**Software architectural design**

**Model: iDOLPHIN (iDOLPHIN-S & iDOLPHIN-View**

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| --- | --- | --- | --- | --- |
|  | Title | Name | Date | Signature |
| Prepared by | Researcher | H. W. Jung | 2016.02.19 |  |
| Reviewed by | Senior researcher | J. H. Oh | 2016.02.19 |  |
| Approved by | CTO | G. Y. Kim | 2016.02.19 |  |

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| **META BIOMED CO., LTD.** |

**Revision History**

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| 0 | Initial release, alpha-test | 2013.09.06 |
| 1 | Modified according to EN 62366, Class A | 2014.07.03 |
| 2 | According to Non-conformity, Modify Class B | 2016.02.19 |
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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

Adjust brightness of image data derived from camera.

## Rotation

Rearrange data sequence and rotate image.

# Firmware



## Load to bin file

To operate iDOLPHIN Viewer, 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.