

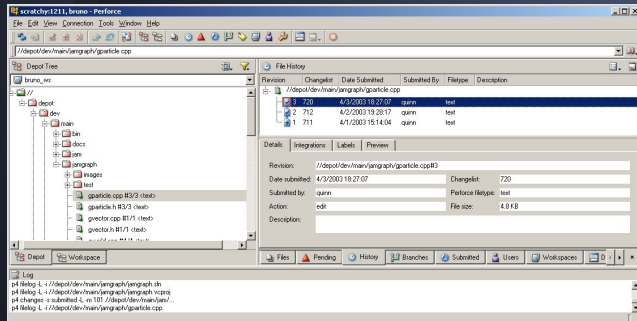


Desarrollo de Videojuegos

Cuestiones avanzadas
Postproducción y distribución

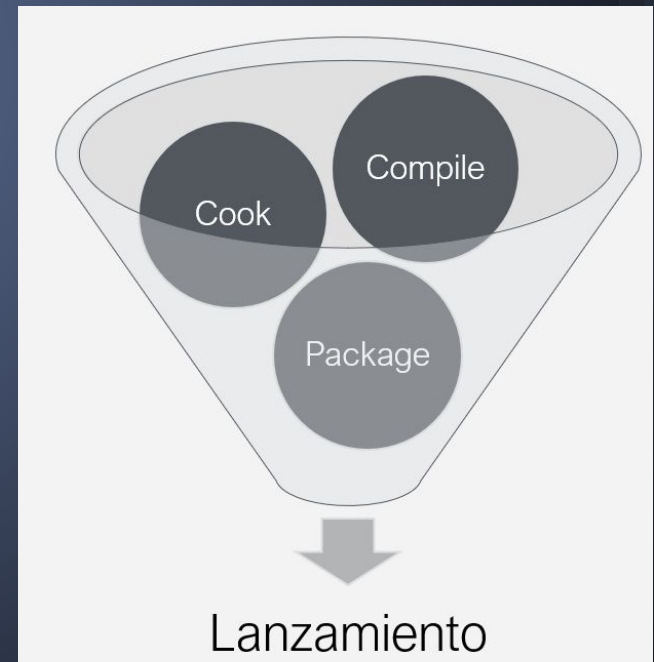
Motivación

- El trabajo no termina tras el desarrollo... hay que **producir el juego** (convertirlo en producto), **publicitarlo**, **venderlo**, **mantenerlo**...



Distribución y despliegue

- Hay código fuente que requiere **compilación**, recursos audiovisuales que requieren **precómputo** (“**horneado/cocinado**”)... **BAKE / COOK**
- Para la **construcción** final **BUILD** hace falta **empaquetado** de archivos y **configuración** para facilitar la *instalación* en las **plataformas objetivo**
 - Que ocupe *lo menos posible* y rinda *lo mejor posible* (en tiempo de procesamiento y uso de memoria primaria)
 - Ej. Al construir *Unreal Tournament* pasa de ocupar **42GB** a **8GB**



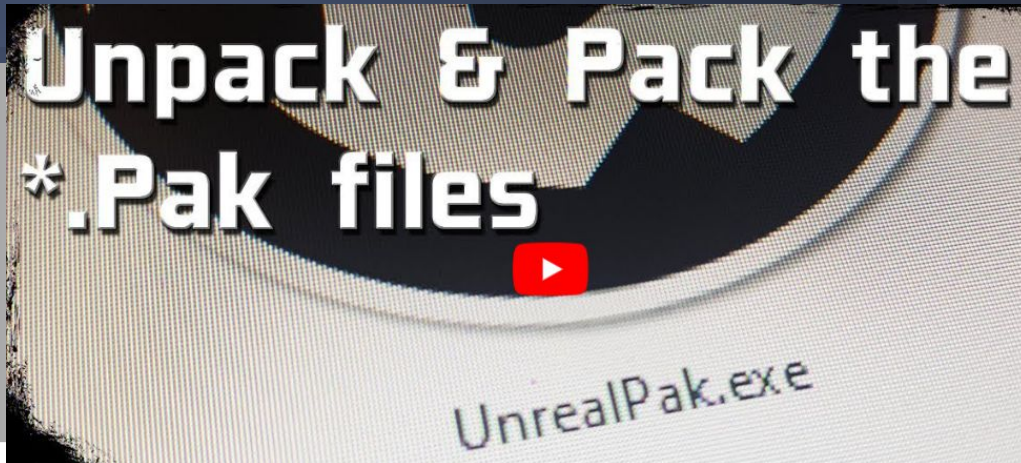
Recursos y paquetes

Assets and Packages

Overview of the asset and package system used in Unreal Engine 4.

