Space Invaders

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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Chapter 2

Class Index

2.1 Class List

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

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Chapter 3

Class Documentation

3.1 Block Class Reference

`#include <Block.h>`

Public Member Functions

- Block (sf::Texture *texture, bool isSquareParam, float xPos, float yPos, float rotation)
- const sf::FloatRect getBounds () const
- bool getIsSquare () const
- float getSpriteRotation () const
- int & getStageAccess ()
- void setNewTexture (sf::Texture *newTexture)
- void render (sf::RenderWindow *window) const

3.1.1 Detailed Description

Declaration of Walls class

Author

Michal Pawlowski

Date

2021-05-11

3.1.2 Constructor & Destructor Documentation

3.1.2.1 Block()

```
Block::Block (
            sf::Texture * texture,
            bool isSquareParam,
            float xPos,
            float yPos,
            float rotation )
```

constructor

3.1.3 Member Function Documentation

3.1.3.1 getBounds()

```
const sf::FloatRect Block::getBounds ( ) const
```

give info about sprite coverage

3.1.3.2 getIsSquare()

```
bool Block::getIsSquare ( ) const
```

give information about shape

3.1.3.3 getSpriteRotation()

```
float Block::getSpriteRotation ( ) const
```

give information about sprite rotation

3.1.3.4 getStageAccess()

```
int & Block::getStageAccess ( )
```

give access to stage

3.1.3.5 render()

```
void Block::render (
            sf::RenderWindow * window ) const
```

draw whis object

3.1.3.6 setNewTexture()

```
void Block::setNewTexture (
            sf::Texture * newTexture )
```

set new texture

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

- Block.h
- Block.cpp

3.2 Collision Class Reference

```
#include <Collisions.h>
```

Public Member Functions

- Collision (sf::SoundBuffer *explsionSoundParam)
- void checkCollisions (int &score, bool &isGameEnded, Player &player, Ufo &ufo, vector< PlayerBullet > &bullets, vector< EnemyBullet > &enemyBullets, list< list< Enemy * >> &mainList, Walls &wallsParam)

3.2.1 Detailed Description

Declaration of Collisions class

Author

Michal Pawlowski

Date

2021-05-11

3.2.2 Constructor & Destructor Documentation

3.2.2.1 Collision()

```
Collision::Collision (
            sf::SoundBuffer * explsionSoundParam )
```

constructor

3.2.3 Member Function Documentation

3.2.3.1 checkCollisions()

```
void Collision::checkCollisions (
            int & score,
            bool & isGameEnded,
            Player & player,
            Ufo & ufo,
            vector< PlayerBullet > & bullets,
            vector< EnemyBullet > & enemyBullets,
            list< list< Enemy * >> & mainList,
            Walls & wallsParam )
```

check all possible collisions

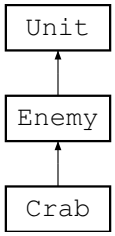
The documentation for this class was generated from the following files:

- Collisions.h
- Collisions.cpp

3.3 Crab Class Reference

```
#include <Crab.h>
```

Inheritance diagram for Crab:



Public Member Functions

- **Crab** (sf::Texture *crab1, sf::Texture *crab2, float x, float y)

Additional Inherited Members

3.3.1 Detailed Description

Declaration of Crab class

Author

Michal Pawlowski

Date

2021-05-11

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

- Crab.h
- Crab.cpp

3.4 Enemies Class Reference

`#include <Enemies.h>`

Public Member Functions

- Enemies (sf::Texture *octopus1, sf::Texture *octopus2, sf::Texture *crab1, sf::Texture *crab2, sf::Texture *squid1, sf::Texture *squid2, sf::Texture *enemyBullet)
- ~Enemies ()
- void update (int &level, bool &isGameEnded, PlayerBullets &playerBullets, float deltaTime)
- void render (sf::RenderWindow *window)
- list< list< Enemy * > > & getEnemyList ()
- vector< EnemyBullet > & getBulletsVector ()
- void deleteAllEnemiesAndBullets ()

