Arch Game Engine

0.2

Generated by Doxygen 1.8.11

Contents

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Hierarchical Index

1.1 Class Hierarchy

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

Chapter 2

Class Index

2.1 Class List

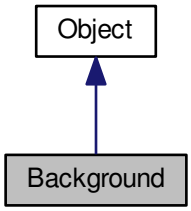
Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

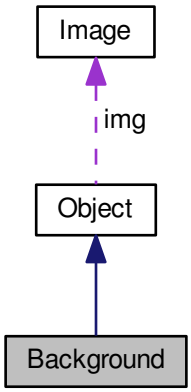
Class Documentation

3.1 Background Class Reference

Inheritance diagram for Background:



Collaboration diagram for Background:



Public Member Functions

- void **setBackground** (string file, int w, int h, SDL_Renderer ∗ren)

3.1.1 Detailed Description

Definition at line 6 of file background.h.

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

- background.h
- background.cpp

3.2 Collision Class Reference

Class used for calculating different types of collision between given Objects.

`#include <collision.h>`

Public Member Functions

- bool isTouching (Object a, Object b)

  Check if two objects are touching.
- bool outOfBoundsOf (Object a, Object b)

  Check if two object are not touching.
- bool isAbove (Object a, Object b)

  Check if the first object is above the second object.
- bool isBelow (Object a, Object b)

  Check if the first object is below the second object.
- bool isRightOf (Object a, Object b)

  Check if the first object is to the right of the second object.
- bool isLeftOf (Object a, Object b)

  Check if the first object is to the left of the second object.

3.2.1 Detailed Description

Class used for calculating different types of collision between given Objects.

Definition at line 7 of file collision.h.

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

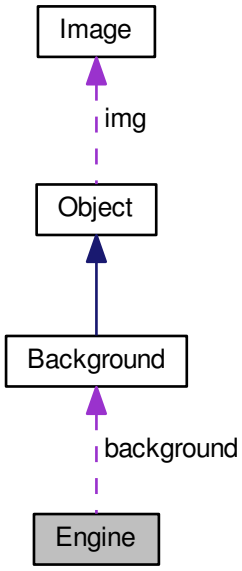
- collision.h
- collision.cpp

3.3 Engine Class Reference

Class for declaring an engine, which does basic SDL commands like creating the window and renderer.

`#include <engine.h>`

Collaboration diagram for Engine:



Public Member Functions

- ~Engine ()

  Decontructs renderer and window and then quits SDL.
- SDL_Renderer * init (string s, const int &w, const int &h, int flag)

  Create a window with a given name, width, height, and anyother SDL_Window flags.
- SDL_Renderer * init (string s, const int &w, const int &h, int flag, int it)

  Create a window with a given name, width, height, SDL_Window flags, and specified SDL_Init flags.
- SDL_Renderer * init (string s, const int &w, const int &h, int flag, int x, int y)

  Create a window with a given name, width, height, SDL_Window flags, and specified x and y coordinate.
- SDL_Renderer * init (string s, const int &w, const int &h, int flag, int x, int y, int it)

  Create a window with a given name, width, height, SDL_Window flags, specified x and y coordinate, and SDL_Init flags.
- void setName (string s)

  Set window name.
- void setPos (int x, int y)

  Set window position.
- void setSize (int w, int y)

  Set window size.

- SDL_Renderer * getRenderer ()

  Returns screen renderer.
- void setColor (Uint8 r, Uint8 g, Uint8 b)

  Sets SDL color.
- void loopStart ()

  Call this at the end of the game loop to render.
- void **render** ()
- bool FPS () const

  Get fps.
- void update ()

  Update loop time.
- void setBackground (Background b)

  Set background.
- void setBackground (string filename)

  Set background with filename.
- Background getBackground () const

  Get background.
- void drawBackground ()

  Draw background.
- void draw (Object obj)

  Draw an object on the screen.
- void **draw** (vector< Object > objs)
- void **draw** (Object obj, int key)
- void **drawLevel** (Level lvl)
- void splash ()

  Calls splashscreen at the beginning of the game. This is automatically called unless deactivated.
- void bypassSplash (int key)

  Deactives the splashscreen, requires key.
- bool hasSplashed ()

  Check if the splashscreen has occured.
- bool runCustomSplash ()

  Run custom splashscreen. This is automatically called after splash if there is a custom splashscreen.
- void customSplash (string file, double time, int w, int h)

  Create a custom game splashscreen to be shown after the engine splashscreen by passing in the path to the image, the duration for it be displayed, and the size of the image.