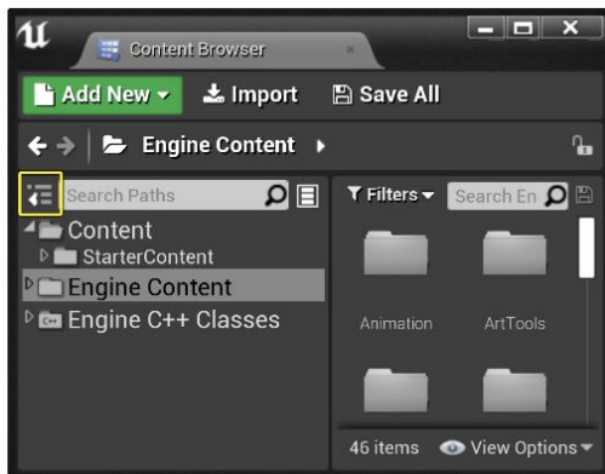
Unreal Engine 4.25

Beginner



<https://www.youtube.com/watch?v=AEIlgCRXF64>

An **Asset** is a piece of content for an **Unreal Engine** project, and can be thought of as a UObject serialized to a file. In the **Content Browser's Sources Panel**, you can display the **Asset Tree** by clicking the **Show/Hide Sources and Collections** button.



Empaquetado para una plataforma

- Por defecto sólo se empaquetan los **mapas** (*.umap) y **recursos** (*.uasset) referenciados explícitamente, aunque también se puede dar *una lista explícita*

¡Importante!

Project - Packaging

Fine tune how your project is packaged for release.

Packaging

Advanced

Cook everything in the project content directory (ignore list of maps below) ☐

Cook only maps (this only affects cookall) ☐

List of maps to include in a packaged build

Index [0]

Index [1]

2 Array elements



/Game/Maps/MainMenuMap ... ▾

/Game/Maps/FPS_Deserted_Houses ... ▾

Packaging Projects

Packaging Unreal game projects for distribution.

Unreal Engine 4.19

Intermediate

Before an Unreal project can be distributed to users, it must be properly packaged. Packaging ensures that all code and content is up to date and in the proper format to run on the desired target platform.

Several steps are performed during the packaging process. Project-specific source code will be compiled first. Once the code is compiled, all required content will be converted, or "cooked," into a format that can be used by the target platform. Following that, the compiled code and cooked content will be bundled into a distributable set of files, such as an installer.

Under the main **File** menu, there is an option called **Package Project**, with a submenu. This submenu provides a list of all supported platforms for which you can package your project.

Servicios extra

- Ej. **Epic Games Online Services** ofrece emparejamiento, vestíbulos, conexiones de igual a igual, logros, estadísticas, tablas de clasificación...

Game Services

Matchmaking

Give your users the ability to host, find, and interact with session-based matchmaking to facilitate group play.

[EXPLORE DOCS](#)

Lobbies

Provide a persistent connection between your users to share product and user state, enabling them to create, join, leave, and manage lobbies.

[EXPLORE DOCS](#)

Peer-to-peer

Establish peer-to-peer network connectivity between multiple players regardless of firewalls or router setups.

[EXPLORE DOCS](#)

Achievements

Define and retrieve data on user achievements to motivate your users as they progress in your product.

[EXPLORE DOCS](#)

Stats

Track user gameplay data to determine when to unlock achievements or rank users in your leaderboards.

[EXPLORE DOCS](#)

Leaderboards

Rank your users from your entire user base to encourage competitive and engaging gameplay.

[EXPLORE DOCS](#)

Player data storage

Save encrypted, user-specific data to cloud servers that is accessible for that user on any device they log in to.

[EXPLORE DOCS](#)

Game analytics

Identify opportunities for improvement or expansion by tracking gameplay, frequency, playbase, time, and location KPIs.

[EXPLORE DOCS](#)

Player ticketing

Support your product and users with an automatically generated, preassigned email address and public web API key.

[EXPLORE DOCS](#)

Title storage

Query and download your common, encrypted product files from cloud servers.

[EXPLORE DOCS](#)

Player reports

Identify in-game infractions by your users such as cheating or abusive communications.

[EXPLORE DOCS](#)

Player sanctions

Manage punitive actions taken against your users, such as temporary or permanent bans from gameplay or communication.

[EXPLORE DOCS](#)

Voice

Create and manage cross-platform, voice chat rooms between your users during matches or in a lobby.

[EXPLORE DOCS](#)

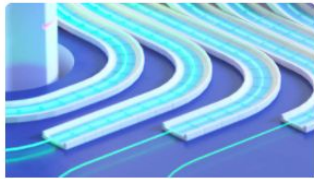
Anti-cheat for PC

Reduce cheating in online PC multiplayer play with cheat prevention and detection. Free service—additional paid features and support are available.

