COS 214 Project

1

Generated by Doxygen 1.8.13

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

File Index

3.1 File List

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

Chapter 4

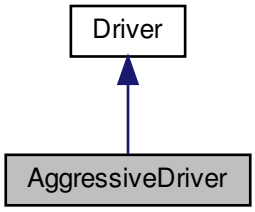
Class Documentation

4.1 AggressiveDriver Class Reference

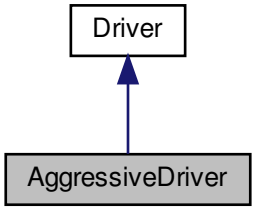
concreteStratey for strategy design pattern

`#include <AggressiveDriver.h>`

Inheritance diagram for AggressiveDriver:



Collaboration diagram for AggressiveDriver:



Public Member Functions

- AggressiveDriver ()

4.1.1 Detailed Description

concreteStratey for strategy design pattern

Authors

Duncan + Tjaart

Version

1.0.0

4.1.2 Constructor & Destructor Documentation

4.1.2.1 AggressiveDriver()

```
AggressiveDriver::AggressiveDriver ( )  [inline]
```

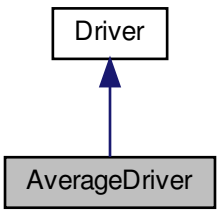
constructor to set fuel, tyre and driving ability

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

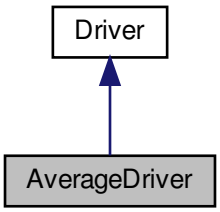
- AggressiveDriver.h

4.2 AverageDriver Class Reference

Inheritance diagram for AverageDriver:



Collaboration diagram for AverageDriver:



Public Member Functions

- AverageDriver ()

4.2.1 Constructor & Destructor Documentation

4.2.1.1 AverageDriver()

`AverageDriver::AverageDriver ( ) [inline]`

constructor to set fuel, tyre and driving ability

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

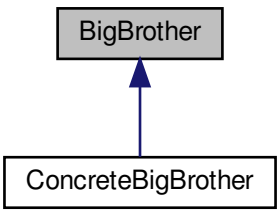
- AverageDriver.h

4.3 BigBrother Class Reference

visitor class in visitor pattern

`#include <BigBrother.h>`

Inheritance diagram for BigBrother:



Public Member Functions

- virtual void visit (LeftEighth *leftEighth)=0
- virtual void visit (RightEighth *rightEighth)=0
- virtual void visit (LeftPeelOff *leftPeelOff)=0
- virtual void visit (RightPeelOff *rightPeelOff)=0
- virtual void visit (LeftPeelOn *leftPeelOn)=0
- virtual void visit (RightPeelOn *rightPeelOn)=0
- virtual void visit (Straight *straight)=0

4.3.1 Detailed Description

visitor class in visitor pattern

Authors

Duncan + Tjaart

Version

1.0.0

4.3.2 Member Function Documentation

4.3.2.1 visit() [1/7]

```
virtual void BigBrother::visit (
            LeftEighth * leftEighth )  [pure virtual]
```

virtual visit that visits Left Eighth object

Parameters

leftEighth	

Implemented in ConcreteBigBrother.

4.3.2.2 visit() [2/7]

```
virtual void BigBrother::visit (
            RightEighth * rightEighth )  [pure virtual]
```

virtual visit that visits rightEighth object

Parameters

rightEighth	

Implemented in ConcreteBigBrother.

4.3.2.3 visit() [3/7]

```
virtual void BigBrother::visit (
            LeftPeelOff * leftPeelOff )  [pure virtual]
```

virtual visit that visits leftPeelOff object

Parameters

leftPeelOff	

Implemented in ConcreteBigBrother.

4.3.2.4 visit() [4/7]

```
virtual void BigBrother::visit (
            RightPeelOff * rightPeelOff )  [pure virtual]
```

virtual visit that visits rightPeelOff object

Parameters

rightPeelOff	

Implemented in ConcreteBigBrother.

4.3.2.5 visit() [5/7]

```
virtual void BigBrother::visit (
            LeftPeelOn * leftPeelOn )  [pure virtual]
```

virtual visit that visits leftPeelOn object

Parameters

leftPeelOn	

Implemented in ConcreteBigBrother.

4.3.2.6 visit() [6/7]

```
virtual void BigBrother::visit (
            RightPeelOn * rightPeelOn )  [pure virtual]
```

virtual visit that visits rightPeelOn object

Parameters

rightPeelOn	

Implemented in ConcreteBigBrother.

4.3.2.7 visit() [7/7]

```
virtual void BigBrother::visit (
            Straight * straight )  [pure virtual]
```

virtual visit that visits straight object

Parameters

straight	

Implemented in ConcreteBigBrother.

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

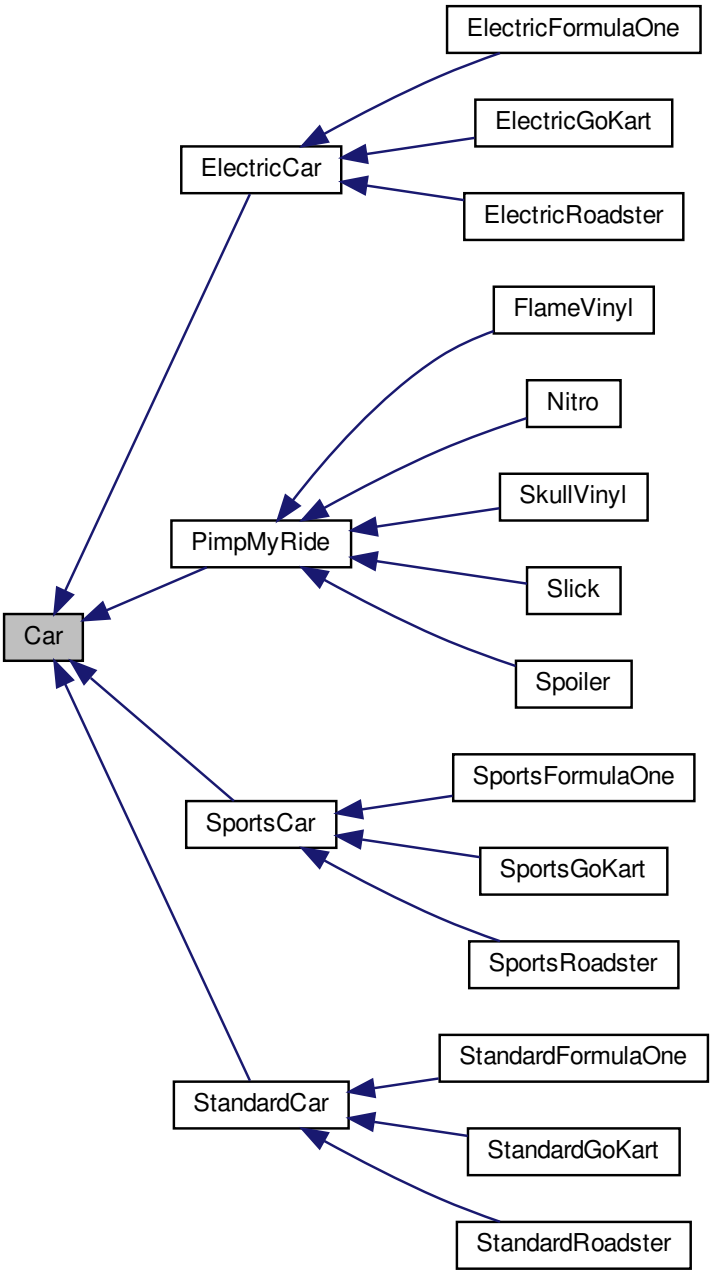
- BigBrother.h

4.4 Car Class Reference

Abstract Product for Abstract Factory Pattern and Component for Decorator Pattern.

```
#include <Car.h>
```

Inheritance diagram for Car:



Collaboration diagram for Car:

Public Member Functions

- Car (int tyres=4)
- Car (string modelType_, int tyres=4)
- Car (const Car &car_, bool flag_)
- virtual ~Car ()
- virtual Car * clone (bool flag=false)=0
- virtual Car * FullClone ()=0
- virtual void add (Car *c)
- void setDescription (string des)
- string getDescription () const
- int getModelNumber () const
- virtual string showCarStats ()
- string showCarCondition ()
- void setSpeed (int speed)
- int getSpeed ()
- void setHandling (int H)
- int getHandling ()
- void setAcceleration (int A)
- int getAcceleration ()
- const string getModelType () const
- string toString ()
- int getTrackTime ()
- void setTrackTime (int i)
- int getNumTyres ()
- PitCrew * getManager ()
- void setManager (PitCrew *m)
- PitStop * getTeam ()
- void setTeam (PitStop *t)
- void notifyTeam ()
- int * getCarTyres ()
- int getCarTyre (int index)
- void setCarTyre (int index, int tyre)
- void setChanged (int index, int tyre)
- int getCarFuel ()
- void setCarFuel (int fuel)
- void setRefuel (int fuel)
- int getCarDamage ()
- void setCarDamage (int damage_)
- void setRepair (int damage_)
- int getCarID ()
- void RegistrationNotify (string msg)

- int getLap ()
- void setLap (int l)
- int getTrackPart ()
- void setTrackPart (int t)
- void setState (State *state)
- string getState ()
- void ready ()
- void racing ()
- void stopped ()
- void setDriver (Driver *driver1)
- Driver * getDriver ()

Public Attributes

- Car * carDecorate

4.4.1 Detailed Description

Abstract Product for Abstract Factory Pattern and Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.4.2 Constructor & Destructor Documentation

4.4.2.1 Car() [1/3]

```
Car::Car (
            int tyres = 4 )
```

Defualt constructor for Car

Parameters

tyres	- the amount of tyres the car has

4.4.2.2 Car() [2/3]

```
Car::Car (
            string modelType_,
            int tyres = 4 )
```

The base constructor for Car

Parameters

*modelType_*	- states whether the car is Electirc/Sports/Standard
tyres	- the amount of tyres the car has

4.4.2.3 Car() [3/3]

```
Car::Car (
            const Car & car_,
            bool flag_ )
```

The copy constructor for Car

Parameters

*car_*	- a Car object that will be copied
*flag_*	- bool var to decide if the base car or the whole car will be cloned

4.4.2.4 ~Car()

```
virtual Car::~Car ( )  [inline], [virtual]
```

The virtual destructor for Car

4.4.3 Member Function Documentation

4.4.3.1 add()

```
void Car::add (
            Car * c )  [virtual]
```

abstract add function for decorator

Parameters

c	- A Car object

Reimplemented in PimpMyRide.

4.4.3.2 clone()

```
virtual Car* Car::clone (
            bool flag = false )  [pure virtual]
```

Abstract clone function for the prototype design pattern

Parameters

flag	- bool var to decide if the base car or the whole car will be cloned

Returns

a Car object

Implemented in SportsRoadster, PimpMyRide, SportsFormulaOne, SportsGoKart, StandardFormulaOne, StandardGoKart, StandardRoadster, ElectricFormulaOne, ElectricGoKart, ElectricRoadster, StandardCar, ElectricCar, and SportsCar.

4.4.3.3 FullClone()

```
virtual Car* Car::FullClone ( )  [pure virtual]
```

Abstract full clone implemented by decorator class to copy over the decorators

Returns

Car object

Implemented in PimpMyRide, Nitro, Slick, Spoiler, StandardCar, ElectricCar, SportsCar, FlameVinyl, and SkullVinyl.

4.4.3.4 getAcceleration()

```
int Car::getAcceleration ( )  [inline]
```

Function to get Acceleration of a car

Returns

Acceleration

4.4.3.5 getCarDamage()

```
int Car::getCarDamage ( )
```

Get the damage the car has taken

Returns

the amount of damage since last repair

4.4.3.6 getCarFuel()

```
int Car::getCarFuel ( )
```

Get the fuel level of the car

Returns

int - the fuel level

4.4.3.7 getCarID()

```
int Car::getCarID ( )  [inline]
```

Get the ID of the car

Returns

returns the car ID

4.4.3.8 getCarTyre()

```
int Car::getCarTyre (
            int index )
```

Get the tyre with the specific index's condition

Parameters

index	- index for the tyre array

Returns

int - the condition of the tyre

4.4.3.9 getCarTyres()

```
int * Car::getCarTyres ( )
```

Get the condition of each tyre

Returns

int array showing the condition of each tyre

4.4.3.10 getDescription()

```
string Car::getDescription ( ) const
```

Get the description of the car

Returns

string

4.4.3.11 getDriver()

```
Driver* Car::getDriver ( )  [inline]
```

returns the driver of the car

Returns

4.4.3.12 getHandling()

```
int Car::getHandling ( )  [inline]
```

Function to get Handling of a car

Returns

handling

4.4.3.13 getLap()

```
int Car::getLap ( )  [inline]
```

returns lapnumber

Returns

lapno

4.4.3.14 getManager()

```
PitCrew* Car::getManager ( )  [inline]
```

Gets the manager of the car

Returns

PitCrew pointer to the manager

4.4.3.15 getModelNumber()

```
int Car::getModelNumber ( ) const
```

Get the model number of the car

Returns

the car modelNumber

4.4.3.16 getModelType()

```
const string Car::getModelType ( ) const  [inline]
```

function to get model type of a car

Returns

string (the model type)

4.4.3.17 getNumTyres()

```
int Car::getNumTyres ( )
```

function to get the amount of tyres the car have

Returns

the number of tyres

4.4.3.18 getSpeed()

```
int Car::getSpeed ( )  [inline]
```

Function to get speed of a car

Returns

speed - The speed the car has

4.4.3.19 getState()

```
string Car::getState ( )
```

Get the current state of the car

Returns

state

4.4.3.20 getTeam()

```
PitStop* Car::getTeam ( )  [inline]
```

Gets the team of the car

Returns

PitStop pointer to the team

4.4.3.21 getTrackPart()

```
int Car::getTrackPart ( )  [inline]
```

returns track part

Returns

trackPart

4.4.3.22 getTrackTime()

```
int Car::getTrackTime ( )
```

function to get the total time the car took in the race

Returns

int representing the total time

4.4.3.23 notifyTeam()

```
void Car::notifyTeam ( )
```

Car notifies the team that its variables has changed. Car will do this during a race

4.4.3.24 racing()

```
void Car::racing ( )
```

Change car into the racing state

4.4.3.25 ready()

```
void Car::ready ( )
```

Change car into the ready state

4.4.3.26 RegistrationNotify()

```
void Car::RegistrationNotify (
            string msg )
```

notifies the car which track it is registered for

Parameters

msg	the string to output

4.4.3.27 setAcceleration()

```
void Car::setAcceleration (
            int A )  [inline]
```

Function to set Acceleration of a car

Parameters

A	

4.4.3.28 setCarDamage()

```
void Car::setCarDamage (
            int damage_ )
```

Set the damage of the car Car will then notify the team

Parameters

damage	- the new damage of the car

4.4.3.29 setCarFuel()

```
void Car::setCarFuel (
            int fuel )
```

Set the fuel level of a car Car will notify the team

Parameters

fuel	- the new fuel level of the car

4.4.3.30 setCarTyre()

```
void Car::setCarTyre (
            int index,
            int tyre )
```

Set the condition of the tyres after it has been changed Car will then notify the team

Parameters

index	- index for the tyre array
tyre	- the new condition of the tyre

4.4.3.31 setChanged()

```
void Car::setChanged (
            int index,
            int tyre )
```

Set the condition of the tyres after it has been changed Car will not notify the team

Parameters

index	- index for the tyre array
tyre	- the new condition of the tyre

4.4.3.32 setDescription()

```
void Car::setDescription (
            string des )
```

Set the description of the car

Parameters

des	string passed in

4.4.3.33 setDriver()

```
void Car::setDriver (
            Driver * driver1 )  [inline]
```

sets the driver of the car

Parameters

driver1	

4.4.3.34 setHandling()

```
void Car::setHandling (
            int H )  [inline]
```

Function to set Handling of a car

Parameters

H	

4.4.3.35 setLap()

```
void Car::setLap (
            int l )  [inline]
```

sets the lap number

Parameters

l	

4.4.3.36 setManager()

```
void Car::setManager (
            PitCrew * m )  [inline]
```

Sets the manager of the car

Parameters

m	- PitCrew object which is the manager

4.4.3.37 setRefuel()

```
void Car::setRefuel (
            int fuel )
```

Set the fuel level of a car Car will not notify the team

Parameters

fuel	- the new fuel level of the car

4.4.3.38 setRepair()

```
void Car::setRepair (
            int damage_ )
```

Set the damage of the car Car will not notify the team

Parameters

damage	- the new damage of the car

4.4.3.39 setSpeed()

```
void Car::setSpeed (
            int speed )  [inline]
```

Function to set speed of a car

Parameters

speed	- The speed the car has

4.4.3.40 setState()

```
void Car::setState (
            State * state )
```

Set the current state of the car

Parameters

state	- State object which it needs to be

4.4.3.41 setTeam()

```
void Car::setTeam (
            PitStop * t )  [inline]
```

Sets the team of the car

Parameters

t	- PitStop object which is the team

4.4.3.42 setTrackPart()

```
void Car::setTrackPart (
            int t )  [inline]
```

sets track part of car

Parameters

t	

4.4.3.43 setTrackTime()

```
void Car::setTrackTime (
            int i )
```

function to add time to the track time when the car is making a pit stop

Parameters

i	the amount of time to be added to the existing time

4.4.3.44 showCarCondition()

```
string Car::showCarCondition ( )
```

Print the condition of a car during the race

Returns

string describing the condition

4.4.3.45 showCarStats()

```
string Car::showCarStats ( )  [virtual]
```

Abstract showCarStats function to show the stats of a car

Returns

string stating the stats

Reimplemented in PimpMyRide.

4.4.3.46 stopped()

```
void Car::stopped ( )
```

Change car into the stopped state

4.4.3.47 toString()

```
string Car::toString ( )
```

function to return a full detail about the car

Returns

string of car details

4.4.4 Member Data Documentation

4.4.4.1 carDecorate

```
Car* Car::carDecorate
```

pointer to car object for decorator

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

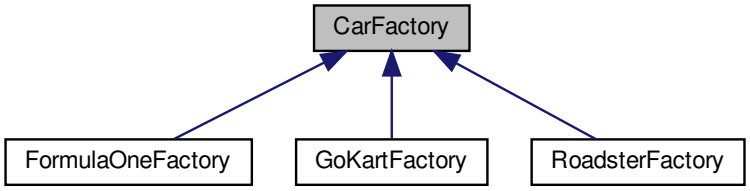
- Car.h
- Car.cpp

4.5 CarFactory Class Reference

Abstract Factory for Abstract Factory Pattern.

```
#include <CarFactory.h>
```

Inheritance diagram for CarFactory:



Public Member Functions

- virtual ElectricCar * produceElectric ()=0
- virtual SportsCar * produceSports ()=0
- virtual StandardCar * produceStandard ()=0

4.5.1 Detailed Description

Abstract Factory for Abstract Factory Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.5.2 Member Function Documentation

4.5.2.1 produceElectric()

```
virtual ElectricCar* CarFactory::produceElectric ( )  [pure virtual]
```

A Abstract Function to produce an ElectricCar

Returns

ElectricCar*

Implemented in FormulaOneFactory, GoKartFactory, and RoadsterFactory.

4.5.2.2 produceSports()

```
virtual SportsCar* CarFactory::produceSports ( )  [pure virtual]
```

A Abstract Function to produce an SportsCar

Returns

SportsCar*

Implemented in GoKartFactory, FormulaOneFactory, and RoadsterFactory.

4.5.2.3 produceStandard()

```
virtual StandardCar* CarFactory::produceStandard ( )  [pure virtual]
```

A Abstract Function to produce an StandardCar

Returns

StandardCar*

Implemented in GoKartFactory, FormulaOneFactory, and RoadsterFactory.

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

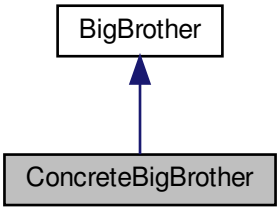
- CarFactory.h

4.6 ConcreteBigBrother Class Reference

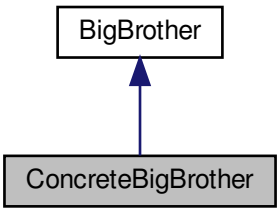
Concrete visitor class in visitor pattern.

`#include <ConcreteBigBrother.h>`

Inheritance diagram for ConcreteBigBrother:



Collaboration diagram for ConcreteBigBrother:



Public Member Functions

- virtual void visit (LeftEighth *leftEighth)
- virtual void visit (RightEighth *rightEighth)
- virtual void visit (LeftPeelOff *leftPeelOff)
- virtual void visit (RightPeelOff *rightPeelOff)
- virtual void visit (LeftPeelOn *leftPeelOn)
- virtual void visit (RightPeelOn *rightPeelOn)
- virtual void visit (Straight *straight)

4.6.1 Detailed Description

Concrete visitor class in visitor pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.6.2 Member Function Documentation

4.6.2.1 visit() [1/7]

```
virtual void ConcreteBigBrother::visit (
            LeftEighth * leftEighth )  [inline], [virtual]
```

virtual visit that visits Left Eighth object

Parameters

leftEighth	

Implements BigBrother.

4.6.2.2 visit() [2/7]

```
virtual void ConcreteBigBrother::visit (
            RightEighth * rightEighth )  [inline], [virtual]
```

virtual visit that visits rightEighth object

Parameters

rightEighth	

Implements BigBrother.

4.6.2.3 visit() [3/7]

```
virtual void ConcreteBigBrother::visit (
            LeftPeelOff * leftPeelOff )  [inline], [virtual]
```

virtual visit that visits leftPeelOff object

Parameters

leftPeelOff	

Implements BigBrother.

4.6.2.4 visit() [4/7]

```
virtual void ConcreteBigBrother::visit (
            RightPeelOff * rightPeelOff )  [inline], [virtual]
```

virtual visit that visits rightPeelOff object

Parameters

rightPeelOff	

Implements BigBrother.

4.6.2.5 visit() [5/7]

```
virtual void ConcreteBigBrother::visit (
            LeftPeelOn * leftPeelOn )  [inline], [virtual]
```

virtual visit that visits leftPeelOn object

Parameters

leftPeelOn	

Implements BigBrother.

4.6.2.6 visit() [6/7]

```
virtual void ConcreteBigBrother::visit (
            RightPeelOn * rightPeelOn )  [inline], [virtual]
```

virtual visit that visits rightPeelOn object

Parameters

rightPeelOn	

Implements BigBrother.

4.6.2.7 visit() [7/7]

```
virtual void ConcreteBigBrother::visit (
            Straight * straight )  [inline], [virtual]
```

virtual visit that visits straight object

Parameters

straight	

Implements BigBrother.

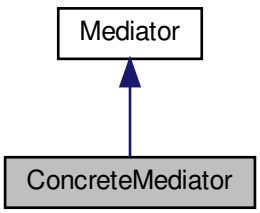
The documentation for this class was generated from the following file:

- ConcreteBigBrother.h

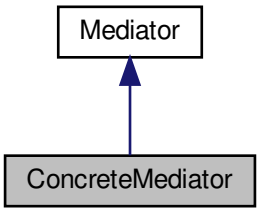
4.7 ConcreteMediator Class Reference

```
#include <ConcreteMediator.h>
```

Inheritance diagram for ConcreteMediator:



Collaboration diagram for ConcreteMediator:



Public Member Functions

- ~ConcreteMediator ()
- virtual void addMember (PitCrew *member)
- virtual void notify (PitCrew *member)
- virtual void notifyManager (PitCrew *member)
- PitCrew * getManager ()

4.7.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.7.2 Constructor & Destructor Documentation

4.7.2.1 ~ConcreteMediator()

```
ConcreteMediator::~ConcreteMediator ( )
```

Destructor for the ConcreteMediator

4.7.3 Member Function Documentation

4.7.3.1 addMember()

```
void ConcreteMediator::addMember (
            PitCrew * member )  [virtual]
```

Add a member of the pitcrew to the mediator to talk to other members

Parameters

member	

Implements Mediator.

4.7.3.2 getManager()

```
PitCrew* ConcreteMediator::getManager ( )  [inline]
```

Get the manager of the pitcrew

Returns

4.7.3.3 notify()

```
void ConcreteMediator::notify (
            PitCrew * member )  [virtual]
```

Notify the team that the car has changed

Parameters

member	

Implements Mediator.

4.7.3.4 notifyManager()

```
void ConcreteMediator::notifyManager (
            PitCrew * member )  [virtual]
```

Notify the manager that the car has changed

Parameters

member	

Implements Mediator.

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

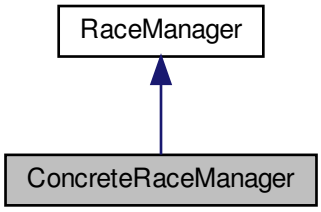
- ConcreteMediator.h
- ConcreteMediator.cpp

4.8 ConcreteRaceManager Class Reference

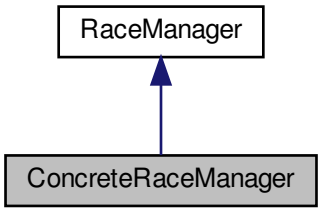
concrete Observer in observer pattern

`#include <ConcreteRaceManager.h>`

Inheritance diagram for ConcreteRaceManager:



Collaboration diagram for ConcreteRaceManager:



Public Member Functions

- virtual void readyRace ()
- virtual void startRace ()
- virtual void stopRace ()
- virtual void pauseRace (int numComponent)
- virtual void resumeRace (int numComponent)

- virtual void printLeaderBoard ()
- string getCarInfo (Car *_car)
- virtual void addCars (vector< Car *> _cars)
- virtual void addRacetrack (RaceTrackComponent *raceTrackComponent)
- void setLapMax (int i)
- int getLapMax ()
- void setLapCount (int i)
- int getLap ()

4.8.1 Detailed Description

concrete Observer in observer pattern

Authors

Duncan + Tjaart

Version

1.0.0

4.8.2 Member Function Documentation

4.8.2.1 addCars()

```
virtual void ConcreteRaceManager::addCars (
            vector< Car *> _cars )  [inline], [virtual]
```

add cars to the race manager

Parameters

_cars	

Implements RaceManager.

4.8.2.2 addRacetrack()

```
virtual void ConcreteRaceManager::addRacetrack (
            RaceTrackComponent * raceTrackComponent )  [inline], [virtual]
```

adds the race

Parameters

raceTrackComponent	

Implements RaceManager.

4.8.2.3 getCarInfo()

```
string ConcreteRaceManager::getCarInfo (
            Car * _car )  [inline]
```

gets the car info and returns a string

Parameters

_car	

Returns

4.8.2.4 getLap()

```
int ConcreteRaceManager::getLap ( )  [inline]
```

returns the lap

Returns

4.8.2.5 getLapMax()

```
int ConcreteRaceManager::getLapMax ( )  [inline]
```

returns the max laps

Returns

4.8.2.6 pauseRace()

```
virtual void ConcreteRaceManager::pauseRace (
            int numComponent )  [inline], [virtual]
```

pauses the race

Parameters

numComponent	

Implements RaceManager.

4.8.2.7 printLeaderBoard()

```
virtual void ConcreteRaceManager::printLeaderBoard ( )  [inline], [virtual]
```

prints the cars in order according to track times

Implements RaceManager.

4.8.2.8 readyRace()

```
virtual void ConcreteRaceManager::readyRace ( )  [inline], [virtual]
```

Moves all cars to starting point of track and sets the times to 0

Implements RaceManager.

4.8.2.9 resumeRace()

```
virtual void ConcreteRaceManager::resumeRace (
            int numComponent )  [inline], [virtual]
```

resumes the race according to where it left

Parameters

numComponent	

Implements RaceManager.

4.8.2.10 setLapCount()

```
void ConcreteRaceManager::setLapCount (
            int i )  [inline]
```

sets the lap currently on

Parameters

i	

4.8.2.11 setLapMax()

```
void ConcreteRaceManager::setLapMax (
            int i )  [inline]
```

sets the max amount of laps

Parameters

i	

4.8.2.12 startRace()

```
virtual void ConcreteRaceManager::startRace ( )  [inline], [virtual]
```

starts to move the cars along the racetrack

Implements RaceManager.

4.8.2.13 stopRace()

```
virtual void ConcreteRaceManager::stopRace ( )  [inline], [virtual]
```

announcs when the race is finished and prints the final leaderboard

Implements RaceManager.

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

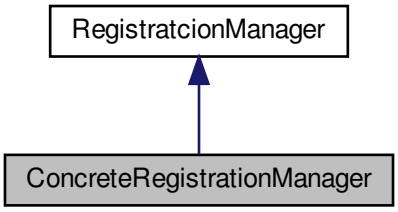
- ConcreteRaceManager.h

4.9 ConcreteRegistrationManager Class Reference

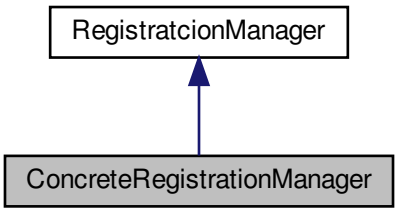
ConcreteMediator for mediator design pattern.

```
#include <ConcreteRegistrationManager.h>
```

Inheritance diagram for ConcreteRegistrationManager:



Collaboration diagram for ConcreteRegistrationManager:



Public Member Functions

- ConcreteRegistrationManager ()
- ~ConcreteRegistrationManager ()
- virtual void addCar (Car *_car, int track)
- virtual void addTrack (RaceTrackComponent *_racetrack)
- virtual vector< Car * > getCars (int racetrack)
- virtual RaceTrackComponent * getTrack (int trackNo)

4.9.1 Detailed Description

ConcreteMediator for mediator design pattern.

