HOUR 24

Wrap-up

What You'll Learn in This Hour:

- What you've accomplished so far
- Where to go from here
- What resources are available to you

In this hour, you'll wrap up your introductory journey with Unity. You'll start by looking at exactly what you've done so far. From there, you'll see where you can go to continue improving your skills. Then you'll learn about some of the resources available to help you continue learning.

Accomplishments

When you have been working on something for a significant amount of time, you may sometimes forget all that you have accomplished along the way. It is helpful to reflect on the skills you had when you began learning something and compare them to the skills you have now. There is a lot of motivation and satisfaction to be found in discovering your progress, so let's look at some numbers.

Your 19 Hours of Learning

First and foremost, you have spent 19 hours (possibly more) intensely learning the various elements of game development with Unity. Here are some of the things you have learned:

- How to use the Unity editor and many of its windows and dialogs.
- About game objects, transforms, and transformations. You learned about 2D versus 3D coordinate systems and about local versus world coordinate systems. You became a pro at using Unity's built-in geometric shapes.
- About models. Specifically, you learned that models consist of textures and shaders applied to materials, which in turn are applied to meshes. You learned that meshes are made up of triangles that consist of many points in 3D space.
- How to build terrain in Unity. You sculpted unique landscapes and gave yourself the tools needed to build any kind of world you could ever dream of. (How many people can say that?) You improved those worlds with ambient effects and environmental detail.
- All about cameras and lights.
- To program in Unity. If you had never programmed before this book, that's a big deal. Good job!
- About collisions, physical materials, and raycasting. In other words, you took your first steps in object interactions through physics.
- About prefabs and instantiation.
- How to build UIs using Unity's powerful user interface controls.
- How to control players through Unity's character controllers. On top of that, you built a custom 2D character controller to use in your own projects.
- How to build awesome 2D worlds with 2D Tilemap.
- How to make awesome particle effects using various particle systems. You also checked out each particle module in detail.
- How to use Unity's new Mecanim animation system. While learning that, you learned how to remap the rigging on a model to use animations that weren't made specifically for it. You also learned how to edit animations to make your own animation clips.
- How to sequence just about anything to create sophisticated cinematics with the Timeline.
- How to manipulate audio in your projects. You learned how to work with both 2D and 3D audio, in addition to how to loop and swap audio clips.
- How to work with games made for mobile devices. You learned how to

test games with Unity Remote and using a device's accelerometer and multi-touch screen.

- How to polish a game by using multiple scenes and data persistence. You learned how to build and play your games.

This is quite a list, and it's not even everything you've learned in this book. As you read through this list, I hope you remembered experiencing and learning each of these items. You've learned a lot!

4 Complete Games

Over the course of this book, you created four games: *Amazing Racer*, *Chaos Ball*, *Captain Blaster*, and *Gauntlet Runner*. You designed each of these games. You worked through the concept of each one, determined the rules, and came up with the requirements. Then you built all the entities for each of the games. You specifically placed every object, player, world, ball, meteor, and more in the games. You wrote all the scripts and built all the interactivity into the games. Then, most importantly, you tested all the games. You determined their strengths and their weaknesses. You played them, and you had peers play them. You considered how they could be improved, and you even tried to improve them yourself. Take a look at some of the mechanics and game concepts you used:

- *Amazing Racer*: This 3D foot-racing game against the clock utilized the built-in first-person character controller as well as fully sculpted and textured terrain. The game used water hazards, triggers, and lights.
- *Chaos Ball*: This 3D game featured many collision and physical dynamics. You utilized physics materials to build a bouncy arena, and you implemented corner goals that turned specific objects into kinematics.
- *Captain Blaster*: This retro-style 2D space shooter used a scrolling background and 2D effects. It is the first game you made where the player can lose. You used third-party models and textures to give this game a high level of graphical style.
- *Gauntlet Runner*: This 3D running game involves collecting power-ups and avoiding obstacles. This game utilized Mecanim animations and third-party models, as well as clever manipulations of texture coordinates to achieve a 3D scrolling effect.

You have gained experience in designing games, building them, testing them, and updating them for new hardware. Not bad. Not bad at all.

More Than 50 Scenes

Over the course of this book, you created more than 50 scenes. Let that number sink in for a moment. While reading through this book, you specifically got hands-on with at least 50 different concepts. That is quite a lot of experience for you to draw upon.

