



The Future of Fortnite

(in Education)

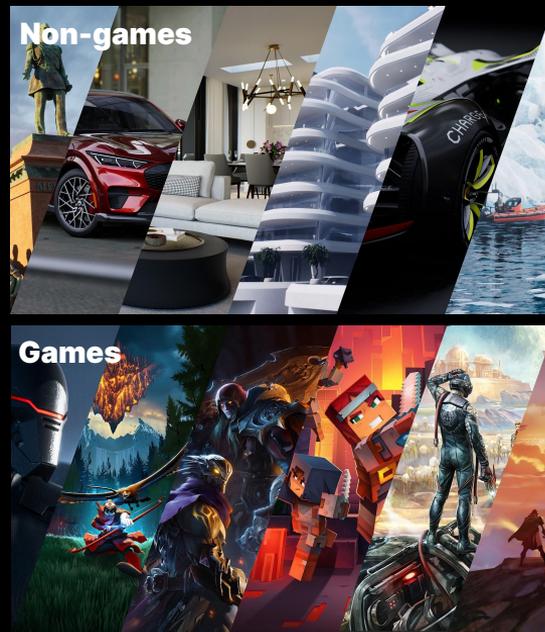
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CreateAccess
createaccess.org

What does Epic Games do?

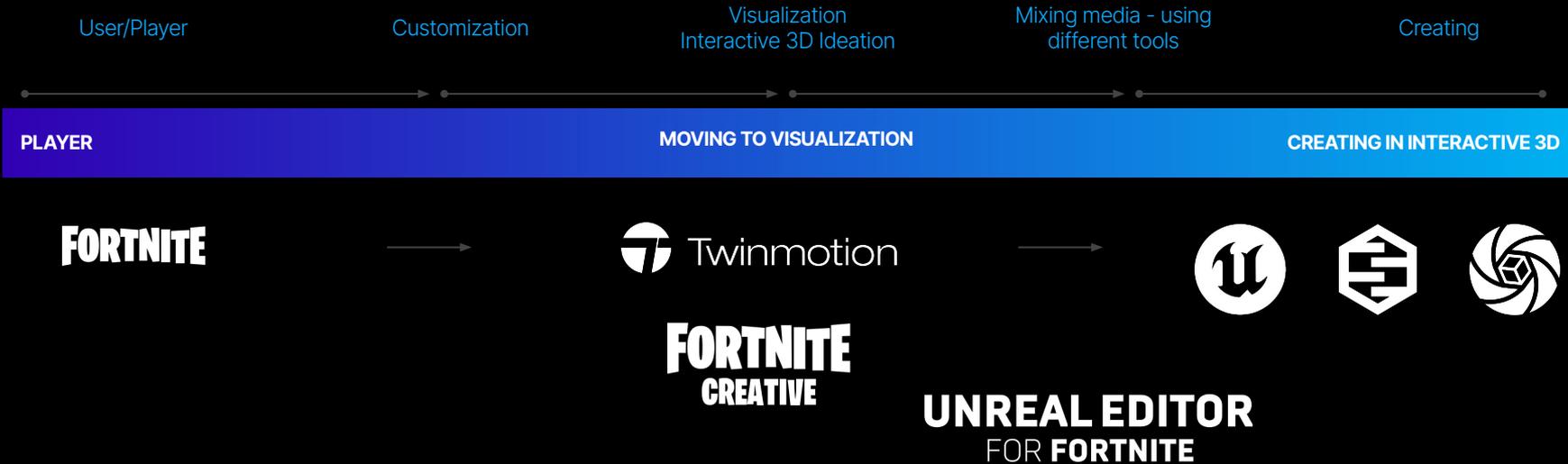


**Game technology
is powering the future
and many industries**

Gaming Growth

- 2.7 billion gamers worldwide (2020, newzoo)
- 83% of female and 97% of male US youth between the ages of 13-17 play video games regularly
- Video Game Market will surpass \$200 billion USD by 2023 (newzoo)
- Gaming Industry is now bigger than the movie and music industries combined

Pathways from player to creator





FORTNITE

CREATIVE

Why should you use

Sandbox games in learning

- Freedom to Create
- Cross Curricular
- Student Agency / Expertise
- Low Floor / High Ceiling
- Real Time Collaboration
- Build Immersive Experiences
- Platform vs. Game



Fortnite and Fortnite Creative Stats.

- Over **500 million** registered users
- **2.9 to 4 million** concurrent players in Fortnite at any one time
- Fortnite Ch2: S4 finale event had **15.3 million** concurrent players
- **3.8 billion** cumulative days played (most played video game on the planet!)
- Over 50% of all in-game playtime comes from **user-generated content**
- Creative mode is viewed as a development platform

Getting started in Fortnite Creative

- Fortnite Creative Documentation
- Fortnite Creative for Minecraft Creators



1. Set Up and Launch Creative

Get up and running in Fortnite Creative from the Epic Games Launcher.