AbstractMediator for mediator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.9.2 Constructor & Destructor Documentation

4.9.2.1 ConcreteRegistrationManager()

```
ConcreteRegistrationManager::ConcreteRegistrationManager ( )
```

constructor for ConcreteRegistrationManager

Parameters

_numTracks	determines how many racetracks there are

4.9.2.2 ~ConcreteRegistrationManager()

```
ConcreteRegistrationManager::~ConcreteRegistrationManager ( )
```

destructor for manager

4.9.3 Member Function Documentation

4.9.3.1 addCar()

```
void ConcreteRegistrationManager::addCar (
            Car * _car,
            int track )  [virtual]
```

implementation of absrtact function to add car into the cars array

Parameters

_car	car object to be placed in the array
track	specifies which track the car will be racing

Implements RegistratcionManager.

4.9.3.2 addTrack()

```
void ConcreteRegistrationManager::addTrack (
            RaceTrackComponent * _racetrack )  [virtual]
```

implementation of absrtact function to add car into the cars array

Parameters

_racetrack	racetrack object to be placed in the array

Implements RegistratcionManager.

4.9.3.3 getCars()

```
virtual vector<Car*> ConcreteRegistrationManager::getCars (
            int racetrack )  [inline], [virtual]
```

returns the cars for a given racetrack

Parameters

racetrack	

Returns

vector of cars

Implements RegistratcionManager.

4.9.3.4 getTrack()

```
virtual RaceTrackComponent* ConcreteRegistrationManager::getTrack (
            int trackNo )  [inline], [virtual]
```

returns a racetrack given a racetrack number

Parameters

trackNo	

Returns

a racetrack number

Implements RegistratcionManager.

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

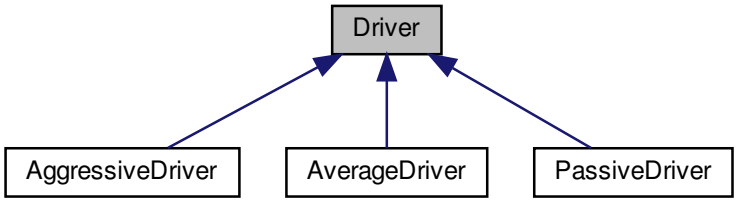
- ConcreteRegistrationManager.h
- ConcreteRegistrationManager.cpp

4.10 Driver Class Reference

Stratey for strategy design pattern.

`#include <Driver.h>`

Inheritance diagram for Driver:



Public Member Functions

- void setAbility (double ability)
- double getDriverAbilty ()
- void setFuelAbility (double ability)
- double getFuelAbilty ()
- void setTyreAbility (double ability)
- double getTyreAbilty ()

4.10.1 Detailed Description

Stratey for strategy design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.10.2 Member Function Documentation

4.10.2.1 getDriverAbilty()

```
double Driver::getDriverAbilty ( )  [inline]
```

returns the driving ability of the driver

Returns

4.10.2.2 getFuelAbilty()

```
double Driver::getFuelAbilty ( )  [inline]
```

returns the fuel ability of the driver

Returns

4.10.2.3 getTyreAbilty()

```
double Driver::getTyreAbilty ( )  [inline]
```

returns the tyre ability of the driver

Returns

4.10.2.4 setAbility()

```
void Driver::setAbility (
            double ability )  [inline]
```

sets the driving ability of the driver

Parameters

ability	

4.10.2.5 setFuelAbility()

```
void Driver::setFuelAbility (
            double ability )  [inline]
```

sets the fuel ability of the driver

Parameters

ability	

4.10.2.6 setTyreAbility()

```
void Driver::setTyreAbility (
            double ability )  [inline]
```

returns the tyre ability of the driver

Parameters

ability	

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

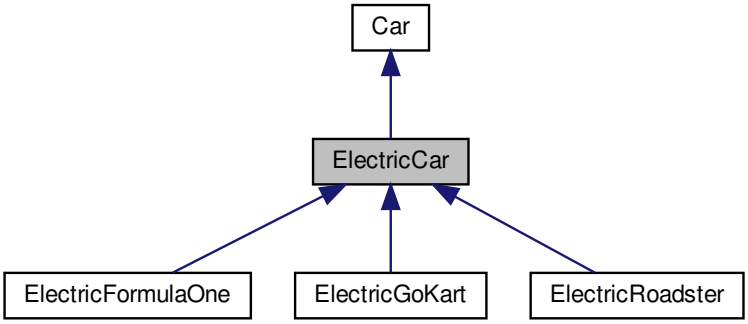
- Driver.h

4.11 ElectricCar Class Reference

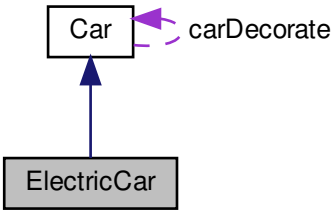
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <ElectricCar.h>
```

Inheritance diagram for ElectricCar:



Collaboration diagram for ElectricCar:



Public Member Functions

- ElectricCar (string modelType_)
- ElectricCar (const Car &car_, bool flag_)
- virtual ~ElectricCar ()
- virtual string getDescription ()
- virtual Car * clone (bool flag_)
- virtual Car * FullClone ()

Additional Inherited Members

4.11.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.11.2 Constructor & Destructor Documentation

4.11.2.1 ElectricCar() [1/2]

```
ElectricCar::ElectricCar (
            string modelType_ )
```

Constructor for ElectricCar

Parameters

*modelType_*	states whether car is Electric/Sports/Standard

4.11.2.2 ElectricCar() [2/2]

```
ElectricCar::ElectricCar (
            const Car & car_,
            bool flag_ )
```

The copy constructor for ElectricCar

Parameters

*car_*	is a Car object that will be copied

4.11.2.3 ~ElectricCar()

```
virtual ElectricCar::~ElectricCar ( )  [inline], [virtual]
```

The virtual destructor for ElectricCar

4.11.3 Member Function Documentation

4.11.3.1 clone()

```
virtual Car* ElectricCar::clone (
            bool flag_ )  [inline], [virtual]
```

clone function for the prototype design pattern

Returns

a pointer to car object

Implements Car.

Reimplemented in ElectricFormulaOne, ElectricGoKart, and ElectricRoadster.

4.11.3.2 FullClone()

```
virtual Car* ElectricCar::FullClone ( )  [inline], [virtual]
```

implementation of Fullclone in Car

Returns

Car object with all decorated

Implements Car.

4.11.3.3 getDescription()

```
string ElectricCar::getDescription ( )  [virtual]
```

a getDescription Function

Returns

a string that states the info about the car

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

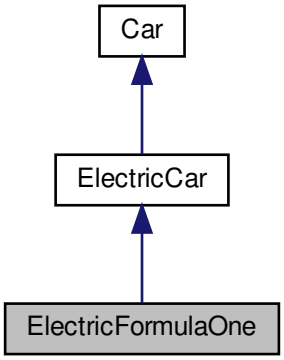
- ElectricCar.h
- ElectricCar.cpp

4.12 ElectricFormulaOne Class Reference

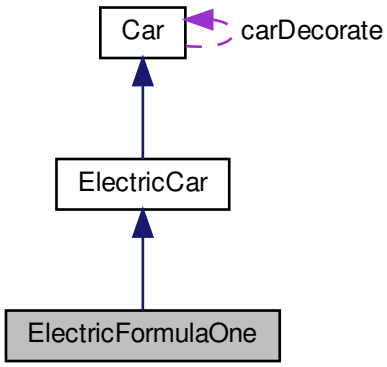
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

`#include <ElectricFormulaOne.h>`

Inheritance diagram for ElectricFormulaOne:



Collaboration diagram for ElectricFormulaOne:



Public Member Functions

- ElectricFormulaOne ()
- ElectricFormulaOne (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.12.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.12.2 Constructor & Destructor Documentation

4.12.2.1 ElectricFormulaOne() [1/2]

```
ElectricFormulaOne::ElectricFormulaOne ( )  [inline]
```

Constructor for ElectricFormulaOne, calls Constructor of ElectricCar

4.12.2.2 ElectricFormulaOne() [2/2]

```
ElectricFormulaOne::ElectricFormulaOne (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.12.3 Member Function Documentation

4.12.3.1 clone()

```
virtual Car* ElectricFormulaOne::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from ElectricCar.

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

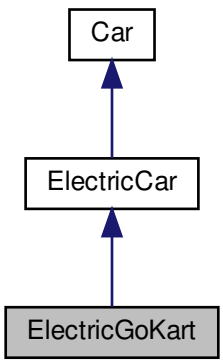
- ElectricFormulaOne.h

4.13 ElectricGoKart Class Reference

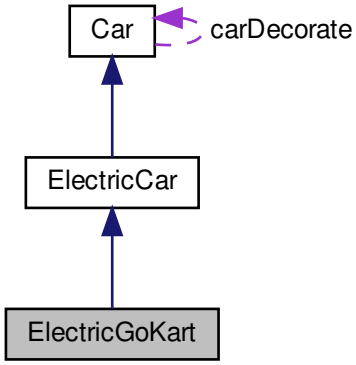
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <ElectricGokart.h>
```

Inheritance diagram for ElectricGoKart:



Collaboration diagram for ElectricGoKart:



Public Member Functions

- ElectricGoKart ()
- ElectricGoKart (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.13.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.13.2 Constructor & Destructor Documentation

4.13.2.1 ElectricGoKart() [1/2]

```
ElectricGoKart::ElectricGoKart ( )  [inline]
```

Constructor for ElectricGoKart, calls Constructor of ElectricCar

4.13.2.2 ElectricGoKart() [2/2]

```
ElectricGoKart::ElectricGoKart (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.13.3 Member Function Documentation

4.13.3.1 clone()

```
virtual Car* ElectricGoKart::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from ElectricCar.

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

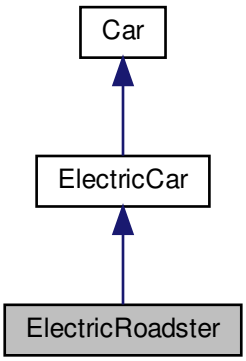
- ElectricGokart.h

4.14 ElectricRoadster Class Reference

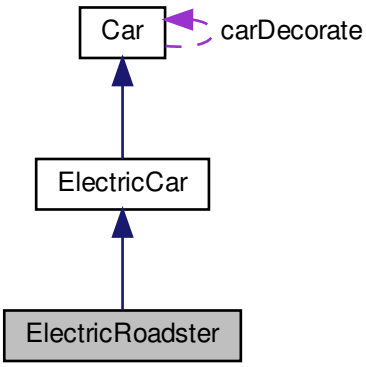
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <ElectricRoadster.h>
```

Inheritance diagram for ElectricRoadster:



Collaboration diagram for ElectricRoadster:



Public Member Functions

- ElectricRoadster ()
- ElectricRoadster (const Car &car_, bool flag_)
- virtual Car ∗ clone (bool flag_=false)

Additional Inherited Members

4.14.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.14.2 Constructor & Destructor Documentation

4.14.2.1 ElectricRoadster() [1/2]

```
ElectricRoadster::ElectricRoadster ( )  [inline]
```

Constructor for ElectricFormulaOne, calls Constructor of ElectricCar

4.14.2.2 ElectricRoadster() [2/2]

```
ElectricRoadster::ElectricRoadster (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.14.3 Member Function Documentation

4.14.3.1 clone()

```
virtual Car* ElectricRoadster::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

flag↩ _	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from ElectricCar.

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

- ElectricRoadster.h

4.15 Facade Class Reference

Facade pattern.

`#include <Facade.h>`

Public Member Functions

- Facade ()
- ~Facade ()
- PitStop * createTeam ()
- Car * createCustomCar ()
- RaceTrackComponent * createCustomeRacetrack ()
- void registerCar (Car *c)
- void registerCar ()
- void registerTrack (RaceTrackComponent *rt)
- bool prepRace ()
- void StartRace ()
- Driver * createDriver ()
- Car * copyCar ()

4.15.1 Detailed Description

Facade pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.15.2 Constructor & Destructor Documentation

4.15.2.1 Facade()

```
Facade::Facade ( )
```

constructor that creates the necessary registration objects

4.15.2.2 ~Facade()

```
Facade::~Facade ( )
```

destructor to delete all necessary things

4.15.3 Member Function Documentation

4.15.3.1 copyCar()

```
Car * Facade::copyCar ( )
```

function to clone a car

Returns

the cloned car

4.15.3.2 createCustomCar()

```
Car * Facade::createCustomCar ( )
```

create a custom car, will ask all options

Returns

the created car

4.15.3.3 createCustomeRacetrack()

```
RaceTrackComponent * Facade::createCustomeRacetrack ( )
```

create a custom track

Returns

the custom track

4.15.3.4 createDriver()

```
Driver * Facade::createDriver ( )
```

create a driver, asking which driver the user wants

Returns

the driver

4.15.3.5 createTeam()

```
PitStop * Facade::createTeam ( )
```

function to create a new team

Returns

a pitstop object

4.15.3.6 prepRace()

```
bool Facade::prepRace ( )
```

prepare the race by getting all the necessary info from the registration manager

Parameters

rt	

Returns

returns if you chose to go back

4.15.3.7 registerCar() [1/2]

```
void Facade::registerCar (
            Car * c )
```

register car to the track with the registration manager

Parameters

c	the car to add
i	the track number

4.15.3.8 registerCar() [2/2]

```
void Facade::registerCar ( )
```

overloaded parameter to state which car you want to register

4.15.3.9 registerTrack()

```
void Facade::registerTrack (
            RaceTrackComponent * rt )
```

register the track with registration manager

Parameters

rt	

4.15.3.10 StartRace()

```
void Facade::StartRace ( )
```

will start the race

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

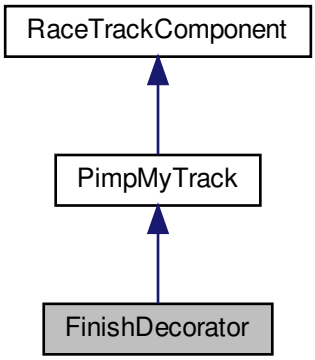
- Facade.h
- Facade.cpp

4.16 FinishDecorator Class Reference

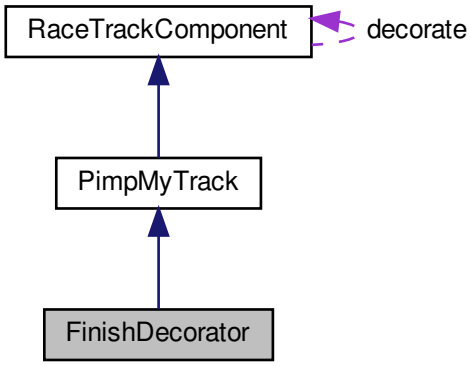
ConcreteDecorator for Decorator design pattern.

`#include <FinishDecorator.h>`

Inheritance diagram for FinishDecorator:



Collaboration diagram for FinishDecorator:



Public Member Functions

- FinishDecorator ()
- ~FinishDecorator ()

Additional Inherited Members

4.16.1 Detailed Description

ConcreteDecorator for Decorator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.16.2 Constructor & Destructor Documentation

4.16.2.1 FinishDecorator()

```
FinishDecorator::FinishDecorator ( )  [inline]
```

Constructor that calls constructor of pimpMyTrack and has a desciption

4.16.2.2 ~FinishDecorator()

```
FinishDecorator::~FinishDecorator ( )  [inline]
```

destructor

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

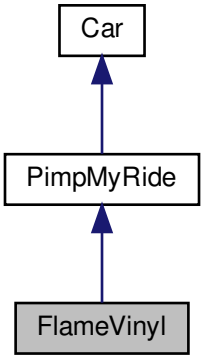
- FinishDecorator.h

4.17 FlameVinyl Class Reference

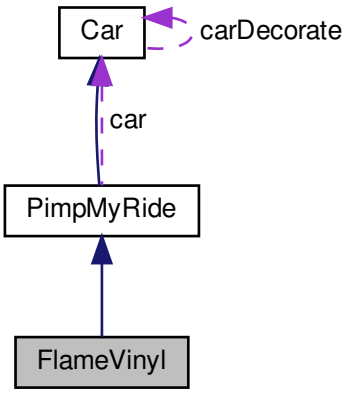
Concrete Decorcator for Decorator Pattern.

`#include <FlameVinyl.h>`

Inheritance diagram for FlameVinyl:



Collaboration diagram for FlameVinyl:



Public Member Functions

- FlameVinyl ()
- ~FlameVinyl ()
- FlameVinyl (FlameVinyl _Car, bool dummy)
- virtual Car * FullClone ()

Additional Inherited Members

4.17.1 Detailed Description

Concrete Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.17.2 Constructor & Destructor Documentation

4.17.2.1 FlameVinyl() [1/2]

```
FlameVinyl::FlameVinyl ( )  [inline]
```

constructor to set description

4.17.2.2 ~FlameVinyl()

```
FlameVinyl::~FlameVinyl ( )  [inline]
```

destructor to delete the vinyl

4.17.2.3 FlameVinyl() [2/2]

```
FlameVinyl::FlameVinyl (
            FlameVinyl _Car,
            bool dummy )  [inline]
```

copy constructor used for cloning the decorators

Parameters

_Car	the car it copies
dummy	just there to use instead of defualt constructor

4.17.3 Member Function Documentation

4.17.3.1 FullClone()

```
virtual Car* FlameVinyl::FullClone ( )  [inline], [virtual]
```

implementation of FullClone to deep copy the decorater

Returns

Car object which is the decorator

Reimplemented from PimpMyRide.

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

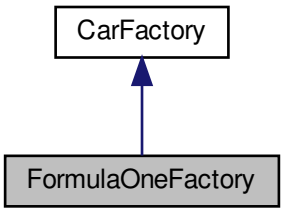
- FlameVinyl.h

4.18 FormulaOneFactory Class Reference

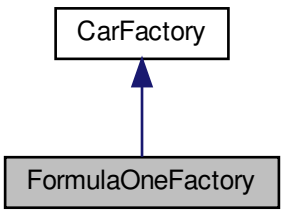
Concrete Factory for Abstract Factory Pattern.

`#include <ForumlaOneFactory.h>`

Inheritance diagram for FormulaOneFactory:



Collaboration diagram for FormulaOneFactory:



Public Member Functions

- virtual ElectricCar * produceElectric ()
- virtual SportsCar * produceSports ()
- virtual StandardCar * produceStandard ()

4.18.1 Detailed Description

Concrete Factory for Abstract Factory Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.18.2 Member Function Documentation

4.18.2.1 produceElectric()

```
virtual ElectricCar* FormulaOneFactory::produceElectric ( )  [inline], [virtual]
```

Implemented Function to produce an ElectricCar

Returns

ElectricCar*

Implements CarFactory.

4.18.2.2 produceSports()

```
virtual SportsCar* FormulaOneFactory::produceSports ( )  [inline], [virtual]
```

Implemented Function to produce an SportsCar

Returns

SportsCar*

Implements CarFactory.

4.18.2.3 produceStandard()

```
virtual StandardCar* FormulaOneFactory::produceStandard ( )  [inline], [virtual]
```

Implemented Function to produce an StandardCar

Returns

StandardCar*

Implements CarFactory.

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

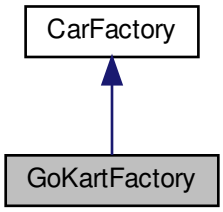
- ForumlaOneFactory.h

4.19 GoKartFactory Class Reference

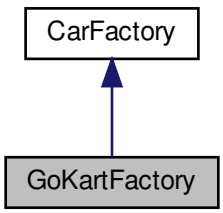
Concrete Factory for Abstract Factory Pattern.

```
#include <GoKartFactory.h>
```

Inheritance diagram for GoKartFactory:



Collaboration diagram for GoKartFactory:



Public Member Functions

- virtual ElectricCar * produceElectric ()
- virtual SportsCar * produceSports ()
- virtual StandardCar * produceStandard ()

4.19.1 Detailed Description

Concrete Factory for Abstract Factory Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.19.2 Member Function Documentation

4.19.2.1 produceElectric()

```
virtual ElectricCar* GoKartFactory::produceElectric ( )  [inline], [virtual]
```

Implemented Function to produce an ElectricCar

Returns

ElectricCar*

Implements CarFactory.

4.19.2.2 produceSports()

```
virtual SportsCar* GoKartFactory::produceSports ( )  [inline], [virtual]
```

Implemented Function to produce an SportsCar

Returns

SportsCar*

Implements CarFactory.

4.19.2.3 produceStandard()

```
virtual StandardCar* GoKartFactory::produceStandard ( )  [inline], [virtual]
```

Implemented Function to produce an StandardCar

Returns

StandardCar*

Implements CarFactory.

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

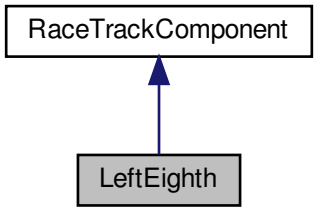
- GoKartFactory.h

4.20 LeftEighth Class Reference

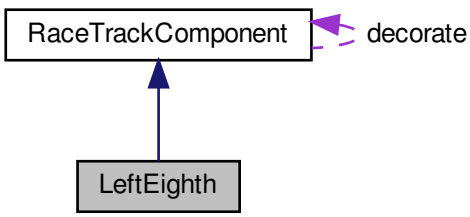
Leaf for Composite design pattern.

```
#include <LeftEighth.h>
```

Inheritance diagram for LeftEighth:



Collaboration diagram for LeftEighth:



Public Member Functions

- LeftEighth ()
- virtual ~LeftEighth ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.20.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.20.2 Constructor & Destructor Documentation

4.20.2.1 LeftEighth()

```
LeftEighth::LeftEighth ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.20.2.2 ~LeftEighth()

```
virtual LeftEighth::~LeftEighth ( )  [inline], [virtual]
```

destructor

4.20.3 Member Function Documentation

4.20.3.1 accept()

```
virtual void LeftEighth::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.20.3.2 add()

```
virtual void LeftEighth::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.20.3.3 addTime()

```
virtual void LeftEighth::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.20.3.4 getAverageTime()

```
int LeftEighth::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.20.3.5 print()

```
virtual void LeftEighth::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

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

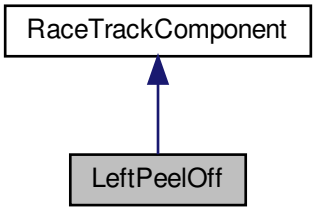
- LeftEighth.h

4.21 LeftPeelOff Class Reference

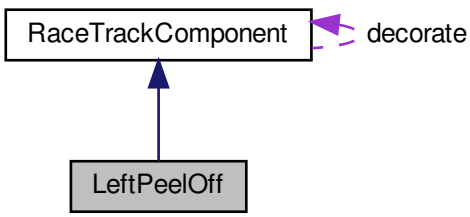
Leaf for Composite design pattern.

```
#include <LeftPeelOff.h>
```

Inheritance diagram for LeftPeelOff:



Collaboration diagram for LeftPeelOff:



Public Member Functions

- LeftPeelOff ()
- virtual ~LeftPeelOff ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.21.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.21.2 Constructor & Destructor Documentation

4.21.2.1 LeftPeelOff()

```
LeftPeelOff::LeftPeelOff ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.21.2.2 ~LeftPeelOff()

```
virtual LeftPeelOff::~LeftPeelOff ( )  [inline], [virtual]
```

destructor

4.21.3 Member Function Documentation

4.21.3.1 accept()

```
virtual void LeftPeelOff::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.21.3.2 add()

```
virtual void LeftPeelOff::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.21.3.3 addTime()

```
virtual void LeftPeelOff::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.21.3.4 getAverageTime()

```
int LeftPeelOff::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.21.3.5 print()

```
virtual void LeftPeelOff::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

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

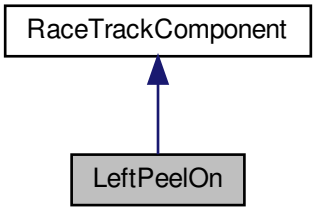
- LeftPeelOff.h

4.22 LeftPeelOn Class Reference

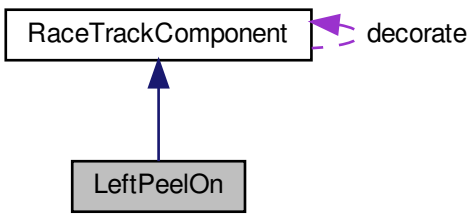
Leaf for Composite design pattern.

```
#include <LeftPeelOn.h>
```

Inheritance diagram for LeftPeelOn:



Collaboration diagram for LeftPeelOn:



Public Member Functions

- LeftPeelOn ()
- virtual ~LeftPeelOn ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.22.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.22.2 Constructor & Destructor Documentation

4.22.2.1 LeftPeelOn()

```
LeftPeelOn::LeftPeelOn ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.22.2.2 ~LeftPeelOn()

```
virtual LeftPeelOn::~LeftPeelOn ( )  [inline], [virtual]
```

destructor

4.22.3 Member Function Documentation

4.22.3.1 accept()

```
virtual void LeftPeelOn::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.22.3.2 add()

```
virtual void LeftPeelOn::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.22.3.3 addTime()

```
virtual void LeftPeelOn::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.22.3.4 getAverageTime()

```
int LeftPeelOn::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.22.3.5 print()

```
virtual void LeftPeelOn::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

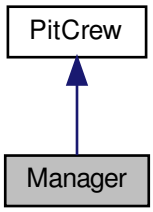
The documentation for this class was generated from the following file:

- LeftPeelOn.h

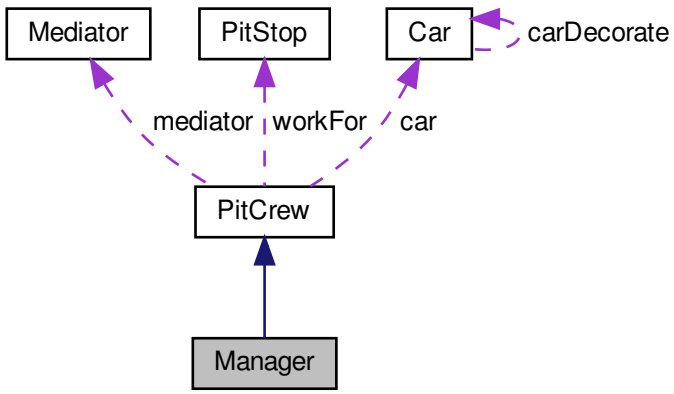
4.23 Manager Class Reference

```
#include <Manager.h>
```

Inheritance diagram for Manager:



Collaboration diagram for Manager:



Public Member Functions

- Manager (Mediator *med, Car *car)
- virtual bool * getTyreCondition ()
- virtual void setTyreCondition (bool *status)
- virtual bool getFuelLevel ()
- virtual void setFuelLevel (bool status)
- virtual bool getDamage ()
- virtual void setDamage (bool status)
- virtual void update (bool *tyreCondition, bool fuelLevel, bool damage)

Additional Inherited Members

4.23.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.23.2 Constructor & Destructor Documentation

4.23.2.1 Manager()

```
Manager::Manager (
            Mediator * med,
            Car * car )  [inline]
```

Constructor for the Manager

Parameters

med	- Mediator for the team
car	- Car for the team

4.23.3 Member Function Documentation

4.23.3.1 getDamage()

```
virtual bool Manager::getDamage ( )  [inline], [virtual]
```

Get the damage for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.2 getFuelLevel()

```
virtual bool Manager::getFuelLevel ( )  [inline], [virtual]
```

Get the fuelLevel for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.3 getTyreCondition()

```
virtual bool* Manager::getTyreCondition ( )  [inline], [virtual]
```

Get the tyreCondition for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.4 setDamage()

```
virtual void Manager::setDamage (
            bool status )  [inline], [virtual]
```

Set the damage for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.5 setFuelLevel()

```
virtual void Manager::setFuelLevel (
            bool status )  [inline], [virtual]
```

Set the fuelLevel for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.6 setTyreCondition()

```
virtual void Manager::setTyreCondition (
            bool * status )  [inline], [virtual]
```

Set the tyreCondition for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.23.3.7 update()

```
virtual void Manager::update (
            bool * tyreCondition,
            bool fuelLevel,
            bool damage )  [inline], [virtual]
```

Check if there is a problem with the car and change the state accordingly and notify other members

Parameters

tyreCondition	
fuelLevel	
damage	

Implements PitCrew.

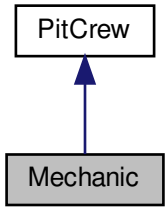
The documentation for this class was generated from the following file:

- Manager.h

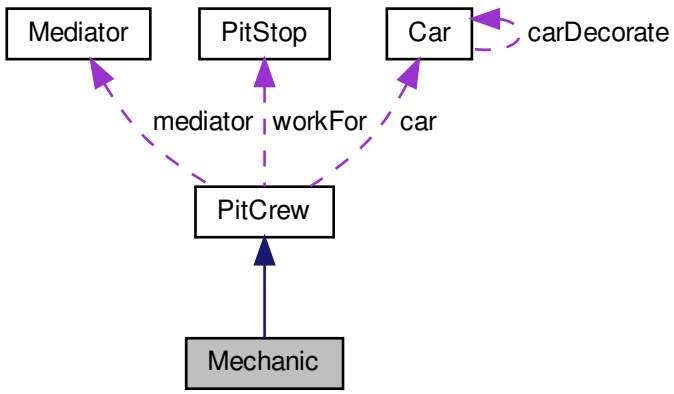
4.24 Mechanic Class Reference