3.4.1 Detailed Description

Declaration of Group class

Author

Michal Pawlowski

Date

2021-05-11

3.4.2 Constructor & Destructor Documentation

3.4.2.1 Enemies()

```
Enemies::Enemies (
            sf::Texture * octopus1,
            sf::Texture * octopus2,
            sf::Texture * crab1,
            sf::Texture * crab2,
            sf::Texture * squid1,
            sf::Texture * squid2,
            sf::Texture * enemyBullet )
```

construcor

3.4.2.2 ~Enemies()

```
Enemies::~Enemies ( )
```

destrucor

3.4.3 Member Function Documentation

3.4.3.1 deleteAllEnemiesAndBullets()

```
void Enemies::deleteAllEnemiesAndBullets ( )
```

delete all enemies and their bullets

3.4.3.2 getBulletsVector()

```
vector< EnemyBullet > & Enemies::getBulletsVector ( )
```

give access to bullets vector

3.4.3.3 getEnemyList()

```
list< list< Enemy * > > & Enemies::getEnemyList ( )
```

give access to list of enemies

3.4.3.4 render()

```
void Enemies::render (
            sf::RenderWindow * window )
```

draws all enemies from group

3.4.3.5 update()

```
void Enemies::update (
            int & level,
            bool & isGameEnded,
            PlayerBullets & playerBullets,
            float deltaTime )
```

update events

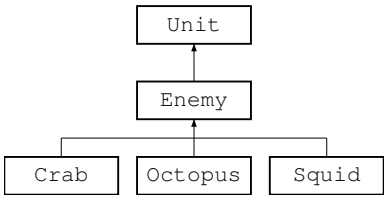
The documentation for this class was generated from the following files:

- Enemies.h
- Enemies.cpp

3.5 Enemy Class Reference

```
#include <Enemy.h>
```

Inheritance diagram for Enemy:



Public Member Functions

- Enemy ()
- const bool isAttackPossible ()
- void update (float deltaTime, bool leftDirection)
- bool checkSideBorderCollision (bool leftDirection)
- bool checkBottomBorderCollision ()
- void moveToLowerRow ()
- enemyType getEnemyType ()

Protected Attributes

- sf::Texture * texture2
- enemyType type
- bool underSoloAttack = false
- float timeToAnimate = 10.f

Additional Inherited Members

3.5.1 Detailed Description

Declaration of Enemy virtual class

Author

Michal Pawlowski

Date

2021-05-11

3.5.2 Constructor & Destructor Documentation

3.5.2.1 Enemy()

```
Enemy::Enemy ( )
```

no argument constructor

3.5.3 Member Function Documentation

3.5.3.1 checkBottomBorderCollision()

```
bool Enemy::checkBottomBorderCollision ( )
```

checks if object collide with horizontal window borderline

3.5.3.2 checkSideBorderCollision()

```
bool Enemy::checkSideBorderCollision (
            bool leftDirection )
```

checks if object collide with vertical window borderline

3.5.3.3 getEnemyType()

```
enemyType Enemy::getEnemyType ( )
```

return type of alien

3.5.3.4 isAttackPossible()

```
const bool Enemy::isAttackPossible ( )  [virtual]
```

inform is attack possible

Implements Unit.

3.5.3.5 moveToLowerRow()

```
void Enemy::moveToLowerRow ( )
```

moves enemy to lower row

3.5.3.6 update()

```
void Enemy::update (
            float deltaTime,
            bool leftDirection )
```

update state

3.5.4 Member Data Documentation

3.5.4.1 texture2

```
sf::Texture* Enemy::texture2  [protected]
```

second texture

3.5.4.2 timeToAnimate

```
float Enemy::timeToAnimate = 10.f  [protected]
```

define time to change texture

3.5.4.3 type

```
enemyType Enemy::type  [protected]
```

define type of alien

3.5.4.4 underSoloAttack

```
bool Enemy::underSoloAttack = false  [protected]
```

define is enemy under solo attack

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

- Enemy.h
- Enemy.cpp

3.6 EnemyBullet Class Reference

```
#include <EnemyBullet.h>
```

Public Member Functions

- EnemyBullet (float xPosition, float yPosition, float xDirection, float yDirection, sf::Texture ∗texture)
- const sf::FloatRect getBounds () const
- void update (float deltaTime)
- void render (sf::RenderTarget ∗target) const