[EXPLORE DOCS](#)

Servicios extra

- Ej. Unity ofrece **In-App Purchases, Ads...**



Rapidly build multiplayer games

Multiplayer

Vivox

Enable in-game voice & chat

Netcode^{BETA}

Build your multiplayer framework

Relay^{BETA}

Connect players with secure peer-to-peer networking

Lobby^{BETA}

Create private & public game lobbies

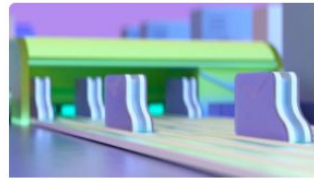
Multiplay (Contact us)

Host and manage your game servers

Matchmaker (Contact us)

Match players together online

Enable Multiplayer



Build your game's backend

Backend

Cloud Code^{BETA}

Add & modify platform code in real-time

Cloud Save^{BETA}

Track and store player data

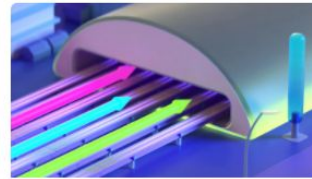
Economy^{BETA}

Create & manage in-game economies

Authentication^{BETA}

Assign player accounts & attach backend data

Build your foundation



Measure success & customize experiences

Analytics & Player Engagement

Analytics^{BETA}

Easily understand game performance and player behavior

Cloud Content Delivery

Manage assets and deliver content via the cloud

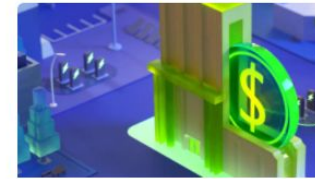
Remote Config

Change game configurations in real time

Cloud Diagnostics

Identify and resolve the crashes impacting game stability

Discover and engage your players



Grow your mobile game & acquire new players

Monetization & Growth

Acquire

Find the right users to grow your audience

In-app Purchases

Connect in-game stores across platforms

Mediation^{BETA}

Increase ad demand and drive more revenue from your game

Monetize

Drive revenue with in-game ads

Drive your revenue

Típico en móviles

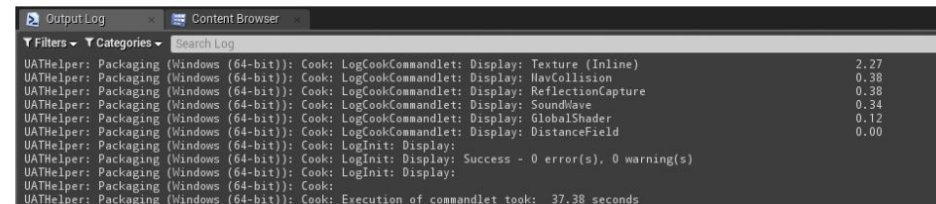
Ejemplo: Instalador para la tienda

- Lo más básico en Windows es distribuir un **fichero EXE** junto a otros **ficheros extra**
 - Ofrecer instalador es una opción más elegante y se puede generar con **InstallShield** (Visual Studio) o **WiX Toolset**

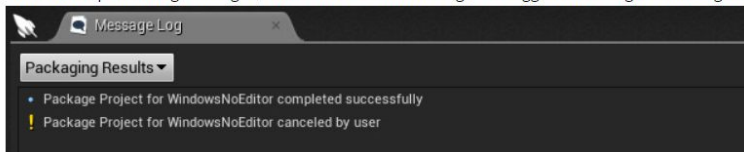
Confirming the target directory will then initiate the actual process that packages the project for the selected platform. Because packaging can be very time consuming, this process is executed in the background, and you can continue to use the Editor. A status indicator will be displayed in the bottom right corner of the Editor to indicate the progress:



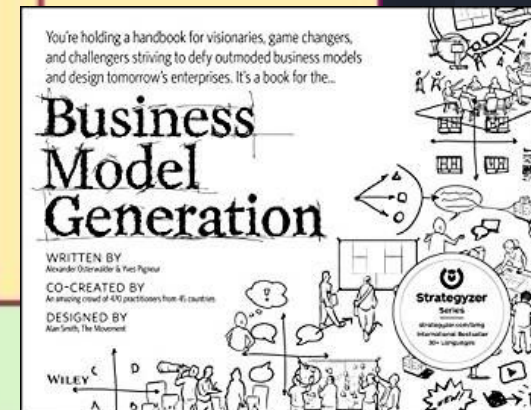
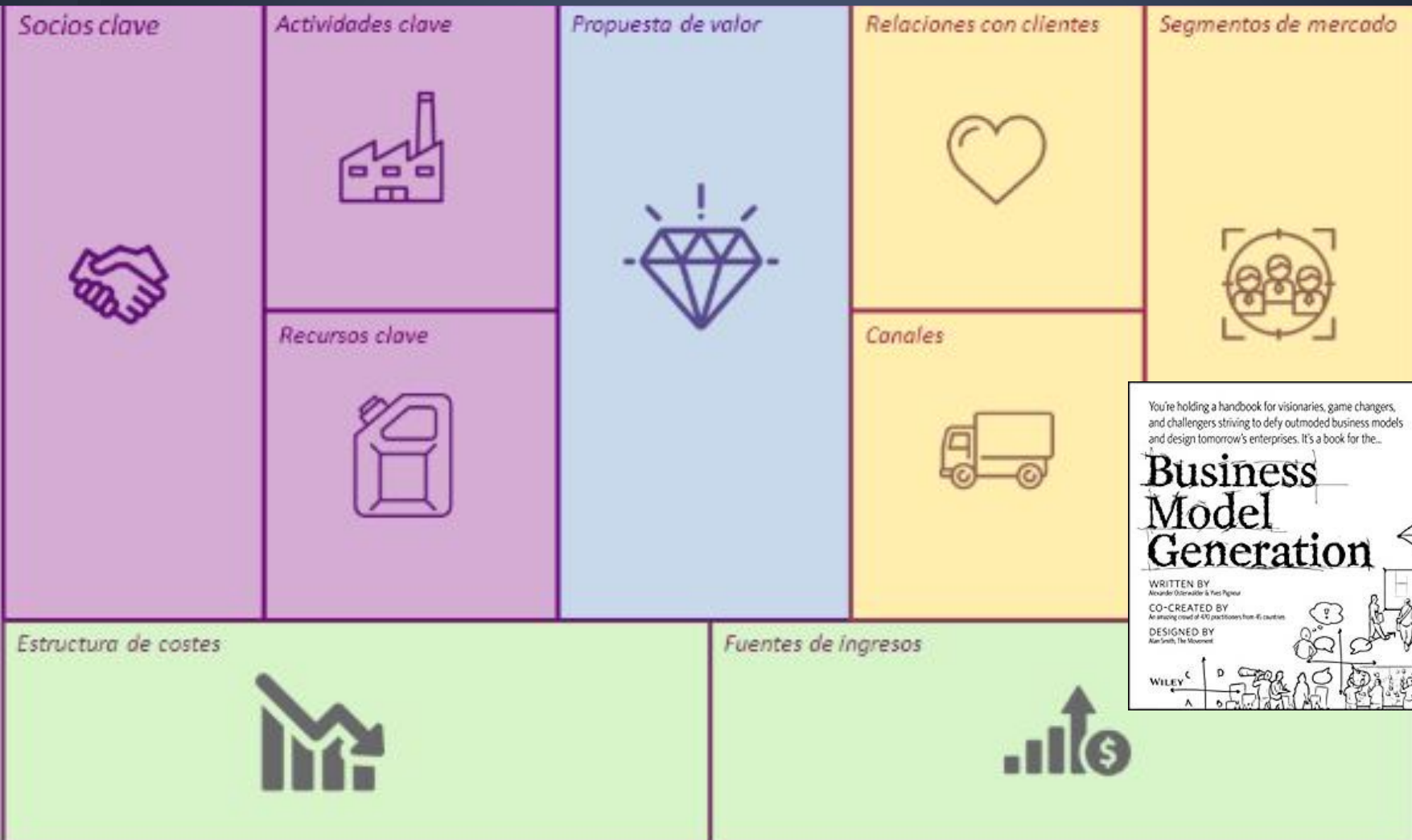
The status indicator also provides a Cancel button to stop the packaging process. In addition, the Show Log link can be used to display extended output log information, which is useful for figuring out what went wrong if the packaging process fails, or for catching warnings that could reveal potential bugs in the product:



The most important log messages, such as errors and warnings, are logged to the regular Message Log window:



Lienzo de modelo de negocio



Generar valor y monetizar

- **Gratuito** (“Free”)
 - Cobro al cliente (Work-for-Hire)
 - Si es marca/anunciante es *Advergaming*
- **Pago** (tradicional o “Premium”)
 - Por episodios, con expansiones, DLCs, etc.
 - Con o sin trailer y/o demo
- **Freemium** (antiguo *Shareware*)
 - Pequeña parte “Free” + Resto “Premium”
- **Free-to-play (F2P)**
 - In-App Purchases como cajas de botín
- **Red de referidos (afiliados/patrocinadores)**
- ...

Plataformas y tiendas

- Los videojuegos son generalmente **productos de consumo** que dependen de determinadas plataformas y se dirigen por tanto a los usuarios de estas
 - Muchas veces son **servicios** en vez de **productos**
- El **coste de producir un videojuego** es muy elevado, pero los costes marginales de las copias (digitales, a menudo) son casi nulos
 - Por ello se suelen vender *licencias de uso no exclusivo de dichas copias en mercados de masas*



Plataformas

- Web / HTML5 (navegadores variados, con versiones)
- PC (con versiones de Windows 32/64bits, Mac y Linux en configuración muy variada, muchos periféricos...)
- Steam Deck
- Android (también bastante abierto)
- iOS (versiones, aunque bastante cerrado)
- Playstation 5 (y PSVR2) y anteriores
- Xbox Series S / X y anteriores
- Nintendo Switch y anteriores
- Plataformas de VR de Oculus, HTC, Valve, Microsoft...
- Plataformas de Cloud de NVIDIA, Amazon, Xbox, PlayStation...
- ...