```
#include <Mechanic.h>
```

Inheritance diagram for Mechanic:



Collaboration diagram for Mechanic:



Public Member Functions

- Mechanic (Mediator *med, Car *car)
- virtual bool * getTyreCondition ()
- virtual void setTyreCondition (bool *status)
- virtual bool getFuelLevel ()
- virtual void setFuelLevel (bool status)
- virtual bool getDamage ()
- virtual void setDamage (bool status)
- virtual void update (bool *tyreCondition, bool fuelLevel, bool damage)
- void repair ()

Additional Inherited Members

4.24.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.24.2 Constructor & Destructor Documentation

4.24.2.1 Mechanic()

```
Mechanic::Mechanic (
            Mediator * med,
            Car * car )  [inline]
```

Constructor for the Mechanic

Parameters

med	- Mediator for the team
car	- Car for the team

4.24.3 Member Function Documentation

4.24.3.1 getDamage()

```
virtual bool Mechanic::getDamage ( )  [inline], [virtual]
```

Get the damage for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.2 getFuelLevel()

```
virtual bool Mechanic::getFuelLevel ( )  [inline], [virtual]
```

Get the fuelLevel for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.3 getTyreCondition()

```
virtual bool* Mechanic::getTyreCondition ( )  [inline], [virtual]
```

Get the tyreCondition for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.4 repair()

```
void Mechanic::repair ( )  [inline]
```

Repair the car and notify the manager

4.24.3.5 setDamage()

```
virtual void Mechanic::setDamage (
            bool status )  [inline], [virtual]
```

Set the damage for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.6 setFuelLevel()

```
virtual void Mechanic::setFuelLevel (
            bool status )  [inline], [virtual]
```

Set the fuelLevel for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.7 setTyreCondition()

```
virtual void Mechanic::setTyreCondition (
            bool * status )  [inline], [virtual]
```

Set the tyreCondition for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.24.3.8 update()

```
virtual void Mechanic::update (
            bool * tyreCondition,
            bool fuelLevel,
            bool damage )  [inline], [virtual]
```

Check if there is a problem with the car and change the state accordingly and notify other members

Parameters

tyreCondition	
fuelLevel	
damage	

Implements PitCrew.

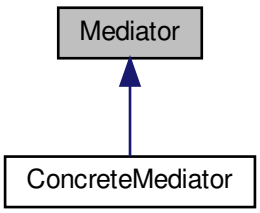
The documentation for this class was generated from the following file:

- Mechanic.h

4.25 Mediator Class Reference

`#include <Mediator.h>`

Inheritance diagram for Mediator:



Public Member Functions

- virtual void notify (PitCrew ∗member)=0
- virtual void addMember (PitCrew ∗member)=0
- virtual void notifyManager (PitCrew ∗member)=0
- virtual ∼Mediator ()

4.25.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.25.2 Constructor & Destructor Documentation

4.25.2.1 ~Mediator()

```
virtual Mediator::~Mediator ( )  [inline], [virtual]
```

Virtual destructor for the mediator

4.25.3 Member Function Documentation

4.25.3.1 addMember()

```
virtual void Mediator::addMember (
            PitCrew * member )  [pure virtual]
```

Abstract method for adding a member to the mediator

Parameters

member	

Implemented in ConcreteMediator.

4.25.3.2 notify()

```
virtual void Mediator::notify (
            PitCrew * member )  [pure virtual]
```

Abstract method for notifying other members of the team

Parameters

member	

Implemented in ConcreteMediator.

4.25.3.3 notifyManager()

```
virtual void Mediator::notifyManager (
            PitCrew * member )  [pure virtual]
```

Abstract method for notifying the manager of the team

Parameters

member	

Implemented in ConcreteMediator.

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

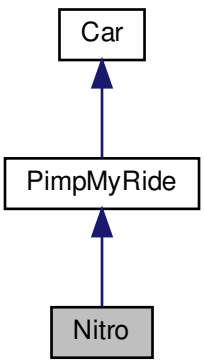
- Mediator.h

4.26 Nitro Class Reference

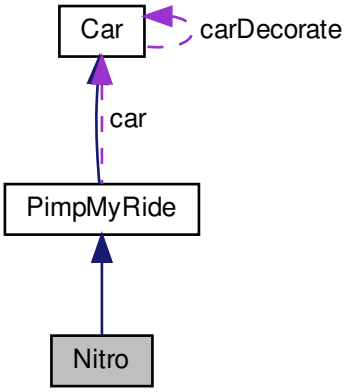
Concrete Decorcator for Decorator Pattern.

```
#include <Nitro.h>
```

Inheritance diagram for Nitro:



Collaboration diagram for Nitro:



Public Member Functions

- Nitro (Car ∗Decorate)
- ∼Nitro ()
- Nitro (Nitro _Car, bool dummy)
- virtual Car ∗ FullClone ()

Additional Inherited Members

4.26.1 Detailed Description

Concrete Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.26.2 Constructor & Destructor Documentation

4.26.2.1 Nitro() [1/2]

```
Nitro::Nitro (
            Car * Decorate )  [inline]
```

constructor which assigns description and alters behaviour of car

Parameters

Decorate	the car in which the behaviours are added

4.26.2.2 ~Nitro()

```
Nitro::~Nitro ( )  [inline]
```

destructor for Nitro

4.26.2.3 Nitro() [2/2]

```
Nitro::Nitro (
            Nitro _Car,
            bool dummy )  [inline]
```

copy constructor used for cloning the decorators

Parameters

_Car	the car it copies
dummy	just there to use instead of defualt constructor

4.26.3 Member Function Documentation

4.26.3.1 FullClone()

```
virtual Car* Nitro::FullClone ( )  [inline], [virtual]
```

implementation of FullClone to deep copy the decorater

Returns

Car object which is the decorator

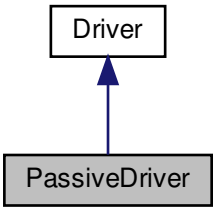
Reimplemented from PimpMyRide.

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

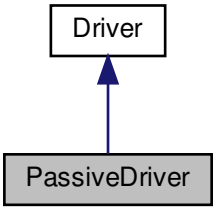
- Nitro.h

4.27 PassiveDriver Class Reference

Inheritance diagram for PassiveDriver:



Collaboration diagram for PassiveDriver:



Public Member Functions

- PassiveDriver ()

4.27.1 Constructor & Destructor Documentation

4.27.1.1 PassiveDriver()

`PassiveDriver::PassiveDriver ( ) [inline]`

constructor to set fuel, tyre and driving ability

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

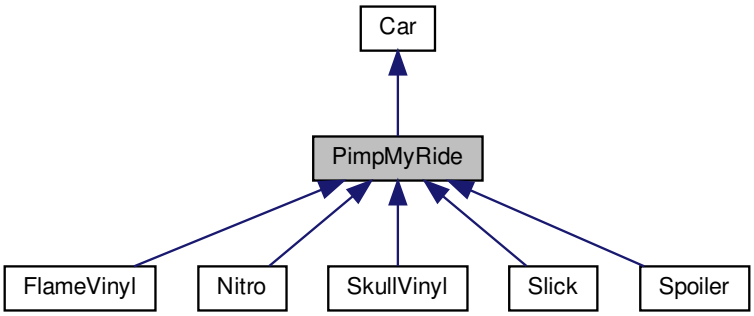
- PassiveDriver.h

4.28 PimpMyRide Class Reference

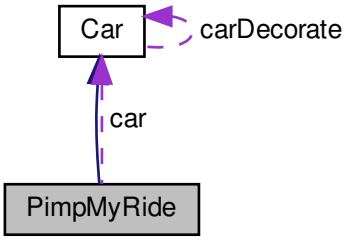
Decorcator for Decorator Pattern.

`#include <PimpMyRide.h>`

Inheritance diagram for PimpMyRide:



Collaboration diagram for PimpMyRide:



Public Member Functions

- PimpMyRide ()
- ~PimpMyRide ()
- virtual void add (Car *_car)
- virtual Car * clone (bool flag_)
- virtual string showCarStats ()
- virtual Car * FullClone ()

Public Attributes

- Car * car
  a car object that will be decorated

4.28.1 Detailed Description

Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.28.2 Constructor & Destructor Documentation

4.28.2.1 PimpMyRide()

```
PimpMyRide::PimpMyRide ( )  [inline]
```

Defualt constructor used for PimpMyRide

4.28.2.2 ~PimpMyRide()

```
PimpMyRide::~PimpMyRide ( )  [inline]
```

The destructor for Car

4.28.3 Member Function Documentation

4.28.3.1 add()

```
virtual void PimpMyRide::add (
            Car * _car )  [inline], [virtual]
```

add function for decorator

Parameters

c	is car object

Reimplemented from Car.

4.28.3.2 clone()

```
virtual Car* PimpMyRide::clone (
            bool flag_ )  [inline], [virtual]
```

for clone for prototype pattern

Parameters

*flag_*	to determine if must be full clone or basic

Returns

Car object

Implements Car.

4.28.3.3 FullClone()

```
virtual Car* PimpMyRide::FullClone ( )  [inline], [virtual]
```

for Fullclone for prototype pattern of decorator

Returns

Car object

Implements Car.

Reimplemented in Nitro, Slick, Spoiler, FlameVinyl, and SkullVinyl.

4.28.3.4 showCarStats()

```
virtual string PimpMyRide::showCarStats ( )  [inline], [virtual]
```

showCarStats function to show the stats of a car

Returns

string stating the stats

Reimplemented from Car.

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

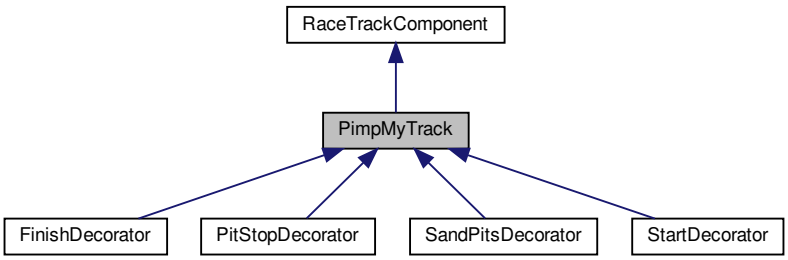
- PimpMyRide.h

4.29 PimpMyTrack Class Reference

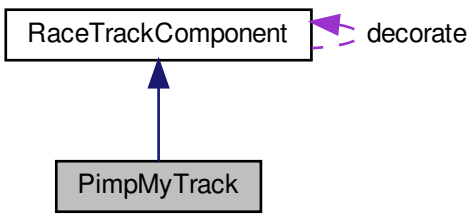
Abstract Decorator for Decorator design pattern.

```
#include <PimpMyTrack.h>
```

Inheritance diagram for PimpMyTrack:



Collaboration diagram for PimpMyTrack:



Public Member Functions

- PimpMyTrack ()
- ~PimpMyTrack ()
- virtual void print ()
- virtual void add (RaceTrackComponent *)
- virtual void addTime ()
- virtual void accept (BigBrother *v)

Additional Inherited Members

4.29.1 Detailed Description

Abstract Decorator for Decorator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.29.2 Constructor & Destructor Documentation

4.29.2.1 PimpMyTrack()

```
PimpMyTrack::PimpMyTrack ( )  [inline]
```

constructor calls parent constructor

4.29.2.2 ~PimpMyTrack()

```
PimpMyTrack::~PimpMyTrack ( )  [inline]
```

destuctor

4.29.3 Member Function Documentation

4.29.3.1 accept()

```
virtual void PimpMyTrack::accept (
            BigBrother * v )  [inline], [virtual]
```

empty implementation of accept

Parameters

v	

Implements RaceTrackComponent.

4.29.3.2 add()

```
virtual void PimpMyTrack::add (
            RaceTrackComponent *  )  [inline], [virtual]
```

empty implementation of add

Implements RaceTrackComponent.

4.29.3.3 addTime()

```
virtual void PimpMyTrack::addTime ( )  [inline], [virtual]
```

empty implementation of add time

Implements RaceTrackComponent.

4.29.3.4 print()

```
virtual void PimpMyTrack::print ( )  [inline], [virtual]
```

empty implementation of print

Implements RaceTrackComponent.

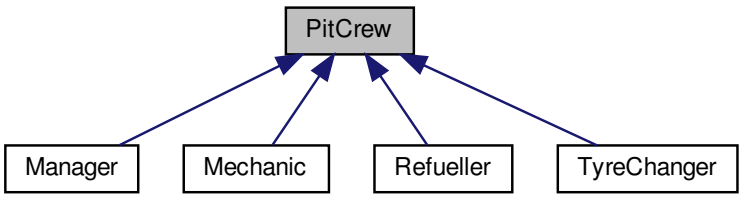
The documentation for this class was generated from the following file:

- PimpMyTrack.h

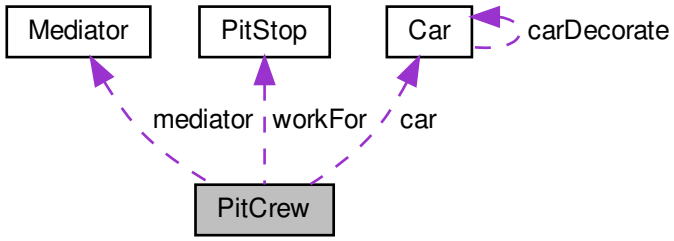
4.30 PitCrew Class Reference

`#include <PitCrew.h>`

Inheritance diagram for PitCrew:



Collaboration diagram for PitCrew:



Public Member Functions

- PitCrew (Mediator ∗med, Car ∗car)
- void registerWork (PitStop ∗pitStop)
- void changed ()
- void changedCar ()
- void setDescription (string des)
- string getDescription ()
- virtual void update (bool ∗tyreCondiiton, bool fuelLevel, bool damage)=0
- virtual bool ∗ getTyreCondition ()
- virtual void setTyreCondition (bool ∗status)
- virtual bool getFuelLevel ()
- virtual void setFuelLevel (bool status)
- virtual bool getDamage ()
- virtual void setDamage (bool status)

Protected Attributes

- string description

  description describing the crew member
- PitStop * workFor

  the team/pitstop the member is working for
- Car * car

  the car the member is working for
- bool * tyreCondition

  tyrecondition for the car
- bool fuelLevel

  fuel level for the car
- bool damage

  damage for the car
- Mediator * mediator

  mediator the car belongs to

4.30.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.30.2 Constructor & Destructor Documentation

4.30.2.1 PitCrew()

```
PitCrew::PitCrew (
            Mediator * med,
            Car * car )
```

default constructor for a new PitCrew member

Parameters

med	The mediator for which the member will communicate to
car	The car the member will work with

4.30.3 Member Function Documentation

4.30.3.1 changed()

```
void PitCrew::changed ( )
```

function to tell other colleagues that belongs to the same mediator that the car is changed

4.30.3.2 changedCar()

```
void PitCrew::changedCar ( )
```

function when the car has been changed but when the team should not be notified

4.30.3.3 getDamage()

```
bool PitCrew::getDamage ( )  [virtual]
```

Get the damage for the car

Returns

bool saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.4 getDescription()

```
string PitCrew::getDescription ( )
```

function to get the description of the member

Returns

4.30.3.5 getFuelLevel()

```
bool PitCrew::getFuelLevel ( )  [virtual]
```

Get the fuelLevel for the car

Returns

bool saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.6 getTyreCondition()

```
bool * PitCrew::getTyreCondition ( )  [virtual]
```

Get the tyreCondition for the car

Returns

bool saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.7 registerWork()

```
void PitCrew::registerWork (
            PitStop * pitStop )
```

function for attaching the crewmembers to a pitstop allowing us to get a description of the crew members of a team

Parameters

pitStop	the pitstop the member is working for

4.30.3.8 setDamage()

```
void PitCrew::setDamage (
            bool status )  [virtual]
```

Set the damage for the car

Parameters

bool	saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.9 setDescription()

```
void PitCrew::setDescription (
            string des )
```

function to set the description of a member allowing us to get a detailed view of the team

Parameters

des	

4.30.3.10 setFuelLevel()

```
void PitCrew::setFuelLevel (
            bool status )  [virtual]
```

Set the fuelLevel for the car

Parameters

bool	saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.11 setTyreCondition()

```
void PitCrew::setTyreCondition (
            bool * status )  [virtual]
```

Set the tyreCondition for the car

Parameters

bool	saying if there is a problem or not

Reimplemented in Manager, TyreChanger, Mechanic, and Refueller.

4.30.3.12 update()

```
virtual void PitCrew::update (
            bool * tyreCondiiton,
            bool fuelLevel,
            bool damage )  [pure virtual]
```

Abstract function to update the team members

Parameters

tyreCondiiton	
fuelLevel	
damage	

Implemented in Manager, TyreChanger, Mechanic, and Refueller.

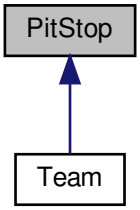
The documentation for this class was generated from the following files:

- PitCrew.h
- PitCrew.cpp

4.31 PitStop Class Reference

`#include <PitStop.h>`

Inheritance diagram for PitStop:



Public Member Functions

- PitStop (string name)
- ~PitStop ()
- void attach (PitCrew *member)
- void attachManager (PitCrew *manager)
- void detach (PitCrew *member)
- void notify ()
- void setTyreCondition (bool *status)
- void setFuelLevel (bool status)
- void setDamage (bool status)
- virtual void addCar (Car *car)
- virtual Car * getCar ()
- PitCrew * getManager ()
- PitCrew * getMember (int index)
- int getNumMembers ()
- string showCar ()
- string showManager ()
- string showCrew ()
- virtual void getCarStats ()=0
- string getName ()
- string toString ()

4.31.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.31.2 Constructor & Destructor Documentation

4.31.2.1 PitStop()

```
PitStop::PitStop (
            string name )
```

default constructor for a pitstop

Parameters

name	of the team/pitstop

4.31.2.2 ~PitStop()

```
PitStop::~PitStop ( )
```

destructor for the pitstop class, also detaches all members from the pitcrew vector

4.31.3 Member Function Documentation

4.31.3.1 addCar()

```
void PitStop::addCar (
            Car * car )  [virtual]
```

function that adds a new car to the cars vector for a specific team

Parameters

car	to be added

4.31.3.2 attach()

```
void PitStop::attach (
            PitCrew * member )
```

function for adding PitCrew members to the team/pitstop

Parameters

member	added to the pitcrew vector

4.31.3.3 attachManager()

```
void PitStop::attachManager (
            PitCrew * manager )
```

function for adding PitCrew manager to the team/pitstop

Parameters

manager	added to the pitcrew vector

4.31.3.4 detach()

```
void PitStop::detach (
            PitCrew * member )
```

function for adding PitCrew members to the team/pitstop

Parameters

member	added to the pitcrew vector

4.31.3.5 getCar()

```
Car * PitStop::getCar ( )  [virtual]
```

function that gets a car from the cars vector for a specific team

4.31.3.6 getCarStats()

```
virtual void PitStop::getCarStats ( )  [pure virtual]
```

Abstract method to get the car stats

Implemented in Team.

4.31.3.7 getManager()

```
PitCrew * PitStop::getManager ( )
```

function that gets the manager from the cars vector for a specific team

4.31.3.8 getMember()

```
PitCrew* PitStop::getMember (
            int index )  [inline]
```

function that gets the member with the index sent through

Parameters

index	

Returns

4.31.3.9 getName()

```
string PitStop::getName ( )
```

getter function to return the name of the team/pitstop

Returns

name of the team/pitstop

4.31.3.10 getNumMembers()

```
int PitStop::getNumMembers ( )  [inline]
```

function to get the number of members in the team

Returns

4.31.3.11 notify()

```
void PitStop::notify ( )
```

function that will notify the manager if the condition of the car changed

Parameters

index	the index of the car

4.31.3.12 setDamage()

```
void PitStop::setDamage (
            bool status )
```

function that sets the condition of the cars damage depending if needs to be repaired or not

Parameters

status	a bool describing the status of the damage of the car

4.31.3.13 setFuelLevel()

```
void PitStop::setFuelLevel (
            bool status )
```

function that sets the condition of the fuel level of a car depending if it needs to be filled or not

Parameters

status	a bool describing the status of the fuel level

4.31.3.14 setTyreCondition()

```
void PitStop::setTyreCondition (
            bool * status )
```

function that sets the condtion for all the tyres to true or false depending if they need change or not

Parameters

status	a bool array describing the status of each car

4.31.3.15 showCar()

```
string PitStop::showCar ( )
```

function that lists all the cars in the cars vector for the team

Returns

a string with all the cars

4.31.3.16 showCrew()

```
string PitStop::showCrew ( )
```

function that gets the crew of the team

Returns

a description of the crew

4.31.3.17 showManager()

```
string PitStop::showManager ( )
```

function that gets the managers of the team

Returns

a description of the manager

4.31.3.18 toString()

```
string PitStop::toString ( )
```

function to print the team in detail to see who is in the team

Returns

string description of the team

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

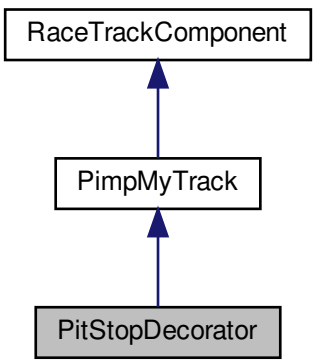
- PitStop.h
- PitStop.cpp

4.32 PitStopDecorator Class Reference

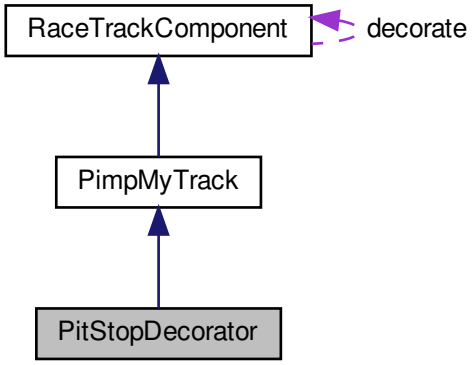
ConcreteDecorator for Decorator design pattern.

```
#include <PitStopDecorator.h>
```

Inheritance diagram for PitStopDecorator:



Collaboration diagram for PitStopDecorator:



Public Member Functions

- PitStopDecorator ()
- ~PitStopDecorator ()

Additional Inherited Members

4.32.1 Detailed Description

ConcreteDecorator for Decorator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.32.2 Constructor & Destructor Documentation

4.32.2.1 PitStopDecorator()

```
PitStopDecorator::PitStopDecorator ( )  [inline]
```

Constructor that calls constructor of pimpMyTrack and has a desciption

4.32.2.2 ~PitStopDecorator()

```
PitStopDecorator::~PitStopDecorator ( )  [inline]
```

destructor

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

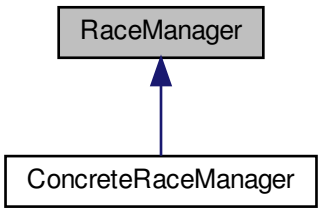
- PitStopDecorator.h

4.33 RaceManager Class Reference

Observer class for Observer pattern.

```
#include <RaceManager.h>
```

Inheritance diagram for RaceManager:



Public Member Functions

- virtual void readyRace ()=0
- virtual void startRace ()=0
- virtual void stopRace ()=0
- virtual void pauseRace (int numComponent)=0
- virtual void resumeRace (int numComponent)=0
- virtual void printLeaderBoard ()=0
- virtual void addCars (vector< Car *> _cars)=0
- virtual void addRacetrack (RaceTrackComponent *raceTrackComponent)=0

4.33.1 Detailed Description

Observer class for Observer pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.33.2 Member Function Documentation

4.33.2.1 addCars()

```
virtual void RaceManager::addCars (
            vector< Car *> _cars )  [pure virtual]
```

add cars to the race manager

Parameters

_cars	

Implemented in ConcreteRaceManager.

4.33.2.2 addRacetrack()

```
virtual void RaceManager::addRacetrack (
            RaceTrackComponent * raceTrackComponent )  [pure virtual]
```

adds the race

Parameters

raceTrackComponent	

Implemented in ConcreteRaceManager.

4.33.2.3 pauseRace()

```
virtual void RaceManager::pauseRace (
            int numComponent )  [pure virtual]
```

pauses the race

Parameters

numComponent	

Implemented in ConcreteRaceManager.

4.33.2.4 printLeaderBoard()

```
virtual void RaceManager::printLeaderBoard ( )  [pure virtual]
```

prints the cars in order according to track times

Implemented in ConcreteRaceManager.

4.33.2.5 readyRace()

```
virtual void RaceManager::readyRace ( )  [pure virtual]
```

Moves all cars to starting point of track and sets the times to 0

Implemented in ConcreteRaceManager.

4.33.2.6 resumeRace()

```
virtual void RaceManager::resumeRace (
            int numComponent )  [pure virtual]
```

resumes the race according to where it left

Parameters

numComponent	

Implemented in ConcreteRaceManager.

4.33.2.7 startRace()

```
virtual void RaceManager::startRace ( )  [pure virtual]
```

starts to move the cars along the racetrack

Implemented in ConcreteRaceManager.

4.33.2.8 stopRace()

```
virtual void RaceManager::stopRace ( )  [pure virtual]
```

announcs when the race is finished and prints the final leaderboard

Implemented in ConcreteRaceManager.

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

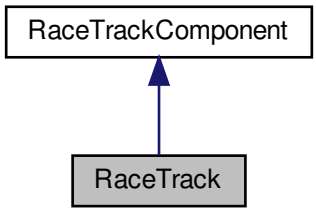
- RaceManager.h

4.34 RaceTrack Class Reference

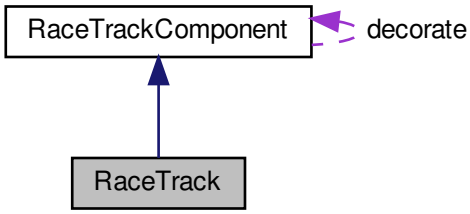
composite class for composite pattern

`#include <RaceTrack.h>`

Inheritance diagram for RaceTrack:



Collaboration diagram for RaceTrack:



Public Member Functions

- RaceTrack ()
- virtual void print ()
- virtual void add (RaceTrackComponent ∗Ra)
- virtual ∼RaceTrack ()
- void show ()
- void moveCar (Car ∗_car, int rt)
- int getRaceTrackID ()
- int getNumComponents ()
- void addAllCars (vector< Car ∗> _car, int rt)
- void removeAllCars (vector< Car ∗>_car, int rt)
- vector< Car ∗ > getAllCars (int rt)
- virtual void accept (BigBrother ∗v)
- void makeAccept (BigBrother ∗v, int rt)
- virtual void addTime ()

Additional Inherited Members

4.34.1 Detailed Description

composite class for composite pattern

Authors

Duncan + Tjaart

Version

1.0.0

4.34.2 Constructor & Destructor Documentation

4.34.2.1 RaceTrack()

```
RaceTrack::RaceTrack ( )  [inline]
```

constructor calls parent constructor

4.34.2.2 ~RaceTrack()

```
virtual RaceTrack::~RaceTrack ( )  [inline], [virtual]
```

destructor that deletes the racetrack parts

4.34.3 Member Function Documentation

4.34.3.1 accept()

```
virtual void RaceTrack::accept (
            BigBrother * v )  [inline], [virtual]
```

empty implementation of abstract class

Parameters

v	

Implements RaceTrackComponent.

4.34.3.2 add()

```
virtual void RaceTrack::add (
            RaceTrackComponent * Ra )  [inline], [virtual]
```

implementation of adding racetrack component to the track

Parameters

Ra	

Implements RaceTrackComponent.

4.34.3.3 addAllCars()

```
void RaceTrack::addAllCars (
            vector< Car *> _car,
            int rt )  [inline], [virtual]
```

adds all the cars to the track part

Parameters

_car	
rt	

Reimplemented from RaceTrackComponent.

4.34.3.4 addTime()

```
virtual void RaceTrack::addTime ( )  [inline], [virtual]
```

adds the time onto the car

Implements RaceTrackComponent.

4.34.3.5 getAllCars()

```
vector<Car*> RaceTrack::getAllCars (
            int rt )  [inline], [virtual]
```

returns all the cars as a wector

Parameters

rt	

Returns

car vector

Reimplemented from RaceTrackComponent.

4.34.3.6 getNumComponents()

```
int RaceTrack::getNumComponents ( )  [inline], [virtual]
```

returns the number of track components in the track

Returns

Reimplemented from RaceTrackComponent.

4.34.3.7 getRaceTrackID()

```
int RaceTrack::getRaceTrackID ( )  [inline]
```

Returns

the RacetrackID

4.34.3.8 makeAccept()

```
void RaceTrack::makeAccept (
            BigBrother * v,
            int rt )  [inline], [virtual]
```

element accepts the visitor

Parameters

v	
rt	

Reimplemented from RaceTrackComponent.

4.34.3.9 moveCar()

```
void RaceTrack::moveCar (
            Car * _car,
            int rt )  [inline], [virtual]
```

move car to certain track part

Parameters

_car	
rt	

Reimplemented from RaceTrackComponent.

4.34.3.10 print()

```
virtual void RaceTrack::print ( )  [inline], [virtual]
```

starts iteration of printing the race track

Implements RaceTrackComponent.

4.34.3.11 removeAllCars()

```
void RaceTrack::removeAllCars (
            vector< Car *> _car,
            int rt )  [inline], [virtual]
```

removes all the cars from the race track component

Parameters

_car	
rt	

Reimplemented from RaceTrackComponent.

4.34.3.12 show()

