rag engine

Reference Manual

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Member rag::DisplayObject::autoScaleOnTouch

autoScale is weird, the only thing taht should autoscale should be buttons. Actually buttons should also by default captureInput and checkhitpoint.

Member rag::DisplayObject::onNativeEvent (events::TouchEvent &event)

This API should be moved to an input UI panel

Member rag::DisplayObject::soundName

This should be part of a button.

Class rag::KeyboardManager

It's confusing to have a **Keyboard** and a **KeyboardManager**.

Class rag::Material

: Make a clearer design taking into account efficiency and naming convention. Refactor classes like **Program**, **Shader**. May make sense to allow change shader uniforms in **Shader** class instead of **Material**. DisplayObjects shold use **Material** references, and then have the ability to make copies if they need to modify something, (e.g., change shader uniforms).

Namespace Index

Namespace List

Here is a list of all documented namespaces with brief descriptions:

Hierarchical Index

Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Class Index

Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Namespace Documentation

rag::fs Namespace Reference

file system namespace

Classes

- class **path**

*Mimics boost **fs::path** class with some limited functionality.*

Detailed Description

file system namespace

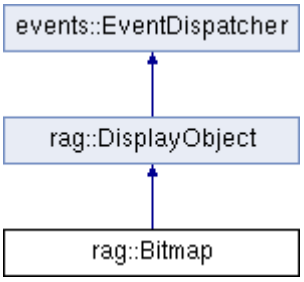
Class Documentation

rag::Bitmap Class Reference

Provides the ability to show images.

`#include <Bitmap.h>`

Inheritance diagram for rag::Bitmap:



Public Member Functions

- **Bitmap** (const std::string &path)
  *Create a **Bitmap** using an image in a given path.*
- **Bitmap** (**Image** ***image**)
  *Create a **Bitmap** with an existing image.*
- virtual void **render** () override
  *Renders the **DisplayObject** in the screen.*
- virtual void **prerender** () override
  Temporal transition to new automatic batch render.

Public Attributes

- **Image** * **image**
  Shared image.
- glm::vec4 **uv**
  Texture coordinates. used with texture atlases.

Additional Inherited Members

Detailed Description

Provides the ability to show images.

A **Bitmap** can be used with a path to an image or directly with an image. The **Bitmap** will represent an arbitrary image and supports all basic transformations as any **DisplayObject**, such as scale, rotation, skew. All those transformations can be inherited in the Display List hierarchy.

Constructor & Destructor Documentation

Bitmap::Bitmap (const std::string & *path*)

Create a **Bitmap** using an image in a given path.

It is asumed the image exists in the path, otherwise an error is logged, and nothing is shown.

See also:

Image

Bitmap::Bitmap (Image * *image*)

Create a **Bitmap** with an existing image.

The **Bitmap** is created with an already existant **Image**, so images downloaded from The Internet or procedurally generated images can be used.

Member Data Documentation

glm::vec4 rag::Bitmap::uv

Texture coordinates. used with texture atlases.

Will default to (0, 1), (0, 1) coordinates using the entire image, but can be set to any pair of coordinates to use like a sprite inside an image atlas.

The documentation for this class was generated from the following files:

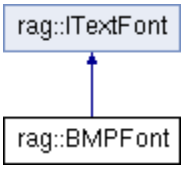
- D:/prj/rag/include/rag/Bitmap.h
- D:/prj/rag/include/rag/Bitmap.cpp

rag::BMPFont Class Reference

Font system based on bitmap fonts.

`#include <BMPFont.h>`

Inheritance diagram for rag::BMPFont:



Public Member Functions

- **BMPFont** (const std::string &path, const std::string &name)
- virtual int **getWidth** (const std::string &text)
  Returns the width of a text.
- virtual void **print** (const std::string &text, const glm::mat4 &matrix)
  Renders text. Asumes ortho projection 1:1.

Detailed Description

Font system based on bitmap fonts.

This kind of fonts assumes the output generated with the AngelCode tool that can be found here: `http://www.angelcode.com/products/bmfont/`

Constructor & Destructor Documentation

BMPFont::BMPFont (const std::string & *path*, const std::string & *name*)

Parameters:

path	The path where the font descriptor file is. i.e., "assets/"
name	The font descriptor file name. It is assumed that font descriptor and font texture are in the same folder.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/BMPFont.h
- D:/prj/rag/include/rag/BMPFont.cpp

rag::Chrono Class Reference

Helper class to count time elapsed from a moment in time.

`#include <Timer.h>`

Public Member Functions

- float **getElapsedTime** ()
  Get elapsed time from chrono construction.
- void **reset** ()
  Reset time to 0.

Detailed Description

Helper class to count time elapsed from a moment in time.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Timer.h
- D:/prj/rag/include/rag/Timer.cpp

rag::Color Class Reference

Represents RGBA color.
`#include <Color.h>`

Public Member Functions

- **Color** (float r=1, float g=1, float b=1, float a=1)
  *Construts a **Color** object default to white.*
- **Color** (std::string color)
  *Construts a **Color** object with a string representing the color in hexadecimal.*
- unsigned int **toRGBA** () const
  Writes the color in a single 32 bit int.
- unsigned int **toABGR** () const
  Writes the color in a single 32 bit int reversed.
- **Color** & **operator*=** (const **Color** &rhs)
- **Color** & **operator*=** (float value)
- **Color** & **operator/=** (const **Color** &rhs)
- **Color** & **operator/=** (float value)
- **Color** & **operator+=** (const **Color** &rhs)
- const **Color operator*** (const **Color** &rhs) const
- const **Color operator*** (float value) const
- const **Color operator/** (const **Color** &rhs) const
- const **Color operator/** (float value) const
- const **Color operator+** (const **Color** &rhs) const
- bool **operator==** (const **Color** &rhs)
- bool **operator!=** (const **Color** &rhs)
- std::string **toString** ()
  *Returns a string representation of the **Color** object.*

Static Public Member Functions

- static unsigned int **createRGBA** (int r, int g, int b, int a)
  Returns an unsigned int from color values.
- static unsigned int **createABGR** (int r, int g, int b, int a)
  Returns an unsigned int from color values.

Public Attributes

- float **r**
- float **g**
- float **b**
- float **a**

Static Public Attributes

- static const **Color black**
- static const **Color white**

Detailed Description

Represents RGBA color.

Provides functionality to operate with colors.

Constructor & Destructor Documentation

Color::Color (std::string *color*)

Construts a **Color** object with a string representing the color in hexadecimal.

The expected format of the string is like [x|#]RRGGBB[AA].

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Color.h
- D:/prj/rag/include/rag/Color.cpp

rag::Color4B Struct Reference

Color representation using 4 bytes.
`#include <RenderTarget.h>`

Public Attributes

- unsigned char **r**
- unsigned char **g**
- unsigned char **b**
- unsigned char **a**

Detailed Description

Color representation using 4 bytes.

The documentation for this struct was generated from the following file:

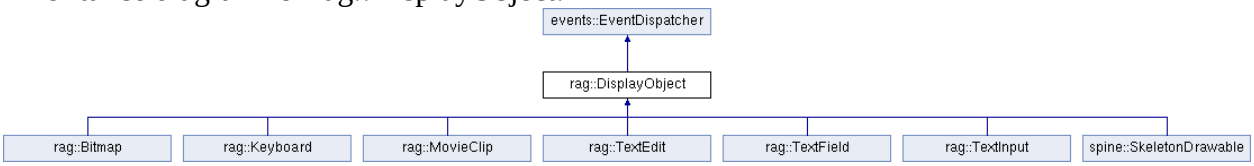
- D:/prj/rag/include/rag/RenderTarget.h

rag::DisplayObject Class Reference

Core object used to display things in screen.

