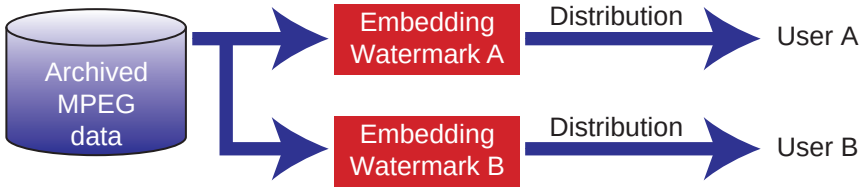
MPmark® MPEG Video watermark - SDK

KDDI R&D LABS

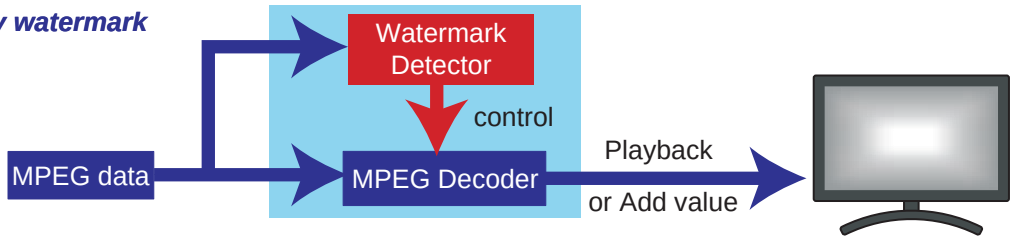
Hyper-Fast MPEG Video Watermarking Software Development Kit

MPmark® is the Hyper-Fast MPEG video Watermarking Software Development Kit (SDK) for not only MPEG-1/2 but H.264/MPEG-4 AVC. Therefore, MPmark® can add some values to your real time processing system. Some use cases are shown as follows.

