Silicon Studio's Global Illumination Technology Enlighten
Integrated into *Infinity Nikki*, the Fifth Open-World Game in the Nikki Series

Tokyo, Japan (February 6, 2025)—Silicon Studio Corporation—a middleware and technology developer that specializes in entertainment, gaming, automotive, video, and architecture—is pleased to announce that Enlighten global illumination will be used in *Infinity Nikki*, an open-world RPG developed and operated by INFOLD PTE. LTD (Jiangsu, China), a subsidiary of Papergames.

Infinity Nikki, a multi-platform open-world RPG released on December 5, 2024, is the latest installment in the beloved Nikki series developed and published by Infold Games, a global brand of Papergames. This fifth title in the franchise follows the immensely popular smartphone games *Miracle Nikki* and *Shining Nikki*, which have collectively amassed over 100 million downloads worldwide. The game utilizes the power of Unreal Engine 5, offering players a visually stunning and immersive experience.

In August 2022, Papergames elected to integrate Enlighten, a cutting-edge global illumination technology, into *Infinity Nikki's* development which has significantly enhanced the game's visual fidelity, creating a more realistic and captivating world for players to explore.

Enlighten was selected due to its exceptional capabilities in delivering efficient real-time lighting effects for expansive open-world environments. Its ability to consistently render high-quality realistic bounced light and shadow across large, intricate scenes while maintaining a low computational cost made it an ideal choice. Enlighten comes seamlessly integrated with Unreal Engine 5's other lighting technologies which allows for smooth and versatile lighting effects across diverse environments, enhancing the game's overall visual appeal.

Enlighten played a crucial role in the development of *Infinity Nikki* for mobile platforms (iOS and Android) by providing dynamic bounced lighting in interior scenes with dynamic elements. Given the challenge and computing cost of implementing real-time global illumination on mobile devices, Enlighten provided an effective solution. This technology enabled the creation of smooth, high-quality lighting for indoor environments and dynamic elements, resulting in an immersive mobile gaming experience that captivates players.

Furthermore, Enlighten boasts a lightweight runtime processing load and the versatility to fine-tune performance, enabling scalable, high-quality global illumination across a wide range of platforms, from mobile devices to high-end systems. This

capability allows *Infinity Nikki* to deliver stunning visual effects, as envisioned by the artists, in scenes that demand, consistent, rich, and realistic lighting across all gaming platforms. The result is a seamless and visually impressive experience, regardless of the device being used.

Official comment from Infold Games

Enlighten offered a suite of cost-effective global illumination solutions that operate efficiently on the CPU. This effectively addressed our project's global illumination challenges. The technology performs remarkably well on our mobile platform, enabling us to achieve more intricate visuals with enhanced light and shadow details.

Engine Programmer, Infinity Nikki Development Group
INFOLD PTE. LTD.

By adopting Enlighten, full skylight projection and ray-tracing-like direct light reflection effects could be reproduced even on mobile platforms. The lighting logic and techniques are consistent with the global illumination (GI) method used on PC platforms, eliminating the need to add lighting adjustment parameters specifically for mobile platforms. As a result, it became possible to achieve flexible global illumination in open-world game development on mobile platforms as well.

Technical Artist (TA), Infinity Nikki Development Group
INFOLD PTE. LTD.

About "Infinity Nikki"

Developer	INFOLD PTE. LTD.
Platform	iOS、Android™、PlayStation®5、Epic Games Store、Windows PC
Genre	Open World RPG
Release Date	December 5, 2024
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About Enlighten

Enlighten is a high quality real-time global illumination technology used for the game, cinematic, entertainment, architectural, and several other industries. The technology can efficiently calculate numerous mathematical processes to generate and maintain beautiful high-quality images through the usage of light maps, spherical harmonic probes, and reflection captures.
https://www.siliconstudio.co.jp/middleware/enlighten/en/

Enlighten for Unreal Engine 4 & Unreal Engine 5 is available for the following platforms:
Nintendo Switch™, PlayStation®4, PlayStation®5, Xbox One, Xbox Series X|S, Microsoft Windows, Android™, iOS

Enlighten SDK is available for the following platforms:
Nintendo Switch™, PlayStation®4, PlayStation®5, Xbox One, Xbox Series X|S, Microsoft Windows, Android™, iOS
*Enlighten also supports VR development

About Silicon Studio Corporation

Silicon Studio, a Japan-based game engine and middleware company, develops and provides advanced technologies such as "YEBIS" post effects, Enlighten real-time global illumination, and Mizuchi real-time rendering to major game and entertainment production studios worldwide. These technologies have helped to bring high quality graphics to a large number of successful AAA titles.
https://www.siliconstudio.co.jp/en/

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