By now, you probably get the point of this section. You've done a lot, and you should be proud of that. You have personally used a huge part of the Unity game engine. That knowledge will serve you well as you go forward.

Where to Go from Here

Even though you have completed this book, you are far from done with your education in making games. In fact, it is fairly accurate to say that no one is ever truly done learning in an industry that moves as quickly as this one. That said, here is some advice on what you can do to keep going.

Make Games

No, seriously, make games. This cannot be overstated. If you are someone who is trying to learn more about the Unity game engine, someone who is trying to find a game job, or someone who has a game job and is looking to improve, make games. A common misconception among people newer to the game industry (or the software industry in general) is that knowledge alone will get you a job or improve your skills. This couldn't be further from the truth. Experience is king. Make games. They don't have to be big games. Start by making several smaller games like the ones you've done in this book. In fact, trying a large game right away might lead to frustration and disappointment. No matter what you decide to do, though, make games. (Did I mention that yet?)

Work with People

There are many local and online collaborative groups looking to make games for both business and pleasure. Join them. In fact, they would be lucky to have someone with as much Unity experience as you have. Remember, you have four games under your belt already. Working with others teaches you a lot about group dynamics. Furthermore, working with others allows you to achieve higher levels of complexity in the games you can make. Try to find artists and sound engineers to make your games full of rich media goodness. You will find that

working in teams is the best way to learn more about your strengths and weaknesses. It can be a great reality check as well as a confidence booster.

Write About It

Writing about your games and your game development endeavors can be great for your personal progress. Whether you start a blog or keep a personal notebook, your observations will serve you well in the present and in retrospect. Writing can also be a great way to hone your skills and collaborate with others. By putting your ideas out there, you can receive feedback and learn through the input of others.

Resources Available to You

Many resources are available to you to continue your education both on the Unity game engine and in game development in general. First and foremost is the Unity documentation, the official resource for all things Unity, which is available at http://docs.unity3d.com. It is important to know that this document takes a technical approach to Unity coverage. Don't think of it as a learning tool but rather as a manual.

Unity also provides a great assortment of online training on its Learn site, at http://unity3d.com/learn. There, you will find many videos, projects, and other resources to help you improve your skills.

If you find that you have a question that you cannot answer with the help of these two resources, try the very helpful Unity community. At the Unity Answers site, at http:// answers.unity3d.com, you can ask specific questions and get direct answers from Unity pros.

Aside from the official Unity resources, several game development sites are available to you. Two of the most popular ones are http://www.gamasutra.com and http://www.gamedev.net. Both of these sites have large communities and regularly publish articles. Their subject matter is not limited to Unity, so they can provide a large and unbiased source of information.

Summary

In this hour, you've reviewed everything you have done with Unity so far. You've also looked forward. You started by examining all the things you have accomplished over the course of this book. Then you looked at some of the things you can do from here to continue improving your skills. Finally, you

things you can do from here to continue improving your skills. Finally, you looked at some of the free resources available to you on the Internet.

Q&A

Q. After reading this hour's materials, I can't help but feel that you think I should make games. Is that true?

A. Yes. I believe I mentioned it a few times. I cannot stress enough how important it is to continue to hone your skills through practice and creativity.

Workshop

Take some time to work through the questions here to ensure that you have a firm grasp of the material.

Quiz

1. Can Unity be used to make both 2D and 3D games?
2. Should you be proud of the things you have accomplished so far?
3. What is the single best thing you can do to continue increasing your skills in game development?
4. Have you learned everything you need to learn about Unity?

Answers

1. Absolutely!
2. Absolutely again!
3. Keep making games and sharing them with people.
4. No. You should never stop learning!

Exercise

The theme of this final hour is retrospect and solidifying the things you have learned. The final exercise for this book continues that theme. It is common in the game industry to write something called a *post-mortem*. The idea behind a post-mortem is that you write an article about a game you have made with the intention of other people reading it. In a post-mortem, you analyze the things

that worked in your process and the things that didn’t. You aim to inform others of the pitfalls that you discovered so that they won’t fall into the same ones.

In this exercise, write a post-mortem about one of the games you made in this book. You don’t necessarily have to have anyone read it. It is the process of doing the writing that is important. Be sure to spend some time on this because you might want to read it again further down the road. You will be amazed at the things you found difficult and at the things you found enjoyable.

After writing the post-mortem, print it out (unless you wrote it by hand) and put it in this book. Later, when you come across this book again, be sure to open the post-mortem and read it.