`#include <DisplayObject.h>`

Inheritance diagram for rag::DisplayObject:



Public Member Functions

- void **addChild** (**DisplayObject** *child)
  *Adds a **DisplayObject** child.*
- void **addChildAt** (**DisplayObject** *child, int index)
  *Adds a **DisplayObject** child in a specific order.*
- void **removeChild** (**DisplayObject** *child)
  *Removes a child **DisplayObject**.*
- void **deleteChild** (**DisplayObject** *child)
  Deletes a specific child from the DisplayList.
- **DisplayObject** * **getChildByName** (const std::string &name)
  Returns a child by name.
- **DisplayObject** * **getChildAt** (int index)
  Returns a child by index.
- int **getChildIndex** (**DisplayObject** *child) const
  Returns a child's index.
- bool **contains** (const **DisplayObject** *child) const
  *Returns true if the child **DisplayObject** exists as a child.*
- int **getNumChilds** ()
  Returns the number of childs.
- void **swapChildren** (**DisplayObject** *child1, **DisplayObject** *child2)
  Swaps two childs indexes.
- virtual void **logicUpdate** ()
  This function is called every frame.
- virtual void **logicTraversal** ()
  Recursively calls logicUpdate in all child objects.
- virtual void **render** ()
  *Renders the **DisplayObject** in the screen.*
- virtual void **renderTraversal** (const **Color** &**color**)
  Recursively calls render in all childs objects.
- virtual void **prerender** ()
  Temporal transition to new automatic batch render.
- void **setX** (float x)
  Sets x position.
- float **getX** ()
  Returns x position.

- void **setY** (float y)
  Sets y position.
- float **getY** ()
  Returns y position.
- void **setPosition** (float x, float y)
  Sets x and y position.
- void **setPosition** (glm::vec2 p)
  Sets object position.
- glm::vec2 **getPosition** () const
  Returns object position.
- void **setScale** (float scale)
  Sets object scale.
- void **setScaleX** (float scaleX)
  Sets object x scale.
- float **getScaleX** () const
  Returns object x scale.
- void **setScaleY** (float scaleY)
  Sets object y scale.
- float **getScaleY** () const
  Returns object y scale.
- void **setAngle** (float angle)
  Sets object orientation angle.
- float **getAngle** () const
  Returns object orientation angle.
- void **setSkewX** (float skewX)
  Sets object x skew.
- float **getSkewX** () const
  Returns object x skew.
- void **setSkewY** (float skewY)
  Sets object y skew.
- float **getSkewY** () const
  Returns object y skew.
- void **setWidth** (float width)
  Sets object width.
- float **getWidth** ()
  Returns object width.
- void **setHeight** (float height)
  Sets object width.
- float **getHeight** ()
  Returns object width.
- virtual bool **hitTestPoint** (int x, int y)
  Returns true if the point lies inside the object boundary box.
- glm::vec2 **localToGlobal** (const glm::vec2 &point)
  Converts local coordinates to global coordinates.
- glm::vec2 **globalToLocal** (const glm::vec2 &point)
  Convert global coordinates to local coordinates.

- void **setClipRectangle** (const **Rectangle** &rect)
  This allow to render just a part of the bitmap.
- **Rectangle getBounds** (**DisplayObject** *targetCoordinateSpace=NULL)
  Returns the boundary box of the object.
- void **onNativeEvent** (**events::TouchEvent** &event)
  Notifies the object about an input event.
- void **setText** (**rag::DisplayObject** *displayObject, const std::string &text)
  Helper function to set a text.
- void **setText** (**rag::DisplayObject** *displayObject, int value)
  Helper function to set a text number.
- void **destroy** ()
  self-destroy the object and all its childs.
- void **updateMatrix** ()

Static Public Member Functions

- static void **deletePendentObjects** ()
  Deletes from memory all the nodes currently on the toDelete list.
- static void **showLivingObjects** ()
  *Logs information about the current number of living **DisplayObject**.*

Public Attributes

- std::string **name**
- **DisplayObject** * **parent**
- std::vector< **DisplayObject** * > **childs**
  List of childs.
- **Color color**
  ***Color** of the object.*
- **Material material**
  ***Material** of the object.*
- **Material** * **renderMaterial**
  The render material modified by the display list hierarchy.
- glm::mat4 **matrix**
  The object matrix.
- bool **visible**
  Determines object visibility.
- bool **autoScaleOnTouch**
  When true, the bounds scale when is touched.
- bool **captureInput**
  When true, input events are captured and propagation stops.
- bool **checkHitPoint**
  When captureInput, checkHitPoint makes capture input only when hitTest is true. Defaults to false.
- std::string **soundName**
- std::string **script**

Protected Member Functions

- virtual void **updateBounds** (**rag::DisplayObject** *targetCoordinateSpace)

Updates the bounding box of the object according to childs bounds.

Protected Attributes

- float **scaleX**
- float **scaleY**
- float **x**
- float **y**
- float **width**
- float **height**
- float **angle**
- float **skewX**
- float **skewY**
- **Rectangle bounds**
- int **numChilds**
- bool **dirty**
- **Color colorTransform**
- **Rectangle clipRect**

Detailed Description

Core object used to display things in screen.

DisplayObject represents a node in a tree, and can have one or many **DisplayObject** childrens. Custom objects can inherit **DisplayObject** and override its basic functionality. EventDispatcher is extended for convenience, thus allowing to easily work with events.

Member Function Documentation

void DisplayObject::deleteChild (rag::DisplayObject * *child*)

Deletes a specific child from the DisplayList.

The child object is destroyed.

void DisplayObject::deletePendentObjects () `[static]`

Deletes from memory all the nodes currently on the toDelete list.

Don't call more than once per frame

void DisplayObject::destroy ()

self-destroy the object and all its childs.

Objects are usually deleted if they are part of the displaylist. If they're not, you can still delete their hierarchy by calling destroy.

void DisplayObject::logicTraversal () `[virtual]`

Recursively calls logicUpdate in all child objects.

This should be called once every frame in the root object.

void DisplayObject::onNativeEvent (events::TouchEvent & *event*)

Notifies the object about an input event.

Todo:

This API should be moved to an input UI panel

void DisplayObject::removeChild (DisplayObject * *child*)

Removes a child **DisplayObject**.

The child reference stops being child of the **DisplayObject**. If the child doesn't exists then nothing is done.

See also:

deleteChild()

void DisplayObject::updateBounds (rag::DisplayObject * *targetCoordinateSpace*) [protected], [virtual]

Updates the bounding box of the object according to childs bounds.

Is not required to call this function directly.

Reimplemented in **spine::SkeletonDrawable** (*p.58*).

void DisplayObject::updateMatrix ()

Updates internal matrix from values such as parent matrix, position, scale and skew. Usually you don't need to call this directly.

Member Data Documentation

bool rag::DisplayObject::autoScaleOnTouch

When true, the bounds scale when is touched.

Todo:

autoScale is weird, the only thing taht should autoscale should be buttons. Actually buttons should also by default captureInput and checkhitpoint.

std::string rag::DisplayObject::soundName

Todo:

This should be part of a button.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/DisplayObject.h
- D:/prj/rag/include/rag/DisplayObject.cpp

rag::DropShadowFilter Class Reference

Shadow effect for **TextField** instances.