Fingerprinting with different watermark



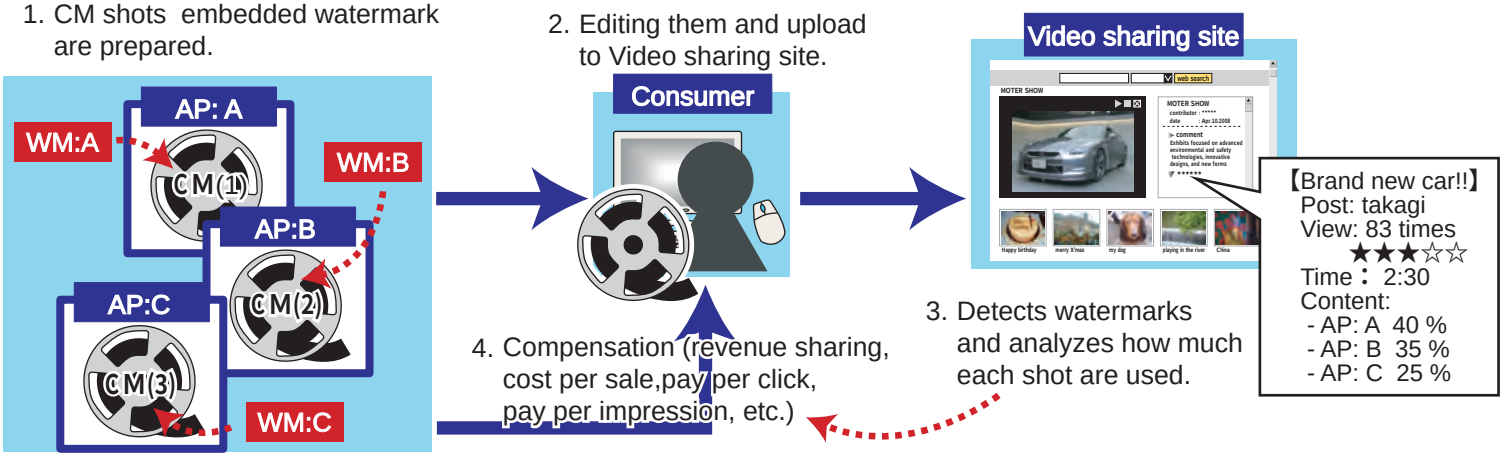
Playback control by watermark



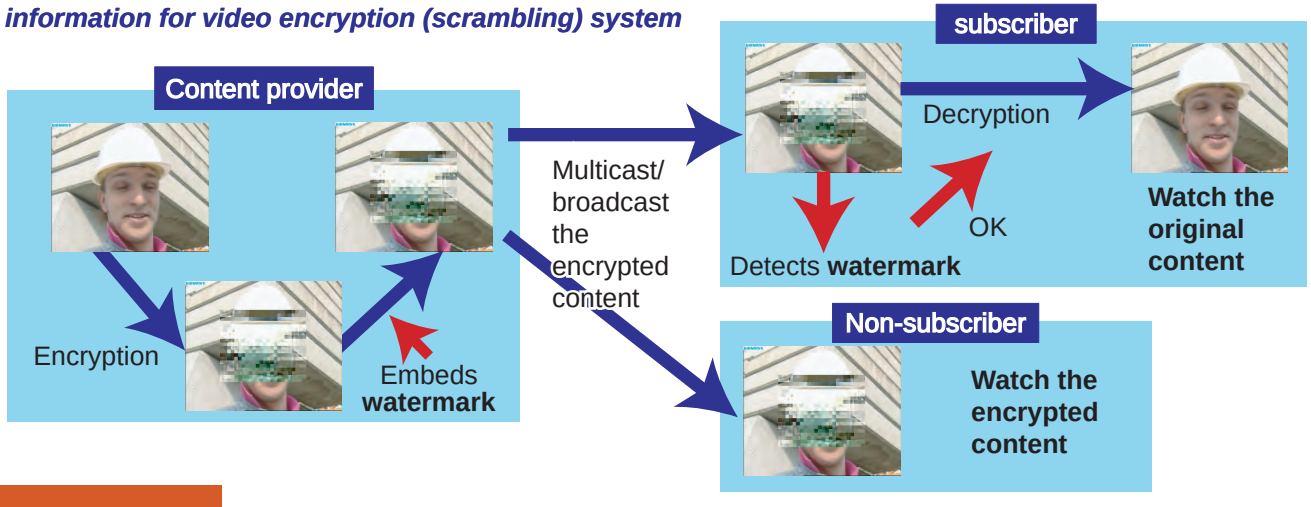
New affiliate marketing model

1. CM shots embedded watermark are prepared.

2. Editing them and upload to Video sharing site.



A key information for video encryption (scrambling) system



Features

High speed processing

- Motion pictures are typically transferred as compressed data. MPmark® can work at very fast because there is no need to decode the MPEG compressed data.

Functionality

- New! More than 2 kinds of watermark information can be embedded into one content. Therefore, you can embed more watermark information bits.
- New! You can select one of high speed mode and high reliability mode (There is a trade-off between "speed" and "reliability").

Supports Various codecs

- MPmark® supports not only MPEG-1/2 Video but MPEG-4 AVC/H.264.

High Quality

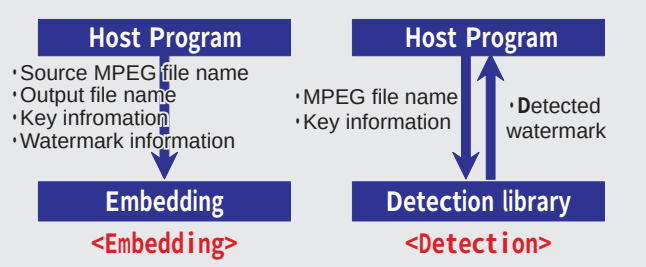
- Since MPmark® alters only a portion of data, there is a slight change in the limited portions of the data. MPmark® also takes the human visal range and psychoacoustic sensitivity into account. This means embedding intensity is controlled so that there are no perceptible degradations.

Robustness

- MPmark® remains highly robust during MPEG compression and its watermark is easily detected even in case where MPEG compression badly affects the base picture quality.
- New! MPmark® remains robust during A/D or D/A conversion.
- During low bit rate encoding, not all frames always get encoded and sometimes frames are skipped. However, even in cases like these MPmark® can still detect the watermark.

MPmark® structure

The MPmark® SDK is grouped into embedding and detection library. Each has an API (application program interface) between itself and your host program. The embedding library receives the source MPEG file name, key information and watermark information, and creates a file with the watermark. The detection library receives an MPEG file name to be inspected and key information from your application. After detecting watermark, it sends back the detected watermark.



System requirements

Item	Description
OS	Microsoft® Windows® XP SP2
CPU	Intel® Celeron® 800MHz or more recommended
RAM	128MB or more recommended
Development environment	Microsoft® Visual C++® 6.0 SP5 or more recommendede

Specification

	Item	Description
Embedding	Input media data format	Source file name MPEG-1/MPEG-2/MPEG-4 AVC(H.264) elementary stream
	Embedding data format	Specified through API
	Embedding bits	80bit/150frame (D1-VTR) 16bit/300frame (QCIF,SQCIF)
	Output media data	MPEG-1/MPEG-2/MPEG-4 AVC(H.264) elementary stream
Detection	Input media data format	MPEG-1/MPEG-2/MPEG-4 AVC(H.264) elementary stream
	Output data format	Specified through API

KDDI R&D Laboratories is the research and development division of Japan's telecom giant KDDI Corporation, with a long history and expertise in developing pioneering technologies. From starting Japan's first Internet connection in 1982 to developing the world's fastest high-capacity optical transmission methods, KDDI R&D Labs has been an innovator in fundamental technologies and applications derived from a wide range of telecommunications research.

inquiry: KDDI R&D Labs, Inc.
URL: http://mmm.kddilabs.jp/
E-mail: inquiry@kddilabs.jp

KDDI R&D LABS