EnLight

Low Light Video Enhancement

IRIS-EnLight exploits sophisticated video processing technologies to enable **high quality video** under **challenging lighting conditions** in real-world applications – especially those encountered when capturing video using mobile devices such as mobile phones and tablets.

IRIS-EnLight has been optimized for the challenging computational environment of mobile devices and can process 1080p30 video in real-time. It incorporates a bundle of innovative color tone-mapping techniques as well as a proprietary video de-noising system providing high-quality results.

The combination of high quality results and low computational requirements as well as low power consumption makes IRIS-EnLight an excellent solution for mobile appliances.

Features:

IRIS-EnLight is designed to enhance images and video sequences (1080p30), captured under challenging lightning conditions.

IRIS-EnLight incorporates a bundle of proprietary image processing techniques, such as tone mapping and video de-noising in order to cope with artifacts often encountered in low-light video capturing.

The system was designed to demonstrate the lowest possible power consumption and to minimize cycles per pixel so that the core processor can be clocked below its nominal maximum clock rate. In order to achieve this, IRIS-EnLight was designed to fully exploit the special architectural characteristics of any processing core such as VLIW and SIMD vectorization.

IRIS-EnLight use scenarios:

- Cameras of mobile devices
- Action cameras

Unique features:

- Real time performance for full HD (30 and 60 fps)
- Able to run in fixed-point devices
- Low-power consumption
- Platform independent

Furthermore, IRIS-EnLight was designed to be compatible with the fixed-point nature of most of the modern mobile processing cores, incorporating arithmetic techniques that do not require floating-point calculations.

The use of IRIS- EnLight in a mobile environment imposes requirements for low power consumption, memory use and clock speed which are successfully met in the platforms that IRIS-EnLight currently supports and is guaranteed for any future implementation.

Supported Platforms:

IRIS-EnLight is platform-independent software IP able to run in various fixed-point and floating-point cores. Platforms currently supported include **Tensilica/Cadence IVP**, **ARM Cortex A9** and **Texas Instrument Da Vinci** family. IRIS-EnLight is also available in **RTL code** for FPGA implementation.

Deliverables:

Library files, technical documents, etc. per supported platform. For details, please contact Irida Labs.

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