3.6.1 Detailed Description

Declaration of EnemyBullets class

Author

Michal Pawlowski

Date

2021-05-11

3.6.2 Constructor & Destructor Documentation

3.6.2.1 EnemyBullet()

```
EnemyBullet::EnemyBullet (
            float xPosition,
            float yPosition,
            float xDirection,
            float yDirection,
            sf::Texture * texture )
```

construcor

3.6.3 Member Function Documentation

3.6.3.1 getBounds()

```
const sf::FloatRect EnemyBullet::getBounds ( ) const
```

give info about shape coverage

3.6.3.2 render()

```
void EnemyBullet::render (
            sf::RenderTarget * target ) const
```

render bullet

3.6.3.3 update()

```
void EnemyBullet::update (
            float deltaTime )
```

update bullet sate

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

- EnemyBullet.h
- EnemyBullet.cpp

3.7 EnemyBullets Class Reference

```
#include <EnemyBullets.h>
```

Public Member Functions

- EnemyBullets (sf::Texture ∗texture)
- ∼EnemyBullets ()
- void updateBullets (float deltaTime)
- void spawnBullet (float xPos, float yPos)
- void renderBullets (sf::RenderWindow ∗windowPtr) const
- vector< EnemyBullet > & getBulletsVector ()
- void deleteAllEnemyBullets ()

3.7.1 Detailed Description

Declaration of EnemyBullets class

Author

Michal Pawlowski

Date

2021-05-11

3.7.2 Constructor & Destructor Documentation

3.7.2.1 EnemyBullets()

```
EnemyBullets::EnemyBullets (
            sf::Texture * texture )
```

constructor

3.7.2.2 ∼EnemyBullets()

```
EnemyBullets::∼EnemyBullets ( )
```

destructor

3.7.3 Member Function Documentation

3.7.3.1 deleteAllEnemyBullets()

```
void EnemyBullets::deleteAllEnemyBullets ( )
```

delete all enemy bullets

3.7.3.2 getBulletsVector()

```
vector< EnemyBullet > & EnemyBullets::getBulletsVector ( )
```

give access to bullets vector

3.7.3.3 renderBullets()

```
void EnemyBullets::renderBullets (
            sf::RenderWindow * windowPtr ) const
```

render bullets

3.7.3.4 spawnBullet()

```
void EnemyBullets::spawnBullet (
            float xPos,
            float yPos )
```

add new bullet

3.7.3.5 updateBullets()

```
void EnemyBullets::updateBullets (
            float deltaTime )
```

update bullets status

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

- EnemyBullets.h
- EnemyBullets.cpp

3.8 Game Class Reference

```
#include <Game.h>
```

Public Member Functions

- Game ()
- ~Game ()
- const bool isWindowOpened () const
- void update ()
- void render ()

3.8.1 Detailed Description

Declaration of Game engine class

Author

Michal Pawlowski

Date

2021-05-11

3.8.2 Constructor & Destructor Documentation

3.8.2.1 Game()

```
Game::Game ( )
```

no argument constructor

3.8.2.2 ~Game()

```
Game::~Game ( )
```

destructor

3.8.3 Member Function Documentation

3.8.3.1 isWindowOpened()

```
const bool Game::isWindowOpened ( ) const
```

return information is program window open

3.8.3.2 render()

```
void Game::render ( )
```

render current state

3.8.3.3 update()

```
void Game::update ( )
```

update events

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

- Game.h
- Game.cpp

3.9 HUD Class Reference

```
#include <HUD.h>
```

Public Member Functions

- HUD (sf::Texture *texture, sf::Font *font)
- void updateHUD (int score, int level)
- void renderHUD (sf::RenderWindow *windowPtr, int playerHealth)
- void renderHealthBar (sf::RenderWindow *windowPtr, int playerHealth)