Private Attributes

- SDL_Renderer * engren

  SDL Renderer.
- SDL_Window * engwin

  SDL Window.
- int **WIDTH**
- int HEIGHT

  Width and height of the window.
- int **simulationTime**
- int realTime

  Timestamps used for fps loop.
- bool fps

  Boolean for loop.
- bool bkg

Boolean for if there is a set background.

- Background background

  Background to display.
- Uint8 **red**
- Uint8 **green**
- Uint8 blue

  Colors for background.
- bool **splashed**
- bool custom

  Boolean that shows if the splashscreen has occured.
- string cf

  Custom splashscreen file path.
- double ct

  Custom splashscreen duration.
- int **cw**
- int ch

  Custom splashcreen width and height.

3.3.1 Detailed Description

Class for declaring an engine, which does basic SDL commands like creating the window and renderer.

Definition at line 28 of file engine.h.

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

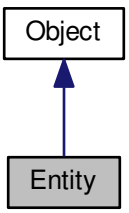
- engine.h
- engine.cpp

3.4 Entity Class Reference

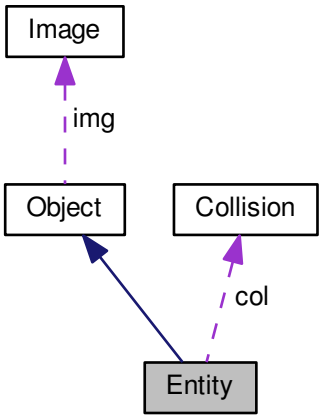
Class for storing health, emotion, team, etc. of an Object.

`#include <entity.h>`

Inheritance diagram for Entity:



Collaboration diagram for Entity:



Public Member Functions

- double getHealth () const

  Get Entity's health.
- void setHealth (double h)

  Set the Entity's health. If the health is higher then the max health it will set it to the max health.
- double getMaxHealth () const

  Get max health.
- void setMaxHealth (double mh)

  Set max health.
- void damage (double d)

  Deal damage. Subtracted from health. If health is less then zero it kills the entity.
- void heal (double h)

  Give health to the Entity.
- int getEmotion () const

  Get current emotion state.
- void setEmotion (int e)

  Set current emotion state.
- int getTeam () const

  Get Entity's team.
- void setTeam (int t)

  Set Entity's team.
- bool isActive () const

  Check if Entity is active.
- void kill ()

  Sets health to zero and deactives the Entity.
- void deactivate ()

  Sets active to false.
- void activate ()

Sets active to true.

- void **checkDisplayable** (Object screen)
- SDL_Rect **getDetect** () const
- void **setDetect** (SDL_Rect d)
- void **setDetectRange** (int r)
- void **setDetectRange** (int w, int h)

Private Attributes

- double health

  Int for the Entity's health.
- double maxHealth

  Int for the Enitity's max health.
- int emotion

  Int for creating a range of emotional states.
- int team

  Int for setting the team the Entity is on.
- bool active

  Boolean for declaring if an entity is active.
- Collision **col**
- SDL_Rect **detect**

3.4.1 Detailed Description

Class for storing health, emotion, team, etc. of an Object.

Definition at line 9 of file entity.h.

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

- entity.h
- entity.cpp

3.5 Image Class Reference

Class for loading in SDL Textures.

```
#include <image.h>
```

Public Member Functions

- void loadImage (string file, SDL_Renderer *ren)

  Load in either a BMP or PNG file with the path and renderer..
- void loadPNG (string file, SDL_Renderer *ren)

  Load in a PNG image with the path to the PNG file and the renderer.
- void loadBMP (string file, SDL_Renderer *ren)

  Load in a BMP image with the path to the BMP file and the renderer.
- SDL_Texture * getTexture ()

  Get SDL_Texture.
- void setImage (SDL_Texture *t)

  Set new, preloaded texture, to Image.
- string getFile () const

  Get path file of the image.
- void setFile (string f)

  Set path file to the image.

Private Attributes

- SDL_Texture * tex
  SDL_Texture for the image.
- string filename
  Path file to the image.