`#include <TextField.h>`

Public Member Functions

- **DropShadowFilter** (float angle, float distance, float strength, **Color** color)

Public Attributes

- **Color color**
- float **x**
- float **y**

Detailed Description

Shadow effect for **TextField** instances.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/TextField.h
- D:/prj/rag/include/rag/TextField.cpp

rag::Ease Class Reference

Collection of code-generated curves useful to create procedural tween animations.
`#include <Ease.h>`

Public Types

- enum **EaseType** { **linear_01**, **quadIn_01**, **quadOut_01**, **quadInOut_01**, **cubicIn_01**, **cubicOut_01**, **cubicInOut_01**, **quartIn_01**, **quartOut_01**, **quartInOut_01**, **quintIn_01**, **quintOut_01**, **quintInOut_01**, **expoIn_01**, **expoOut_01**, **expoInOut_01**, **sineIn_01**, **sineOut_01**, **sineInOut_01**, **circIn_01**, **circOut_01**, **circInOut_01**, **backIn_01**, **backOut_01**, **backInOut_01**, **bounceIn_01**, **bounceOut_01**, **bounceInOut_01**, **elasticIn_01**, **elasticOut_01**, **elasticInOut_01**, **sinPi2_01**, **acelBreak_01**, **cos2Pi_11**, **sin2Pi_00**, **sinPi_00**, **sinPi2Pi_10**, **sin4Pi_00**, **sin3Pi4_00** }*The types of curve supported.*

Public Member Functions

- **Ease** (**EaseType** myType=linear_01)
  *Constructs an **Ease** curve.*
- **EaseType getType** ()
  Returns the current type.
- void **setType** (**EaseType** myType)
  Sets the current EaseType.
- float **get** (float t, float d)
  Returns the y coordinate of the curve for a given point t in a curve of length d.

Public Attributes

- **EaseType type**
- float **PIf**

Detailed Description

Collection of code-generated curves useful to create procedural tween animations.

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/Ease.h

events::Event Class Reference

Base class for event system.

`#include <Event.h>`

Inheritance diagram for events::Event:

Public Member Functions

- **Event** (std::string **type**)
  Creates a new event of the given type.
- virtual std::string **toString** ()
  string representing the event.

Public Attributes

- std::string **type**
  The type of the event. The string should be unique for this event.
- bool **captured**
  When an event is captured, it won't propagate anymore through the Display List.
- **rag::DisplayObject** * **target**
  Usually points to the dispatcher object. 'target' can be assigned to anything for custom events.

Detailed Description

Base class for event system.

When an event is triggered, it is processed this way: The display list is travelled from leafs to stage (AKA root). The propagation stops when the root is reached or when a node with the property 'captureInput' set to true is traversed.

See also:

EventListener, **EventDispatcher**

The documentation for this class was generated from the following file:

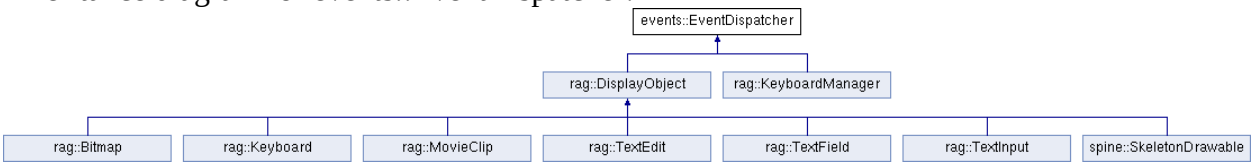
- D:/prj/rag/include/rag/Event.h

events::EventDispatcher Class Reference

Base class used to dispatch events.

`#include <EventDispatcher.h>`

Inheritance diagram for events::EventDispatcher:



Public Member Functions

- void **addEventListener** (std::string type, **EventListener** *listener)
- void **dispatchEvent** (**Event** &event)
- bool **hasEventListener** (std::string type)
- void **removeEventListener** (std::string type, **EventListener** *listener)

Detailed Description

Base class used to dispatch events.

See also:

Event, **EventListener**

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/EventDispatcher.h
- D:/prj/rag/include/rag/EventDispatcher.cpp

events::EventListener Class Reference

Interface that allows to listen events.

`#include <EventListener.h>`

Inheritance diagram for events::EventListener:

Public Member Functions

- virtual void **onEvent** (const std::string &type, **events::Event** &event)=0

Detailed Description

Interface that allows to listen events.

See also:

Event, **EventDispatcher**

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/EventListener.h

rag::File Class Reference

File multiplatform abstraction to read contents of a file.
`#include <File.h>`

Public Member Functions

- **File** (const std::string &path, bool bundle=true, bool logEnabled=true)
  *Creates a **File** object.*
- bool **open** (std::string mode="rb", bool showErrors=true)
  Open the file.
- void **close** ()
  Close the file.
- size_t **read** (void *buffer, size_t count)
  Read into buffer the number of 'count' bytes.
- long **getSize** ()
  Returns the size of the file.
- size_t **write** (const void *ptr, size_t size, size_t count)
  Writes into the file.
- bool **exists** ()
  Returns true if the file exists.
- const std::string & **getFullPath** ()
  Returns the full path of the file, may contain bundle folder.

Static Public Member Functions

- static std::string **load** (std::string filename, bool bundle=true, std::string mode="rb", bool showErrors=true)
  Convenient function to load files without deal with low level api.
- static bool **existsPath** (const std::string &path)
  Returns true if the path exists.
- static bool **makePath** (const std::string &path)
  Creates a folder.
- static void **clearPatchFiles** ()
  Clean overrided files in bundle.
- static void **setPatchFile** (const std::string &filename, const std::string &filepath)
  Override files in bundle.
- static const std::map< std::string, std::string > & **getPatchFiles** ()
  Returns overrided files in bundle.

Protected Attributes

- FILE * **pFile**
- long **size**
- std::string **path**
- std::string **osPath**
- bool **bundle**

Static Protected Attributes

- static bool **sPatchFilesLoaded**
- static std::map< std::string, std::string > **patchFiles**

Detailed Description

File multiplatform abstraction to read contents of a file.

Constructor & Destructor Documentation

File::File (const std::string & *path*, bool *bundle* = `true`, bool *logEnabled* = `true`)

Creates a **File** object.

Parameters:

path	The path where the file can be found.
bundle	If the file is inside the bundle. The bundle is the package created at build-time.
logEnabled	

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/File.h
- D:/prj/rag/include/rag/File.cpp

rag::MovieClip::Frame Struct Reference

Internal of **MovieClip**, represents a single frame.

`#include <MovieClip.h>`

Public Attributes

- int **index**
- int **duration**
- std::string **label**
- **DisplayObject** * **bitmap**

Detailed Description

Internal of **MovieClip**, represents a single frame.

The documentation for this struct was generated from the following file:

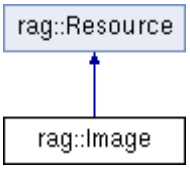
- D:/prj/rag/include/rag/MovieClip.h

rag::Image Class Reference

Image object.