3.9.1 Detailed Description

Declaration of HUD class

Author

Michal Pawlowski

Date

2021-05-11

3.9.2 Constructor & Destructor Documentation

3.9.2.1 HUD()

```
HUD::HUD (
            sf::Texture * texture,
            sf::Font * font )
```

constructor

3.9.3 Member Function Documentation

3.9.3.1 renderHealthBar()

```
void HUD::renderHealthBar (
            sf::RenderWindow * windowPtr,
            int playerHealth )
```

render health bar

3.9.3.2 renderHUD()

```
void HUD::renderHUD (
            sf::RenderWindow * windowPtr,
            int playerHealth )
```

render HUD

3.9.3.3 updateHUD()

```
void HUD::updateHUD (
            int score,
            int level )
```

updates HUD information

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

- HUD.h
- HUD.cpp

3.10 Menu Class Reference

```
#include <Menu.h>
```

Public Member Functions

- Menu (sf::Texture ∗start, sf::Texture ∗end, sf::Font ∗font)
- void startMenu (sf::RenderWindow ∗window)
- void endMenu (sf::RenderWindow ∗window)
- void scaleText (float deltaTime)
- void updateScore (int score, int bestScore)

3.10.1 Detailed Description

Declaration of Menu class

Author

Michal Pawlowski

Date

2021-05-11

3.10.2 Constructor & Destructor Documentation

3.10.2.1 Menu()

```
Menu::Menu (
            sf::Texture * start,
            sf::Texture * end,
            sf::Font * font )
```

constructor

3.10.3 Member Function Documentation

3.10.3.1 endMenu()

```
void Menu::endMenu (
            sf::RenderWindow * window )
```

displays end menu

3.10.3.2 scaleText()

```
void Menu::scaleText (
            float deltaTime )
```

scale menu text

3.10.3.3 startMenu()

```
void Menu::startMenu (
            sf::RenderWindow * window )
```

displays start menu

3.10.3.4 updateScore()

```
void Menu::updateScore (
            int score,
            int bestScore )
```

save score to displayed text

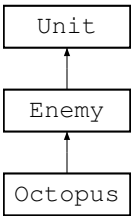
The documentation for this class was generated from the following files:

- Menu.h
- Menu.cpp

3.11 Octopus Class Reference

`#include <Octopus.h>`

Inheritance diagram for Octopus:



Public Member Functions

- **Octopus** (sf::Texture ∗crab1, sf::Texture ∗crab2, float x, float y)

Additional Inherited Members

3.11.1 Detailed Description

Declaration of Enemy class

Author

Michal Pawlowski

Date

2021-05-11

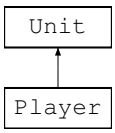
The documentation for this class was generated from the following files:

- Octopus.h
- Octopus.cpp

3.12 Player Class Reference

`#include <Player.h>`

Inheritance diagram for Player:



Public Member Functions

- Player (sf::Texture ∗cannonTexture, sf::Texture ∗destroyedCannonTexture)
- int getHealth ()
- void decreaseHealth ()
- void increaseHealth ()
- const bool isAttackPossible ()
- void update (float deltaTime)
- void setNewCannon ()

Additional Inherited Members

3.12.1 Detailed Description

Declaration of Player class

Author

Michal Pawlowski

Date

2021-05-11

3.12.2 Constructor & Destructor Documentation

3.12.2.1 Player()

```
Player::Player (
            sf::Texture * cannonTexture,
            sf::Texture * destroyedCannonTexture )
```

no argument constructor

3.12.3 Member Function Documentation

3.12.3.1 decreaseHealth()

```
void Player::decreaseHealth ( )
```

decrease value of player health

3.12.3.2 getHealth()

```
int Player::getHealth ( )
```

return value of player health

3.12.3.3 increaseHealth()

```
void Player::increaseHealth ( )
```

decrease value of player health

3.12.3.4 isAttackPossible()

```
const bool Player::isAttackPossible ( )  [virtual]
```

inform is attack possible

Implements Unit.

