MIS Document
Liquid Rescaling

Team 35 - Marshiel
Lab 03
Marlee Roth - rothm1
Daniel Wolff - wolffd
Harsh Shah - shahhk2

December 6, 2017

1   Module Interface Specification

1.1   MIS for main.cpp

Module

main

Uses

ui.h
System
System Drawing

Syntax

Exported Types

N/A

Exported Access Programs

N/A

Semantics

State Variables

r: int

Environment Variables

Screen: Display Output Device
Mouse: Input Device
Keyboard: Input Device

1.2 MIS for rescale.h

Module

LiquidRescale

Uses

glib.h
iostream
lqr.h
System
System Drawing

Syntax

Exported Types

N/A

Exported Access Programs

Table 1: Exported Access Programs in rescale.h

Routine name	In	Out	
pixelFromPixbufData	guint8* , int , int , int	guchar *	
pixbufFromCarver	LqrCarver*	RefPtr <Pixbuf >	ima
bufferFromPixbuf	Glib::RefPtr <Gdk::Pixbuf >src	guchar*	buffer
liquidRescaleImage	Glib::RefPtr <Gdk::Pixbuf >src, int newWidth, int newHeight	Pixbuf	

Semantics

State Variables

offset: int x: gint y: gint y: gint rgb: guchar * buffer: guchar * w: gint h: gint

Environment Variables

Screen: Display Output Device
Mouse: Input Device
Keyboard: Input Device

Access Routine Semantics

guchar * pixelFromPixbufData(guint8* pixData, int pixWidth, int x, int y)

- output: out:= pixData[]

- exception: out:= N/A

Glib::RefPtr¡Gdk::Pixbuf¿ pixbufFromCarver(LqrCarver* carver)

- output: out:= newPixbuf

- exception: out:= image is not RGB

guchar * bufferFromPixbuf(Glib::RefPtr¡Gdk::Pixbuf¿ src)

- output: out:= buffer

- exception: out:= buffer NULL exception

Glib::RefPtr¡Gdk::Pixbuf¿ liquidRescaleImage(Glib::RefPtr¡Gdk::Pixbuf¿ src, int newWidth, int newHeight)

- output: out:= Pixbuf

- exception: out:= N/A

1.3 MIS for dialog.h

Module

PromptDialog

Uses

Gtk
Glib
Standard Library
System Drawing
System IO
System Windows Forms

Syntax

Exported Types

N/A

Exported Access Programs

Table 2: Exported Access Programs in dialog.h

Routine name	In	Out	Excep
GetFileExtension	const string&	string	
displayMessage	Window& , const string	bool	
openImageDialog	Window& , RefPtr <FileFilter >, string&	bool	
saveImageDialog	Window& , RefPtr <FileFilter >, RefPtr <Gdk::Pixbuf >, string&	bool	various "file not sa

Semantics

State Variables

response: const int openFileName: filename() errMessage: sting

Environment Variables

Screen: Display Output Device
Mouse: Input Device
Keyboard: Input Device

Access Routine Semantics

static string GetFileExtension(const string FileName)

- output: out:= " "

- exception: out:= N/A

static bool displayMessage(Window parent, const string message)

- output: out:= bool

- exception: out:= N/A

static bool openImageDialog(Window parent, RefPtr¡FileFilter¿ filter, string openFile-Name)

- output: out:= bool

- exception: out:= N/A

static bool saveImageDialog(Window parent, RefPtr¡FileFilter¿ filter, RefPtr¡Gdk::Pixbuf¿ src, string errMessage)

- output: out:= bool

- exception: out:= various "file not saved" exceptions

1.4   MIS for draw.h

Module

Draw

Uses

glib.h iostream dialog.h Gtk
Glib
Standard Library
System Drawing
System IO

Syntax

Exported Types

Dimensions

Exported Access Programs

Table 3: Exported Access Programs in dialog.h

Routine name	In	Out	Exceptions
bestFitToDimensions	Dimensions, Dimensions, int)	Dimensions	
drawImage	Window& , RefPtr <Gdk::Pixbuf >, Image *, int		

Semantics

State Variables

imageRatio: double mainRatio: double width: Dimensions int height: Dimensions int
size: Dimensions imageOut: RefPtr <Gdk::Pixbuf >

Environment Variables

Screen: Display Output Device
Mouse: Input Device
Keyboard: Input Device

Access Routine Semantics

static Dimensions bestFitToDimensions(Dimensions src, Dimensions display, int buffer)

- output: out:= dims

- exception: out:= N/A

static void drawImage(Window parent, RefPtr¡Gdk::Pixbuf¿ src, Image *display, int buffer)

- output: out:= bool

- exception: out:= N/A

1.5   MIS for ui.h

Module

UI

Uses

glib.h iostream draw.h dialog.h rescale.h Gtk
Glib
Standard Library
System Drawing
System IO
System Windows Forms

Syntax

Exported Types

N/A

Exported Access Programs

blueExported Access Programs in dialog.h

Routine name	In	Out	Exceptions
run		int	
init		int	
init_ui		int	
init_filters		int	
init_styles	string	int	
init_handlers		int	
on_load_image		int	
on_save_image		int	
on_scale_image		int	

Semantics

State Variables

wndMain: Window * btnLoadImage: Button * btnSaveImage: Button * btnScale: Button * spnWidth: SpinButton * spnHeight: SpinButton * grdMainLayout: Grid * grdControls; Grid * imgDisplay: Image *

9

Environment Variables

Screen: Display Output Device
Mouse: Input Device
Keyboard: Input Device

Access Routine Semantics

static int run()

- output: out:= int

- exception: out:= N/A

static int init()

- output: out:= int

- exception: out:= N/A

static int init_filters()

- output: out:= int

- exception: out:= N/A static int init_i()

  - output: out:= int
  - exception: out:= N/A

  static int init_tyles(string fname)

  - output: out:= int
  - exception: out:= N/A

  static int init_andlers()

  - output: out:= int
  - exception: out:= N/A

  static void on_load_image()

  - output: out:= N/A
  - exception: out:= N/A

static void on_save_image()

- – output: out:= N/A
- – exception: out:= N/A

static void on_scale_image()

- – output: out:= N/A
- – exception: out:= N/A