```
void RaceTrack::show ( )  [inline], [virtual]
```

prints the race track parts nicely

Reimplemented from RaceTrackComponent.

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

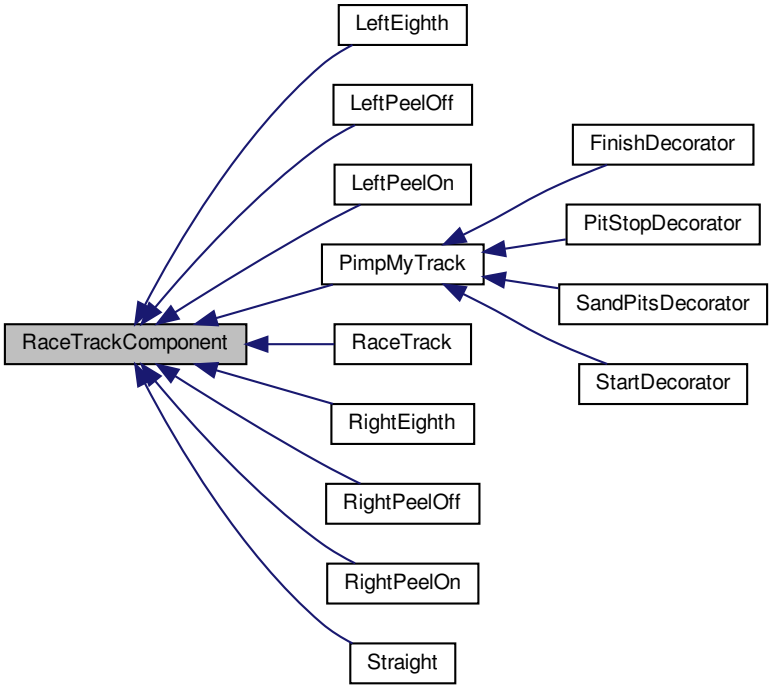
- RaceTrack.h
- RaceTrack.cpp

4.35 RaceTrackComponent Class Reference

abstract leaf class for composite pattern

```
#include <RaceTrackComponent.h>
```

Inheritance diagram for RaceTrackComponent:



Collaboration diagram for RaceTrackComponent:

Public Member Functions

- RaceTrackComponent ()
- virtual void decorateTrack (RaceTrackComponent ∗R)
- virtual string getDecorator ()
- void addCar (Car ∗_car)
- void removeCar (Car ∗_car)
- virtual int getNumComponents ()
- virtual void addAllCars (vector< Car ∗> _car, int rt)
- virtual void removeAllCars (vector< Car ∗>_car, int rt)
- virtual vector< Car ∗ > getAllCars (int rt)
- virtual void makeAccept (BigBrother ∗v, int rt)
- virtual void moveCar (Car ∗_car, int rt)
- virtual void show ()
- virtual void print ()=0
- virtual void add (RaceTrackComponent ∗)=0
- virtual ∼RaceTrackComponent ()
- void setDescription (string d)
- string getDescription ()
- virtual void addTime ()=0
- virtual void accept (BigBrother ∗v)=0
- vector< Car ∗ > getCars ()

Public Attributes

- RaceTrackComponent ∗ decorate
- vector< Car ∗ > cars

4.35.1 Detailed Description

abstract leaf class for composite pattern

Authors

Duncan + Tjaart

Version

1.0.0

4.35.2 Constructor & Destructor Documentation

4.35.2.1 RaceTrackComponent()

```
RaceTrackComponent::RaceTrackComponent ( )  [inline]
```

Parent Constructor for the racetrack parys

4.35.2.2 ~RaceTrackComponent()

```
virtual RaceTrackComponent::~RaceTrackComponent ( )  [inline], [virtual]
```

destructor

4.35.3 Member Function Documentation

4.35.3.1 accept()

```
virtual void RaceTrackComponent::accept (
            BigBrother * v )  [pure virtual]
```

accept visitor

Parameters

v	

Implemented in RaceTrack, LeftEighth, RightEighth, RightPeelOff, RightPeelOn, LeftPeelOn, Straight, LeftPeelOff, and PimpMyTrack.

4.35.3.2 add()

```
virtual void RaceTrackComponent::add (
            RaceTrackComponent *  )  [pure virtual]
```

pure virtual implementation of add

Implemented in RaceTrack, PimpMyTrack, LeftEighth, RightPeelOff, RightPeelOn, LeftPeelOn, RightEighth, Straight, and LeftPeelOff.

4.35.3.3 addAllCars()

```
virtual void RaceTrackComponent::addAllCars (
            vector< Car *> _car,
            int rt )  [inline], [virtual]
```

add the cars to the racetrack

Parameters

_car	
rt	

Reimplemented in RaceTrack.

4.35.3.4 addCar()

```
void RaceTrackComponent::addCar (
            Car * _car )  [inline]
```

add car to the race track component

Parameters

_car	the car to add

4.35.3.5 addTime()

```
virtual void RaceTrackComponent::addTime ( )  [pure virtual]
```

add time to car

Implemented in RaceTrack, LeftEighth, RightEighth, RightPeelOff, RightPeelOn, LeftPeelOn, Straight, LeftPeelOff, and PimpMyTrack.

4.35.3.6 decorateTrack()

```
virtual void RaceTrackComponent::decorateTrack (
            RaceTrackComponent * R )  [inline], [virtual]
```

dectorates the track with passed in paramater

Parameters

R	

4.35.3.7 getAllCars()

```
virtual vector<Car*> RaceTrackComponent::getAllCars (
            int rt )  [inline], [virtual]
```

returns all the cars on a racetrack

Parameters

rt	

Returns

Reimplemented in RaceTrack.

4.35.3.8 getCars()

```
vector<Car*> RaceTrackComponent::getCars ( )  [inline]
```

return the cars

Returns

4.35.3.9 getDecorator()

```
virtual string RaceTrackComponent::getDecorator ( )  [inline], [virtual]
```

Returns

the decorators string

4.35.3.10 getDescription()

```
string RaceTrackComponent::getDescription ( )  [inline]
```

Returns

the description

4.35.3.11 getNumComponents()

```
virtual int RaceTrackComponent::getNumComponents ( )  [inline], [virtual]
```

returns the number of components

Returns

Reimplemented in RaceTrack.

4.35.3.12 makeAccept()

```
virtual void RaceTrackComponent::makeAccept (
            BigBrother * v,
            int rt )  [inline], [virtual]
```

accept of vistor class

Parameters

v	
rt	

Reimplemented in RaceTrack.

4.35.3.13 moveCar()

```
virtual void RaceTrackComponent::moveCar (
            Car * _car,
            int rt )  [inline], [virtual]
```

move car to certain track part

Parameters

_car	
rt	

Reimplemented in RaceTrack.

4.35.3.14 print()

```
virtual void RaceTrackComponent::print ( )  [pure virtual]
```

pure virtual implementation of print

Implemented in LeftEighth, RightPeelOff, RightPeelOn, LeftPeelOn, RightEighth, Straight, LeftPeelOff, PimpMyTrack, and RaceTrack.

4.35.3.15 removeAllCars()

```
virtual void RaceTrackComponent::removeAllCars (
            vector< Car *> _car,
            int rt )  [inline], [virtual]
```

removes the cars from the racetrack

Parameters

_car	
rt	

Reimplemented in RaceTrack.

4.35.3.16 removeCar()

```
void RaceTrackComponent::removeCar (
            Car * _car )  [inline]
```

remove a car from the track component

Parameters

_car	the car to remove

4.35.3.17 setDescription()

```
void RaceTrackComponent::setDescription (
            string d )  [inline]
```

sets the description

Parameters

d	the string to set the description

4.35.3.18 show()

```
virtual void RaceTrackComponent::show ( )  [inline], [virtual]
```

empty implementation of show

Reimplemented in RaceTrack.

4.35.4 Member Data Documentation

4.35.4.1 cars

```
vector<Car*> RaceTrackComponent::cars
```

vector of cars on the track part

4.35.4.2 decorate

```
RaceTrackComponent* RaceTrackComponent::decorate
```

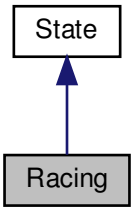
the decorate for the track component

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

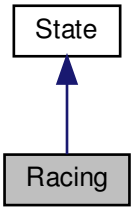
- RaceTrackComponent.h

4.36 Racing Class Reference

Inheritance diagram for Racing:



Collaboration diagram for Racing:



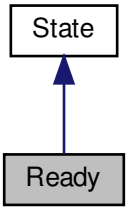
Additional Inherited Members

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

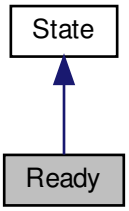
- State.h
- State.cpp

4.37 Ready Class Reference

Inheritance diagram for Ready:



Collaboration diagram for Ready:



Additional Inherited Members

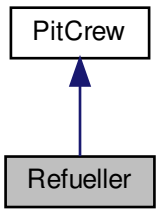
The documentation for this class was generated from the following files:

- State.h
- State.cpp

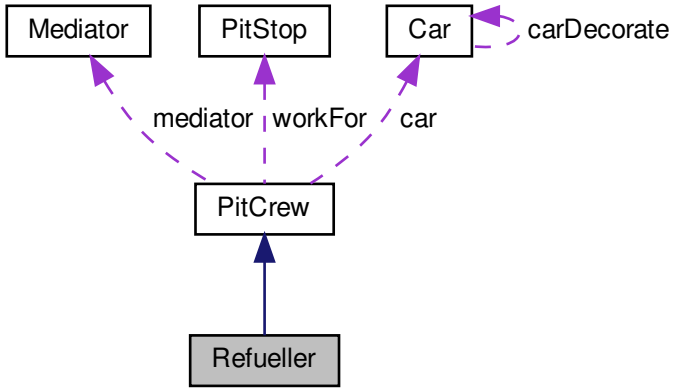
4.38 Refueller Class Reference

```
#include <Refueller.h>
```

Inheritance diagram for Refueller:



Collaboration diagram for Refueller:



Public Member Functions

- Refueller (Mediator ∗med, Car ∗car)
- virtual bool ∗ getTyreCondition ()
- virtual void setTyreCondition (bool ∗status)
- virtual bool getFuelLevel ()
- virtual void setFuelLevel (bool status)
- virtual bool getDamage ()
- virtual void setDamage (bool status)
- virtual void update (bool ∗tyreCondition, bool fuelLevel, bool damage)
- void refuel ()

Additional Inherited Members

4.38.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.38.2 Constructor & Destructor Documentation

4.38.2.1 Refueller()

```
Refueller::Refueller (
            Mediator * med,
            Car * car )  [inline]
```

Constructor for the Refueller

Parameters

med	- Mediator for the team
car	- Car for the team

4.38.3 Member Function Documentation

4.38.3.1 getDamage()

```
virtual bool Refueller::getDamage ( )  [inline], [virtual]
```

Get the damage for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.2 getFuelLevel()

```
virtual bool Refueller::getFuelLevel ( )  [inline], [virtual]
```

Get the fuelLevel for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.3 getTyreCondition()

```
virtual bool* Refueller::getTyreCondition ( )  [inline], [virtual]
```

Get the tyreCondition for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.4 refuel()

```
void Refueller::refuel ( )  [inline]
```

Refuel the car and notify the manager

4.38.3.5 setDamage()

```
virtual void Refueller::setDamage (
            bool status )  [inline], [virtual]
```

Set the damage for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.6 setFuelLevel()

```
virtual void Refueller::setFuelLevel (
            bool status )  [inline], [virtual]
```

Set the fuelLevel for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.7 setTyreCondition()

```
virtual void Refueller::setTyreCondition (
            bool * status )  [inline], [virtual]
```

Set the tyreCondition for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.38.3.8 update()

```
virtual void Refueller::update (
            bool * tyreCondition,
            bool fuelLevel,
            bool damage )  [inline], [virtual]
```

Check if there is a problem with the car and change the state accordingly and notify other members

Parameters

tyreCondition	
fuelLevel	
damage	

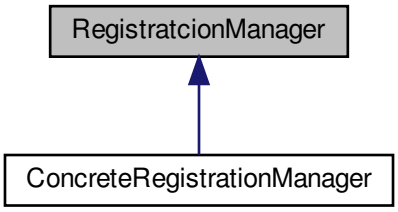
Implements PitCrew.

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

- Refueller.h

4.39 RegistratcionManager Class Reference

Inheritance diagram for RegistratcionManager:



Public Member Functions

- virtual void addCar (Car *_car, int track)=0
- virtual void addTrack (RaceTrackComponent *_racetrack)=0
- virtual vector< Car * > getCars (int racetrack)=0
- virtual RaceTrackComponent * getTrack (int trackNo)=0

4.39.1 Member Function Documentation

4.39.1.1 addCar()

```
virtual void RegistratcionManager::addCar (
            Car * _car,
            int track )  [pure virtual]
```

abstract function to add cars into mediator

Implemented in ConcreteRegistrationManager.

4.39.1.2 addTrack()

```
virtual void RegistratcionManager::addTrack (
            RaceTrackComponent * _racetrack )  [pure virtual]
```

abstract function to add trackComponents into mediator

Implemented in ConcreteRegistrationManager.

4.39.1.3 getCars()

```
virtual vector<Car*> RegistratcionManager::getCars (
            int racetrack )  [pure virtual]
```

returns the cars on a certain racetrack

Parameters

racetrack	

Returns

Implemented in ConcreteRegistrationManager.

4.39.1.4 getTrack()

```
virtual RaceTrackComponent* RegistratcionManager::getTrack (
            int trackNo )  [pure virtual]
```

returns the race track for a track number

Parameters

trackNo	

Returns

Implemented in ConcreteRegistrationManager.

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

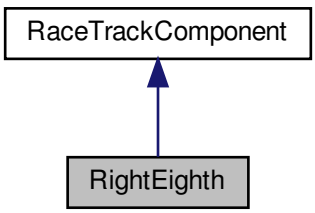
- RegistrationManager.h

4.40 RightEighth Class Reference

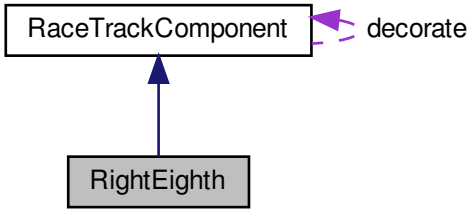
Leaf for Composite design pattern.

`#include <RightEighth.h>`

Inheritance diagram for RightEighth:



Collaboration diagram for RightEighth:



Public Member Functions

- RightEighth ()
- virtual ~RightEighth ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.40.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.40.2 Constructor & Destructor Documentation

4.40.2.1 RightEighth()

```
RightEighth::RightEighth ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.40.2.2 ~RightEighth()

```
virtual RightEighth::~RightEighth ( )  [inline], [virtual]
```

destructor

4.40.3 Member Function Documentation

4.40.3.1 accept()

```
virtual void RightEighth::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.40.3.2 add()

```
virtual void RightEighth::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.40.3.3 addTime()

```
virtual void RightEighth::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.40.3.4 getAverageTime()

```
int RightEighth::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.40.3.5 print()

```
virtual void RightEighth::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

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

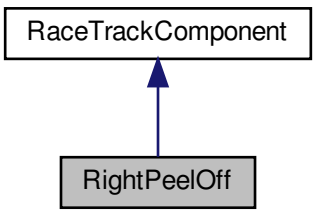
- RightEighth.h

4.41 RightPeelOff Class Reference

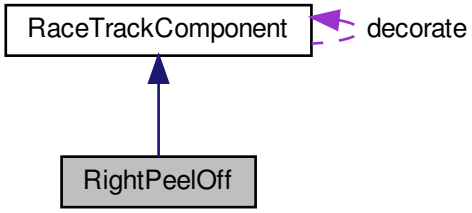
Leaf for Composite design pattern.

```
#include <RightPeelOff.h>
```

Inheritance diagram for RightPeelOff:



Collaboration diagram for RightPeelOff:



Public Member Functions

- RightPeelOff ()
- virtual ~RightPeelOff ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.41.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.41.2 Constructor & Destructor Documentation

4.41.2.1 RightPeelOff()

```
RightPeelOff::RightPeelOff ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.41.2.2 ~RightPeelOff()

```
virtual RightPeelOff::~RightPeelOff ( )  [inline], [virtual]
```

destructor

4.41.3 Member Function Documentation

4.41.3.1 accept()

```
virtual void RightPeelOff::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.41.3.2 add()

```
virtual void RightPeelOff::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.41.3.3 addTime()

```
virtual void RightPeelOff::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.41.3.4 getAverageTime()

```
int RightPeelOff::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.41.3.5 print()

```
virtual void RightPeelOff::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

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

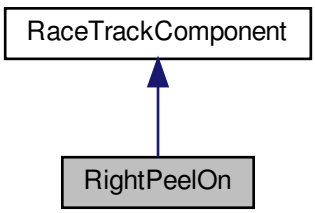
- RightPeelOff.h

4.42 RightPeelOn Class Reference

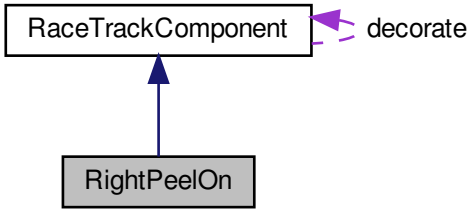
Leaf for Composite design pattern.

```
#include <RightPeelOn.h>
```

Inheritance diagram for RightPeelOn:



Collaboration diagram for RightPeelOn:



Public Member Functions

- RightPeelOn ()
- virtual ~RightPeelOn ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.42.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.42.2 Constructor & Destructor Documentation

4.42.2.1 RightPeelOn()

```
RightPeelOn::RightPeelOn ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.42.2.2 ~RightPeelOn()

```
virtual RightPeelOn::~RightPeelOn ( )  [inline], [virtual]
```

destructor

4.42.3 Member Function Documentation

4.42.3.1 accept()

```
virtual void RightPeelOn::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.42.3.2 add()

```
virtual void RightPeelOn::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.42.3.3 addTime()

```
virtual void RightPeelOn::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.42.3.4 getAverageTime()

```
int RightPeelOn::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.42.3.5 print()

```
virtual void RightPeelOn::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

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

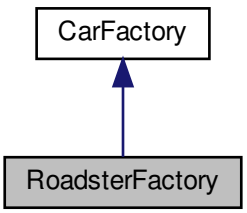
- RightPeelOn.h

4.43 RoadsterFactory Class Reference

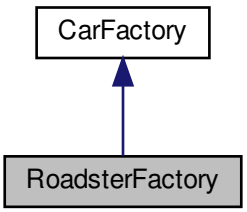
Concrete Factory for Abstract Factory Pattern.

```
#include <RoadsterFactory.h>
```

Inheritance diagram for RoadsterFactory:



Collaboration diagram for RoadsterFactory:



Public Member Functions

- virtual ElectricCar * produceElectric ()
- virtual SportsCar * produceSports ()
- virtual StandardCar * produceStandard ()

4.43.1 Detailed Description

Concrete Factory for Abstract Factory Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.43.2 Member Function Documentation

4.43.2.1 produceElectric()

```
virtual ElectricCar* RoadsterFactory::produceElectric ( )  [inline], [virtual]
```

Implemented Function to produce an ElectricCar

Returns

ElectricCar*

Implements CarFactory.

4.43.2.2 produceSports()

```
virtual SportsCar* RoadsterFactory::produceSports ( )  [inline], [virtual]
```

Implemented Function to produce an SportsCar

Returns

SportsCar*

Implements CarFactory.

4.43.2.3 produceStandard()

```
virtual StandardCar* RoadsterFactory::produceStandard ( )  [inline], [virtual]
```

Implemented Function to produce an StandardCar

Returns

StandardCar*

Implements CarFactory.

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

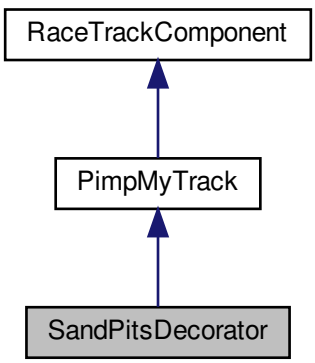
- RoadsterFactory.h

4.44 SandPitsDecorator Class Reference

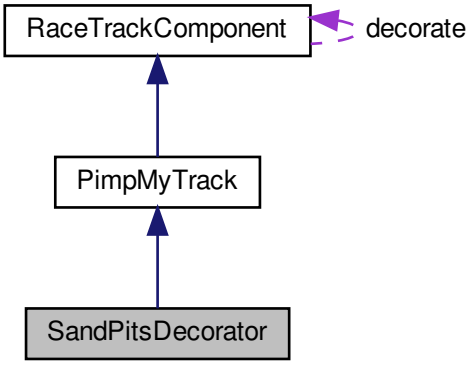
ConcreteDecorator for Decorator design pattern.

`#include <SandPitsDecorator.h>`

Inheritance diagram for SandPitsDecorator:



Collaboration diagram for SandPitsDecorator:



Public Member Functions

- SandPitsDecorator ()
- ~SandPitsDecorator ()

Additional Inherited Members

4.44.1 Detailed Description

ConcreteDecorator for Decorator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.44.2 Constructor & Destructor Documentation

4.44.2.1 SandPitsDecorator()

```
SandPitsDecorator::SandPitsDecorator ( )  [inline]
```

Constructor that calls constructor of pimpMyTrack and has a desciption

4.44.2.2 ~SandPitsDecorator()

```
SandPitsDecorator::~SandPitsDecorator ( )  [inline]
```

destructor

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

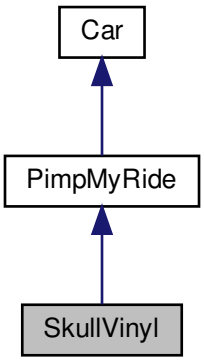
- SandPitsDecorator.h

4.45 SkullVinyl Class Reference

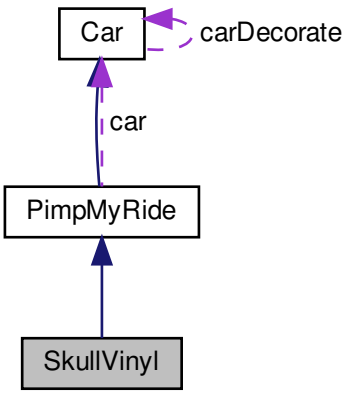
Concrete Decorcator for Decorator Pattern.

`#include <SkullVinyl.h>`

Inheritance diagram for SkullVinyl:



Collaboration diagram for SkullVinyl:



Public Member Functions

- SkullVinyl ()
- ~SkullVinyl ()
- SkullVinyl (SkullVinyl _Car, bool dummy)
- virtual Car * FullClone ()

Additional Inherited Members

4.45.1 Detailed Description

Concrete Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.45.2 Constructor & Destructor Documentation

4.45.2.1 SkullVinyl() [1/2]

```
SkullVinyl::SkullVinyl ( )  [inline]
```

constructor to set description

4.45.2.2 ~SkullVinyl()

```
SkullVinyl::~SkullVinyl ( )  [inline]
```

destructor to delete the vinyl

4.45.2.3 SkullVinyl() [2/2]

```
SkullVinyl::SkullVinyl (
            SkullVinyl _Car,
            bool dummy )  [inline]
```

copy constructor used for cloning the decorators

Parameters

_Car	the car it copies
dummy	just there to use instead of defualt constructor

4.45.3 Member Function Documentation

4.45.3.1 FullClone()

```
virtual Car* SkullVinyl::FullClone ( )  [inline], [virtual]
```

implementation of FullClone to deep copy the decorater

Returns

Car object which is the decorator

Reimplemented from PimpMyRide.

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

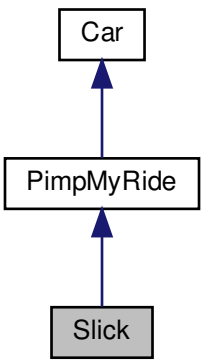
- SkullVinyl.h

4.46 Slick Class Reference

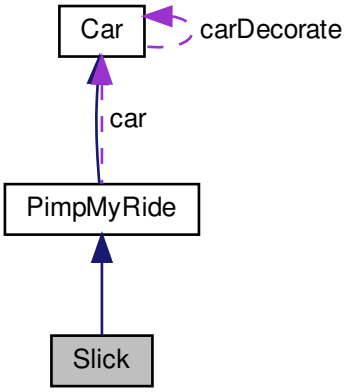
Concrete Decorcator for Decorator Pattern.

```
#include <Slick.h>
```

Inheritance diagram for Slick:



Collaboration diagram for Slick:



Public Member Functions

- Slick (Car *DecorateCar)
- ~Slick ()
- Slick (Slick _Car, bool dummy)
- virtual Car * FullClone ()

Additional Inherited Members

4.46.1 Detailed Description

Concrete Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.46.2 Constructor & Destructor Documentation

4.46.2.1 Slick() [1/2]

```
Slick::Slick (
            Car * DecorateCar )  [inline]
```

constructor which assigns description and alters behaviour of car

Parameters

Decorate	the car in which the behaviours are added

4.46.2.2 ~Slick()

```
Slick::~Slick ( )  [inline]
```

destructor for Slick

4.46.2.3 Slick() [2/2]

```
Slick::Slick (
            Slick _Car,
            bool dummy )  [inline]
```

copy constructor used for cloning the decorators

Parameters

_Car	the car it copies
dummy	just there to use instead of defualt constructor

4.46.3 Member Function Documentation

4.46.3.1 FullClone()

```
virtual Car* Slick::FullClone ( )  [inline], [virtual]
```

implementation of FullClone to deep copy the decorater

Returns

Car object which is the decorator

Reimplemented from PimpMyRide.

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

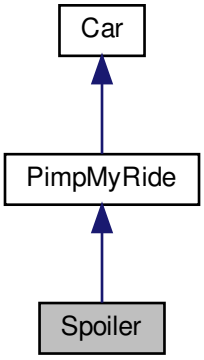
- Slick.h

4.47 Spoiler Class Reference

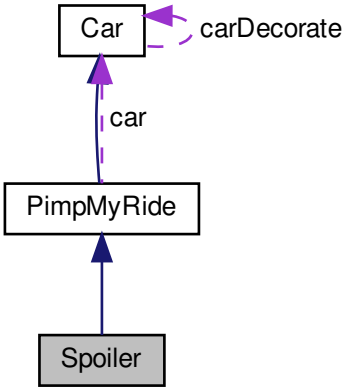
Concrete Decorcator for Decorator Pattern.

`#include <Spoiler.h>`

Inheritance diagram for Spoiler:



Collaboration diagram for Spoiler:



Public Member Functions

- Spoiler (Car ∗Decorate)
- ∼Spoiler ()
- Spoiler (Spoiler _Car, bool dummy)
- virtual Car ∗ FullClone ()

Additional Inherited Members

4.47.1 Detailed Description

Concrete Decorcator for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.47.2 Constructor & Destructor Documentation

4.47.2.1 Spoiler() [1/2]

```
Spoiler::Spoiler (
            Car * Decorate )  [inline]
```

constructor which assigns description and alters behaviour of car

Parameters

Decorate	the car in which the behaviours are added

4.47.2.2 ~Spoiler()

```
Spoiler::~Spoiler ( )  [inline]
```

destructor for Spoiler

4.47.2.3 Spoiler() [2/2]

```
Spoiler::Spoiler (
            Spoiler _Car,
            bool dummy )  [inline]
```

copy constructor used for cloning the decorators

Parameters

_Car	the car it copies
dummy	just there to use instead of defualt constructor

4.47.3 Member Function Documentation

4.47.3.1 FullClone()

```
virtual Car* Spoiler::FullClone ( )  [inline], [virtual]
```

implementation of FullClone to deep copy the decorater

Returns

Car object which is the decorator

Reimplemented from PimpMyRide.

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

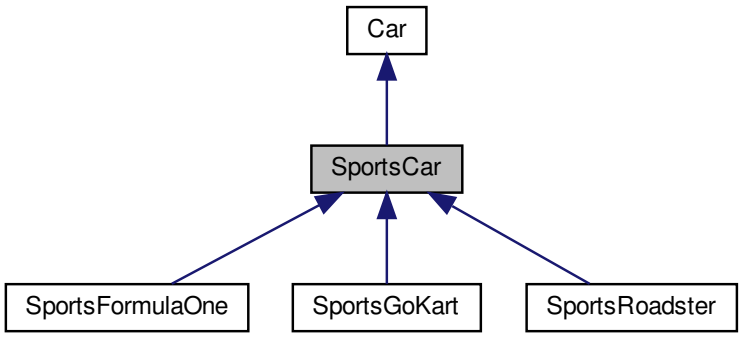
- Spoiler.h

4.48 SportsCar Class Reference

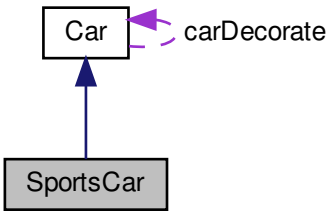
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <SportsCar.h>
```

Inheritance diagram for SportsCar:



Collaboration diagram for SportsCar:



Public Member Functions

- SportsCar (string modelType_)
- SportsCar (const Car &car_, bool flag_)
- virtual ~SportsCar ()
- virtual string getDescription ()
- virtual Car * clone (bool flag_)
- virtual Car * FullClone ()

Additional Inherited Members

4.48.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.48.2 Constructor & Destructor Documentation

4.48.2.1 SportsCar() [1/2]

```
SportsCar::SportsCar (
            string modelType_ )
```

Constructor for SportsCar

Parameters

*modelType_*	states whether car is Electric/Sports/Standard

4.48.2.2 SportsCar() [2/2]

```
SportsCar::SportsCar (
            const Car & car_,
            bool flag_ )
```

The copy constructor for SportsCar

Parameters

*car_*	is a Car object that will be copied

4.48.2.3 ~SportsCar()

```
virtual SportsCar::~SportsCar ( )  [inline], [virtual]
```

The virtual destructor for SportsCar

4.48.3 Member Function Documentation

4.48.3.1 clone()

```
virtual Car* SportsCar::clone (
            bool flag_ )  [inline], [virtual]
```

a abstract clone function for the prototype design pattern

Returns

a pointer to car object

Implements Car.