STEAM™



Tiendas

- Grandes superficies generalistas ([Amazon](#), [Carrefour](#), [Corte Inglés...](#)), especializadas ([GameStop](#), [GAME...](#))
- [BigFishGames](#), [Kongregate](#), [GameHouse...](#)
o tipo [Gamejolt](#), [Itch.io](#), [IndieGala...](#)
- [Steam](#), [EGS](#), [GoG](#), [Humble Bundle](#), [Origin](#), [Ubisoft Connect...](#)
[Discord](#) incluso (o de claves como [Instant Gaming](#) o [CDKeys](#))
- [Google Play](#), [Amazon AppStore](#), [Huawei AppGallery...](#)
- [Apple AppStore](#)
- [Playstation Store](#)
- [Xbox Store](#)
- [Nintendo eShop](#)
- Tiendas para [VR](#)
- Tiendas para [Cloud](#)
- ... o tiendas para *desarrolladores* ([Fab](#), [Unity AssetStore...](#))

Ejemplo: Itch.io

Dashboard » TRPG Maker

Edit tool Devlog Metadata Analytics Distribute Interact More View page Save

POPULAR
Horror games
Visual novels
Simulation
Roguelike
Browse all

BROWSE
Games
Tools
Physical
Books

GAMES
On Sale
With discounts
\$5 or less

FROM
Games or
Monster
Among Us
Announcement
Tabletop
Games or
Harvest,
Announcement

Title

TRPG Maker

Project URL

<https://narratech.itch.io/trpg-maker>

Short description or tagline

Shown when we link to your project. Avoid duplicating your project's title

Create your own Tactical Role-Playing Game without coding!

Classification

What are you uploading?

Tools — A software utility

Kind of project

Downloadable — You only have files to be downloaded

TIP

You can add additional downloadable files for any of the types above

Release status

In development — Project is in active development (or in early access)

Pricing

☐ \$0 or donate ☐ Paid ☒ No payments

The project's files will be freely available and no donations can be made



The cover image is used whenever itch.io wants to link to your project from another part of the site. Required (Minimum: 315x250, Recommended: 630x500)

Gameplay video or trailer

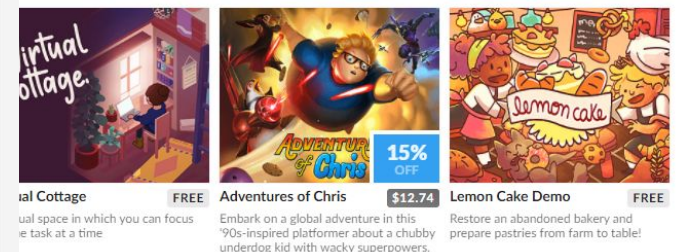
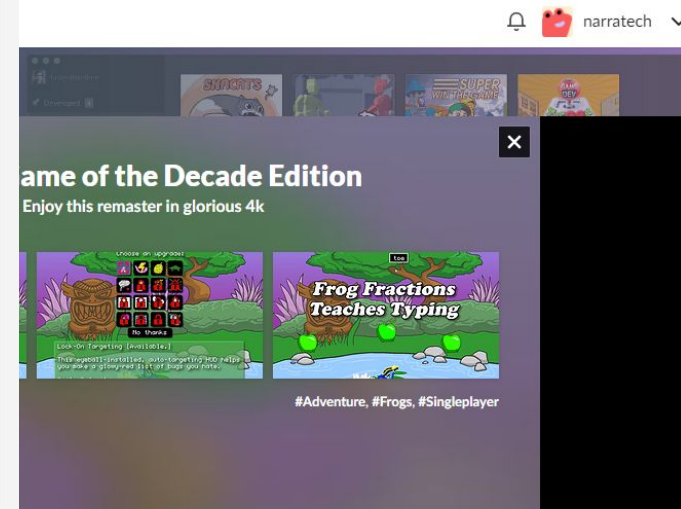
Provide a link to YouTube or Vimeo.