3.5.1 Detailed Description

Class for loading in SDL Textures.

Definition at line 11 of file image.h.

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

- image.h
- image.cpp

3.6 Input Class Reference

Class for checking and storing keyboard and mouse input.

`#include <input-tmp.h>`

Public Member Functions

- void logPress ()
  Log all current keys and buttons being pressed.
- bool checkKey (int k)
  Check if a key has been pressed using a given key from this class. Ex: Input i; i.checkKey(i.up);.
- void reset ()
  Reset all pressed keystrokes and other inputs to false. Automatically down at the beginning of each logPress().

Public Attributes

- int left
  Log ID for left.
- int right
  Log ID for right.
- int up
  Log ID for up.
- int down
  Log ID for down.
- int q
  Log ID for q.
- int w
  Log ID for w.

- int e
  Log ID for e.
- int r
  Log ID for r.
- int t
  Log ID for t.
- int y
  Log ID for y.
- int u
  Log ID for u.
- int i
  Log ID for i.
- int o
  Log ID for o.
- int p
  Log ID for p.
- int a
  Log ID for a.
- int s
  Log ID for s.
- int d
  Log ID for d.
- int f
  Log ID for f.
- int g
  Log ID for g.
- int h
  Log ID for h.
- int j
  Log ID for j.
- int k
  Log ID for k.
- int l
  Log ID for l.
- int z
  Log ID for z.
- int x
  Log ID for x.
- int c
  Log ID for c.
- int v
  Log ID for v.
- int b
  Log ID for b.
- int n
  Log ID for n.
- int m
  Log ID for m.
- int lshift
  Log ID for left shift.
- int rshift

Log ID for right shift.

- int shift

  Shift ID for shift.

- int quit

  Log ID for quit.

- int esc

  Log ID for esc.

- int mouseleft

  Log ID for left mouse click.

- int mousemiddle

  Log ID for middle mouse click.

- int mouseright

  Log ID for right mouse click.

- int mouseup

  Log ID for scroll up on mouse wheel.

- int mousedown

  Log ID for scroll down on mouse wheel.

- int mousex

  Log ID for mouse x coordinate.

- int mousey

  Log ID for mouse y coordinate.

Private Attributes

- bool keys [50]

  Array that stores what buttons are down.

3.6.1 Detailed Description

Class for checking and storing keyboard and mouse input.

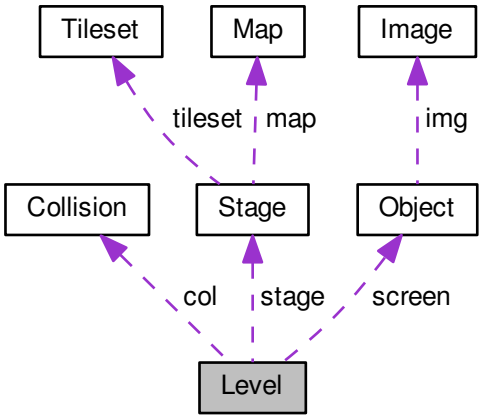
Definition at line 9 of file input-tmp.h.

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

- input-tmp.h
- input-tmp.cpp

3.7 Level Class Reference

Collaboration diagram for Level:



Public Member Functions

- void **create** ()
- void **setStage** (Stage s)
- void **setStage** (Map m, Tileset t)
- void **setScale** (int w, int h)
- void **setScale** (int s)
- void **calcPos** ()
- vector< Tile > **getTilesToRender** ()
- void **move** (int mx, int my)
- void **setCoord** (double x, double y)
- void **setX** (double x)
- void **setY** (double y)
- double **getX** () const
- double **getY** () const
- void **setScreenSize** (int w, int h)

Private Attributes

- Stage **stage**
- vector< vector< Tile > > **tiles**
- double **x**
- double **y**
- int **tilewidth**
- int **tileheight**
- Object **screen**
- Collision **col**

3.7.1 Detailed Description

Definition at line 8 of file level.h.