START CREATING →

2. Build Your First Island

Get creating!

LET'S GO →



3. Explore Gameplay Mechanics

Learn how to combine devices to create specific interactions in a game.

LET'S GO →

4. Create a Full Island Experience

Time to put it all together and create a full game or experience!

LET'S GO →



5. Playtest and Publish

Ready to share your island? Learn how to playtest and publish your island experience!

LET'S GO →

Computer science lessons

FORTNITE

BUILDING A TREASURE HUNT RACE:
CREATING A SCORING SYSTEM USING
VARIABLES IN FORTNITE CREATIVE



Content/Grade: Computer Science/Hour of Code: Grades 8-12
Lesson Timeframe: One hour

FORTNITE

MAKING MUSIC IN FORTNITE CREATIVE:
CREATING LOOPS WITH THE MUSIC SEQUENCER



Content/Grade: Computer Science/Hour of Code: Grades 8-12
Lesson Timeframe: One hour

FORTNITE

FUNCTIONS IN FORTNITE:
CREATING A TOWER ESCAPE TRIVIA GAME



Content/Grade: Computer Science/Hour of Code: Grades 8-12
Lesson Timeframe: One hour

FORTNITE

CONDITIONAL STATEMENTS:
USING THE LOCK AND KEY IN FORTNITE CREATIVE



Content/Grade: Computer Science/Hour of Code: Grades 8-12
Lesson Timeframe: One hour

FORTNITE

BUILDING AN OBSTACLE COURSE:
COLLISION DETECTION, TRIGGERS, AND EVENTS IN
FORTNITE CREATIVE



Content/Grade: Computer Science/Hour of Code: Grades 8-12
Lesson Timeframe: One hour

Interdisciplinary lessons



COUNTERFACTUALS: THEIR STORY, YOUR WORLD

Have you ever thought about what would happen if different choices or actions occurred with regards to historical events? In this lesson, students will be asked to present a counterfactual history in Fortnite Creative.



CREATE A RUBE GOLDBERG MACHINE IN FORTNITE CREATIVE

Full of humor, wit, and based on simple machines, Rube Goldberg inventions are described as overly complex machines comprised of a number of automated actions to solve a simple problem. Students will learn about the exciting world of physics by creating their own Rube Goldberg Machine in Fortnite Creative mode.



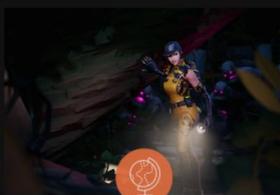
FORTNITE LITERATURE MACHINIMA: THE ALTERNATE ENDING

Did the novel have to end that way? If you were the author, is that the ending you would have written? In this lesson, students will have the opportunity to reimagine and rewrite the ending to a novel. They will be creating a machinima (video) in Fortnite Creative mode to share their alternate conclusion.



THINK BEFORE YOU SPEND!

Create a fun and challenging game for your classmates in Fortnite Creative without breaking the bank! In this lesson, students will learn how to make important decisions regarding resources, structures, and game elements in order to keep their game under budget.



SITE AND SITUATION: WHERE WOULD YOU SETTLE?

Have you ever thought about how the geography of where you settle could impact your life? In this activity, students will determine where to build a settlement by analyzing the pros and cons of each location.



THEME PARK OF THE FUTURE

Ready to take a thrilling ride? Roller coasters have been entertaining thrill seekers for hundreds of years. It's hard to think of a better way to explore physics. In this lesson, students will use their knowledge of physics to build theme park rides in Fortnite Creative.



JUST A MATTER OF TIME

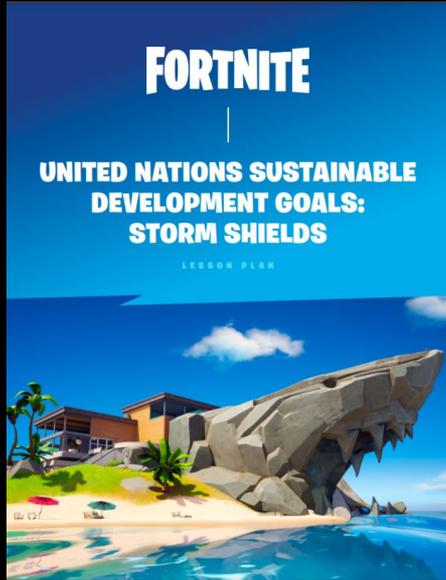
Let's get visual! Breaking down historical events and understanding how history plays out can be complicated. By creating a timeline and laying out events as they happened, students will learn how to make understanding history a lot easier—and more fun tool



MAKING CHOICES

Have you ever thought about how geography impacts your gaming experience? In this lesson, students will learn how the geography of a location and a player's preferences can affect the outcome of their experience. They'll also learn how to prioritize their wants while creating a game that is entertaining to their peers.