Reimplemented in SportsRoadster, SportsFormulaOne, and SportsGoKart.

4.48.3.2 FullClone()

```
virtual Car* SportsCar::FullClone ( )  [inline], [virtual]
```

implementation of Fullclone in Car

Returns

Car object with all decorated

Implements Car.

4.48.3.3 getDescription()

```
string SportsCar::getDescription ( )  [virtual]
```

a getDescription Function

Returns

a string that states the info about the car

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

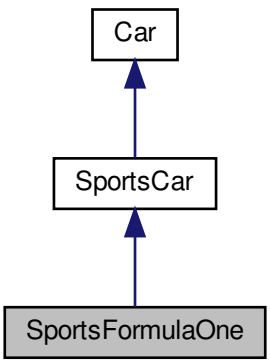
- SportsCar.h
- SportsCar.cpp

4.49 SportsFormulaOne Class Reference

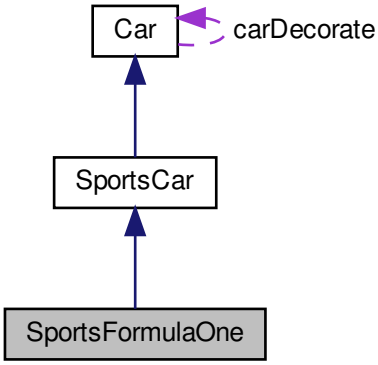
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <SportsFormulaOne.h>
```

Inheritance diagram for SportsFormulaOne:



Collaboration diagram for SportsFormulaOne:



Public Member Functions

- SportsFormulaOne ()
- SportsFormulaOne (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.49.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.49.2 Constructor & Destructor Documentation

4.49.2.1 SportsFormulaOne() [1/2]

```
SportsFormulaOne::SportsFormulaOne ( )  [inline]
```

Constructor for SportsFormulaOne, calls Constructor of SportsCar

4.49.2.2 SportsFormulaOne() [2/2]

```
SportsFormulaOne::SportsFormulaOne (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.49.3 Member Function Documentation

4.49.3.1 clone()

```
virtual Car* SportsFormulaOne::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from SportsCar.

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

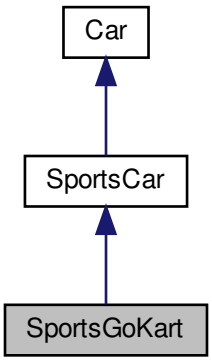
- SportsFormulaOne.h

4.50 SportsGoKart Class Reference

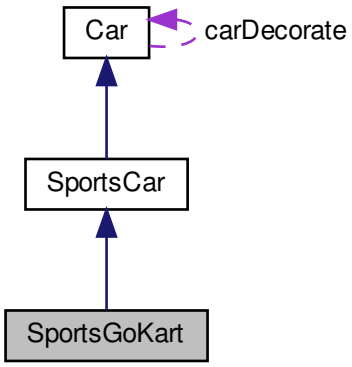
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <SportsGoKart.h>
```

Inheritance diagram for SportsGoKart:



Collaboration diagram for SportsGoKart:



Public Member Functions

- SportsGoKart ()
- SportsGoKart (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.50.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.50.2 Constructor & Destructor Documentation

4.50.2.1 SportsGoKart() [1/2]

```
SportsGoKart::SportsGoKart ( )  [inline]
```

Constructor for SportsGoKart, calls Constructor of SportsCar

4.50.2.2 SportsGoKart() [2/2]

```
SportsGoKart::SportsGoKart (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.50.3 Member Function Documentation

4.50.3.1 clone()

```
virtual Car* SportsGoKart::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

flag↩ _	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from SportsCar.

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

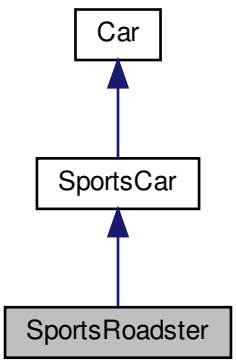
- SportsGoKart.h

4.51 SportsRoadster Class Reference

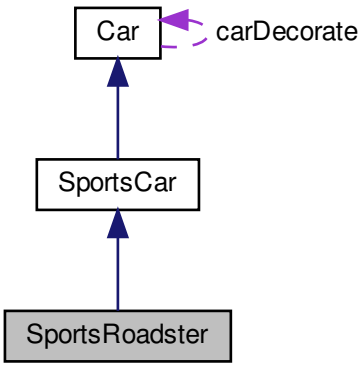
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <SportsRoadster.h>
```

Inheritance diagram for SportsRoadster:



Collaboration diagram for SportsRoadster:



Public Member Functions

- SportsRoadster ()
- SportsRoadster (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.51.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.51.2 Constructor & Destructor Documentation

4.51.2.1 SportsRoadster() [1/2]

```
SportsRoadster::SportsRoadster ( )  [inline]
```

Constructor for SportsRoadster, calls Constructor of SportsCar

4.51.2.2 SportsRoadster() [2/2]

```
SportsRoadster::SportsRoadster (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.51.3 Member Function Documentation

4.51.3.1 clone()

```
virtual Car* SportsRoadster::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from SportsCar.

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

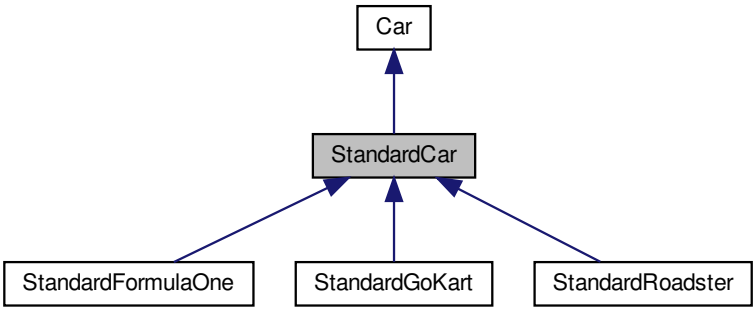
- SportsRoadster.h

4.52 StandardCar Class Reference

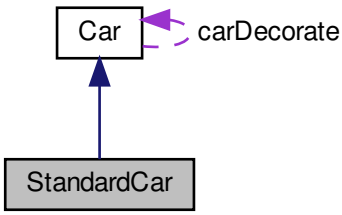
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <StandardCar.h>
```

Inheritance diagram for StandardCar:



Collaboration diagram for StandardCar:



Public Member Functions

- StandardCar (string modelType_)
- StandardCar (const Car &car_, bool flag_)
- virtual ~StandardCar ()
- virtual string getDescription ()
- virtual Car * clone (bool flag_)
- virtual Car * FullClone ()

Additional Inherited Members

4.52.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.52.2 Constructor & Destructor Documentation

4.52.2.1 StandardCar() [1/2]

```
StandardCar::StandardCar (
            string modelType_ )
```

The base Constructor for StandardCar

Parameters

*modelType_*	states whether the car is FormulaOne/Roadster/GoKart

4.52.2.2 StandardCar() [2/2]

```
StandardCar::StandardCar (
            const Car & car_,
            bool flag_ )
```

The copy constructor for StandardCar

Parameters

*car_*	is a Car object that will be copied

4.52.2.3 ~StandardCar()

```
virtual StandardCar::~StandardCar ( )  [inline], [virtual]
```

The virtual destructor for StandardCar

4.52.3 Member Function Documentation

4.52.3.1 clone()

```
virtual Car* StandardCar::clone (
            bool flag_ )  [inline], [virtual]
```

a abstract clone function for the prototype design pattern

Returns

a Car object

Implements Car.

Reimplemented in StandardFormulaOne, StandardGoKart, and StandardRoadster.

4.52.3.2 FullClone()

```
virtual Car* StandardCar::FullClone ( )  [inline], [virtual]
```

implementation of Fullclone in Car

Returns

Car object with all decorated

Implements Car.

4.52.3.3 getDescription()

```
string StandardCar::getDescription ( )  [virtual]
```

a getDescription Function

Returns

a string that states the info about the car

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

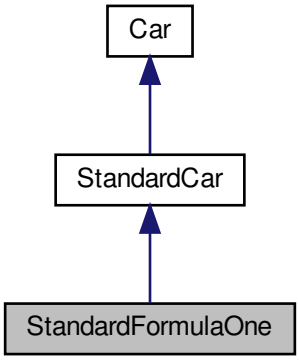
- StandardCar.h
- StandardCar.cpp

4.53 StandardFormulaOne Class Reference

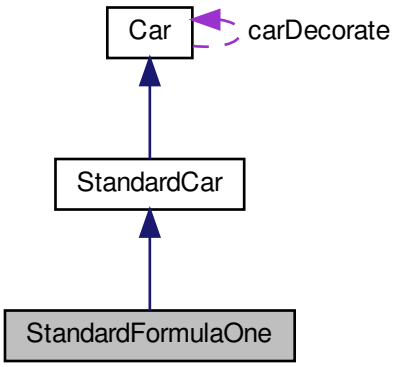
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

`#include <StandardFormulaOne.h>`

Inheritance diagram for StandardFormulaOne:



Collaboration diagram for StandardFormulaOne:



Public Member Functions

- StandardFormulaOne ()
- StandardFormulaOne (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.53.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.53.2 Constructor & Destructor Documentation

4.53.2.1 StandardFormulaOne() [1/2]

```
StandardFormulaOne::StandardFormulaOne ( )  [inline]
```

Constructor for StandardFormulaOne, calls Constructor of StandardCar

4.53.2.2 StandardFormulaOne() [2/2]

```
StandardFormulaOne::StandardFormulaOne (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.53.3 Member Function Documentation

4.53.3.1 clone()

```
virtual Car* StandardFormulaOne::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from StandardCar.

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

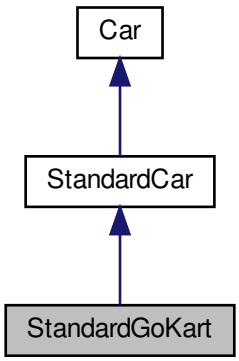
- StandardFormulaOne.h

4.54 StandardGoKart Class Reference

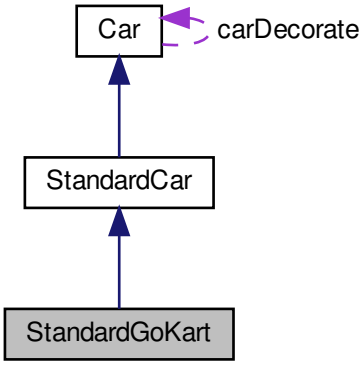
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <StandardGoKart.h>
```

Inheritance diagram for StandardGoKart:



Collaboration diagram for StandardGoKart:



Public Member Functions

- StandardGoKart ()
- StandardGoKart (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.54.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.54.2 Constructor & Destructor Documentation

4.54.2.1 StandardGoKart() [1/2]

`StandardGoKart::StandardGoKart ( ) [inline]`

Constructor for StandardGoKart, calls Constructor of StandardCar

4.54.2.2 StandardGoKart() [2/2]

```
StandardGoKart::StandardGoKart (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.54.3 Member Function Documentation

4.54.3.1 clone()

```
virtual Car* StandardGoKart::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

*flag_*	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from StandardCar.

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

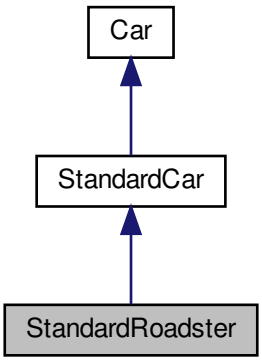
- StandardGoKart.h

4.55 StandardRoadster Class Reference

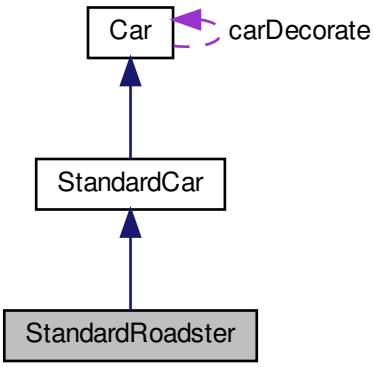
Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

```
#include <StandardRoadster.h>
```

Inheritance diagram for StandardRoadster:



Collaboration diagram for StandardRoadster:



Public Member Functions

- StandardRoadster ()
- StandardRoadster (const Car &car_, bool flag_)
- virtual Car * clone (bool flag_=false)

Additional Inherited Members

4.55.1 Detailed Description

Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.55.2 Constructor & Destructor Documentation

4.55.2.1 StandardRoadster() [1/2]

```
StandardRoadster::StandardRoadster ( )  [inline]
```

Constructor for StandardRoadster, calls Constructor of StandardCar

4.55.2.2 StandardRoadster() [2/2]

```
StandardRoadster::StandardRoadster (
            const Car & car_,
            bool flag_ )  [inline]
```

Copy constructor used for cloning

Parameters

*car_*	car object for copying
*flag_*	to determine if must be full clone or basic clone

4.55.3 Member Function Documentation

4.55.3.1 clone()

```
virtual Car* StandardRoadster::clone (
            bool flag_ = false )  [inline], [virtual]
```

implementation of clone function

Parameters

flag↩ _	determines if must be full clone or basic clone

Returns

a copied car object

Reimplemented from StandardCar.

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

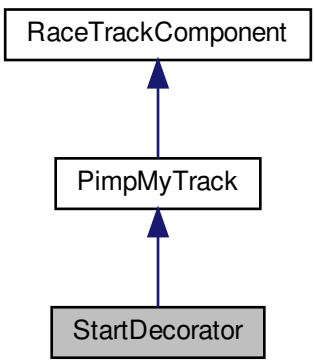
- StandardRoadster.h

4.56 StartDecorator Class Reference

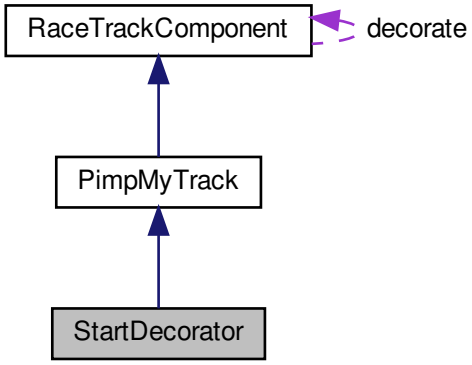
ConcreteDecorator for Decorator design pattern.

```
#include <StartDecorator.h>
```

Inheritance diagram for StartDecorator:



Collaboration diagram for StartDecorator:



Public Member Functions

- StartDecorator ()
- ~StartDecorator ()

Additional Inherited Members

4.56.1 Detailed Description

ConcreteDecorator for Decorator design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.56.2 Constructor & Destructor Documentation

4.56.2.1 StartDecorator()

```
StartDecorator::StartDecorator ( )  [inline]
```

Constructor that calls constructor of pimpMyTrack and has a desciption

4.56.2.2 ~StartDecorator()

```
StartDecorator::~StartDecorator ( )  [inline]
```

destructor

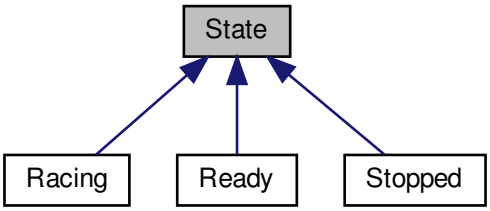
The documentation for this class was generated from the following file:

- StartDecorator.h

4.57 State Class Reference

```
#include <State.h>
```

Inheritance diagram for State:



Public Member Functions

- virtual void ready (Car *car)
- virtual void racing (Car *car)
- virtual void stopped (Car *car)
- virtual string toString ()=0

4.57.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.57.2 Member Function Documentation

4.57.2.1 racing()

```
virtual void State::racing (
            Car * car )  [inline], [virtual]
```

Change car to racing state

Parameters

car	

4.57.2.2 ready()

```
virtual void State::ready (
            Car * car )  [inline], [virtual]
```

Change car to ready state

Parameters

car	

4.57.2.3 stopped()

```
virtual void State::stopped (
            Car * car )  [inline], [virtual]
```

Change car to stopped state

Parameters

car	

4.57.2.4 toString()

```
virtual string State::toString ( )  [pure virtual]
```

Print the current state to the screen

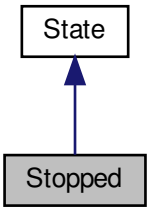
Returns

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

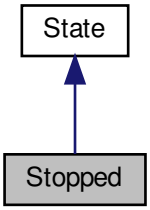
- State.h

4.58 Stopped Class Reference

Inheritance diagram for Stopped:



Collaboration diagram for Stopped:



Additional Inherited Members

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

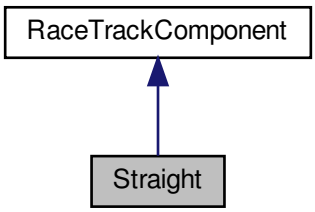
- State.h
- State.cpp

4.59 Straight Class Reference

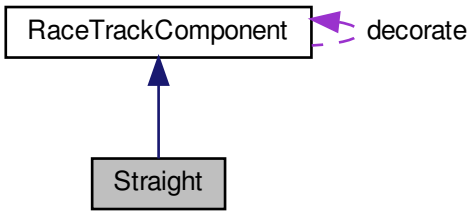
Leaf for Composite design pattern.

```
#include <Straight.h>
```

Inheritance diagram for Straight:



Collaboration diagram for Straight:



Public Member Functions

- Straight ()
- virtual ~Straight ()
- virtual void add (RaceTrackComponent *R)
- virtual void print ()
- int getAverageTime ()
- virtual void accept (BigBrother *v)
- virtual void addTime ()

Additional Inherited Members

4.59.1 Detailed Description

Leaf for Composite design pattern.

Authors

Duncan + Tjaart

Version

1.0.0

4.59.2 Constructor & Destructor Documentation

4.59.2.1 Straight()

```
Straight::Straight ( )  [inline]
```

constructor calls RaceTrackComponent and sets description

4.59.2.2 ~Straight()

```
virtual Straight::~Straight ( )  [inline], [virtual]
```

destructor

4.59.3 Member Function Documentation

4.59.3.1 accept()

```
virtual void Straight::accept (
            BigBrother * v )  [inline], [virtual]
```

accepts the visitor to go to the correct part of the visitor

Parameters

v	

Implements RaceTrackComponent.

4.59.3.2 add()

```
virtual void Straight::add (
            RaceTrackComponent * R )  [inline], [virtual]
```

implentation of add function, used by decorator

Parameters

R	

Implements RaceTrackComponent.

4.59.3.3 addTime()

```
virtual void Straight::addTime ( )  [inline], [virtual]
```

adds the time and fuel and tyre conditions to the car

Implements RaceTrackComponent.

4.59.3.4 getAverageTime()

```
int Straight::getAverageTime ( )  [inline]
```

returns the average time for the track

Returns

4.59.3.5 print()

```
virtual void Straight::print ( )  [inline], [virtual]
```

prints the description of the race track component /with decorators if it has

Implements RaceTrackComponent.

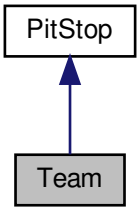
The documentation for this class was generated from the following file:

- Straight.h

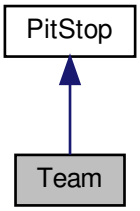
4.60 Team Class Reference

`#include <Team.h>`

Inheritance diagram for Team:



Collaboration diagram for Team:



Public Member Functions

- Team (string name)
- virtual void getCarStats ()

4.60.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.60.2 Constructor & Destructor Documentation

4.60.2.1 Team()

```
Team::Team (
            string name )
```

default constructor for when a team is created, calls pitstop constructor

Parameters

name↩ _	the name of the team

4.60.3 Member Function Documentation

4.60.3.1 getCarStats()

```
void Team::getCarStats ( )  [virtual]
```

Function to get the car stats

Implements PitStop.

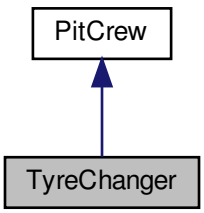
The documentation for this class was generated from the following files:

- Team.h
- Team.cpp

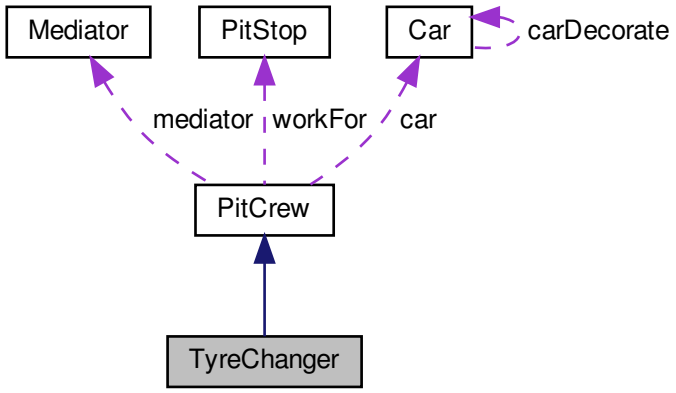
4.61 TyreChanger Class Reference

```
#include <TyreChanger.h>
```

Inheritance diagram for TyreChanger:



Collaboration diagram for TyreChanger:



Public Member Functions

- TyreChanger (Mediator *med, int id_, Car *car)
- virtual bool * getTyreCondition ()
- virtual void setTyreCondition (bool *status)
- virtual bool getFuelLevel ()
- virtual void setFuelLevel (bool status)
- virtual bool getDamage ()
- virtual void setDamage (bool status)
- virtual void update (bool *tyreCondition, bool fuelLevel, bool damage)
- void changeTyre ()

Additional Inherited Members

4.61.1 Detailed Description

Authors

Duncan + Tjaart

Version

1.0.0

4.61.2 Constructor & Destructor Documentation

4.61.2.1 TyreChanger()

```
TyreChanger::TyreChanger (
            Mediator * med,
            int id_,
            Car * car )  [inline]
```

Constructor for the Refueller

Parameters

med	- Mediator for the team
car	- Car for the team

4.61.3 Member Function Documentation

4.61.3.1 changeTyre()

```
void TyreChanger::changeTyre ( )  [inline]
```

Change the tyre of the car and notify the manager

4.61.3.2 getDamage()

```
virtual bool TyreChanger::getDamage ( )  [inline], [virtual]
```

Get the damage for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.3 getFuelLevel()

```
virtual bool TyreChanger::getFuelLevel ( )  [inline], [virtual]
```

Get the fuelLevel for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.4 getTyreCondition()

```
virtual bool* TyreChanger::getTyreCondition ( )  [inline], [virtual]
```

Get the tyreCondition for the car

Returns

bool saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.5 setDamage()

```
virtual void TyreChanger::setDamage (
            bool status )  [inline], [virtual]
```

Set the damage for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.6 setFuelLevel()

```
virtual void TyreChanger::setFuelLevel (
            bool status )  [inline], [virtual]
```

Set the fuelLevel for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.7 setTyreCondition()

```
virtual void TyreChanger::setTyreCondition (
            bool * status )  [inline], [virtual]
```

Set the tyreCondition for the car

Parameters

bool	saying if there is a problem or not

Reimplemented from PitCrew.

4.61.3.8 update()

```
virtual void TyreChanger::update (
            bool * tyreCondition,
            bool fuelLevel,
            bool damage )  [inline], [virtual]
```

Check if there is a problem with the car and change the state accordingly and notify other members

Parameters

tyreCondition	
fuelLevel	
damage	

Implements PitCrew.

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

- TyreChanger.h

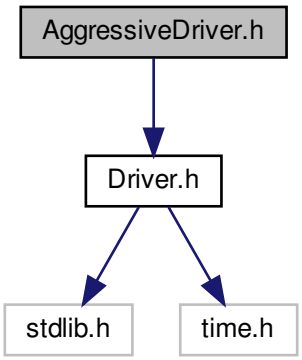
Chapter 5

File Documentation

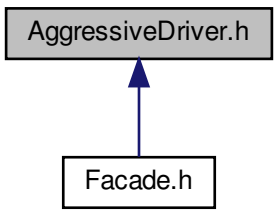
5.1 AggressiveDriver.h File Reference

```
#include "Driver.h"
```

Include dependency graph for AggressiveDriver.h:



This graph shows which files directly or indirectly include this file:



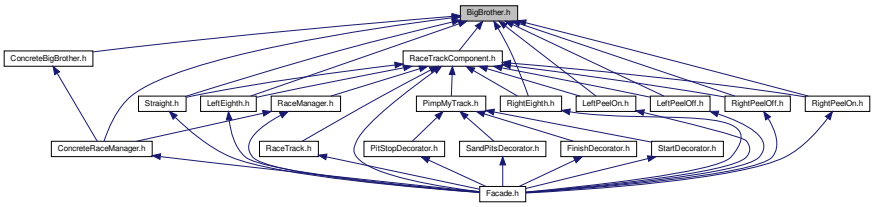
Classes

- class AggressiveDriver

  concreteStratey for strategy design pattern

5.2 BigBrother.h File Reference

This graph shows which files directly or indirectly include this file:



Classes

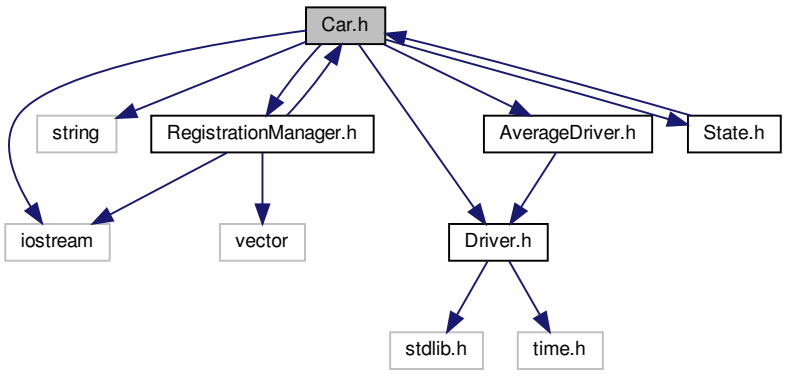
- class BigBrother

  visitor class in visitor pattern

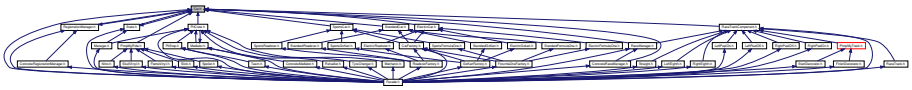
5.3 Car.h File Reference

```
#include <iostream>
#include <string>
#include "RegistrationManager.h"
#include "Driver.h"
#include "AverageDriver.h"
#include "State.h"
```

Include dependency graph for Car.h:



This graph shows which files directly or indirectly include this file:



Classes

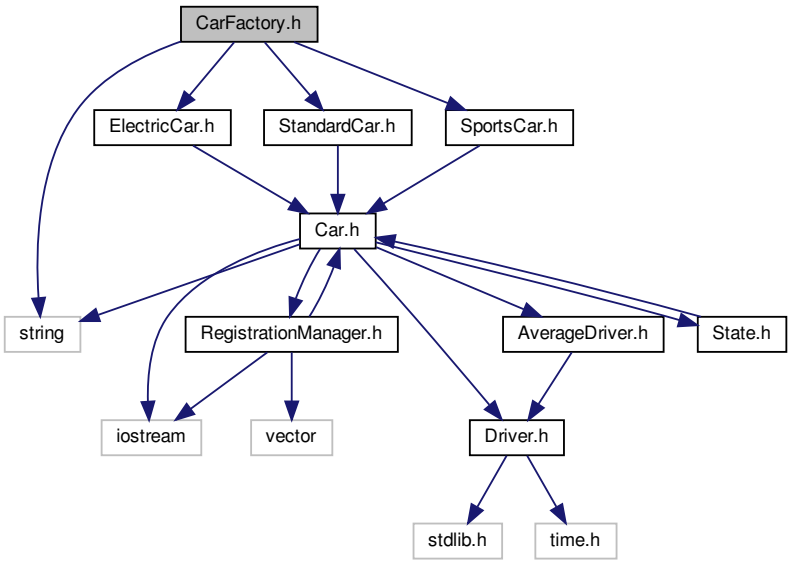
- class Car

  Abstract Product for Abstract Factory Pattern and Component for Decorator Pattern.

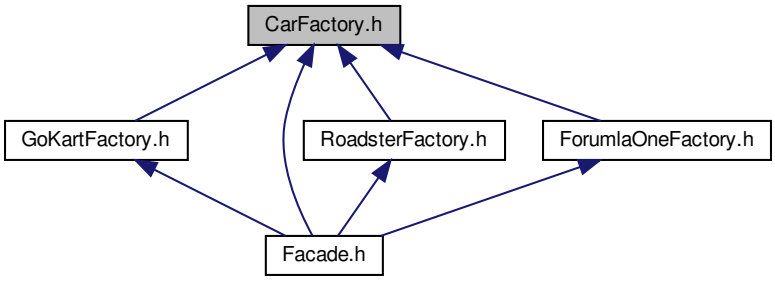
5.4 CarFactory.h File Reference