eg. <https://www.youtube.com/watch?v=5JEaA47sF>

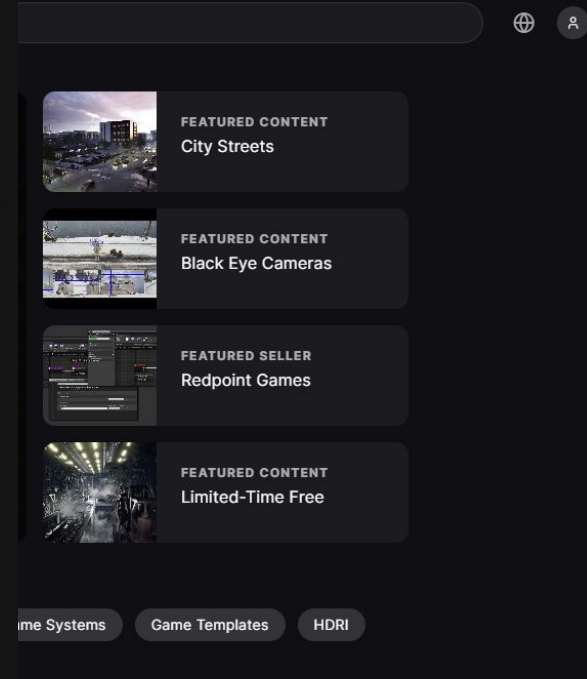
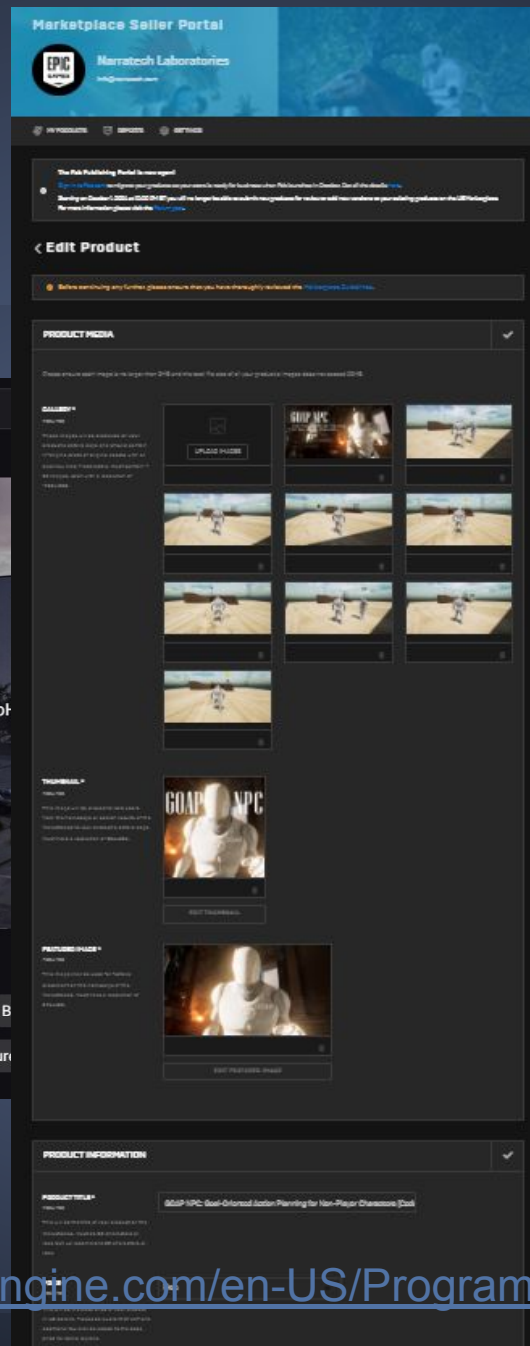
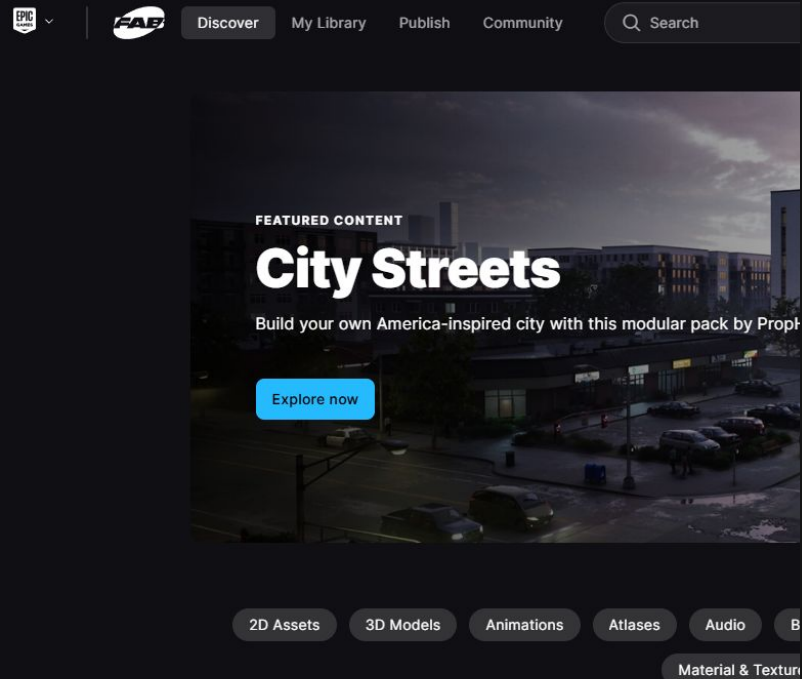
Screenshots

Screenshots will appear on your game's page. Optional but highly recommended. Upload 3 to 5 for best results.