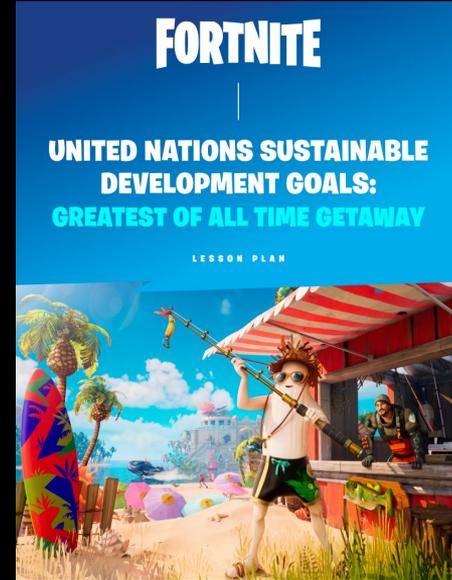
UN Sustainable Development Goals



SDG 13: Climate Action



SDG 10: Reduce Inequality



SDG 8: Employment and Economic Growth

Fortnite Creative

In game learning experiences



UNREAL EDITOR FOR FORTNITE



Unreal Editor for Fortnite

Overview

- Build on FN Creative with your console
- Build on UEFN with your PC
- Advanced creative controls
- Cinematic shots
- VFX
- Animation
- Terrain building
- Bring original content into Fortnite
- Real Time Collaboration to make and test games
- Verse Programming Language



Unreal Editor for Fortnite
Tech Demo



Unreal Editor for Fortnite

Wonders: Pyramids of Giza



Unreal Editor for Fortnite

Import original assets



Unreal Editor for Fortnite

Verse functional programming language

```
parkour_race_script.verse x
MyProjectF > parkour_race_script.verse > parkour_race_script > Key

# Check to see if there are enough batteries collected to end the game.
if:
    BatteriesCollected >= BatteryItemSpawners.Length
then:
    # Check to see if we've collected 4 (or more) batteries. If so, we have won and need to call the EndGame function.
    spawn { EndGame(Agent) }
else:
    # This code runs if the number of batteries is less than 4. Show a Hud Message to spur the player to continue.
    # HUD message is "battery" if only 1 battery has been collected and becomes "batteries" otherwise.
    if:
        BatteriesCollected = 1
    then:
        HUDMessageBattery.SetText(BatteryCollectedMessage(BatteriesCollected))
        HUDMessageBattery.Show(Agent)
    else:
        HUDMessageBattery.SetText(BatteriesCollectedMessage(BatteriesCollected))
        HUDMessageBattery.Show(Agent)

# Now we will access the next Item Spawner in our array.
# We do this by "indexing" into the array. It is inside the "if" statement to ensure that the index is actually within the array.
if:
    NextBatterySpawner := BatteryItemSpawners[BatteriesCollected]
then:
    # We succeeded in indexing NextBatterySpawner, so call SpawnItem which will activate the next battery to collect.
    NextBatterySpawner.SpawnItem()

HandleSecretBatteryPickedUp(Agent:agent):void=
    Logger.Print("Picked up secret battery")
```



Getting started in UEFN

- Fortnite Creative Documentation
- Your First Hour in UEFN
- UEFN for Fortnite Creators
- Beginner Tutorial - UEFN Starter Course!
- Creating a Car Racing Game Mode in UEFN
- UEFN Documentation



1. Set Up and Launch UEFN

Get up and running in Unreal Editor for Fortnite from the Epic Games Launcher.

DOWNLOAD UEFN ↴

2. Your First Hour in UEFN

Get hands-on UEFN with the interactive video course.

LET'S GO ↴



3. Create Unique Islands with UEFN

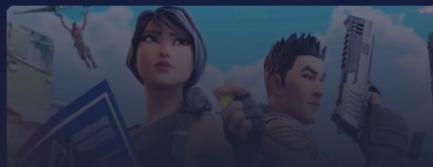
Use modeling modes, connect devices, and collaborate to build unique islands (levels)!

LET'S GO ↴

4. Make a Game In UEFN

Time to put it all together and create a full game or experience!

LET'S GO ↴



5. Playtest and Publish

Ready to share your island with other players? Learn how to playtest and publish your island experience!