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

- level.h
- level.cpp

3.8 Map Class Reference

Public Member Functions

- void loadMap (string filename)

  Read in map file with given path to the file and width and height of the tiles.
- int **getX** () const
- int **getY** () const
- vector< vector< int > > **getMap** () const

Private Attributes

- vector< vector< int > > **map**
- int **startX**
- int **startY**

3.8.1 Detailed Description

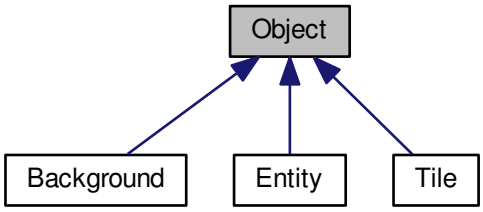
Definition at line 9 of file map.h.

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

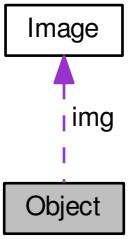
- map.h
- map.cpp

3.9 Object Class Reference

Inheritance diagram for Object:



Collaboration diagram for Object:



Public Member Functions

- void **setDisplayable** (bool d)
- bool **isDisplayable** (Object screen)
- virtual void **checkDisplayable** (Object screen)
- void **setCoord** (double x, double y)
- void **setX** (double sx)
- void **setY** (double sy)
- void **move** (double x, double y)
- void **moveX** (double mx)
- void **moveY** (double my)
- double **getX** () const
- double **getY** () const
- Image **getImage** () const
- void **setImage** (Image i)
- void **setImage** (string file, SDL_Renderer ∗ren)
- double **getAngle** () const

- void **setAngle** (double a)
- void **center** (int w, int h)
- SDL_Rect **getFrame** () const
- SDL_Rect **getDest** () const
- SDL_Rect **getPos** () const
- void **setFrame** (SDL_Rect i)
- void **setDest** (SDL_Rect i)
- void **setPos** (SDL_Rect i)
- void **setFrame** (int x, int y, int w, int h)
- void **setFrameCoord** (int x, int y)
- void **setFrameSize** (int w, int h)
- void **setFrameX** (int x)
- void **setFrameY** (int y)
- void **setFrameW** (int w)
- void **setFrameH** (int h)
- int **getFrameX** () const
- int **getFrameY** () const
- int **getFrameW** () const
- int **getFrameH** () const
- void **setDest** (int x, int y, int w, int h)
- void **setDestCoord** (int x, int y)
- void **setDestSize** (int w, int h)
- void **setDestX** (int x)
- void **setDestY** (int y)
- void **setDestW** (int w)
- void **setDestH** (int h)
- int **getDestX** () const
- int **getDestY** () const
- int **getDestW** () const
- int **getDestH** () const
- void **setPos** (int x, int y, int w, int h)
- void **setPosCoord** (int x, int y)
- void **setPosSize** (int w, int h)
- void **setPosX** (int x)
- void **setPosY** (int y)
- void **setPosW** (int w)
- void **setPosH** (int h)
- int **getPosX** () const
- int **getPosY** () const
- int **getPosW** () const
- int **getPosH** () const
- void **moveFrame** (int x, int y)
- void **moveFrameX** (int x)
- void **moveFrameY** (int y)
- void **moveDest** (int x, int y)
- void **moveDestX** (int x)
- void **moveDestY** (int y)
- void **movePos** (int x, int y)
- void **movePosX** (int x)
- void **movePosY** (int y)
- void **setName** (string s)
- string **getName** ()

Private Attributes

- Image **img**
- SDL_Rect **frame**
- SDL_Rect **dest**
- SDL_Rect **pos**
- double **angle**
- string **name**
- double **x**
- double **y**
- bool **displayable**

3.9.1 Detailed Description

Definition at line 9 of file object.h.

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

- object.h
- object.cpp

3.10 Physics Class Reference

Class for doing physics functions.

`#include <physics-tmp.h>`

Public Member Functions

- Object moveTowards (Object cur, Object des)

  Returns modified first Object that is moving towards the second object (I THINK).

3.10.1 Detailed Description

Class for doing physics functions.

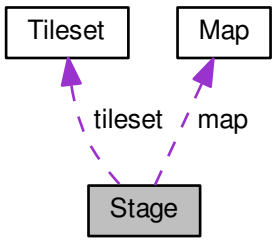
Definition at line 23 of file physics-tmp.h.