```
#include <string>
#include "ElectricCar.h"
#include "StandardCar.h"
#include "SportsCar.h"
```

Include dependency graph for CarFactory.h:



This graph shows which files directly or indirectly include this file:



Classes

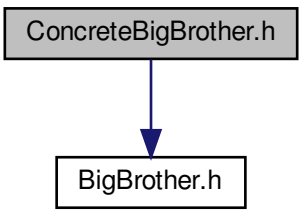
- class CarFactory

  Abstract Factory for Abstract Factory Pattern.

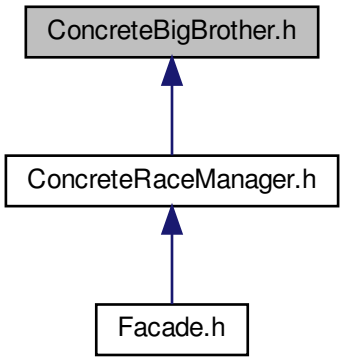
5.5 ConcreteBigBrother.h File Reference

```
#include "BigBrother.h"
```

Include dependency graph for ConcreteBigBrother.h:



This graph shows which files directly or indirectly include this file:



Classes

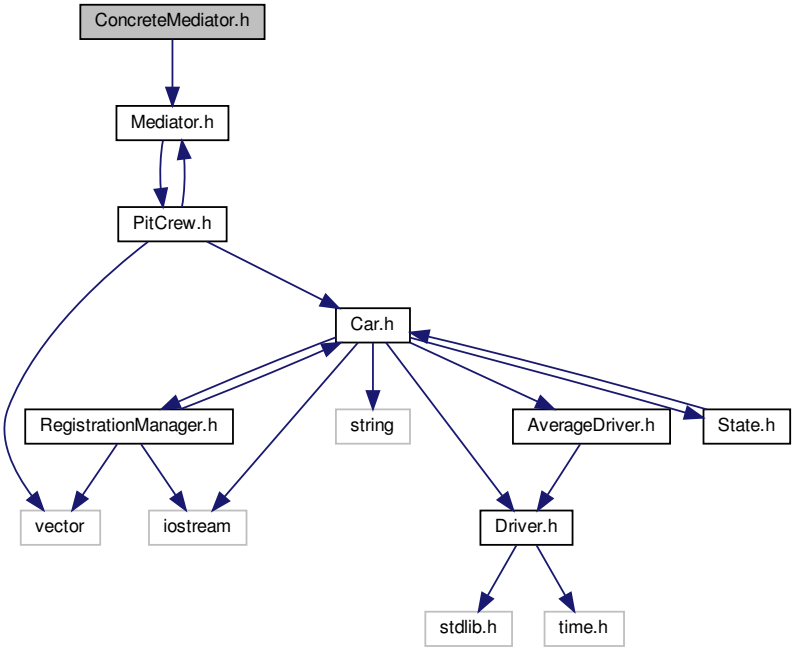
- class ConcreteBigBrother

  Concrete visitor class in visitor pattern.

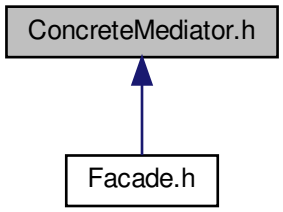
5.6 ConcreteMediator.h File Reference

```
#include "Mediator.h"
```

Include dependency graph for ConcreteMediator.h:



This graph shows which files directly or indirectly include this file:



Classes

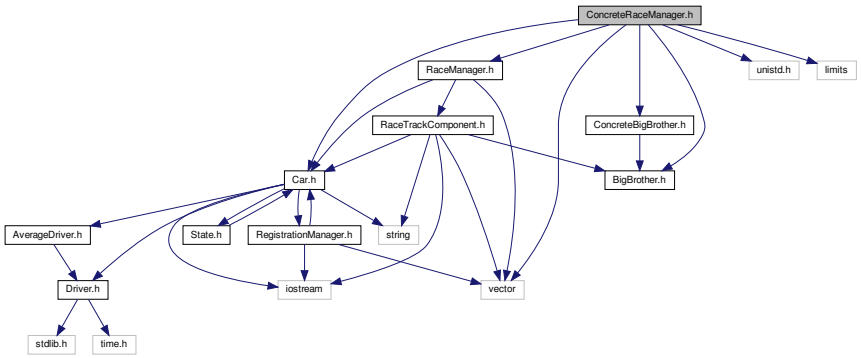
- class ConcreteMediator

5.7 ConcreteRaceManager.h File Reference

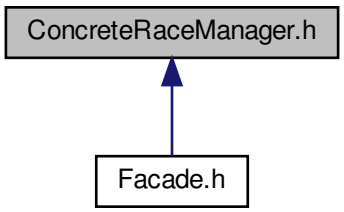
```
#include "RaceManager.h"
#include "Car.h"
```

```
#include "BigBrother.h"
#include "ConcreteBigBrother.h"
#include <vector>
#include <unistd.h>
#include <limits>
```

Include dependency graph for ConcreteRaceManager.h:



This graph shows which files directly or indirectly include this file:



Classes

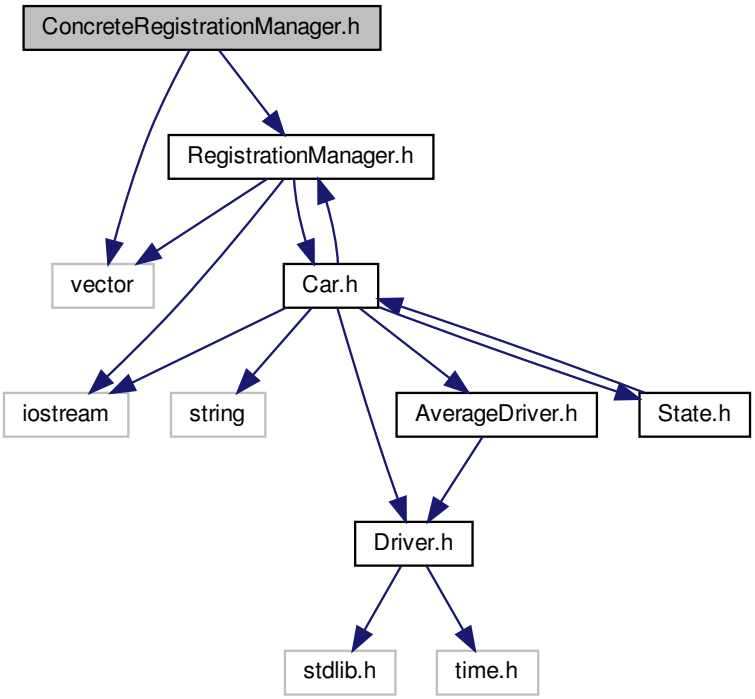
- class ConcreteRaceManager

  concrete Observer in observer pattern

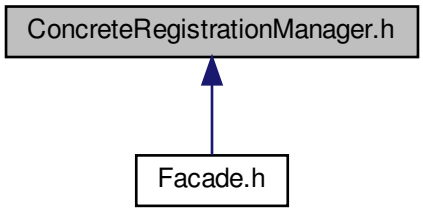
5.8 ConcreteRegistrationManager.h File Reference

```
#include <vector>
#include "RegistrationManager.h"
```

Include dependency graph for ConcreteRegistrationManager.h:



This graph shows which files directly or indirectly include this file:



Classes

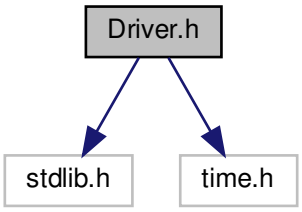
- class ConcreteRegistrationManager

  ConcreteMediator for mediator design pattern.

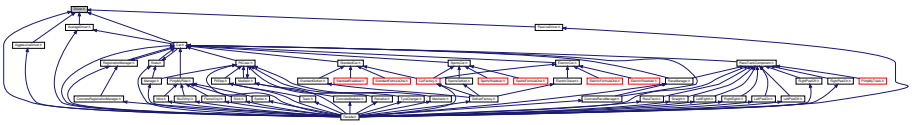
5.9 Driver.h File Reference

```
#include <stdlib.h>
#include <time.h>
```

Include dependency graph for Driver.h:



This graph shows which files directly or indirectly include this file:



Classes

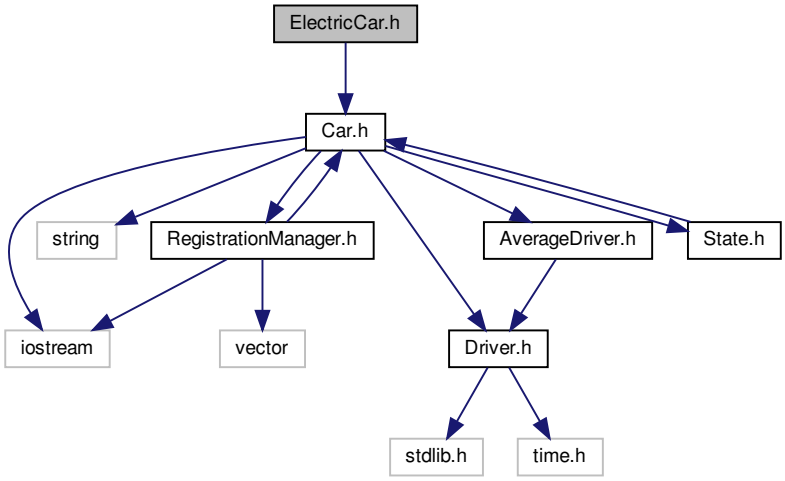
- class Driver

  Stratey for strategy design pattern.

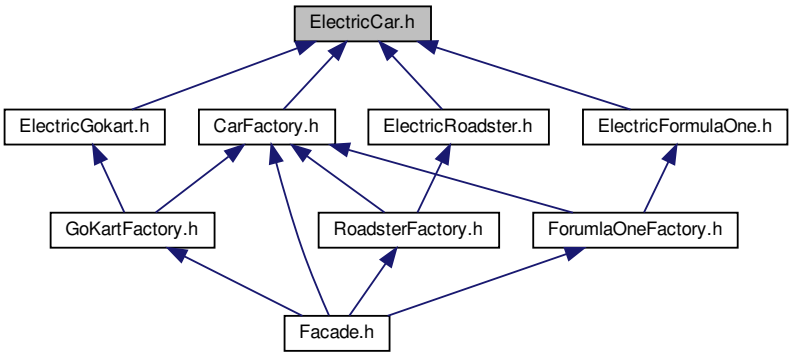
5.10 ElectricCar.h File Reference

```
#include "Car.h"
```

Include dependency graph for ElectricCar.h:



This graph shows which files directly or indirectly include this file:



Classes

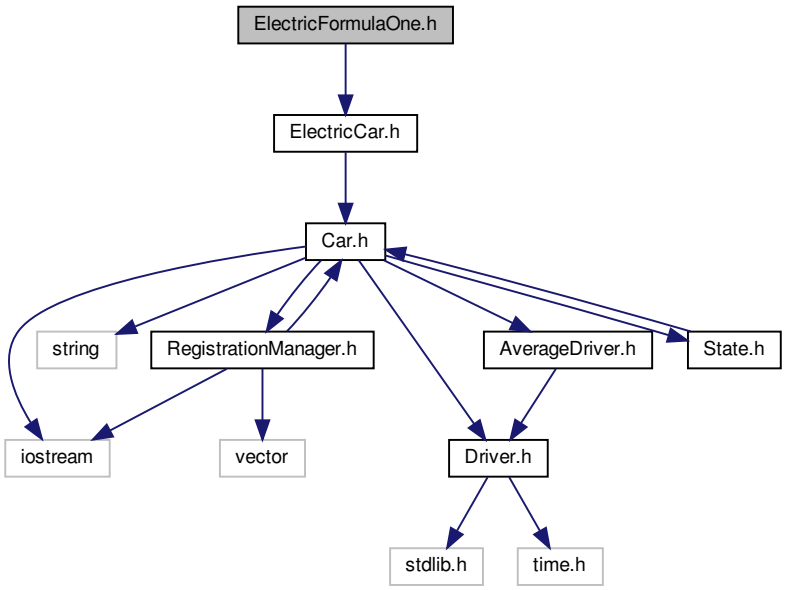
- class ElectricCar

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

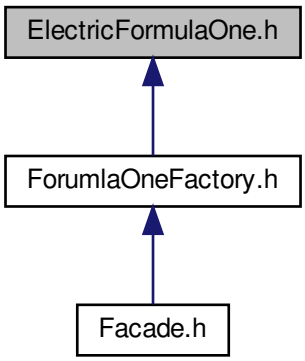
5.11 ElectricFormulaOne.h File Reference

```
#include "ElectricCar.h"
```

Include dependency graph for ElectricFormulaOne.h:



This graph shows which files directly or indirectly include this file:



Classes

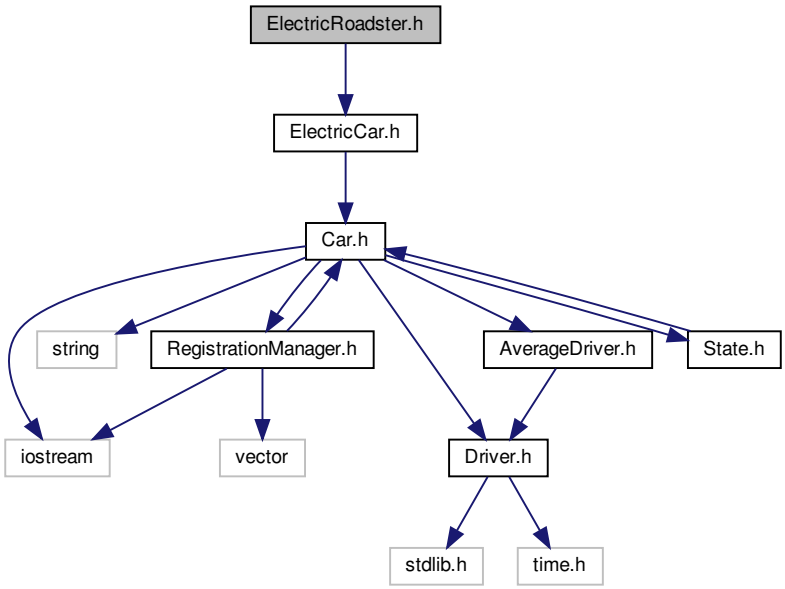
- class ElectricFormulaOne

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

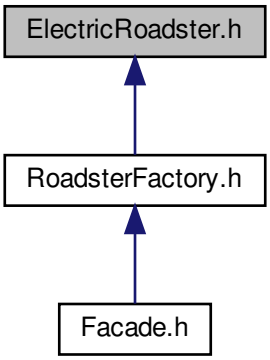
5.12 ElectricRoadster.h File Reference

```
#include "ElectricCar.h"
```

Include dependency graph for ElectricRoadster.h:



This graph shows which files directly or indirectly include this file:



Classes

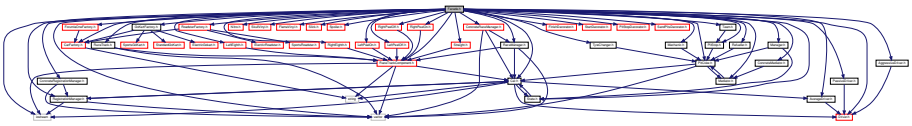
- class ElectricRoadster

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

5.13 Facade.h File Reference

```
#include <iostream>
#include <vector>
#include "Car.h"
#include "GoKartFactory.h"
#include "RoadsterFactory.h"
#include "ForumlaOneFactory.h"
#include "CarFactory.h"
#include "Nitro.h"
#include "SkullVinyl.h"
#include "FlameVinyl.h"
#include "Slick.h"
#include "Spoiler.h"
#include "RegistrationManager.h"
#include "ConcreteRegistrationManager.h"
#include "RaceTrackComponent.h"
#include "RaceTrack.h"
#include "Straight.h"
#include "LeftEighth.h"
#include "RightEighth.h"
#include "LeftPeelOn.h"
#include "LeftPeelOff.h"
#include "RightPeelOff.h"
#include "RightPeelOn.h"
#include "FinishDecorator.h"
#include "StartDecorator.h"
#include "PitStopDecorator.h"
#include "SandPitsDecorator.h"
#include "Team.h"
#include "PitStop.h"
#include "PitCrew.h"
#include "Refueller.h"
#include "TyreChanger.h"
#include "Mechanic.h"
#include "Manager.h"
#include "Mediator.h"
#include "ConcreteMediator.h"
#include "RaceManager.h"
#include "ConcreteRaceManager.h"
#include "State.h"
#include "Driver.h"
#include "AggressiveDriver.h"
#include "AverageDriver.h"
#include "PassiveDriver.h"
```

Include dependency graph for Facade.h:



Classes

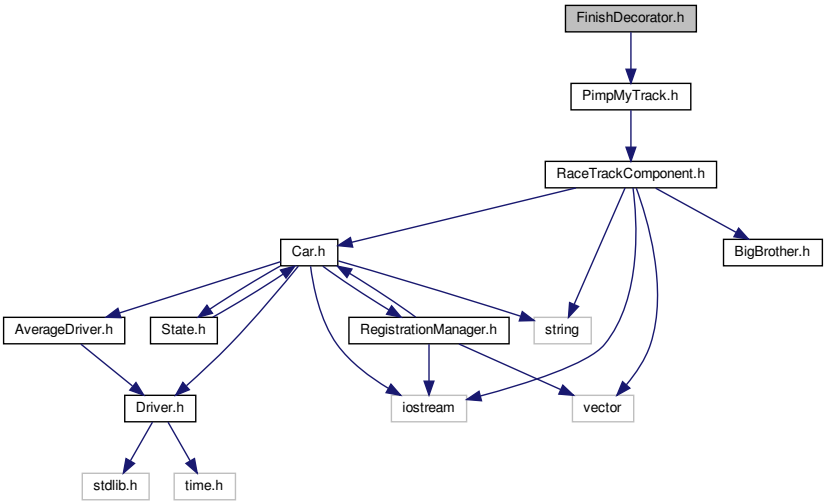
- class Facade

  Facade pattern.

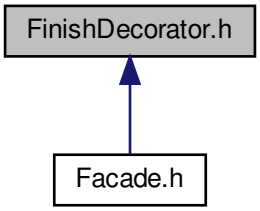
5.14 FinishDecorator.h File Reference

```
#include "PimpMyTrack.h"
```

Include dependency graph for FinishDecorator.h:



This graph shows which files directly or indirectly include this file:



Classes

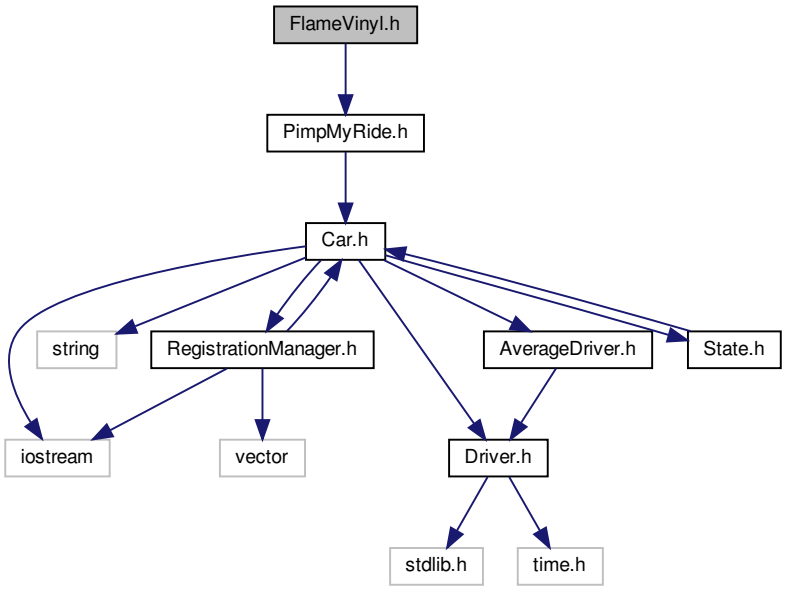
- class FinishDecorator

  ConcreteDecorator for Decorator design pattern.

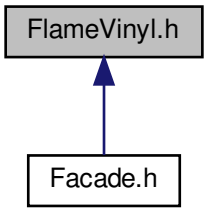
5.15 FlameVinyl.h File Reference

```
#include "PimpMyRide.h"
```

Include dependency graph for FlameVinyl.h:



This graph shows which files directly or indirectly include this file:



Classes

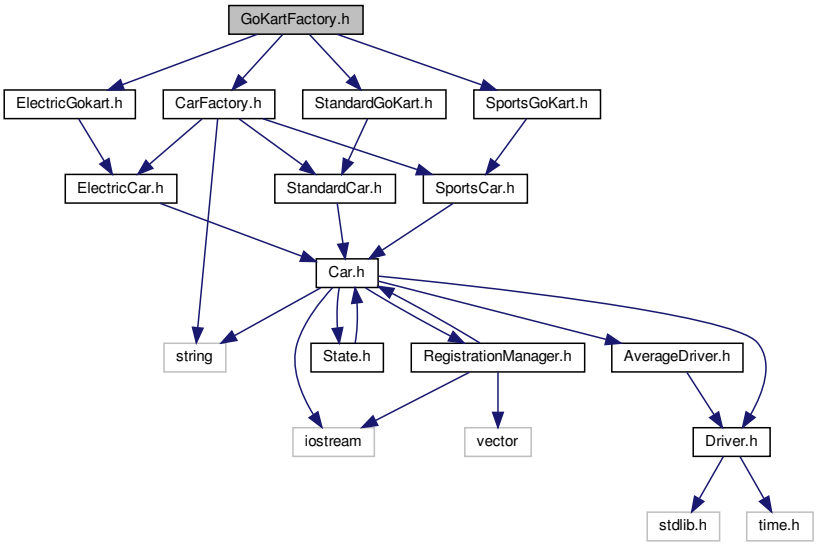
- class FlameVinyl

  Concrete Decorcator for Decorator Pattern.

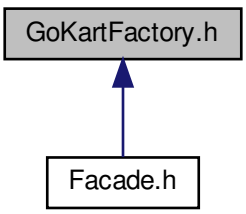
5.16 GoKartFactory.h File Reference

```
#include "CarFactory.h"
#include "SportsGoKart.h"
#include "StandardGoKart.h"
#include "ElectricGokart.h"
```

Include dependency graph for GoKartFactory.h:



This graph shows which files directly or indirectly include this file:



Classes

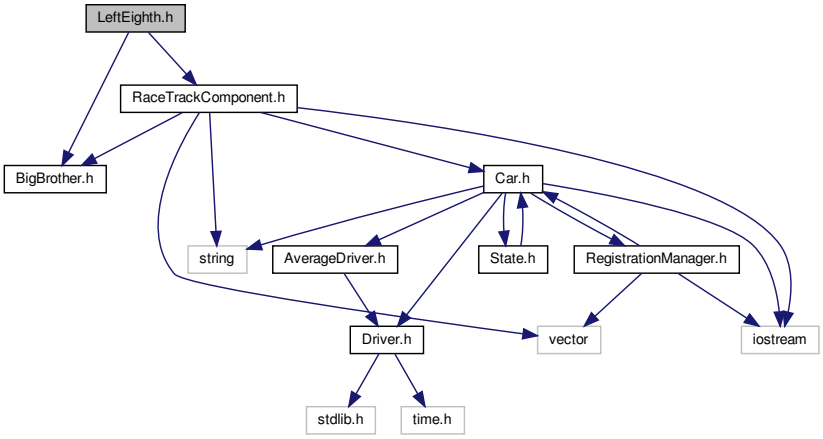
- class GoKartFactory

  Concrete Factory for Abstract Factory Pattern.

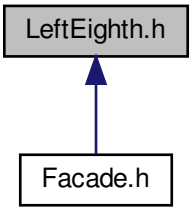
5.17 LeftEighth.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for LeftEighth.h:



This graph shows which files directly or indirectly include this file:



Classes

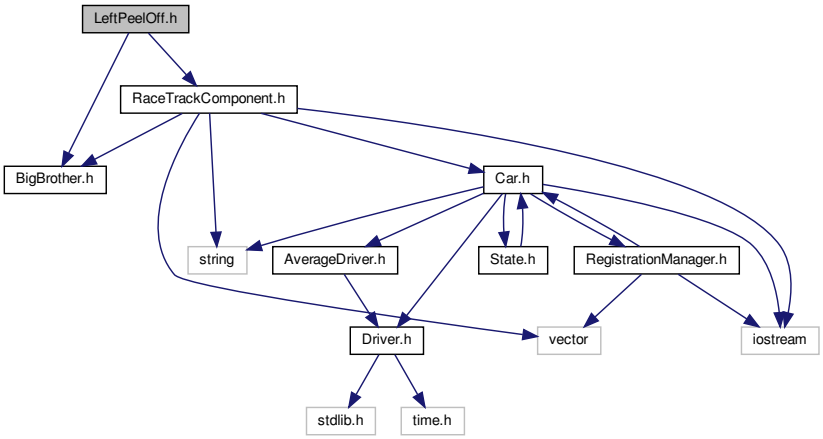
- class LeftEighth

  Leaf for Composite design pattern.

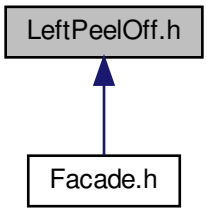
5.18 LeftPeelOff.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for LeftPeelOff.h:



This graph shows which files directly or indirectly include this file:



Classes

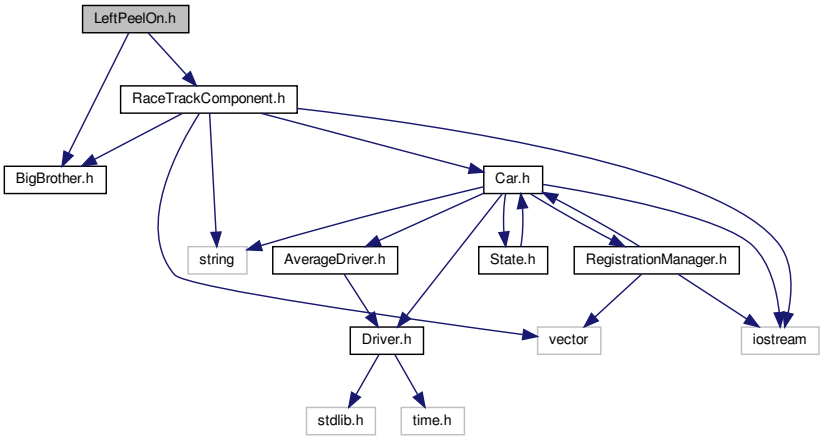
- class LeftPeelOff

  Leaf for Composite design pattern.

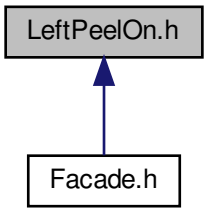
5.19 LeftPeelOn.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for LeftPeelOn.h:



This graph shows which files directly or indirectly include this file:



Classes

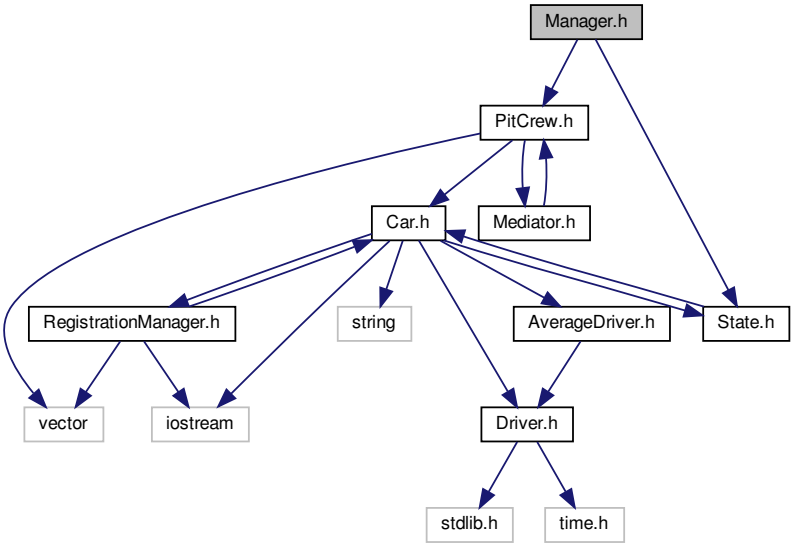
- class LeftPeelOn

  Leaf for Composite design pattern.

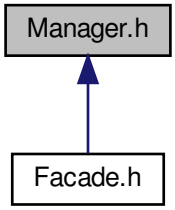
5.20 Manager.h File Reference

```
#include "PitCrew.h"
#include "State.h"
```

Include dependency graph for Manager.h:



This graph shows which files directly or indirectly include this file:



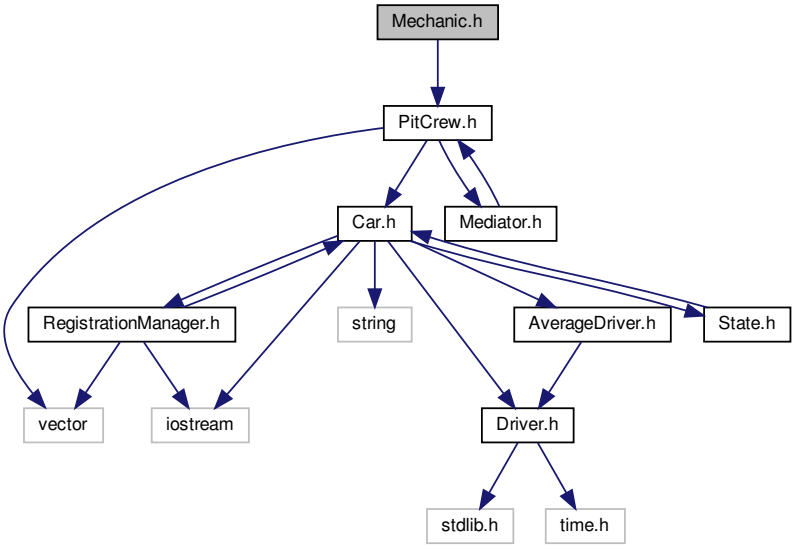
Classes

- class Manager

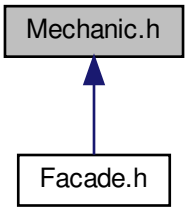
5.21 Mechanic.h File Reference