`#include <Image.h>`

Inheritance diagram for rag::Image:



Public Member Functions

- **Image** (const std::string &path="", int textureWrapMode=GL_CLAMP_TO_EDGE, bool deleteImageData=true, bool downloaded=false)
  Returns a functional image with size, the image is loaded in background.
- virtual **~Image** ()
  Default destructor.
- virtual void **loadInBackground** () override
  CPU intensive load goes here.
- virtual void **loadSync** () override
  The part of the loading that must be done in main thread.
- void **reload** ()
  on context lost, images can be reloaded.

Static Public Member Functions

- static **Image** * **loadImage** (const std::string &path="", int textureWrapMode=GL_CLAMP_TO_EDGE, bool deleteImageData=true, bool downloaded=false)
  Returns a functional image with size, the image is loaded in background.
- static void **setCompressedFolder** (std::string folder)
  Adds a compressed folder.
- static void **clearCompressedFolders** ()
  Clears all compressed folders.

Public Attributes

- int **width**
- int **height**
- int **pixelFormat**
- GLuint **name**
- GLubyte * **bytes**

Static Public Attributes

- static int **s_memorySize** = 0

Friends

- class **ImageLoaderJPG**

Additional Inherited Members

Detailed Description

Image object.

An image represents a 2D texture, usually readed from a specific file on disk. Images can be drawn by **Bitmap** instances. **Image** raw data can be read and/or manipulated.

Constructor & Destructor Documentation

Image::Image (const std::string & *path* = `""`, int *textureWrapMode* = `GL_CLAMP_TO_EDGE`, bool *deleteImageData* = `true`, bool *downloaded* = `false`)

Returns a functional image with size, the image is loaded in background.

If you want direct access to image in raw format, you need to specify deleteImageData = false, otherwise image data is deleted.

Member Function Documentation

Image * Image::loadImage (const std::string & *path* = `""`, int *textureWrapMode* = `GL_CLAMP_TO_EDGE`, bool *deleteImageData* = `true`, bool *downloaded* = `false`) `[static]`

Returns a functional image with size, the image is loaded in background.

Asks resource manager for the image, create it if not exists.

void Image::setCompressedFolder (std::string *folder*) `[static]`

Adds a compressed folder.

All pngs and jpgs loaded inside a compressed folder are converted to 16bpp images in memory.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Image.h
- D:/prj/rag/include/rag/Image.cpp

rag::ImageLoader Class Reference

Interface to load images.

`#include <ImageLoader.h>`

Inheritance diagram for rag::ImageLoader:

Public Member Functions

- virtual bool **loadInfo** ()=0
  Load header to know image size.
- virtual bool **loadImage** ()=0
  Load image from a file.
- virtual **~ImageLoader** ()
  Default destructor.

Detailed Description

Interface to load images.

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/ImageLoader.h

rag::ImageLoaderJPG Class Reference

Loader for .jpg format.

`#include <ImageLoaderJPG.h>`

Inheritance diagram for rag::ImageLoaderJPG:

Public Member Functions

- **ImageLoaderJPG** (const std::string &name, **rag::Image** *image)
- virtual bool **loadInfo** () override
  Load header to know image size.
- virtual bool **loadImage** () override
  Load image from a file.

Detailed Description

Loader for .jpg format.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/ImageLoaderJPG.h
- D:/prj/rag/include/rag/ImageLoaderJPG.cpp

rag::ImageLoaderPNG Class Reference

Loader for .png format.

`#include <ImageLoaderPNG.h>`

Inheritance diagram for rag::ImageLoaderPNG:

Public Member Functions

- **ImageLoaderPNG** (const std::string &name, **rag::Image** *image)
- bool **loadInfo** ()
  Load header to know image size.
- bool **loadImage** ()
  Load image from a file.

Public Attributes

- size_t **byte**
- unsigned char * **buffer**

Detailed Description

Loader for .png format.

The documentation for this class was generated from the following files:

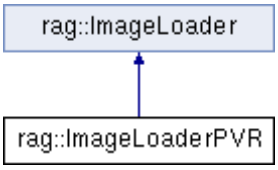
- D:/prj/rag/include/rag/ImageLoaderPNG.h
- D:/prj/rag/include/rag/ImageLoaderPNG.cpp

rag::ImageLoaderPVR Class Reference

Loader for .pvr compressed format.

`#include <ImageLoaderPVR.h>`

Inheritance diagram for rag::ImageLoaderPVR:



Public Member Functions

- **ImageLoaderPVR** (const std::string &name, **rag::Image** *image)
- virtual bool **loadInfo** () override
  Load header to know image size.
- virtual bool **loadImage** () override
  Load image from a file.

Detailed Description

Loader for .pvr compressed format.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/ImageLoaderPVR.h
- D:/prj/rag/include/rag/ImageLoaderPVR.cpp

rag::InputManager Class Reference

Simple Input Manager.

`#include <InputManager.h>`

Public Member Functions

- void **processInputEvent** (**events::TouchEvent** &e)
  Introduces an input event in the system.
- void **lock** ()
  Prevents input to be processed.
- void **unlock** ()
  *After **lock()**, returns to normal operation.*
- bool **isLocked** ()
  Returns true if input is currently locked.
- void **traverse** (**rag::DisplayObject** *root)
  Traverses Display List recursively.

Static Public Member Functions

- static **InputManager** & **getInstance** ()
  *Returns the shared instance of the **InputManager**.*

Detailed Description

Simple Input Manager.

Member Function Documentation

bool rag::InputManager::isLocked ()

Returns true if input is currently locked.

See also:
lock(), **unlock()**

The documentation for this class was generated from the following files:

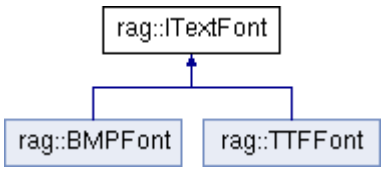
- D:/prj/rag/include/rag/InputManager.h
- D:/prj/rag/include/rag/InputManager.cpp

rag::ITextFont Class Reference

Interface for text fonts.

`#include <ITextFont.h>`

Inheritance diagram for rag::ITextFont:



Public Member Functions

- virtual int **getWidth** (const std::string &text)=0
  Returns the width of a text.
- virtual void **print** (const std::string &text, const glm::mat4 &matrix)=0
  Renders text. Asumes ortho projection 1:1 screen pixel.
- virtual void **setLetterSpacing** (float value)
- virtual void **reloadTexture** ()
  Sets the extra space between characters.

Detailed Description

Interface for text fonts.

The documentation for this class was generated from the following file:

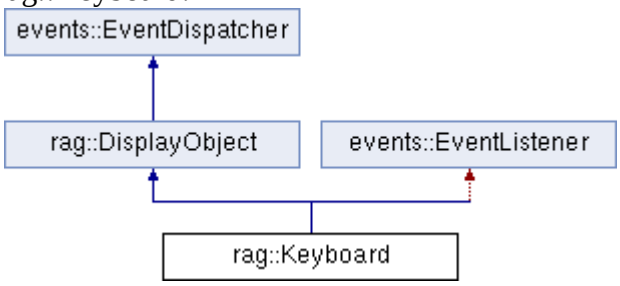
- D:/prj/rag/include/rag/ITextFont.h

rag::Keyboard Class Reference

Multiplatform keyboard abstraction.