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

- physics-tmp.h
- physics-tmp.cpp

3.11 Stage Class Reference

Collaboration diagram for Stage:



Public Member Functions

- void **createStage** (Map m, Tileset t)
- void **createStage** (string filename, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int count)
- void **createStage** (string filename, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int rcount, int count)
- void **createStage** (string filename, int startid, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int count)
- void **createStage** (string filename, int startid, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int rcount, int count)
- void **setMap** (Map m)
- Map **setMap** (string filename)
- Map **getMap** () const
- void **setTileset** (Tileset t)
- Tileset **setTileset** (string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int count)
- Tileset **setTileset** (string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int rcount, int count)
- Tileset **setTileset** (int startid, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int count)
- Tileset **setTileset** (int startid, string name, string img, SDL_Renderer ∗ren, int width, int height, int r, int rcount, int count)
- Tileset **getTileset** () const

Private Attributes

- Map **map**
- Tileset **tileset**

3.11.1 Detailed Description

Definition at line 7 of file stage.h.

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

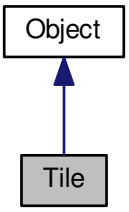
- stage.h
- stage.cpp

3.12 Tile Class Reference

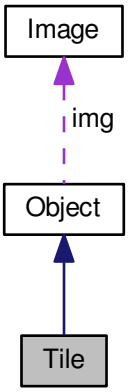
An Object class that stores the a tile value and name.

`#include <tile.h>`

Inheritance diagram for Tile:



Collaboration diagram for Tile:



Public Member Functions

- void setValue (int v)

  Set value of the tile. This is used when reading from a map file, etc.
- int getValue () const

  Get the value of the tile.
- void **setSolid** ()
- void **setPassable** ()
- bool **isSolid** () const

Private Attributes

- int value

  Tiles value. Used for reading from a map file, etc.
- bool **solid**

3.12.1 Detailed Description

An Object class that stores the a tile value and name.

Definition at line 7 of file tile.h.

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

- tile.h
- tile.cpp

3.13 Tileset Class Reference

Public Member Functions

- vector< Tile > **getTileset** () const
- SDL_Rect **getFrame** (int i)
- vector< Tile > create (string name, string img, SDL_Renderer *ren, int width, int height, int r, int count)

  Load in a map file with the name for all the tiles, the path to the map file, path to the tileset image, the SDL renderer, width and height of a tile, row to begin from on the image, how many tiles there are in the image.
- vector< Tile > create (string name, string img, SDL_Renderer *ren, int width, int height, int r, int rcount, int count)

  Load a map with a given name for the tiles, the file path to the map, the path to the tileset image, SDL renderer, width and height of a tile, row to begin on in the image, how many tiles on a certain row in the image, total amount of tiles in the image.
- vector< Tile > create (int startid, string name, string img, SDL_Renderer *ren, int width, int height, int r, int count)

  Load in a map file with the name for all the tiles, the path to the map file, path to the tileset image, the SDL renderer, width and height of a tile, row to begin from on the image, how many tiles there are in the image.
- vector< Tile > create (int startid, string name, string img, SDL_Renderer *ren, int width, int height, int r, int rcount, int count)

  Load a map with a given name for the tiles, the file path to the map, the path to the tileset image, SDL renderer, width and height of a tile, row to begin on in the image, how many tiles on a certain row in the image, total amount of tiles in the image.
- void addTile (Tile t)

  Push Tile in tile with given Tile.
- Tile addTile (string name, string file, SDL_Renderer *ren, int value, int r, int c, int width, int height)

  Generate and push Tile with tile name, path tot he tile image, SDL renderer, tile value, row and columg the tile as on in the image, the tiles width and height.
- Tile addTile (string name, string file, SDL_Renderer *ren, int value, int width, int height)

  Generate and push Tile with a given name, path to image file, SDL renderer, given value, and tile width and height.
- Tile addTile (string name, string file, SDL_Renderer *ren, int value, int size)

  Generate and push Tile with a given name, path to the image, SDL renderer, value, and size (used for width and height).
- void setAngle (int ang)

Set the angle of all the tiles. Calls pushAng().

- void **setSolid** ()
- void **setSolid** (int t)
- void **setSolid** (int s, int e)
- void **setPassable** ()
- void **setPassable** (int t)
- void **setPassable** (int s, int e)
- void **setName** (string n, int id)

Private Attributes

- vector< Tile > **tiles**

3.13.1 Detailed Description

Definition at line 7 of file tileset.h.

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

- tileset.h
- tileset.cpp

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