3.12.3.5 setNewCannon()

```
void Player::setNewCannon ( )
```

set new cannon texture

3.12.3.6 update()

```
void Player::update (
            float deltaTime )
```

update state

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

- Player.h
- Player.cpp

3.13 PlayerBullet Class Reference

`#include <PlayerBullet.h>`

Public Member Functions

- PlayerBullet (float xPosition, float yPosition, float xDirection, float yDirection)
- const sf::FloatRect getBounds () const
- void update (float deltaTime)
- void render (sf::RenderTarget *target) const

3.13.1 Detailed Description

Declaration of PlayerBullet class

Author

Michal Pawlowski

Date

2021-05-11

3.13.2 Constructor & Destructor Documentation

3.13.2.1 PlayerBullet()

```
PlayerBullet::PlayerBullet (
            float xPosition,
            float yPosition,
            float xDirection,
            float yDirection )
```

construcor

3.13.3 Member Function Documentation

3.13.3.1 getBounds()

```
const sf::FloatRect PlayerBullet::getBounds ( ) const
```

give info about shape coverage

3.13.3.2 render()

```
void PlayerBullet::render (
            sf::RenderTarget * target ) const
```

render bullet

3.13.3.3 update()

```
void PlayerBullet::update (
            float deltaTime )
```

update bullet sate

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

- PlayerBullet.h
- PlayerBullet.cpp

3.14 PlayerBullets Class Reference

```
#include <PlayerBullets.h>
```

Public Member Functions

- PlayerBullets (sf::SoundBuffer *shootSoundParam)
- ~PlayerBullets ()
- void updateBullets (float deltaTime)
- void spawnBullet (float xPos)
- void renderBullets (sf::RenderWindow *windowPtr) const
- vector< PlayerBullet > & getBulletsVector ()
- void deleteAllBullets ()

3.14.1 Detailed Description

Declaration of PlayerBullets class

Author

Michal Pawlowski

Date

2021-05-11

3.14.2 Constructor & Destructor Documentation

3.14.2.1 PlayerBullets()

```
PlayerBullets::PlayerBullets (
            sf::SoundBuffer * shootSoundParam )
```

constructor

3.14.2.2 ~PlayerBullets()

```
PlayerBullets::~PlayerBullets ( )
```

destructor

3.14.3 Member Function Documentation

3.14.3.1 deleteAllBullets()

```
void PlayerBullets::deleteAllBullets ( )
```

delete all bullets

3.14.3.2 getBulletsVector()

```
vector< PlayerBullet > & PlayerBullets::getBulletsVector ( )
```

give access to bullets vector

3.14.3.3 renderBullets()

```
void PlayerBullets::renderBullets (
            sf::RenderWindow * windowPtr ) const
```

render bullets

3.14.3.4 spawnBullet()

```
void PlayerBullets::spawnBullet (
            float xPos )
```

add new bullet

3.14.3.5 updateBullets()

```
void PlayerBullets::updateBullets (
            float deltaTime )
```

update bullets status

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

- PlayerBullets.h
- PlayerBullets.cpp

3.15 Result Class Reference

```
#include <Result.h>
```

Public Member Functions

- Result ()
- ~Result ()
- int & getScore ()
- int & getBestScore ()
- int & getLevel ()
- void resetScore ()
- void resetLevel ()
- void updateBestScore ()

