**Software architectural design**

**Model: i-DOLPHIN**

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**Revision History**

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# Main Module

-> Diagram



## Integrated Management

For operating iDOLPHIN, four modules is needed.

First, Database module for saving data.

Second, Image Processing module for image processing.

Third, Firmware module for constituting Hardware.

Lastly, Main module for controlling above-mentioned modules.

# Database

-> Diagram



## Save Image

When user saves the image seen on the screen, image file is saved as jpeg format.

## Save Video

When user saves the video seen on the screen, video file is saved as avi format.

# Image Processing



## Auto exposure

Set the ‘target value’ of iDOLPHIN’s software as default value.

In comparison to the target value, adjust the darker image to the bright image. On the contrary, adjust the brighter image to the dark image.

## Brightness

Camera에서 획득 된 Data의 밝기 조절을 해 준다.

## Rotation

Rearrange data sequence and rotate image.

# Firmware



## Load to bin file

To operate I-Dolphin, Compiled FPGA data should load in rom.

## Data transmit/receive Data

When bin file operates normally, data is received from camera. Also received data process transmit processing to process image.

## Control illumination

Control illumination to see the lesion properly by using optical fiber.