```
#include "PitCrew.h"
```

Include dependency graph for Mechanic.h:



This graph shows which files directly or indirectly include this file:



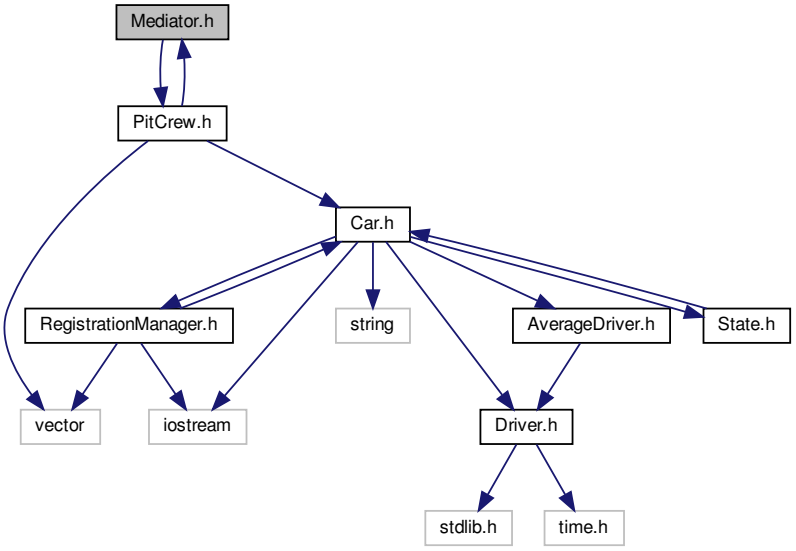
Classes

- class Mechanic

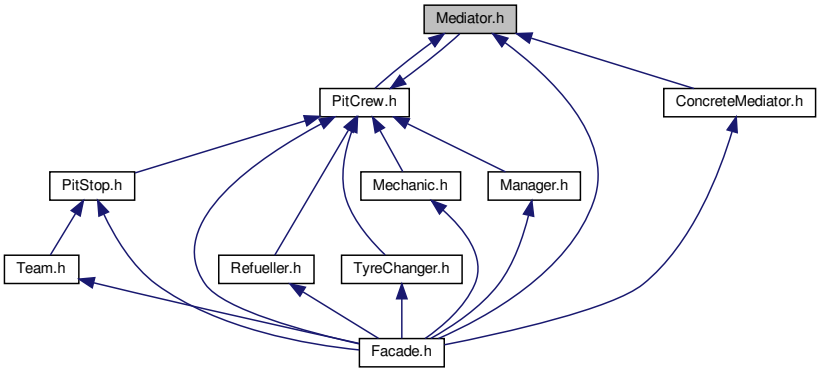
5.22 Mediator.h File Reference

```
#include "PitCrew.h"
```

Include dependency graph for Mediator.h:



This graph shows which files directly or indirectly include this file:



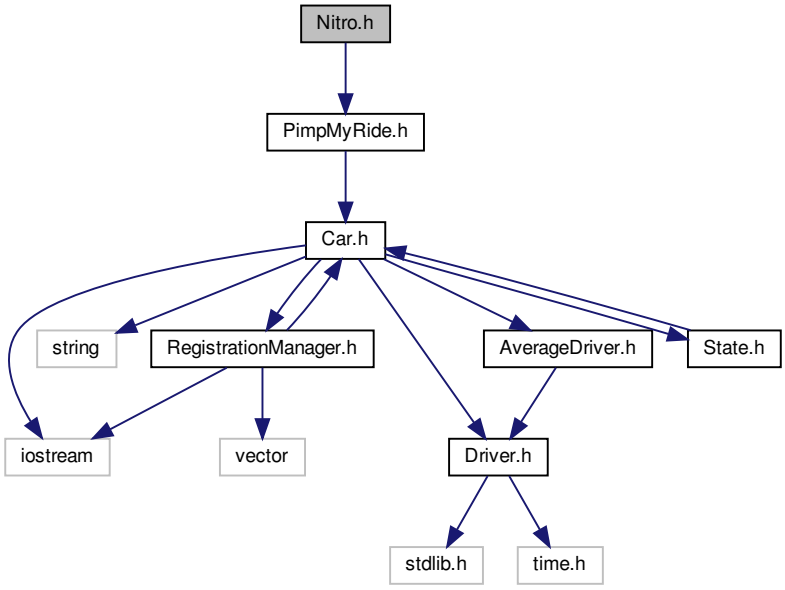
Classes

- class Mediator

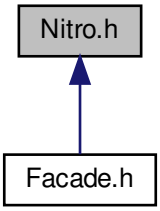
5.23 Nitro.h File Reference

```
#include "PimpMyRide.h"
```

Include dependency graph for Nitro.h:



This graph shows which files directly or indirectly include this file:



Classes

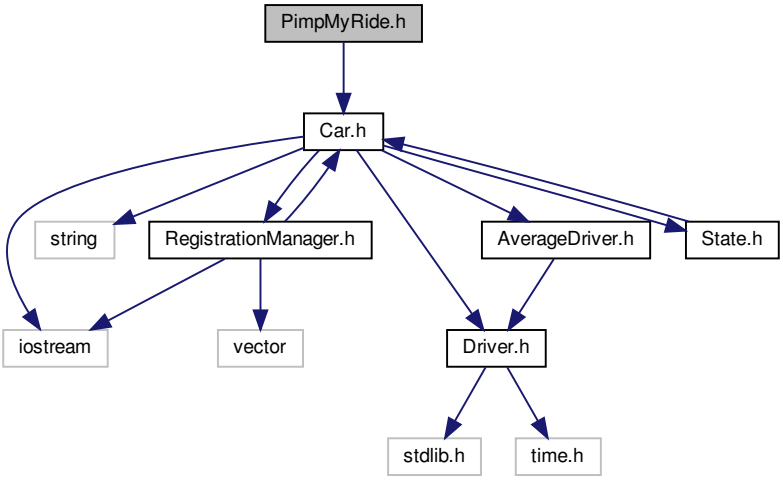
- class Nitro

  Concrete Decorcator for Decorator Pattern.

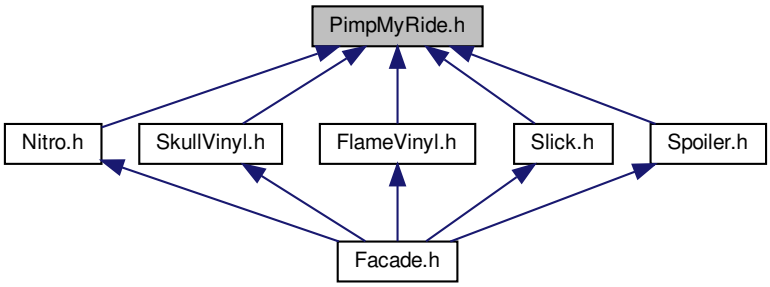
5.24 PimpMyRide.h File Reference

```
#include "Car.h"
```

Include dependency graph for PimpMyRide.h:



This graph shows which files directly or indirectly include this file:



Classes

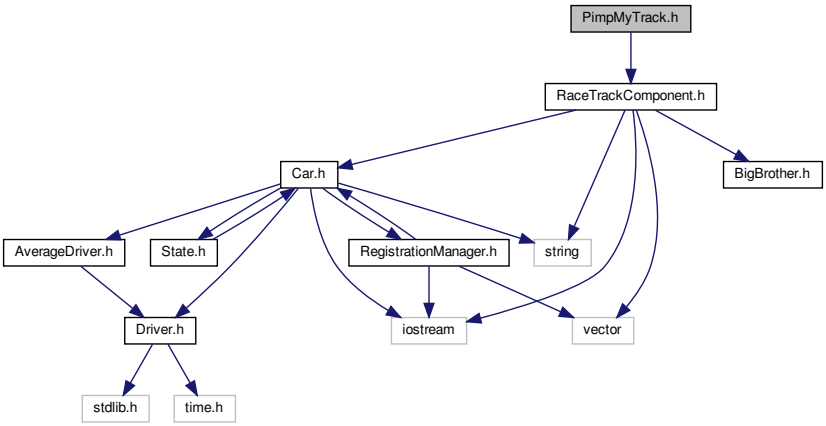
- class PimpMyRide

  Decorcator for Decorator Pattern.

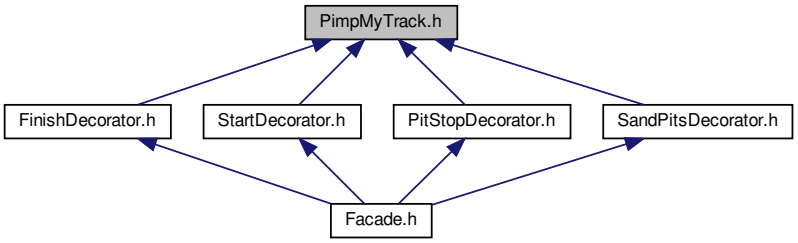
5.25 PimpMyTrack.h File Reference

```
#include "RaceTrackComponent.h"
```

Include dependency graph for PimpMyTrack.h:



This graph shows which files directly or indirectly include this file:



Classes

- class PimpMyTrack

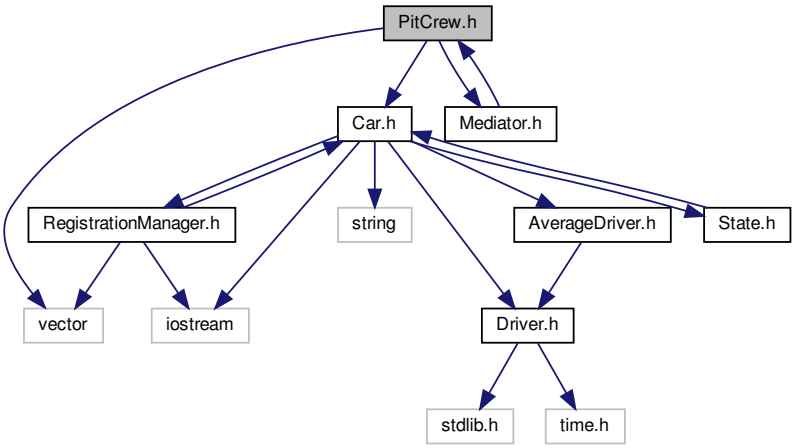
  Abstract Decorator for Decorator design pattern.

5.26 PitCrew.h File Reference

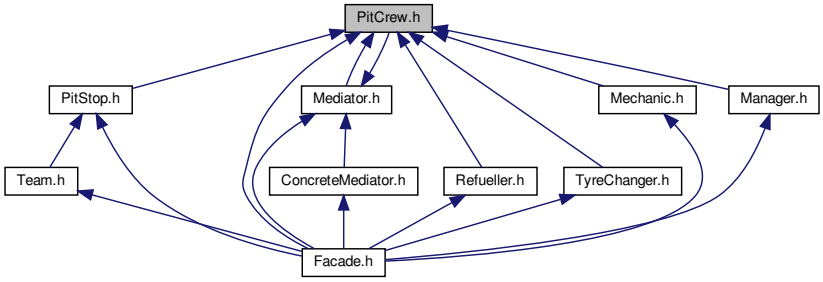
```
#include <vector>
#include "Car.h"
```

```
#include "Mediator.h"
```

Include dependency graph for PitCrew.h:



This graph shows which files directly or indirectly include this file:



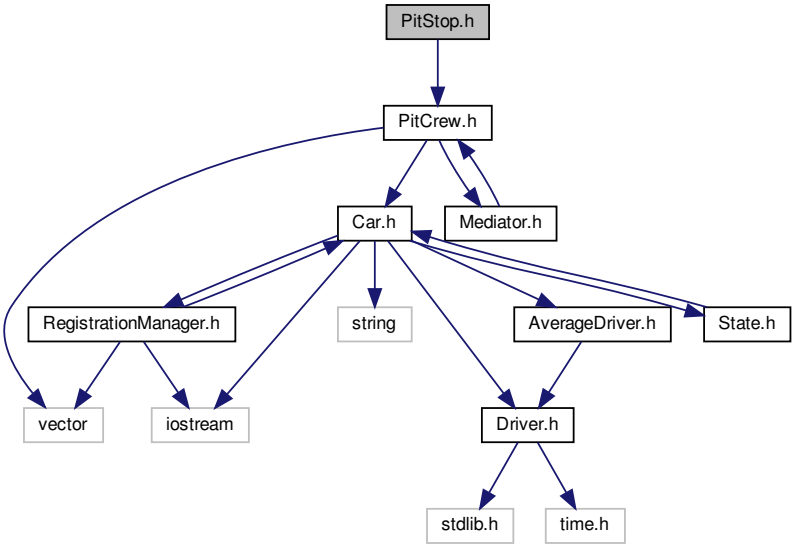
Classes

- class PitCrew

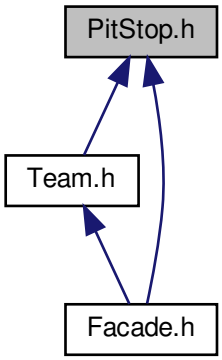
5.27 PitStop.h File Reference

```
#include "PitCrew.h"
```

Include dependency graph for PitStop.h:



This graph shows which files directly or indirectly include this file:



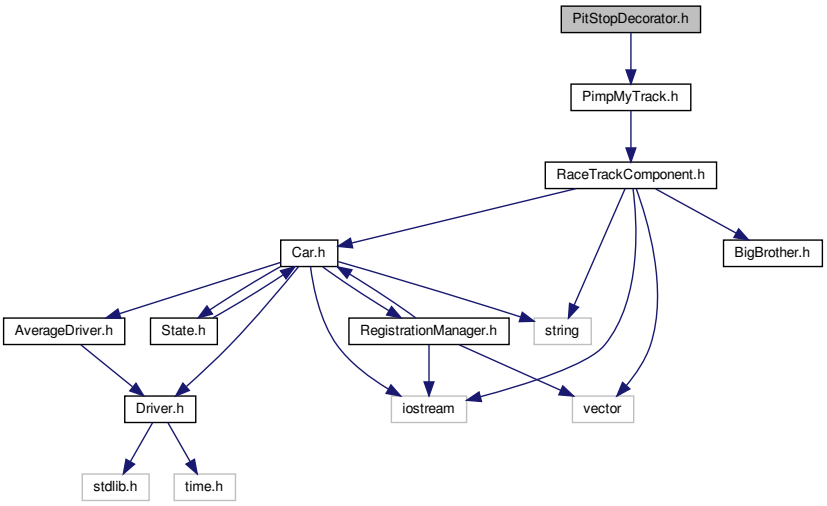
Classes

- class PitStop

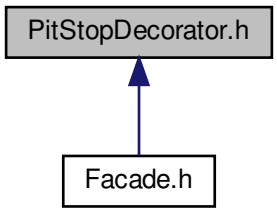
5.28 PitStopDecorator.h File Reference

```
#include "PimpMyTrack.h"
```

Include dependency graph for PitStopDecorator.h:



This graph shows which files directly or indirectly include this file:



Classes

- class PitStopDecorator

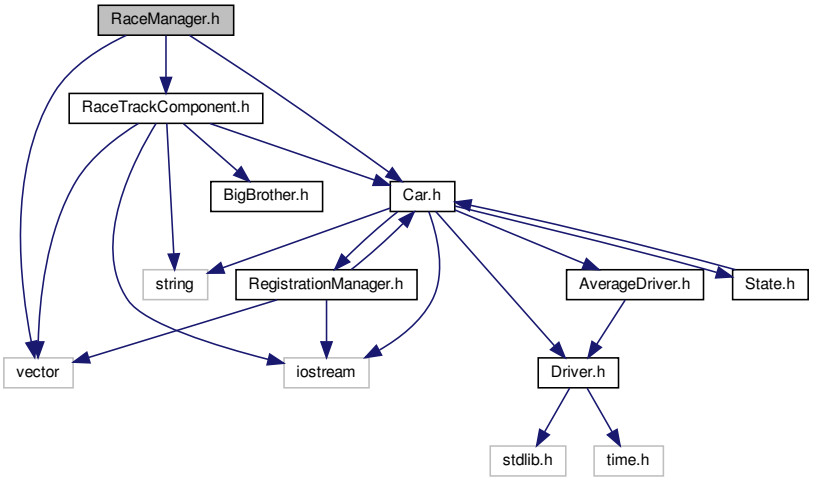
  ConcreteDecorator for Decorator design pattern.

5.29 RaceManager.h File Reference

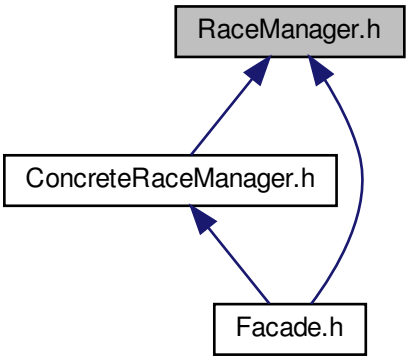
```
#include <vector>
#include "Car.h"
```

```
#include "RaceTrackComponent.h"
```

Include dependency graph for RaceManager.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RaceManager

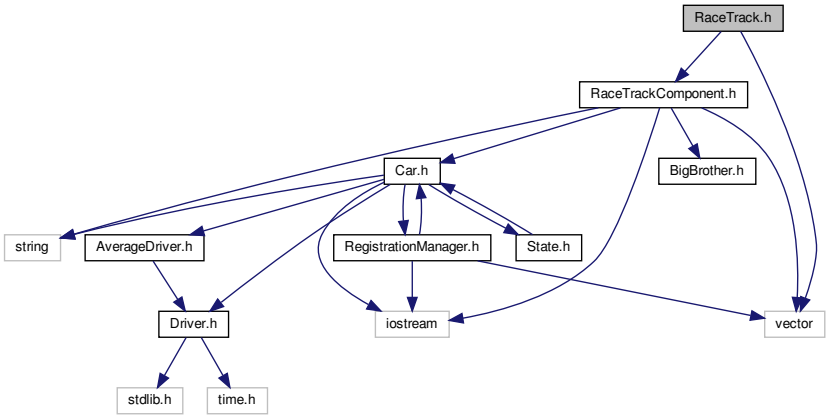
  Observer class for Observer pattern.

5.30 RaceTrack.h File Reference

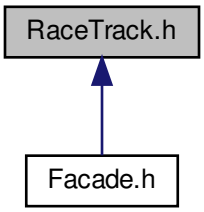
```
#include <vector>
```

```
#include "RaceTrackComponent.h"
```

Include dependency graph for RaceTrack.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RaceTrack

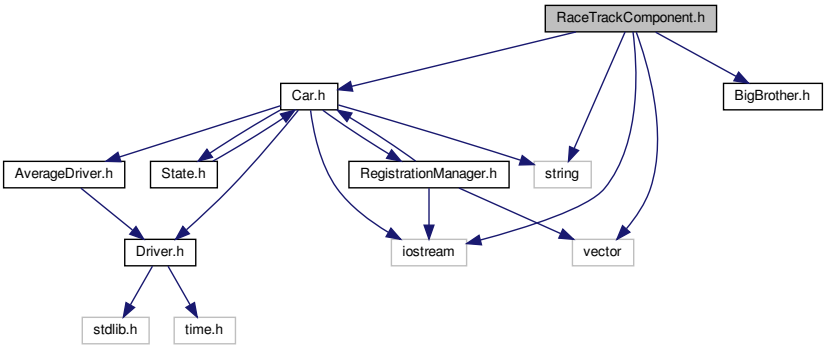
  composite class for composite pattern

5.31 RaceTrackComponent.h File Reference

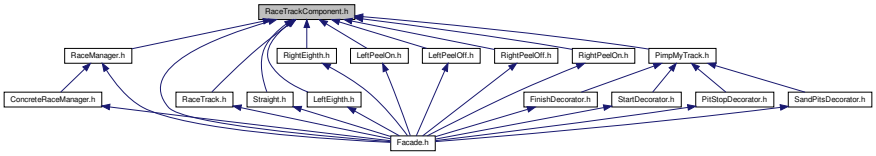
```
#include "Car.h"
#include "BigBrother.h"
#include <string>
#include <vector>
```

```
#include <iostream>
```

Include dependency graph for RaceTrackComponent.h:



This graph shows which files directly or indirectly include this file:



Classes

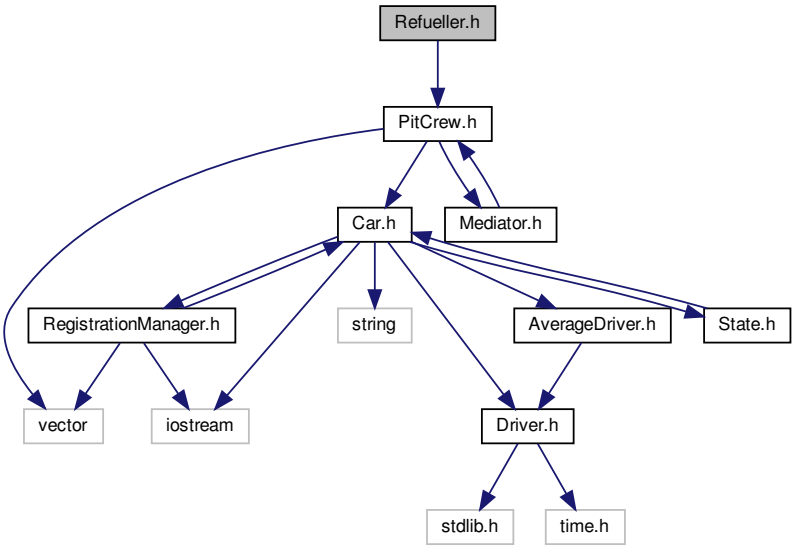
- class RaceTrackComponent

  abstract leaf class for composite pattern

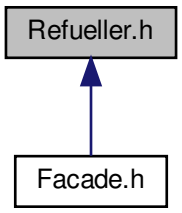
5.32 Refueller.h File Reference

```
#include "PitCrew.h"
```

Include dependency graph for Refueller.h:



This graph shows which files directly or indirectly include this file:



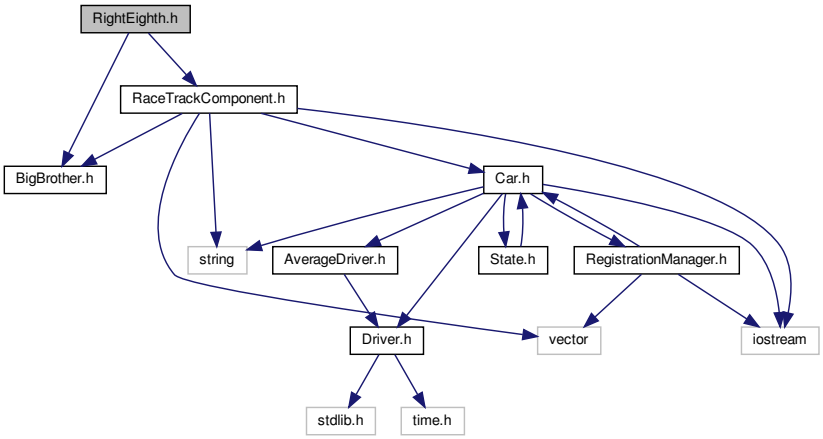
Classes

- class Refueller

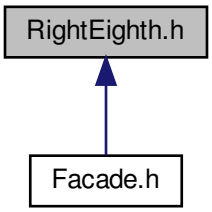
5.33 RightEighth.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for RightEighth.h:



This graph shows which files directly or indirectly include this file:



Classes

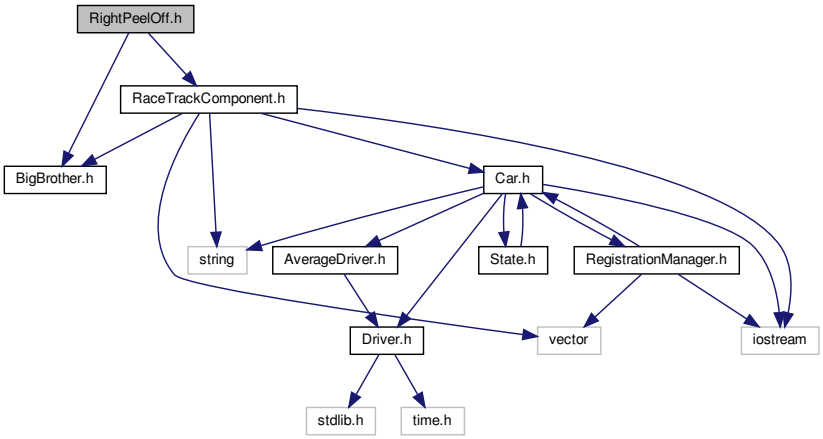
- class RightEighth

  Leaf for Composite design pattern.

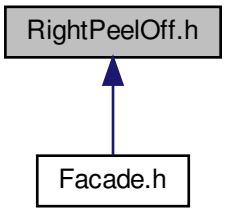
5.34 RightPeelOff.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for RightPeelOff.h:



This graph shows which files directly or indirectly include this file:



Classes

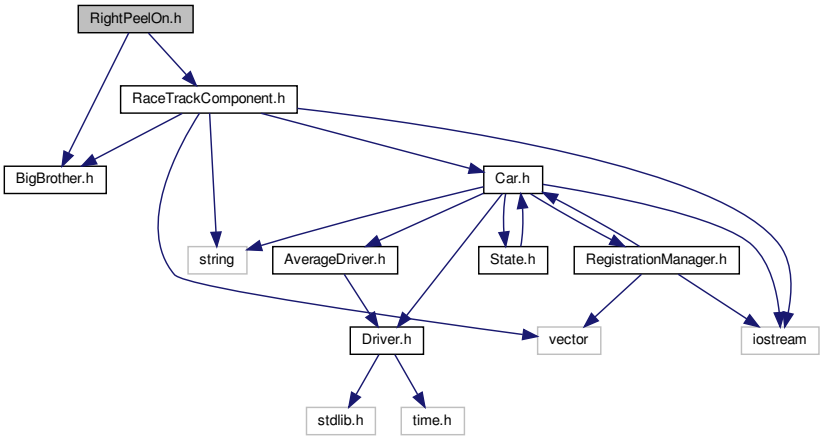
- class RightPeelOff

  Leaf for Composite design pattern.

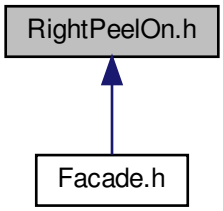
5.35 RightPeelOn.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for RightPeelOn.h:



This graph shows which files directly or indirectly include this file:



Classes

- class RightPeelOn

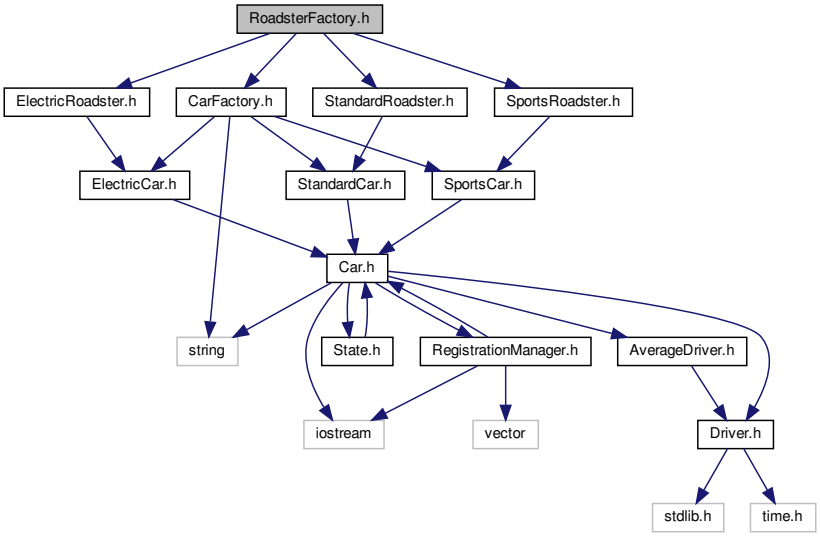
  Leaf for Composite design pattern.

5.36 RoadsterFactory.h File Reference

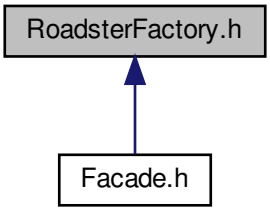
```
#include "CarFactory.h"
#include "ElectricRoadster.h"
#include "SportsRoadster.h"
```