`#include <Keyboard.h>`

Inheritance diagram for rag::Keyboard:



Public Types

- enum **KeyboardType** { **KeyboardTypeDefault** = 0, **KeyboardTypeEmail** }

Public Member Functions

- **Keyboard** (KeyboardType type=KeyboardTypeDefault)
  Default constructor.
- virtual **~Keyboard** ()
  Default destructor.
- void **show** ()
  Shows the native keyboard.
- void **hide** ()
  Hides the native keyboard.
- virtual void **onEvent** (const std::string &type, **events::Event** &event)
  ***Keyboard** implements EventListener. Here is where is listening native events.*

Static Public Attributes

- static **rag::Rectangle size**
  The size of the native keyboard rectangle.

Additional Inherited Members

Detailed Description

Multiplatform keyboard abstraction.

Once created, a **Keyboard** instance will open a native keyboard in the device and will dispatch keyboard events.

See also:

events::KeyboardEvent.

Constructor & Destructor Documentation

Keyboard::Keyboard (KeyboardType *type* = `KeyboardTypeDefault`)

Default constructor.

Creates the keyboard instance. You need to call **show()** to see the native keyboard.

See also:

show()

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Keyboard.h
- D:/prj/rag/include/rag/Keyboard.cpp

events::KeyboardEvent Class Reference

Event to handle KeyBoard actions.

`#include <KeyboardEvent.h>`

Inheritance diagram for events::KeyboardEvent:

Public Member Functions

- **KeyboardEvent** (std::string **type**)
- virtual std::string **toString** ()
  String representation of the event.

Public Attributes

- std::string **key**
  Key pressed, encoded in UTF-8.
- int **charCode**
  Character code.

Detailed Description

Event to handle KeyBoard actions.

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/KeyboardEvent.h

rag::KeyboardManager Class Reference

Singleton class that dispatches **Keyboard** events.

`#include <KeyboardManager.h>`

Inheritance diagram for rag::KeyboardManager:

Public Member Functions

- void **nativeInsertText** (std::string text)
  When called, will generate a standard multi-platform KeyboardEvent.
- void **nativeDeleteBackward** ()
  When called, will generate a standard multi-platform KeyboardEvent.

Static Public Member Functions

- static **KeyboardManager** & **getInstance** ()

Static Public Attributes

- static const int **RETURN_KEYBOARD_CODE** = 10

Detailed Description

Singleton class that dispatches **Keyboard** events.

Todo:

It's confusing to have a **Keyboard** and a **KeyboardManager**.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/KeyboardManager.h
- D:/prj/rag/include/rag/KeyboardManager.cpp

rag::Material Class Reference

Represents a render material that would affect how objects will be rendered.
`#include <Material.h>`

Public Types

- enum **EBlendMode** { **BLEND_NORMAL**, **BLEND_ADD**, **BLEND_PRE_ADD** }

Public Member Functions

- **Material** (const std::string &**vsh**, const std::string &**fsh**)
  Default constructor using two paths for vertex and fragment shader respectively.
- virtual **~Material** ()
  Default destructor.
- void **setUniform** (const std::string &name, float value)
  Set float shader uniform.
- void **setUniform** (const std::string &name, const glm::vec2 &value)
  Set vec2 shader uniform.
- void **setUniform** (const std::string &name, const glm::vec3 &value)
  Set vec3 shader uniform.
- void **setUniform** (const std::string &name, const glm::vec4 &value)
  Set vec4 shader uniform.
- void **setUniform** (const std::string &name, const glm::mat3 &value)
  Set mat3 shader uniform.
- void **setUniform** (const std::string &name, const glm::mat4 &value)
  Set mat4 shader uniform.
- const std::vector< **TUniformVar** > & **getUniforms** () const
  Returns the list of all uniforms related with the current shader program.

Public Attributes

- std::string **vsh**
  Path for vertex shader.
- std::string **fsh**
  Path for fragment shader.
- int **textureId**
  Texture id.
- EBlendMode **blendMode**
  Blending mode.
- int **priority**
  Materials with higher priority are propagated down in the Display List.
- bool **stopsPropagation**
  If true, no matter priorities, material won't be affected by parent materials.

Friends

- class **Renderer**

Detailed Description

Represents a render material that would affect how objects will be rendered.

A **Material** is based in a vertex and fragment **Shader**. A texture is linked to the material, and a blend mode. Everything will contribute to the final result when the object is rendered.

Todo:

: Make a clearer design taking into account efficiency and naming convention. Refactor classes like **Program**, **Shader**. May make sense to allow change shader uniforms in **Shader** class instead of **Material**. DisplayObjects shold use **Material** references, and then have the ability to make copies if they need to modify something, (e.g., change shader uniforms).

The documentation for this class was generated from the following files:

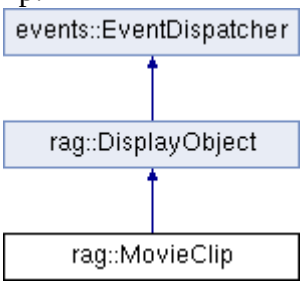
- D:/prj/rag/include/rag/Material.h
- D:/prj/rag/include/rag/Material.cpp

rag::MovieClip Class Reference

Allows to use imported animations created by Flash CS tool.

`#include <MovieClip.h>`

Inheritance diagram for rag::MovieClip:



Classes

- struct **Frame**

Internal of MovieClip, represents a single frame. Public Member Functions

- **MovieClip** (std::vector< **Frame** > frames)
- int **getCurrentFrame** ()
  *Specifies the number of the frame in which the playhead is located in the timeline of the **MovieClip** instance.*
- std::string **getCurrentFrameLabel** ()
  Returns the label in the current frame. It may be empty.
- int **getTotalFrames** ()
  *Returns the total number of frames in the **MovieClip**.*
- void **play** ()
  Simple playback.
- void **stop** ()
  Stops the playhead in the movie clip.
- void **gotoAndPlay** (int frame)
  Goes to a specific frame, then starts playing from there.
- void **gotoAndPlay** (const std::string &frame, bool loop, bool forceFirstFrame=false)
  Goes to a specific frame, then starts playing from there.
- void **gotoAndStop** (int frame)
  Goes to a specific frame, then stops there.
- void **gotoAndStop** (const std::string &frame)
  Goes to a specific frame by name, then stops there.
- void **nextFrame** ()
  Sends the playhead to the next frame and stops it.
- void **prevFrame** ()
  Sends the playhead to the previous frame and stops it.
- **Frame** * **getCurrentFrameNode** ()
  Returns the current frame internals.
- virtual void **logicUpdate** () override
  Display object update.
- void **setFPS** (int fps)

*Sets the speed in frames per second the **MovieClip** should use.*

- void **replace** (const std::string &name, const std::string &library, const std::string &replacement)
  Replace an instance of a Displayobject named "name" with a library item called "replacement".
- bool **isPlaying** ()
  Returns true if is currently playing.
- std::vector< **Frame** > & **getFrames** ()
  *Returns all **Frame** instances.*

Public Attributes

- std::string **fileName**
  ***MovieClip** filename.*

Additional Inherited Members

Detailed Description

Allows to use imported animations created by Flash CS tool.

Constructor & Destructor Documentation

MovieClip::MovieClip (std::vector< Frame > *_frames*)

TODO: **MovieClip** way of handle labels. Labels are used for loops, but should be used only as extra information. TODO: Imitate flash way of do stuff with Movieclips and add an extra layer (outside **MovieClip**) to handle animations and loops in a convenient way.

Member Function Documentation

void MovieClip::play ()

Simple playback.