3.15.1 Detailed Description

Declaration of Result class

Author

Michal Pawlowski

Date

2021-05-11

3.15.2 Constructor & Destructor Documentation

3.15.2.1 Result()

```
Result::Result ( )
```

constructor

3.15.2.2 ∼Result()

```
Result::∼Result ( )
```

destructor

3.15.3 Member Function Documentation

3.15.3.1 getBestScore()

```
int & Result::getBestScore ( )
```

give acces to best score

3.15.3.2 getLevel()

```
int & Result::getLevel ( )
```

give acces to level

3.15.3.3 getScore()

```
int & Result::getScore ( )
```

give acces to score

3.15.3.4 resetLevel()

```
void Result::resetLevel ( )
```

reset level

3.15.3.5 resetScore()

```
void Result::resetScore ( )
```

reset score

3.15.3.6 updateBestScore()

```
void Result::updateBestScore ( )
```

update new best score

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

- Result.h
- Result.cpp

3.16 SfmlUtilities Class Reference

```
#include <SfmlUtilities.h>
```

Public Member Functions

- SfmlUtilities ()
- ~SfmlUtilities ()
- void inputCheck (bool &isGameStarted, bool &isGameEnded, bool &isNewGameStarted)
- sf::RenderWindow * getWindow ()
- sf::Event & getEvent ()
- const bool isWindowOpened () const

3.16.1 Detailed Description

Declaration of SfmlUtiliteis class

Author

Michal Pawlowski

Date

2021-05-11

3.16.2 Constructor & Destructor Documentation

3.16.2.1 SfmlUtilities()

```
SfmlUtilities::SfmlUtilities ( )
```

no argument constructor

3.16.2.2 ~SfmlUtilities()

```
SfmlUtilities::~SfmlUtilities ( )
```

destructor

3.16.3 Member Function Documentation

3.16.3.1 getEvent()

```
sf::Event & SfmlUtilities::getEvent ( )
```

give acceess to event

3.16.3.2 getWindow()

```
sf::RenderWindow * SfmlUtilities::getWindow ( )
```

give acceess to window

3.16.3.3 inputCheck()

```
void SfmlUtilities::inputCheck (
            bool & isGameStarted,
            bool & isGameEnded,
            bool & isNewGameStarted )
```

checks input

3.16.3.4 isWindowOpened()

```
const bool SfmlUtilities::isWindowOpened ( ) const
```

return information is program window open

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

- SfmlUtilities.h
- SfmlUtilities.cpp

3.17 Sounds Class Reference

```
#include <Sounds.h>
```

Public Member Functions

- Sounds ()
- ~Sounds ()
- sf::SoundBuffer * getSoundBuffer (string key)
- void stopMusic ()
- void playMusic ()
- void playGameOverSound ()
- void stopGameOverSound ()

3.17.1 Detailed Description

Declaration of sounds class

Author

Michal Pawlowski

Date

2021-05-11

3.17.2 Constructor & Destructor Documentation

3.17.2.1 Sounds()

```
Sounds::Sounds ( )
```

constructor

3.17.2.2 ~Sounds()

```
Sounds::~Sounds ( )
```

destructor

3.17.3 Member Function Documentation

3.17.3.1 getSoundBuffer()

```
sf::SoundBuffer * Sounds::getSoundBuffer (
            string key )
```

give access to texture pointer

3.17.3.2 playGameOverSound()

```
void Sounds::playGameOverSound ( )
```

play game over sound

3.17.3.3 playMusic()

```
void Sounds::playMusic ( )
```

start music

3.17.3.4 stopGameOverSound()

```
void Sounds::stopGameOverSound ( )
```

stop game over sound

3.17.3.5 stopMusic()

```
void Sounds::stopMusic ( )
```

stop music

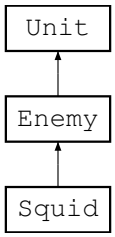
The documentation for this class was generated from the following files:

- Sounds.h
- Sounds.cpp

3.18 Squid Class Reference

```
#include <Squid.h>
```

Inheritance diagram for Squid:



Public Member Functions

- **Squid** (sf::Texture ∗crab1, sf::Texture ∗crab2, float x, float y)