LET'S GO ↴

**The freedom to create,
innovate, and collaborate
like never before**

**Our students are living in the
prototype of the metaverse.**

**They will be instrumental in
building it.**

**It is our responsibility to
nurture the next generation
of creators**

Our **future is in their hands**

The Future of Fortnite

“But what’s more interesting is what Fortnite could yet become and how the game could shape the internet as we know it.”

Let’s leverage this for Social Impact!

Teddy Amenabar and Jonathan Lee, Washington Post





Epic MegaGrants

Make amazing things

\$100,000,000 in grants to fund all kinds of creative work, including work by teachers!

3D Creation for Everyone through Exposure Education

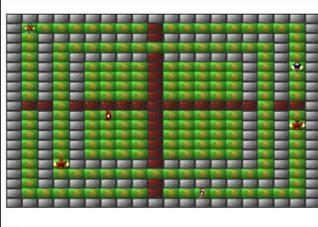
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My Player to Creator Path...and Today's Opportunity

	1994	2023
Ubiquity	“What’s a computer?”	Computers in our pockets
Creating	QBASIC, Turbo Pascal, Assembly	UEFN. No code, Verse
Learning	Bulletin Board Systems, Books	YouTube, Epic Developer Community
Distributing	Bulletin Board Systems	400 million registered Fortnite users

			
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My grades went from **C+** to **A**

Today's path to becoming a creator and seeing tangible results is quick!

About CreateAccess

- New Philadelphia-area nonprofit
- Aims to boost socioeconomic mobility and access to high-impact careers through 3D creation exposure education
 - Game development, 3D modeling, computer science, technical art, engineering, entrepreneurship
- Instills curiosity and builds confidence in beginner creators
 - Lowered barriers through accessible, no-code and low-code, freely available creator tools
 - Our first student cohorts used the Unreal Editor for Fortnite within a few weeks of its release!

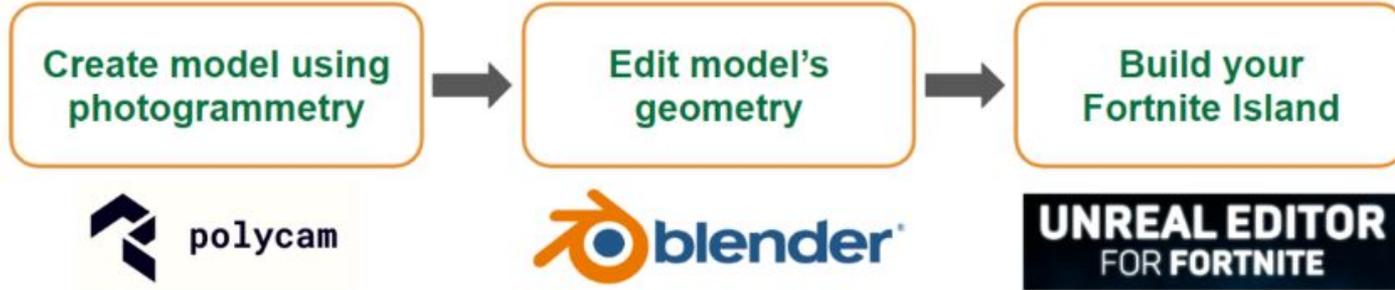


Microcourse Model of Exposure Education

- Early successes and visual results that resonate
- End-to-end, project-based workflows broken into digestible chunks
- Completed in a few hours
- Professional 3D creator tools
- Experimentation actively encouraged
- Freely available videos and written guides



Example Microcourse: Create Unique Fortnite Islands with 3D Capture Phone Apps



Early Pilots

- 25+ middle and high school students - many with no 3D creation experience
- Participants created Fortnite Islands with original photogrammetry models in 3 hours or less
- Many participants explored additional features of UEFN
 - Verse programming, landscaping, animation, collision, applying materials, Fab Marketplace
- 4 student participants turned microcourse creators and 2 educators were hired to work with us in summer 2023 to build and facilitate microcourses



Creator Gallery



С

Many Possibilities for UEFN Creator Workflows

- Phone-based photogrammetry
- Fab
- UEFN modeling tools
- External modeling tools: Blender, Fusion 360, etc.
- Drone-based photogrammetry
- ...



Many possibilities for creators → increased exposure to different areas of computer graphics.

Future Directions

- More microcourses, more functions, more workflows into UEFN
 - Create your environment (boxing gym, concert venue) using UEFN
 - Animation, collision
 - Drone captures
- Community-building
 - Content contributors
 - Student contributors
 - Facilitators
 - Resources to facilitate microcourses where you are
 - Implementation partners
 - Schools, community programs
- Sustainability
 - 3D Creator Studio



Collaborate with Us!

- Please use our microcourse materials, freely available to all on our website!
- We would love to work with you as an implementation partner, contributor, or volunteer facilitator
- Contact hello@createaccess.org



createaccess.org