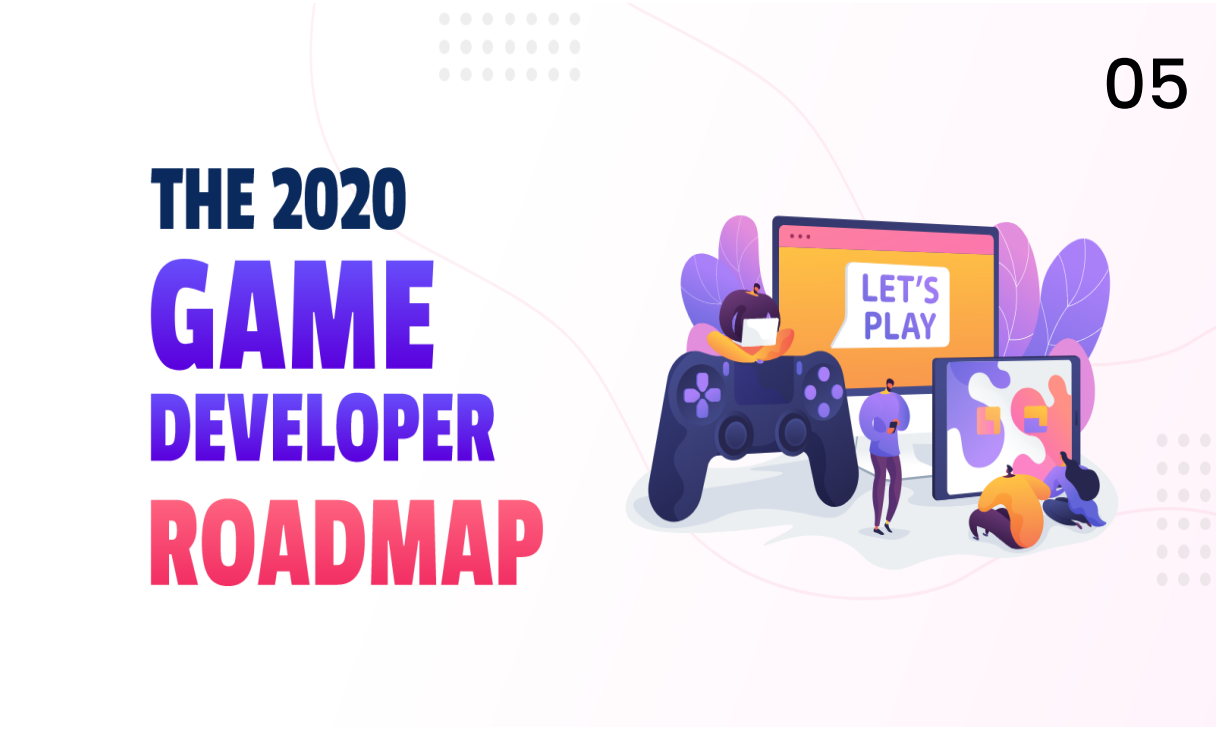
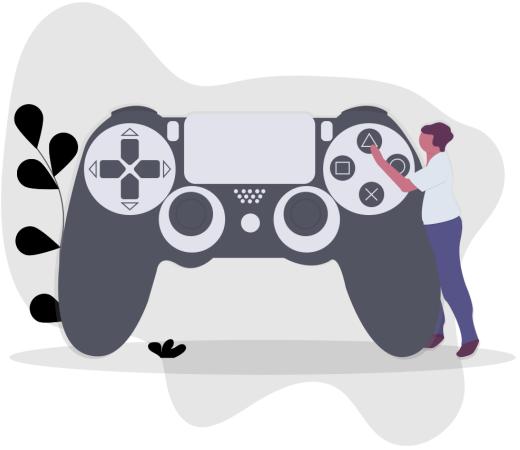
The 2020 Game Developer Roadmap



The 2020 Game Developer Roadmap

By Jhankar Mahbub 23 Nov 2020

Game development is an exciting career! Imagine, the games you might be playing since your childhood, and as a game developer getting an opportunity to develop those games and any such games that you imagine. Today, I will be discussing a complete game developer roadmap for a beginner...



1) Choose your language: C Sharp or C++

There are many programming technologies that can be used for game development, such as, Python, Java, JavaScript, C#, C++, etc. But for game development, there are two absolute winners, C# and C++. These are the two prominent languages in this field which are very powerful. Thus learn C# or C++, but remember, according to the language that you choose and learn, your further path will be decided. Yes, of course, you can switch any time according to the requirement.
Focus on concepts such as,

- Object-oriented programming using C++/C#
- Working with events
- Working and integrating with a frontend
- Exception Handling
- Multithreading

2) Learn Math need for Game programming

Game development is a lot about Math in it. The math required for various implementations of the game such as collision or game physics. It is also called (...) Math as the foundation of Game Design. In the same way that math doesn't work unless you learn and apply the rules, a video game can't have rules without math. Below are some Math concepts that you should focus on,

- Algebra and Linear Algebra
- Trigonometry
- Calculus
- Discrete Mathematics

3) Pick a Game Engine: Unity or Unreal Engine

A game engine, also known as a game architecture, game framework, is a software development environment designed for game developers. There are many game engines available such as GameMaker, Godot, OpenGL, Unity, Unreal Engine, etc. Of these, I would recommend you going with Unity or Unreal Engine since these are the most powerful tools. Unity uses C# whereas Unreal Engine uses C++.

4) Learn about Game Mechanics, Designs and Arts

Game Mechanics are the basic actions, processes, visuals, and control mechanisms that are used to "gamify" an activity. Game mechanics, which are the building blocks of gamification, are the rules and rewards that make up gameplay and create an engaging experience. Game development is all about the scenery or characters in it. Thus it is necessary to have some knowledge about the design tools and more.

5) Learn Game physics and Animation

Modern video games continually push the boundaries of interactive entertainment. The ever-growing need for increased immersion and realism demands that the simulation of physics in the game world delivers predictable, realistic results in a very short amount of time. Whether responsive ragdoll physics, destructible environments or fluid simulation, sophisticated algorithms, and careful trade-offs enable unprecedented interactive experiences. Thus, game physics and modern animation plays an important role.

6) Start developing 2D Games

Start creating small projects and try replicating small 2D games such as Flappy Bird or Pac-Man etc. Working on projects is the best way to polish your skills. Working on simple 2D games will help you clear concepts such as Game mechanics, game dynamics, and much more. Also, it will give you industry experience and polish your debugging skills.

7) Start working on 3D Game development

These days it's all about 3D games that are getting so much popularity. Think of Pubg or maybe Call of Duty, etc. These games are known for the graphics and the real-life experience that they give to the user. Thus, start learning how 3D games work, How to develop 3D games. The game industry is also all about 3D games and graphics these days, Thus, it will boost your chance to get good gigs.

8) AI in Game Development

Artificial intelligence has been a growing resource for video games for years now. Most video games — whether they're racing games, shooting games, or strategy games — have various elements that are controlled by AI, such as the enemy bots or neutral characters. However, there are also many other ways that AI and game development are growing through each other. Although AI continues to be used to bring video games to life, video games are now being trained to study their own patterns so as to improve their own algorithms, which is just one of many ways that AI is becoming more advanced. Thus, AI plays an important role in modern world game development.

9) Get started with Multi-player Game programming

Modern games are all about multi-players, thus it is necessary to understand how we can implement multiplayer programming. Connects such as network programming, multithreading are the important building blocks of this kind of game.
Thus, try getting hands-on and creating mini multi plates games and eventually polishing your skills.

So what are your thoughts on the career as a game developer? Let me know below in the comments.