Additional Inherited Members

3.18.1 Detailed Description

Declaration of Enemy class

Author

Michal Pawlowski

Date

2021-05-11

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

- Squid.h
- Squid.cpp

3.19 Textures Class Reference

`#include <Textures.h>`

Public Member Functions

- Textures ()
- ~Textures ()
- sf::Texture * getTexture (string key)
- sf::Font * getFont ()

3.19.1 Detailed Description

Declaration of Textures class

Author

Michal Pawlowski

Date

2021-05-11

3.19.2 Constructor & Destructor Documentation

3.19.2.1 Textures()

```
Textures::Textures ( )
```

no argument constructor

3.19.2.2 ~Textures()

```
Textures::~Textures ( )
```

desctructor

3.19.3 Member Function Documentation

3.19.3.1 getFont()

```
sf::Font * Textures::getFont ( )
```

give access to font pointer

3.19.3.2 getTexture()

```
sf::Texture * Textures::getTexture (
            string key )
```

give access to texture pointer

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

- Textures.h
- Textures.cpp

3.20 Timer Class Reference

```
#include <Timer.h>
```

Public Member Functions

- Timer ()
- ~Timer ()
- void CalculateDeltaTime ()
- float getDeltaTime ()

3.20.1 Detailed Description

Declaration of Timer class

Author

Michal Pawlowski

Date

2021-05-11

3.20.2 Constructor & Destructor Documentation

3.20.2.1 Timer()

```
Timer::Timer ( )
```

no argument constructor

3.20.2.2 ~Timer()

```
Timer::~Timer ( )
```

destructor

3.20.3 Member Function Documentation

3.20.3.1 CalculateDeltaTime()

```
void Timer::CalculateDeltaTime ( )
```

calculate time of frame duration

3.20.3.2 getDeltaTime()

```
float Timer::getDeltaTime ( )
```

returns deltaTime

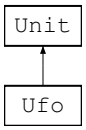
The documentation for this class was generated from the following files:

- Timer.h
- Timer.cpp

3.21 Ufo Class Reference

`#include <Ufo.h>`

Inheritance diagram for Ufo:



Public Member Functions

- Ufo (sf::Texture *ufoTexture, sf::SoundBuffer *ufoSoundParam)
- void update (float deltaTime)
- void reset ()
- void render (sf::RenderTarget *target)
- void stopUfoSound ()

Additional Inherited Members

3.21.1 Detailed Description

Declaration of Ufo class

Author

Michal Pawlowski

Date

2021-05-11

3.21.2 Constructor & Destructor Documentation

3.21.2.1 Ufo()

```
Ufo::Ufo (
            sf::Texture * ufoTexture,
            sf::SoundBuffer * ufoSoundParam )
```

constructor

3.21.3 Member Function Documentation

3.21.3.1 render()

```
void Ufo::render (
            sf::RenderTarget * target )
```

renders ufo current state

3.21.3.2 reset()

```
void Ufo::reset ( )
```

set ufo in default stage

3.21.3.3 stopUfoSound()

```
void Ufo::stopUfoSound ( )
```

stop ufo sound

3.21.3.4 update()

```
void Ufo::update (
            float deltaTime )
```

update ufo status

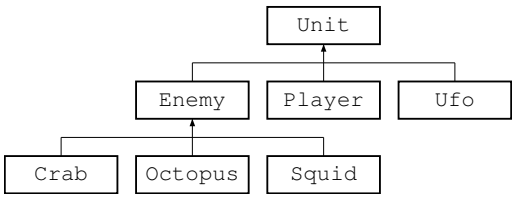
The documentation for this class was generated from the following files:

- Ufo.h
- Ufo.cpp

3.22 Unit Class Reference

```
#include <Unit.h>
```

Inheritance diagram for Unit:



Public Member Functions

- const sf::Vector2f & getPosition () const
- const sf::FloatRect getBounds () const
- virtual const bool isAttackPossible ()=0
- void render (sf::RenderTarget *target)

Protected Member Functions

- void initializeSprite (float xScale, float yScale)

