**The browsing interfaces of digital slide**

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# Summary

This document gives you a brief description of the browsing interfaces of digital slide. You need to load KFBIO’s C dynamic link library to view the KFB(KFBIO’s digital Image). The sample code is in the below.

Notes: The image data you get is JPEG stream.

# recommend development environment

**operating system**：CentOS 6.8

**development tool**：QT

# Interface

## File identification structure

Typedef struct IMAGE\_INFO\_STRUCT

{

int DataFilePTR;

}ImageInfoStruct;

typedef void \*LPVOID;

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## Open file

int InitImageFileFunc( ImageInfoStruct\* sImageInfo, constchar\* Path );

Parameter：

1.sImageInfo：The pointer of the KFB image

2.Path：The path of the image(\*.kfb) on the hard disk

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## Close file

int UnInitImageFileFunc( ImageInfoStruct\* sImageInfo );

Parameter：

1.sImageInfo ： The pointer of the KFB image, Get by InitImageFileFunc.

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## Get image

char \* GetImageStreamFunc( ImageInfoStruct\* sImageInfo, float fScale, int nImagePosX, int nImagePosY, int\* nDataLength, unsignedchar\*\* ImageStream );

Parameter：

1.sImageInfo：The pointer of the KFB image, Get by InitImageFileFunc.

2.fScale：The scale of the image which you want to get

3.nImagePosX：The X coordinate(top,left) of the image, the number of the coordinate must be multiple of 256

4.nImagePosY：The Y coordinate(top,left) of the image, the number of the coordinate must be multiple of 256

5.nDataLength：Get the length of the returned image stream

6.ImageStream：The pointer of the returned image. It’s JPEG format image stream. The image size is depend on the size of the block data, indicated with khiImageBlockSize in header information.

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## Get RGB Data

char \* GetImageRGBDataStreamFunc( ImageInfoStruct\* sImageInfo, float fScale, int nImagePosX, int nImagePosY, int\* nDataLength, int \* nImageWidth,int \* nImageHeight,unsignedchar\*\* ImageStream );

Parameter：

1.sImageInfo：The pointer of the KFB image, Get by InitImageFileFunc.

2.fScale：The scale of the image which you want to get

3.nImagePosX：The X coordinate(top,left) of the image, the number of the coordinate must be multiple of 256

4.nImagePosY：The Y coordinate(top,left) of the image, the number of the coordinate must be multiple of 256

1. nDataLength：Get the length of the returned RGB Data
2. nImageWidth：Get the width of the returned RGB Data
3. nImageHeight：Get the height of the returned RGB Data

8.ImageStream：The pointer of the returned image. It’s JPEG format image stream. The image size is depend on the size of the block data, indicated with khiImageBlockSize in header information.

## Delete image

int DeleteImageDataFunc( LPVOID pImageData );

Parameter：

1.pImageData ：the pointer of image block, get by GetImageStreamFunc;LPVOID Macro definition

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## Thumbnail

int GetThumnailImagePathFunc( constchar\* szFilePath, unsignedchar\*\* ImageData, int\* nDataLength, int\* nThumWidth, int\* nThumHeght );

Parameter：

1. szFilePath：The path of the KFB image on the hard disk
2. ImageData：The pointer of the returned image
3. nDataLength：The length of the returned image stream, the stream with JPEG format
4. nThumWidth：The the width of the returned image
5. nThumHeght ：The the height of the returned image

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## Preview image

int GetPriviewInfoPathFunc( constchar\* szFilePath, unsignedchar\*\* ImageData, int\* nDataLength, int\* nPriviewWidth, int\* nPriviewHeight );

Parameter：

1.szFilePath：The path of the KFB image on the hard disk

2.ImageData：The pointer of the returned image

3.nDataLength：The size of the returned image stream, the stream with JPEG format

4.nPriviewWidth：The width of the returned image

5.nPriviewHeight ：The height of the returned image

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## Label image

int GetLableInfoPathFunc( constchar\* szFilePath, unsignedchar\*\* ImageData, int\* nDataLength, int\* nLabelWidth, int\* nLabelHeight );

Parameter：

1.szFilePath：The path of the KFB image on the hard disk

2.ImageData：The pointer of returned image

3.nDataLength：The size of the returned image

4.nLabelWidth：The width of the returned image

5.nLabelHeight ：The height of the returned image

## Header information

int GetHeaderInfoFunc( ImageInfoStruct sImageInfo, int\*khiImageHeight,int \*khiImageWidth,int \*khiScanScale,float \*khiSpendTime,double \*khiScanTime,float \*khiImageCapRes,int\*khiImageBlockSize);

1.sImageInfo：The pointer of the KFB image, Get by InitImageFileFunc.

2.khiImageHeight：Get the height of scanned area

3.khiImageWidth：Get the width of the scanned area

4.khiScanScale：Get the scale of the scanning

5.khiSpendTime：Get the time of the scanning process takes

6.khiScanTime: Get the start time of the scanning process

7.khiImageCapRes: Get the ratio of the pixel and the actual size

8.khiImageBlockSize: Get the size of the block

## Get the image of the specified area

int GetImageDataRoiFunc( ImageInfoStruct sImageInfo, float fScale, int sp\_x, int sp\_y, int nWidth, int nHeight,BYTE\*\* pBuffer, int\*DataLength, bool flag);

Parameter：

1. sImageInfo：The pointer of the KFB image , Get by InitImageFileFunc.
2. fScale：The scale of the image which you want to get
3. sp\_x：The X coordinates of the top left corner you want to get
4. sp\_y：The Y coordinates of the top left corner you want to get
5. nWidth：The width of the ROI image block you want to get
6. nHeight：The height of the ROI image block you want to get
7. pBuffer：The pointer of the returned image block. Its format is JPEG
8. DataLength：Get the length of the returned image stream.
9. flag：The result of the reading.( reserve parameter)

# Remarks

1. How to get the image stream
2. Load the image. If it's the first time you load the image, you need to open the KFB image according to the path.（InitImageFileFunc）
3. Get the header information.（GetHeaderInfoFunc）
4. Calculate the scale and coordinates of the image you want to get.
5. Get the image stream(JPEG)（GetImageStreamFunc）
6. Application loads and show the image stream.
7. Application deletes the image stream.（DeleteImageDataFunc）
8. Repeat the step 3 to step 6 to get all images you want.

Notes：When the view is over, application closes the file and releases the release file resource. ( UnInitImageFileFunc )

1. TO loading the thumbnail, label image and preview image is just according to the path on the hard disk. （GetThumnailImagePathFunc,GetLableInfoPathFun,GetPriviewInfoPathFunc）