Moves the playhead in the timeline of the movie clip.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/MovieClip.h
- D:/prj/rag/include/rag/MovieClip.cpp

rag::fs::path Class Reference

Mimics boost **fs::path** class with some limited functionality.
`#include <File.h>`

Public Member Functions

- **path** (const std::string &name="")
- **path parent_path** ()
- **path extension** () const
- bool **has_parent_path** ()
- bool **has_extension** () const
- **path** & **replace_extension** (const std::string extension)
- **path filename** () const
- std::string **string** () const
- const **path operator/** (const **path** &rhs) const

Detailed Description

Mimics boost **fs::path** class with some limited functionality.

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/File.h

rag::Program Struct Reference

Represents a **Shader Program**.

```
#include <Renderer.h>
```

Public Attributes

- std::string **vsh**
  Path to the vertex shader.
- std::string **fsh**
  Path to the fragment shader.
- GLuint **handle**
  Internal GL handle.
- bool **usesVertexArray**
- bool **usesColorArray**
- bool **usesTexCoordArray**

Detailed Description

Represents a **Shader Program**.

The documentation for this struct was generated from the following file:

- D:/prj/rag/include/rag/Renderer.h

rag::Rectangle Class Reference

Represents a **Rectangle**.

`#include <Rectangle.h>`

Public Member Functions

- **Rectangle** (float x=0, float y=0, float width=0, float height=0)
  Constructor with coordinates and size.
- **Rectangle rectUnion** (const **Rectangle** &toUnion) const
  *Returns the union of the current instance with another **Rectangle**.*
- **Rectangle intersection** (const **Rectangle** &toIntersect) const
  *Returns the intersection of the current instance with another **Rectangle**.*
- bool **intersects** (const **Rectangle** &toIntersect) const
  *Returns true if the instance intersects with the other **Rectangle**.*
- bool **contains** (float x, float y) const
  *Checks if a point lies inside the **Rectangle**.*
- bool **contains** (const glm::vec2 &point) const
  *Checks if a point lies inside the **Rectangle**.*
- bool **contains** (const **Rectangle** &rect) const
  *Checks if a **Rectangle** lies inside the **Rectangle**.*
- bool **operator==** (const **Rectangle** &other) const
- bool **operator!=** (const **Rectangle** &other) const
- std::string **toString** ()
  *String representation of the **Rectangle**.*

Public Attributes

- float **x**
- float **y**
- float **width**
- float **height**

Detailed Description

Represents a **Rectangle**.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Rectangle.h
- D:/prj/rag/include/rag/Rectangle.cpp

rag::Renderer Class Reference

Contains methods to render objects.
`#include <Renderer.h>`

Public Types

- enum **EMaterialAttributes** { **ATTRIB_VERTEX** = 0, **ATTRIB_TEXTURECOORD**, **ATTRIB_COLOR**, **ATTRIB_NORMAL**, **ATTRIB_TANGENT**, **ATTRIB_BONES_INDICES**, **ATTRIB_BONES_WEIGHTS**, **NUM_ATTRIBUTES** }

Public Member Functions

- void **init** ()
- int **loadProgram** (const char *vsh, const char *fsh)
  Loads and starts using a program with the given shaders.
- void **bindVertexArray** (void *array, int size=2, int stride=0)
  Binds a vertex array that would be used for the next draw call.
- void **bindTextureArray** (void *array, int size=2, int stride=0)
  Binds a texture array that would be used for the next draw call.
- void **bindColorArray** (void *array, int channels=4, int stride=0)
  Binds a color array that would be used for the next draw call.
- int **bindMaterial** (**rag::Material** *material)
  *Binds the **Material** to be used in the next draw call.*
- void **bindTexture** (int textureName)
  Binds a texture by id.
- void **setBlendFunc** (GLenum source, GLenum dest)
  Sets blending function.
- void **setClearColor** (**Color** color)
  Set clear color.
- void **bindBuffer** (int target, int buffer)
- void **createVertexBuffer** (GLuint &vboID)
- void **deleteVertexBuffer** (GLuint &vboID)
- int **getCurrentProgramHandle** ()
  Returns the handle of the program used currently.
- void **checkError** ()
  Displays an error if something's wrong.
- void **precompileShader** (const std::string &path)
  *Precomiples a **Shader**, useful to call it in loading times.*
- glm::mat4 **getOrthoProjection** ()
  Returns an orthographic projection.
- void **clearShaders** ()
  Forget shaders and programs loaded. Programs will be generated again as needed.
- **rag::RenderTarget** & **getRenderTarget** ()
  *TODO Pass render target as parameter to render() method in **DisplayObject** - so that it becomes more obvious where are you suposed to draw in.*

Static Public Member Functions

- static **Renderer** & **getInstance** ()

Detailed Description

Contains methods to render objects.

Most of the functionality in this class, is handled like a state machine, like OpenGL does. Setting states would left that states changed until other change is done. This applies for all the bind() functions.

Member Function Documentation

int rag::Renderer::bindMaterial (rag::Material * *material*)

Binds the **Material** to be used in the next draw call.

bindMaterial() changes internal states of the renderer and prepares a context to make the render draw call.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Renderer.h
- D:/prj/rag/include/rag/Renderer.cpp

rag::RenderTarget Class Reference

Object where **DisplayObject** instances with render capability are suposed to render.
`#include <RenderTarget.h>`

Public Member Functions

- **RenderTarget** ()
  *Create a **RenderTarget** object.*
- virtual **~RenderTarget** ()
  Default destructor.
- void **draw** (const VertexArray &vertexArray, const **Material** &material)
  Enqueues draw command.
- void **flush** ()
  Renders enqueued render commands.

Detailed Description

Object where **DisplayObject** instances with render capability are suposed to render.

A **RenderTarget** is passed trough the Display List and provides functionality to enqueue render commands. **RenderTarget** will group commands that use similar **Material** in order to reduce the number of draw calls.

The documentation for this class was generated from the following files:

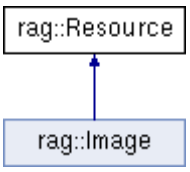
- D:/prj/rag/include/rag/RenderTarget.h
- D:/prj/rag/include/rag/RenderTarget.cpp

rag::Resource Class Reference

Abstract class the represent a game **Resource**, typically something costly to loaded.

`#include <ResourceMgr.h>`

Inheritance diagram for rag::Resource:



Public Types

- enum **State** { **Enqueued** = 0, **LoadingInBackground**, **BackgroundLoaded**, **Ready** }*List of possible states for a **Resource**.*

Public Member Functions

- virtual void **loadInBackground** ()=0
  CPU intensive load goes here.
- virtual void **loadSync** ()=0
  Load that must be synchronized with the main thread.
- void **acquire** ()
  *Prevents the **Resource** to be deleted until it's **release()**'d.*
- void **release** ()
  *Releases the **Resource**, so it can be deleted.*

Public Attributes

- **State state**
  Current state.
- std::string **resourceName**
  ***Resource** unique name. Usually the file name.*
- int **memorySize**
  *Size of the **Resource** in memory measured in bytes.*

Friends

- class **ResourceMgr**

Detailed Description

Abstract class the represent a game **Resource**, typically something costly to loaded.

Resources are treated as if they were memory and CPU intensive. There are methods to load asynchronously a **Resource**.

See also:

ResourceMgr.