Protected Attributes

- sf::Sprite sprite
- sf::Texture * texture
- float movementSpeed
- float timeToAttack

3.22.1 Detailed Description

Declaration of Unit virtual class

Author

Michal Pawlowski

Date

2021-05-11

3.22.2 Member Function Documentation

3.22.2.1 getBounds()

```
const sf::FloatRect Unit::getBounds ( ) const
```

give info about sprite coverage

3.22.2.2 getPosition()

```
const sf::Vector2f & Unit::getPosition ( ) const
```

give information about unit position

3.22.2.3 initializeSprite()

```
void Unit::initializeSprite (
            float xScale,
            float yScale )  [protected]
```

sprite initialization

3.22.2.4 isAttackPossible()

```
virtual const bool Unit::isAttackPossible ( )  [pure virtual]
```

inform is attack possible

Implemented in Enemy, and Player.

3.22.2.5 render()

```
void Unit::render (
            sf::RenderTarget * target )
```

renders object current state

3.22.3 Member Data Documentation

3.22.3.1 movementSpeed

```
float Unit::movementSpeed  [protected]
```

define movement speed

3.22.3.2 sprite

```
sf::Sprite Unit::sprite  [protected]
```

representation of a texture

3.22.3.3 texture

```
sf::Texture* Unit::texture  [protected]
```

texture object

3.22.3.4 timeToAttack

```
float Unit::timeToAttack  [protected]
```

time to next attack

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

- Unit.h
- Unit.cpp

3.23 Wall Class Reference

```
#include <Wall.h>
```

Public Member Functions

- Wall (float xPos, sf::Texture ∗square, sf::Texture ∗triangle)
- vector< Block > & getWall ()
- void renderWall (sf::RenderWindow ∗window) const

3.23.1 Detailed Description

Declaration of Wall class

Author

Michal Pawlowski

Date

2021-05-11

3.23.2 Constructor & Destructor Documentation

3.23.2.1 Wall()

```
Wall::Wall (
            float xPos,
            sf::Texture * square,
            sf::Texture * triangle )
```

constructor

3.23.3 Member Function Documentation

3.23.3.1 getWall()

```
vector< Block > & Wall::getWall ( )
```

give acces to vector of Blocks

3.23.3.2 renderWall()

```
void Wall::renderWall (
            sf::RenderWindow * window ) const
```

render single wall

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

- Wall.h
- Wall.cpp

3.24 Walls Class Reference

```
#include <Walls.h>
```

Public Member Functions

- Walls (sf::Texture *square1, sf::Texture *square2, sf::Texture *square3, sf::Texture *square4, sf::Texture *triangle1, sf::Texture *triangle2, sf::Texture *triangle3, sf::Texture *triangle4)
- void rebuiltWalls ()
- vector< Wall > & getWalls ()
- map< string, sf::Texture * > & getTextures ()
- void renderWalls (sf::RenderWindow *window)

3.24.1 Detailed Description

Declaration of Walls class

Author

Michal Pawlowski

Date

2021-05-11

3.24.2 Constructor & Destructor Documentation

3.24.2.1 Walls()

```
Walls::Walls (
            sf::Texture * square1,
            sf::Texture * square2,
            sf::Texture * square3,
            sf::Texture * square4,
            sf::Texture * triangle1,
            sf::Texture * triangle2,
            sf::Texture * triangle3,
            sf::Texture * triangle4 )
```

construcor

3.24.3 Member Function Documentation

3.24.3.1 getTextures()

```
map< string, sf::Texture * > & Walls::getTextures ( )
```

give acces to vector with textures

3.24.3.2 getWalls()

```
vector< Wall > & Walls::getWalls ( )
```

give acces to vector with walls

3.24.3.3 rebuiltWalls()

```
void Walls::rebuiltWalls ( )
```

delete and the create new walls

3.24.3.4 renderWalls()

```
void Walls::renderWalls (
            sf::RenderWindow * window )
```

render all walls

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

- Walls.h
- Walls.cpp