Ejemplo: Fab



Code Plugin: <https://docs.unrealengine.com/en-US/Programming/Plugins/index.html>

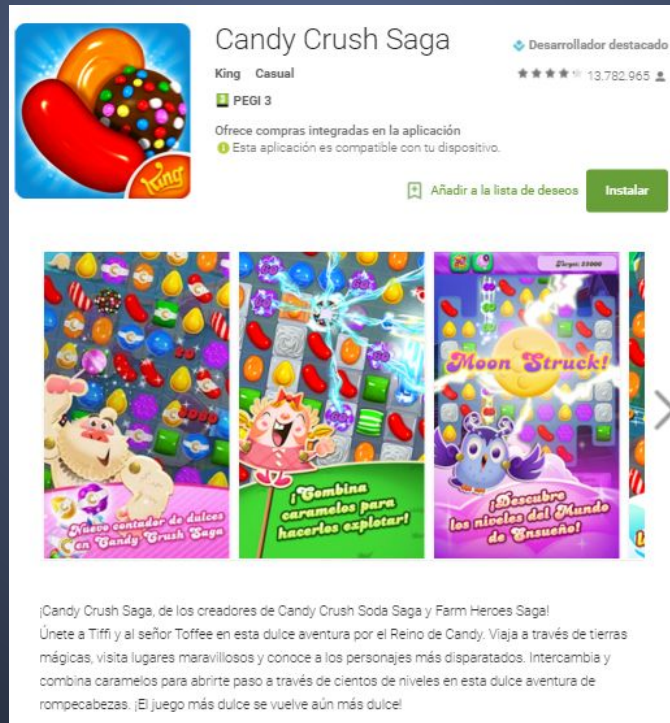
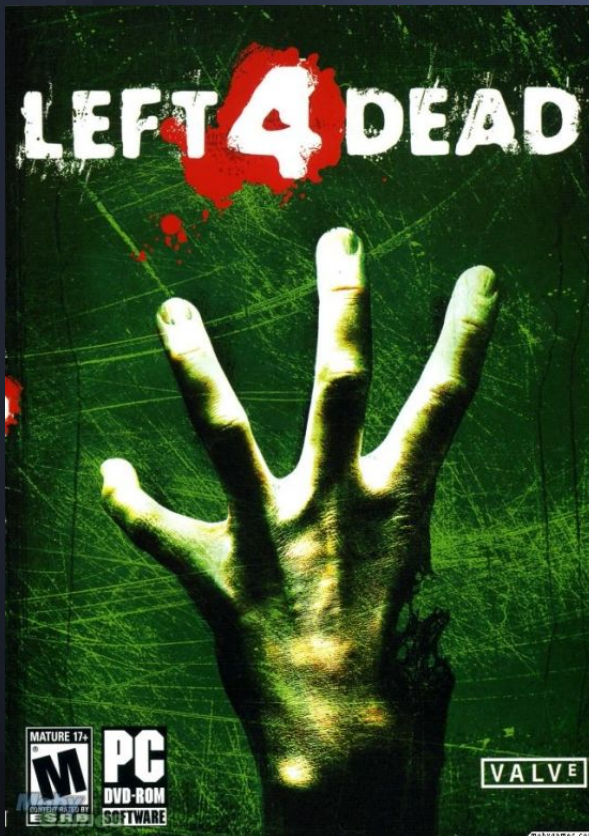
Participación

- ¿Cuál NO es tienda para desarrolladores?
 - A. Playstation Store
 - B. Epic Games Fab
 - C. CRYENGINE Marketplace
 - D. Unity AssetStore
 - E. ArtStation Marketplace



