

MARCH 2014 | #147 | £4 / €7 / \$13

develop

GAME DESIGN | CODING | ART | SOUND | BUSINESS



CREATIVE
ASSEMBLY™

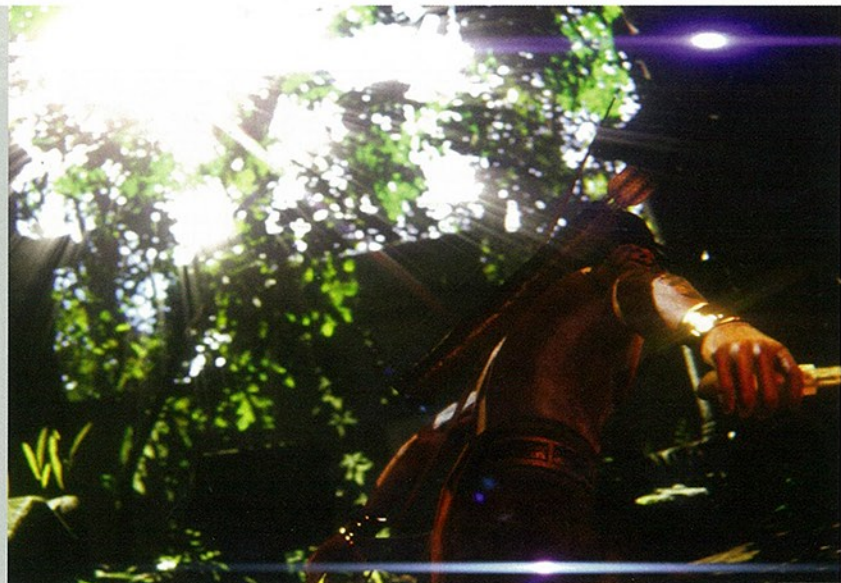
KEY RELEASE

Light 'em up, baby

Aaron Lee gazes at Yebis 2, one of the first post-processing graphics tools for the new era of consoles, PCs and mobiles

What is it? A post-processing effects tool that its maker says takes game graphics on all platforms to a new level of realism

Company: Silicon Studio
www.siliconstudio.co.jp/en



Silicon Studio's Masaki Kawase (top) and Takehiko Terada (bottom) say their post-processing tool is a cost-effective solution to achieve filmic visuals

Above right: A tribal warrior is bathed in the warm glow of sun rays – Yebis 2's bloom feature in full effect

Right: Yebis 2's Rigid Gems demo was used by Google at the unveiling of the Nexus 7 tablet

BACKED BY THEIR powerful processors and GPUs, the new breed of PCs and games consoles are getting closer to the spectrum of approximately 1,000,000 contrasts of light visible to the human eye.

But they still need help to display the subtle patterns and lighting conditions that shape our visual world, which is where Yebis 2 comes in.

This post-processing effects middleware aims to take games graphics to new levels of realism. Created by Japanese firm Silicon Studio, the tool employs a special method of processing algorithms in a way that is as physically accurate as possible.

Post-processing effects are the visual tweaks to a frame that has already been fully rendered in order to enrich its visuals, similar in part to retouching digital photos. It's this process that allows creators to simulate gems glistening on a marble table as a camera pans around them or the sweat beads on a character's biceps.

OPTICAL ILLUSIONS

Yebis 2 has been designed for practically all major platforms, including PS4, Xbox One, PC, Linux, Android and iOS. As well as being a competent instrument for large teams working on projects of gigantic scale, such as the trailer for Square Enix's *Final Fantasy XV* and its earlier tech demo *Agni's Philosophy*, Silicon Studio CEO Takehiko Terada says Yebis 2 is just as ready to serve the needs of small teams and projects. Most recently, the tool has been used to power Square's arcade-action game *Gunslinger Stratos 2*, while its *Rigid Gems* demo was used at the unveiling of Google's Nexus 7.

"Yebis 2 is backed by over a decade of R&D that covers a wide range of effects, including realistic camera lens simulation to make photorealistic optical effects possible," says Terada. "Silicon Studio R&D

teams spent over ten years studying and researching optical effects, looking at how the human eye perceives visual information. We then applied all this knowledge into our middleware delivering unparalleled quality in the considerable range of visual effects."

For all of these post-processing effects, such as depth of field, glare and colour grading, the tool has been made with quick integration in mind.

“Depth of field is a key visual effect to simulate the kinds of effects cameras have been able to deliver in film.”

Masaki Kawase, Silicon Studio

"As next generation developers attempt to make games look even more realistic, depth of field is a key visual effect to simulate the kinds of effects cameras have been able to deliver to audiences in the film industry," explains Masaki Kawase, lead software engineer at Silicon Studio. "Another important facet of post-effects is to allow games developers to inject stylistic appeal into the final visual scenes. This includes using glare and 'god rays' to accentuate areas of relatively high illumination to emphasise their impact, or applying colour grading as a final step to help dictate the mood of the environment."

MAX VISUALS, MINIMAL COST

This bounty of effects, coupled with its easy integration is Silicon's pitch for Yebis 2. And as dev costs ramp on next-gen, Silicon is offering a solution geared




towards minimising costs while also maximising the visuals. Yebis 2 is offered at a price for per-SKU-per-title, which Silicon says means manageable pricing depending on the development budget.

Terada reiterates the company's commitment to this vision: "Games now require more complexity and higher quality graphics. Yebis 2 is there to answer the call and satisfy the hearts of gamers."

That's something that the tool seems well suited to achieving.

Yebis 2 is due for an upgrade this year, and Kawase describes some of what's on the drawing board for the tool: "In the near future, we aim to expand on the repertoire of photorealistic effects-based on optics. An example is representing realistic bokeh by simulating aperture blades and chromatic aberrations. This includes being able to recreate the different colour fringes between 'front bokeh' and 'rear bokeh', and subtle changes to the shape, taking into account properties such as the number and the curve of the aperture blades." ■

 Silicon Studio

Find Silicon Studio at booth 1335



Transform Your Game



YE B I S 2TM
Advanced Optical Effects Middleware

Coming to GDC2014
at booth # 1335