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/ResourceMgr.h

rag::ResourceMgr Class Reference

Handles **Resource** management, including loading and unloading **Resource** instances.
`#include <ResourceMgr.h>`

Public Member Functions

- void **update** ()
  Do the tasks for this frame. Must be called each frame.
- **Resource** * **getResource** (const std::string &name)
  Returns a resource by name. Will return a null pointer if the resource doesn't exists.
- void **loadResource** (**Resource** *resource, bool inBackground=true)
  *Starts loading a **Resource**.*
- void **unload** (const std::string &resourceName)
  *Free memory allocated by a given **Resource** by name.*
- void **reload** ()
  On context lost.
- void **dumpResources** (const std::string &extension="*")
  *Display the **Resource** instances currently loaded in memory.*
- int **numPendingResources** ()
  *Number of **Resource** instances waiting to be loaded.*
- void **clean** ()
  Cleans all Resources with no users.

Static Public Member Functions

- static **ResourceMgr** & **instance** ()
  Returns the shared instance of the manager.

Public Attributes

- int **memoryWarnings**
  For iOS, the number of memory warnings given by the OS.

Detailed Description

Handles **Resource** management, including loading and unloading **Resource** instances.

Member Function Documentation

void ResourceMgr::loadResource (Resource * *resource*, bool *inBackground* = `true`)

Starts loading a **Resource**.

The **Resource** can be loaded synchronous or asynchronously.

Parameters:

inBackground	If true the **Resource** will be loaded in a background thread.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/ResourceMgr.h
- D:/prj/rag/include/rag/ResourceMgr.cpp

rag::Screen Class Reference

Contains information about the current device.
`#include <Screen.h>`

Static Public Attributes

- static int **width** = 0
  Virtual width of the screen. Shared across all devices.
- static int **height** = 0
  Virtual height of the screen. Shared across all devices.
- static glm::vec2 **center**
  Virtual center of the screen. Shared across all devices.
- static int **realWidth** = 0
  Actual number of pixels of width in the screen.
- static int **realHeight** = 0
  Actual number of pixels of height in the screen.
- static float **scale** = 0
  Apple scale.
- static float **scaleBest** = 0
  Maximum scale where no deformation occurs.
- static float **factorX** = 0
  Factor used to maintain screen width coordinates independent from resolution or aspect ratio.
- static float **factorY** = 0
  Factor used to maintain screen height coordinates independent from resolution or aspect ratio.
- static bool **isTablet** = false
  True if the device is considered a table instead of a phone.
- static bool **isLowPerformer** = false
  True for low end devices.
- static bool **isLowRes** = false
  True for devices with low resolution screens.

Detailed Description

Contains information about the current device.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Screen.h
- D:/prj/rag/include/rag/Screen.cpp

rag::Shader Struct Reference

Represents a GL **Shader**.

```
#include <Renderer.h>
```

Public Attributes

- GLuint **handle**
- std::string **file**

Detailed Description

Represents a GL **Shader**.

The documentation for this struct was generated from the following file:

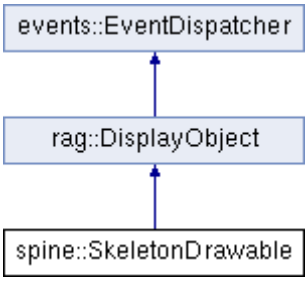
- D:/prj/rag/include/rag/Renderer.h

spine::SkeletonDrawable Class Reference

Display 2D Skeletal Animations made with the 3rd party tool Spine.

`#include <Spine.h>`

Inheritance diagram for spine::SkeletonDrawable:



Public Member Functions

- **SkeletonDrawable** (spSkeletonData *skeleton, spAnimationStateData *stateData=0)
- virtual void **logicUpdate** () override
  This function is called every frame.
- virtual void **render** () override
  Renders the DisplayObject in the screen.
- virtual void **updateBounds** (**rag::DisplayObject** *targetCoordinateSpace) override
  Updates the bounding box of the object according to childs bounds.

Public Attributes

- rag::VertexArray **vertexArray**
- spSkeleton * **skeleton**
- spAnimationState * **state**
- spSkeletonBounds * **skeletonBounds**
- float **timeScale**

Additional Inherited Members

Detailed Description

Display 2D Skeletal Animations made with the 3rd party tool Spine.

Member Function Documentation

void spine::SkeletonDrawable::updateBounds (rag::DisplayObject * *targetCoordinateSpace*) `[override], [virtual]`

Updates the bounding box of the object according to childs bounds.

Is not required to call this function directly.

Reimplemented from **rag::DisplayObject** (*p.20*).

The documentation for this class was generated from the following files:

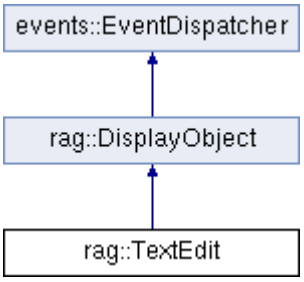
- D:/prj/rag/include/rag/Spine.h
- D:/prj/rag/include/rag/Spine.cpp

rag::TextEdit Class Reference

Creates a native window to edit a text.

`#include <TextEdit.h>`

Inheritance diagram for rag::TextEdit:



Public Member Functions

- **TextEdit** (**rag::DisplayObject** *parent, const std::string &text)
- void **close** (bool cancel=false)
- const std::string & **getValue** ()

Static Public Member Functions

- static **TextEdit** * **getInstance** ()

Additional Inherited Members

Detailed Description

Creates a native window to edit a text.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/TextEdit.h
- D:/prj/rag/include/rag/TextEdit.cpp

events::TextEvent Class Reference

Dispatched by InputText when user writes one character.

`#include <TextEvent.h>`

Inheritance diagram for events::TextEvent:

Public Member Functions

- **TextEvent** (std::string **type**)

Public Attributes

- std::string **text**
- std::string **lastCharacter**

Detailed Description

Dispatched by InputText when user writes one character.

The documentation for this class was generated from the following file:

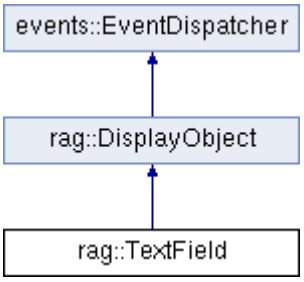
- D:/prj/rag/include/rag/TextEvent.h

rag::TextField Class Reference

High level abstraction to render texts in display list.

`#include <TextField.h>`

Inheritance diagram for rag::TextField:



Public Types

- enum **HorzAlignment** { **Left** = 0, **Center**, **Right** }
- enum **VertAlignment** { **Top** = 0, **Middle**, **Bottom** }

Public Member Functions

- **TextField** (const std::string &folderPath, const std::string &descriptorFileName)
  *Constructor with **Bitmap** fonts.*
- **TextField** (const std::string &path, float pixelHeight=24, float letterSpacing=0)
  Constructor with truetype fonts.
- void **addFilter** (**DropShadowFilter** filter)
- std::vector< **DropShadowFilter** > **getFilters** ()
- int **getLines** ()
  Returns the number of lines used with the current text.
- int **getLineHeight** ()
  Returns the height of a line.
- int **getTextWidth** ()
  Returns the current length of the text, for single line.

Static Public Member Functions

- static void **traceTextCache** ()
  Debug function to know how many textures are cached by texts.
- static void **reloadTextures** ()
  When graphic context is missed (android) reloads fonts textures.

Public Attributes

- enum rag::TextField::HorzAlignment **horzAlign**
  The horizontal alignment of the text block.
- enum rag::TextField::VertAlignment **vertAlign**
  The vertical alignment of the text block.
- std::string **text**
  The text that should be rendered.
- bool **multiline**

Is it intended to be drawn in a single or multi-line fashion. False by default.