Economía y marketing

- La mercadotecnia son los principios y procedimientos para aumentar el comercio

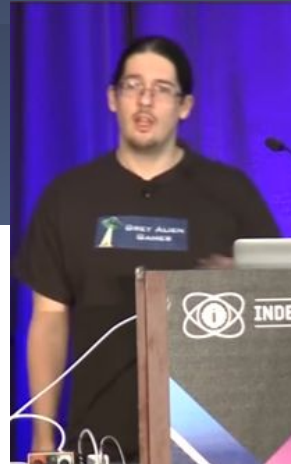
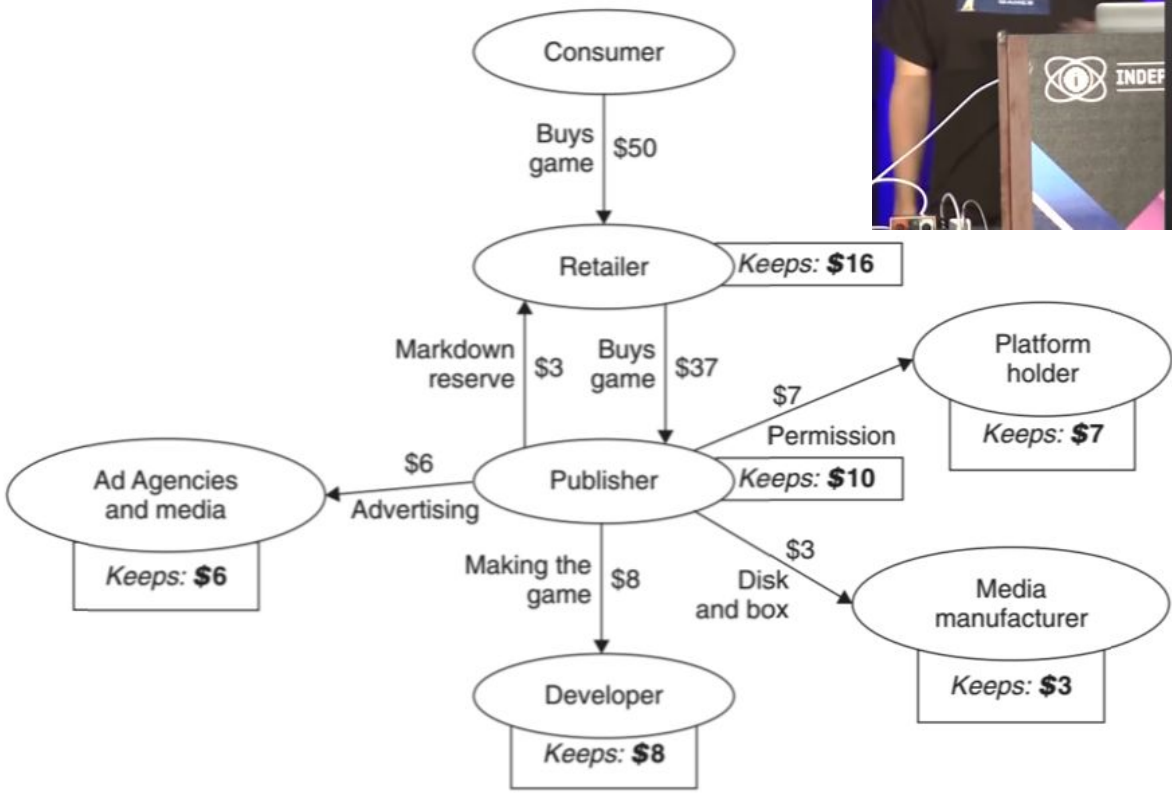


Economía y marketing

- Nos gastamos mucho en videojuegos...
 - Y el 37% de lo comprado en Steam **no lo jugamos**
- ¿Pero cuanto cuesta desarrollarlos?
Ej. **Hellblade: Senua's Sacrifice**, “AAA indie”
 - **Recuperaron toda la inversión** en sólo 3 meses (preveían llegar a beneficio limpio en 6 meses)
 - 500.000 copias a 29.99€ ~ 15M€ de **facturación**
 - Estudio en Reino Unido: 20 empleados de media durante 3 años (**7500€ persona-mes** / 5,4M€ coste?)
 - Epic Games te cobra *casi* 5%, Steam/PlayStation 30% y restan 9.7 M€, donde 4.3 M€ serán para *auto publicación* (localizar, algo de marketing, vender...)



Economía y marketing



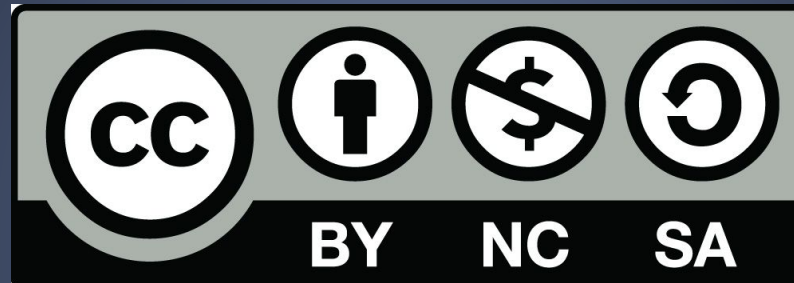
- Sold **591** units to date
- Cost **\$170** to make
- Took approx. **250** hours
- **\$6.50** per hour (wooo!)

How to Survive in Gamedev for Eleven Years Without a Hit

Canales de comunicación

- **Sitios web**, el Hub del juego
 - Kit para la **prensa**
- **Facebook**, la red social más masiva
 - Publicaciones detalladas y **llamadas a la acción**
- **Instagram**, visual y participativo
- **X**, mensajes cortos de gran alcance
- **Youtube**, canal con secciones
- **Twitch**, retransmisión “en vivo”

Críticas, dudas, sugerencias...



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Federico Peinado (2019-2026)

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