- bool **showCursor**
  When true, a cursor is shown right after the last letter. Note that text width remains the same with or without cursor.
- bool **autotrim**
  True by default. Trims single line text when longer than reserved dimensions.
- bool **password**
  Use the textfield to show a password. Wildcards would be printed instead of the actual text.

Protected Member Functions

- void **init** ()
- virtual void **render** () override
  *Renders the **DisplayObject** in the screen.*
- void **printText** (const std::string &**text**, const glm::mat4 **matrix**)
- std::vector< std::string > **splitLines** ()

Protected Attributes

- **ITextFont * font**
- int **lineHeight**
- int **lineWidth**
- std::vector< std::string > **lines**
- std::vector< int > **lineWidths**
- std::string **lastText**
- std::vector< **DropShadowFilter** > **filters**
- float **letterSpacing**

Detailed Description

High level abstraction to render texts in display list.

The documentation for this class was generated from the following files:

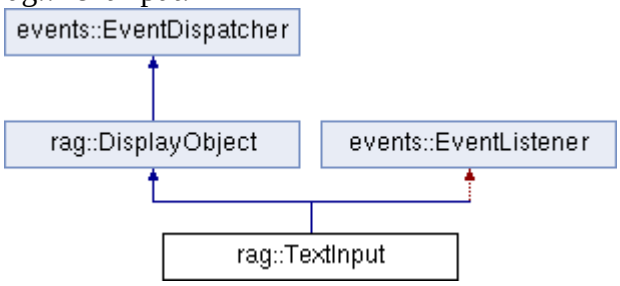
- D:/prj/rag/include/rag/TextField.h
- D:/prj/rag/include/rag/TextField.cpp

rag::TextInput Class Reference

Helper object to add input to a **TextField**.

`#include <TextInput.h>`

Inheritance diagram for rag::TextInput:



Public Member Functions

- **TextInput** (std::string defaultText="", int maxLines=0, int maxCharacters=0, bool useCaptureLayer=true, Keyboard::KeyboardType keyboardType=Keyboard::KeyboardTypeDefault)
- std::string **getText** ()
- void **setText** (const std::string &text)
- void **openKeyboard** ()
- void **closeKeyboard** ()
- void **clearText** ()

Additional Inherited Members

Detailed Description

Helper object to add input to a **TextField**.

System keyboard is shown when the user clicks the **TextInput** object.

You need to add a **TextInput** in a **TextField** to let user write on it, and **TextField** parent should have ButtonBehaviour.

The hierarchy for a button with text and textinput is like this:

button -> textfield -> textinput

where button is the grandfather of textinput.

CaptureLayer may be added, so when user clicks somewhere in the screen the keyboard is closed.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/TextInput.h
- D:/prj/rag/include/rag/TextInput.cpp

rag::Timer Class Reference

Provides time-related functionality.
`#include <Timer.h>`

Public Member Functions

- void **start** (float time, bool loop=false)
  *Starts the **Timer** with a fixed amount of time.*
- float **getDelta** (**Ease::EaseType** easetype=Ease::linear_01)
  Returns the time elapsed since the start interpolated between 0 and 1.
- bool **finished** ()
  True if the timer has been running for the time specified at the start or more. Only valid for non-loop operation mode.
- bool **running** ()
  True if the timer is running.
- void **reset** ()
  Reset stops the timer and puts it in the same state it was before start running.

Static Public Attributes

- static float **deltaTime** = 0
  Stores the elapsed time from frame to frame (use at your convenience).
- static float **totalTime** = 0
  Stores total time since app starts.
- static float **timeFactor** = 1.0f
  *Factor shared by which all **Timer** instances.*

Detailed Description

Provides time-related functionality.

Member Function Documentation

float Timer::getDelta (Ease::EaseType *easetype* = `Ease::linear_01`)

Returns the time elapsed since the start interpolated between 0 and 1.

The interpolated value can use any curve, for convenience exposed in this function.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/Timer.h
- D:/prj/rag/include/rag/Timer.cpp

events::TouchEvent Class Reference

Event for handle input from screen.

`#include <TouchEvent.h>`

Inheritance diagram for events::TouchEvent:

Public Member Functions

- **TouchEvent** (std::string **type**)
- virtual std::string **toString** ()
  string representing the event.

Public Attributes

- float **localX**
- float **localY**
- float **stageX**
- float **stageY**
- float **movementX**
- float **movementY**
- float **pinch**
- char **touchId**

Detailed Description

Event for handle input from screen.

The documentation for this class was generated from the following file:

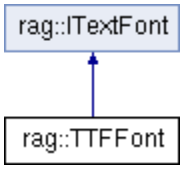
- D:/prj/rag/include/rag/TouchEvent.h

rag::TTFFont Class Reference

Implementation of ITextFint based on TrueType or OpenType Fonts.

`#include <TTFFont.h>`

Inheritance diagram for rag::TTFFont:



Public Member Functions

- **TTFFont** (const std::string &path, float pixelHeight=24)
  *Constructs a **TTFFont** using a path and a text size.*
- virtual int **getWidth** (const std::string &text)
  Returns the width of a text.
- virtual void **print** (const std::string &text, const glm::mat4 &matrix)
  Renders text. Asumes ortho projection 1:1 screen pixel.
- virtual void **setLetterSpacing** (float value)
  Sets the extra space between characters.
- virtual void **reloadTexture** ()
  *On context loss, reload textures. **ITextFont** should inherit **Resource**. Reload should be part of resource.*

Static Public Member Functions

- static void **addFontAlias** (const std::string &alias, const std::string &fontPath)
  Allows to use a different name (or an 'alias') to refer to a font.

Detailed Description

Implementation of ITextFint based on TrueType or OpenType Fonts.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/TTFFont.h
- D:/prj/rag/include/rag/TTFFont.cpp

rag::TUniformVar Struct Reference

Public Attributes

- EUniformType **type**
- std::string **name**
- float **value** [16]

The documentation for this struct was generated from the following file:

- D:/prj/rag/include/rag/Material.h

rag::Vertex Struct Reference

Vertex representation.

`#include <RenderTarget.h>`

Public Attributes

- glm::vec2 **position**
- glm::vec2 **texCoords**
- **Color4B color**

Detailed Description

Vertex representation.

The documentation for this struct was generated from the following file:

- D:/prj/rag/include/rag/RenderTarget.h

rag::XFLBinaryParser Class Reference

Public Member Functions

- **rag::DisplayObject** * **load** (const std::string &rootFolder, const std::string &symbol)

The documentation for this class was generated from the following file:

- D:/prj/rag/include/rag/XFLParser.cpp

rag::XFLParser Class Reference

Parser of XFL documents generated by the 3rd party editor tool FlashCS.

`#include <XFLParser.h>`

Public Member Functions

- **XFLParser** ()
  Creates the parser object.
- **rag::DisplayObject** * **load** (const std::string &rootFolder, const std::string &symbol)
  Load a Flash CS symbol.

Detailed Description

Parser of XFL documents generated by the 3rd party editor tool FlashCS.

An **XFLParser** instance allows to read Flash symbols and creates the required **DisplayObject** instances to reproduce a particular symbol.

The documentation for this class was generated from the following files:

- D:/prj/rag/include/rag/XFLParser.h
- D:/prj/rag/include/rag/XFLParser.cpp

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