```
#include "StandardRoadster.h"
```

Include dependency graph for RoadsterFactory.h:



This graph shows which files directly or indirectly include this file:



Classes

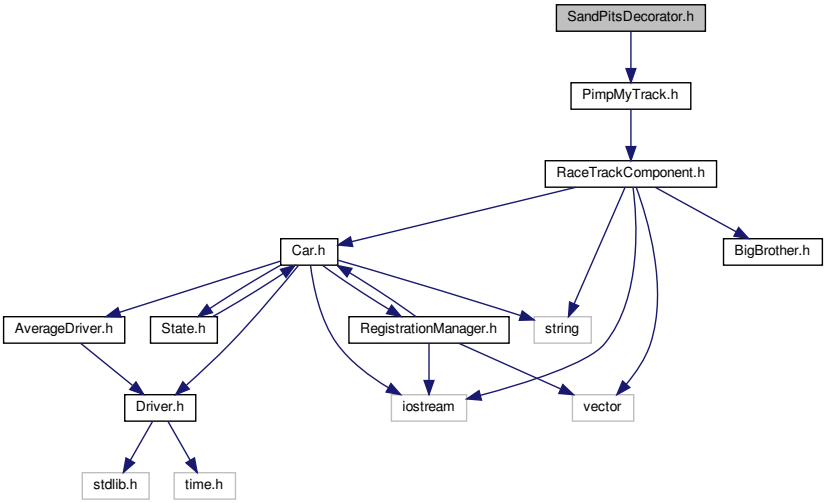
- class RoadsterFactory

  Concrete Factory for Abstract Factory Pattern.

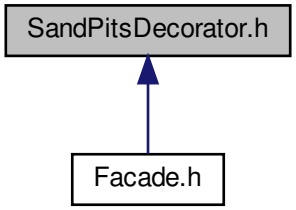
5.37 SandPitsDecorator.h File Reference

```
#include "PimpMyTrack.h"
```

Include dependency graph for SandPitsDecorator.h:



This graph shows which files directly or indirectly include this file:



Classes

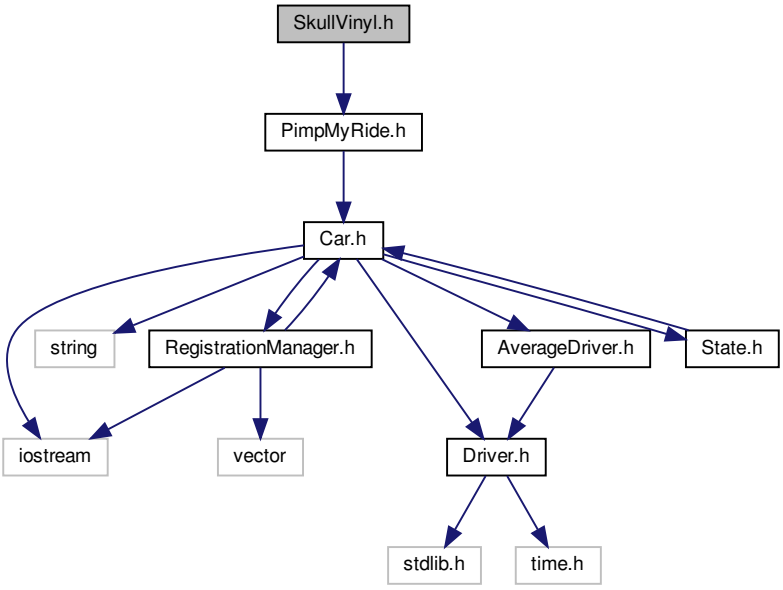
- class SandPitsDecorator

  ConcreteDecorator for Decorator design pattern.

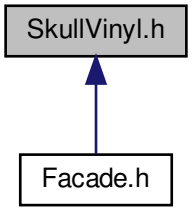
5.38 SkullVinyl.h File Reference

```
#include "PimpMyRide.h"
```

Include dependency graph for SkullVinyl.h:



This graph shows which files directly or indirectly include this file:



Classes

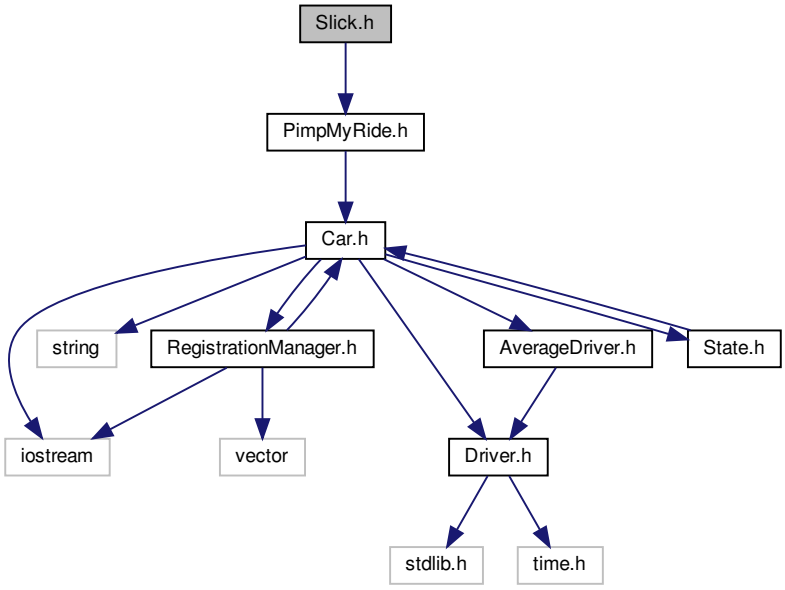
- class SkullVinyl

  Concrete Decorcator for Decorator Pattern.

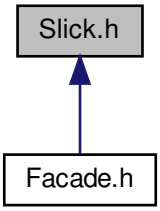
5.39 Slick.h File Reference

```
#include "PimpMyRide.h"
```

Include dependency graph for Slick.h:



This graph shows which files directly or indirectly include this file:



Classes

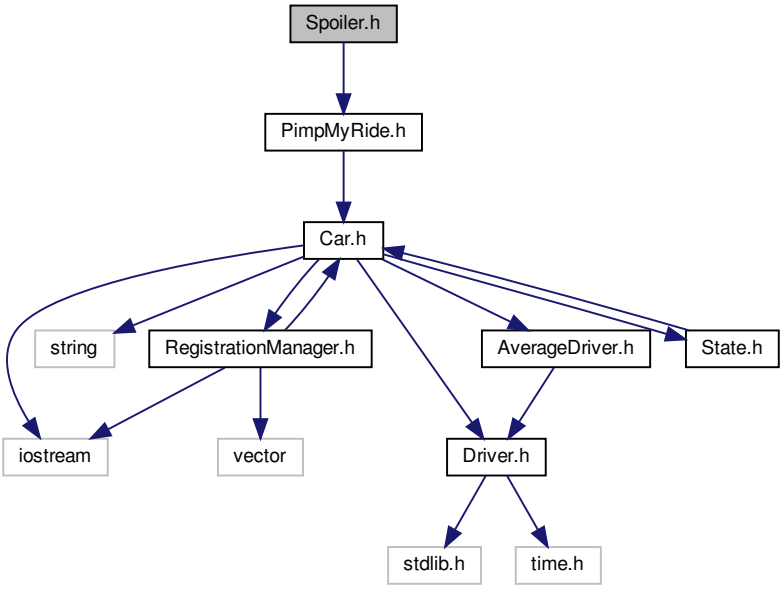
- class Slick

  Concrete Decorcator for Decorator Pattern.

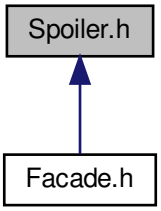
5.40 Spoiler.h File Reference

```
#include "PimpMyRide.h"
```

Include dependency graph for Spoiler.h:



This graph shows which files directly or indirectly include this file:



Classes

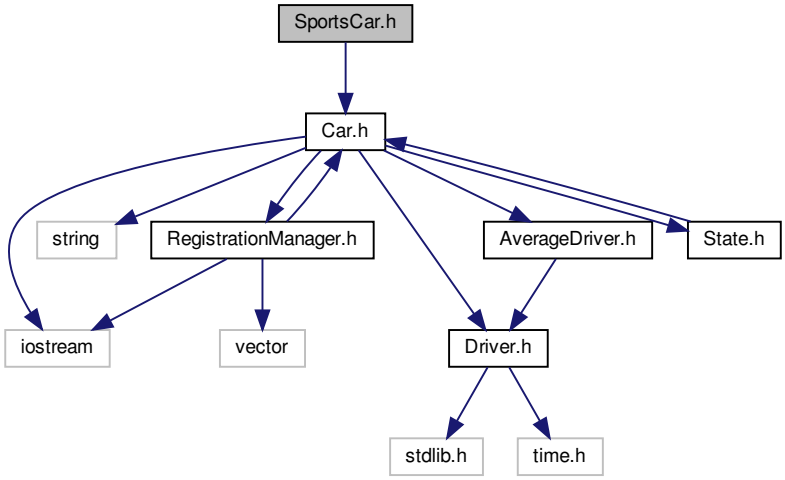
- class Spoiler

  Concrete Decorcator for Decorator Pattern.

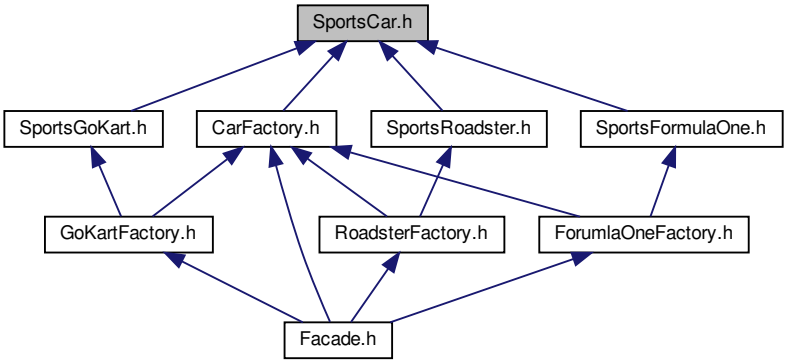
5.41 SportsCar.h File Reference

```
#include "Car.h"
```

Include dependency graph for SportsCar.h:



This graph shows which files directly or indirectly include this file:



Classes

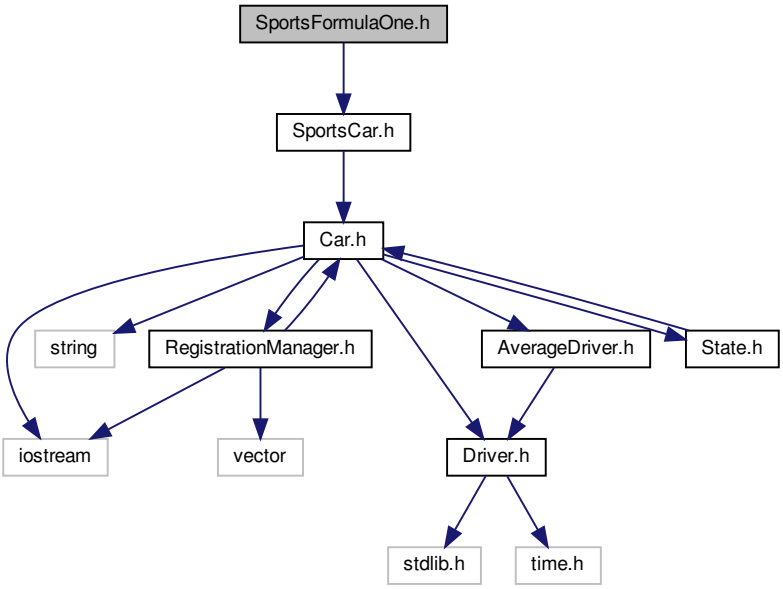
- class SportsCar

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

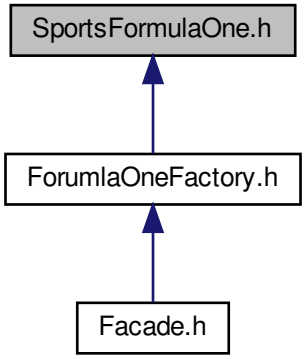
5.42 SportsFormulaOne.h File Reference

```
#include "SportsCar.h"
```

Include dependency graph for SportsFormulaOne.h:



This graph shows which files directly or indirectly include this file:



Classes

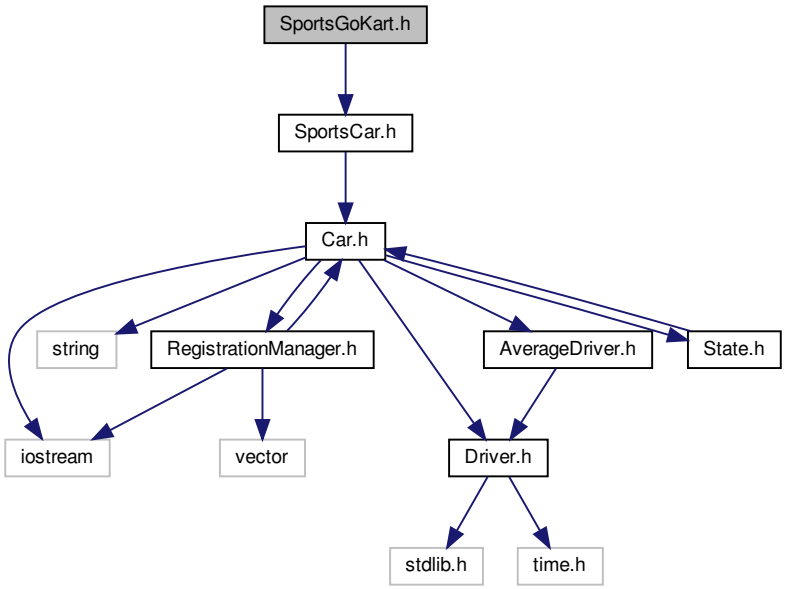
- class SportsFormulaOne

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

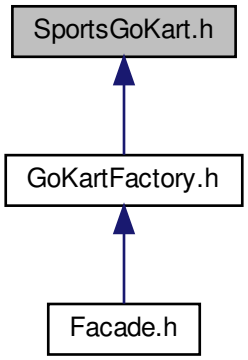
5.43 SportsGoKart.h File Reference

```
#include "SportsCar.h"
```

Include dependency graph for SportsGoKart.h:



This graph shows which files directly or indirectly include this file:



Classes

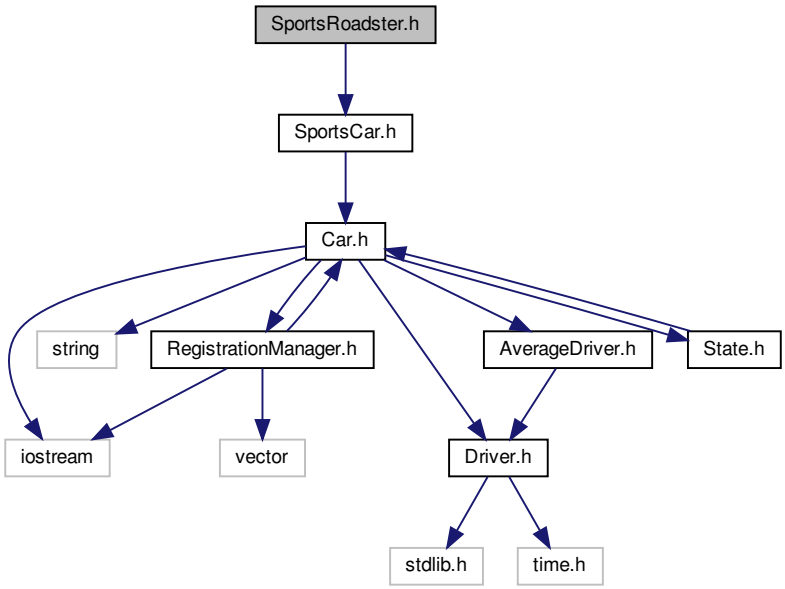
- class SportsGoKart

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

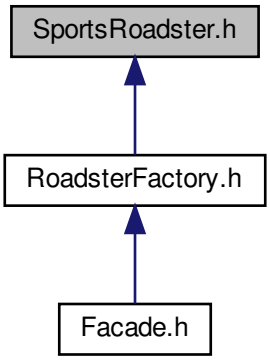
5.44 SportsRoadster.h File Reference

```
#include "SportsCar.h"
```

Include dependency graph for SportsRoadster.h:



This graph shows which files directly or indirectly include this file:



Classes

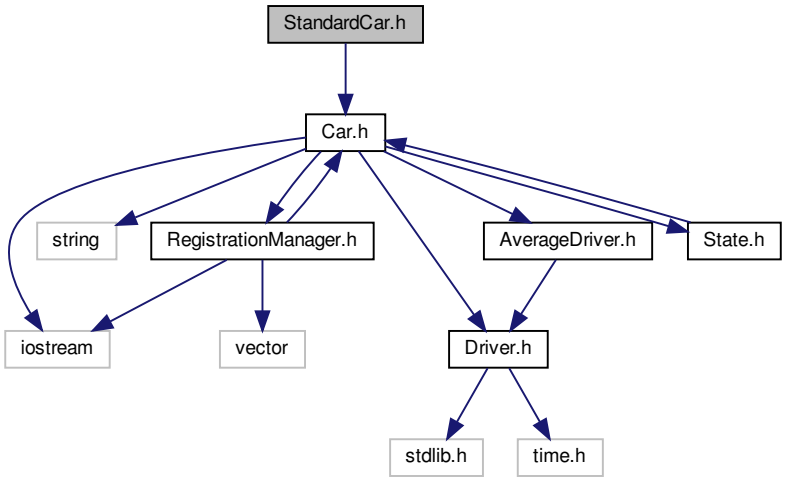
- class SportsRoadster

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

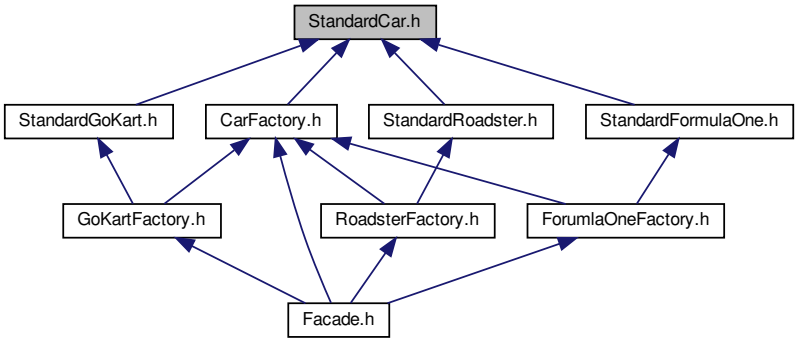
5.45 StandardCar.h File Reference

```
#include "Car.h"
```

Include dependency graph for StandardCar.h:



This graph shows which files directly or indirectly include this file:



Classes

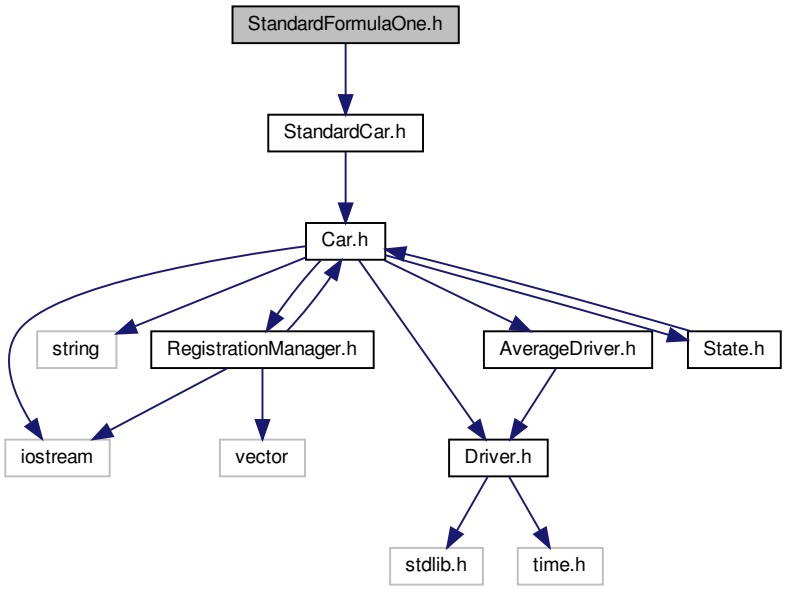
- class StandardCar

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

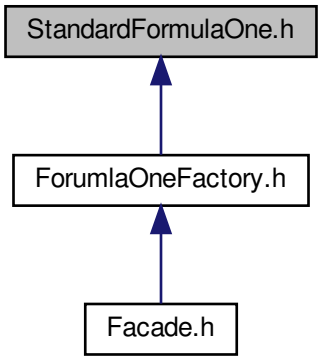
5.46 StandardFormulaOne.h File Reference

```
#include "StandardCar.h"
```

Include dependency graph for StandardFormulaOne.h:



This graph shows which files directly or indirectly include this file:



Classes

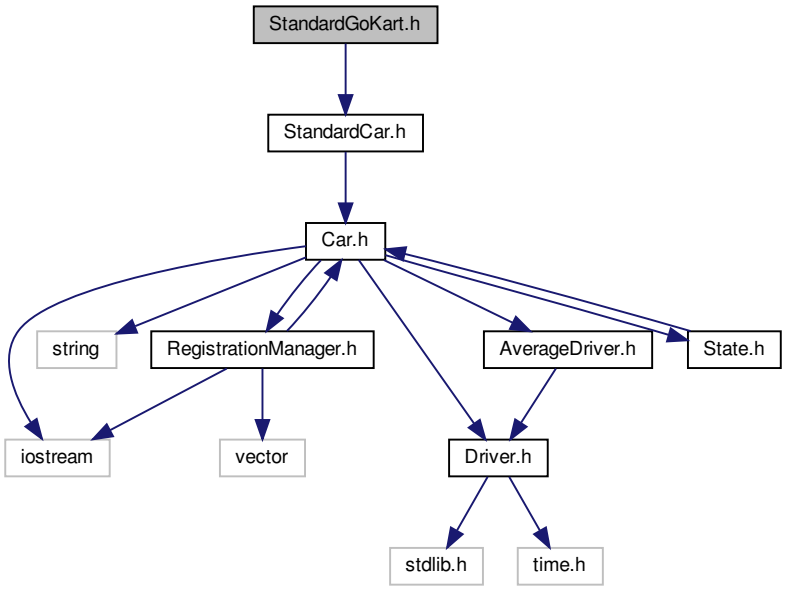
- class StandardFormulaOne

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

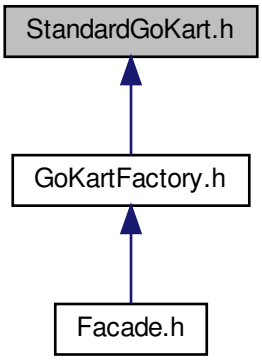
5.47 StandardGoKart.h File Reference

```
#include "StandardCar.h"
```

Include dependency graph for StandardGoKart.h:



This graph shows which files directly or indirectly include this file:



Classes

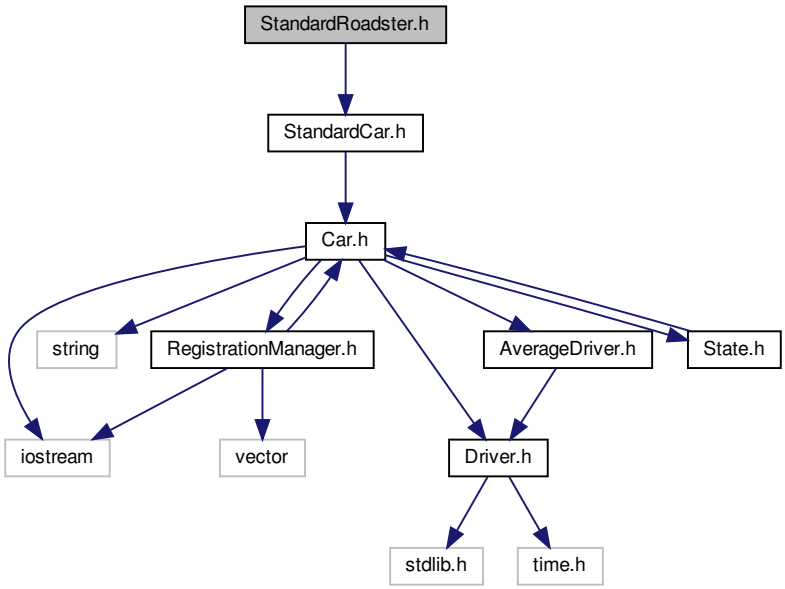
- class StandardGoKart

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

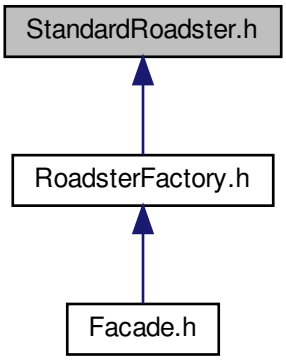
5.48 StandardRoadster.h File Reference

```
#include "StandardCar.h"
```

Include dependency graph for StandardRoadster.h:



This graph shows which files directly or indirectly include this file:



Classes

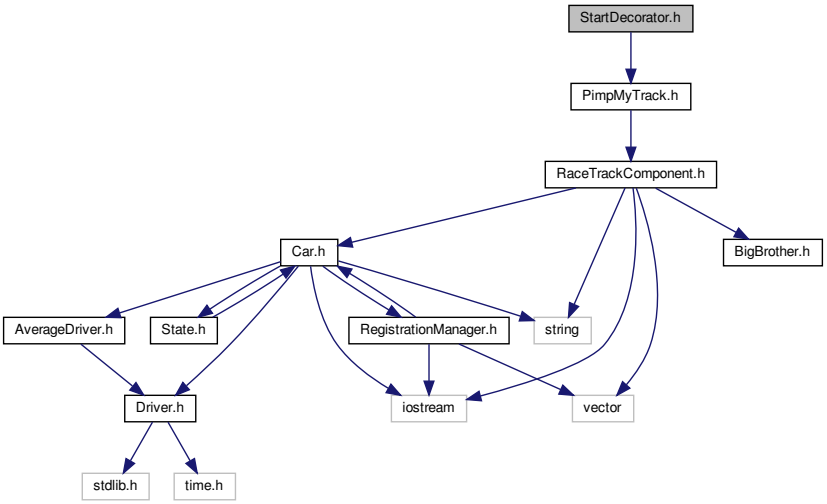
- class StandardRoadster

  Concrete Product for Abstract Factory Pattern and Concrete Component for Decorator Pattern.

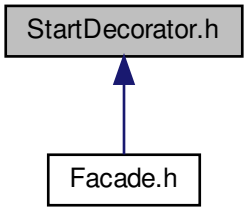
5.49 StartDecorator.h File Reference

```
#include "PimpMyTrack.h"
```

Include dependency graph for StartDecorator.h:



This graph shows which files directly or indirectly include this file:



Classes

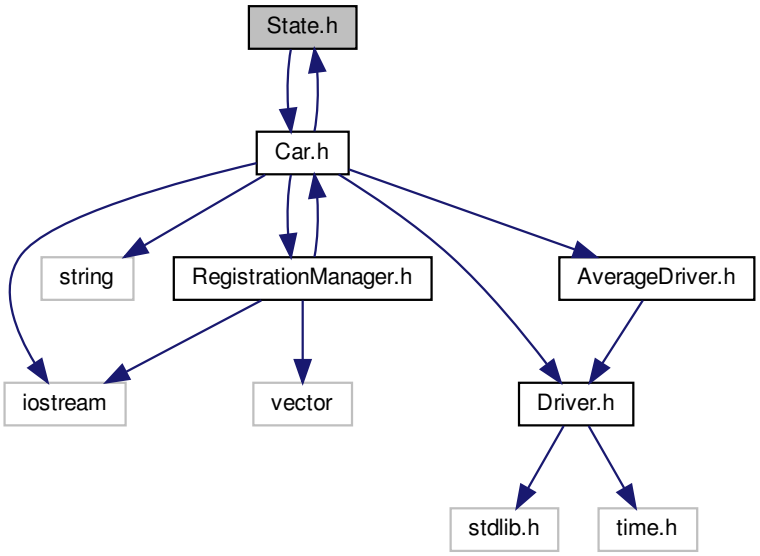
- class StartDecorator

  ConcreteDecorator for Decorator design pattern.

5.50 State.h File Reference

```
#include "Car.h"
```

Include dependency graph for State.h:



This graph shows which files directly or indirectly include this file:

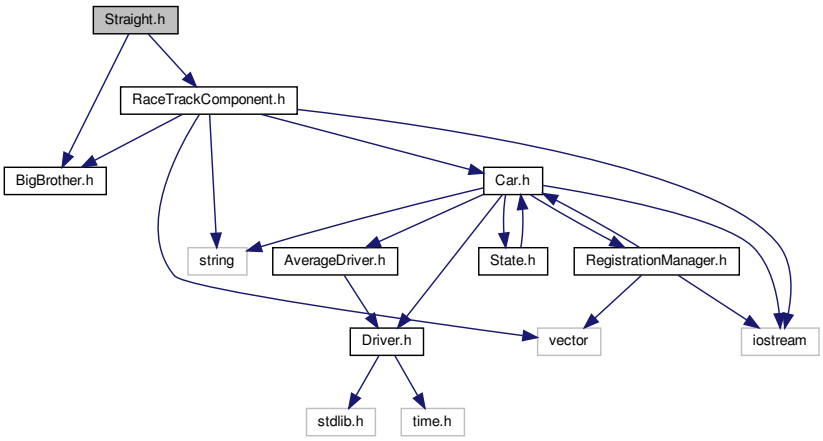
Classes

- class State
- class Ready
- class Racing
- class Stopped

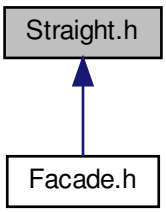
5.51 Straight.h File Reference

```
#include "BigBrother.h"
#include "RaceTrackComponent.h"
```

Include dependency graph for Straight.h:



This graph shows which files directly or indirectly include this file:



Classes

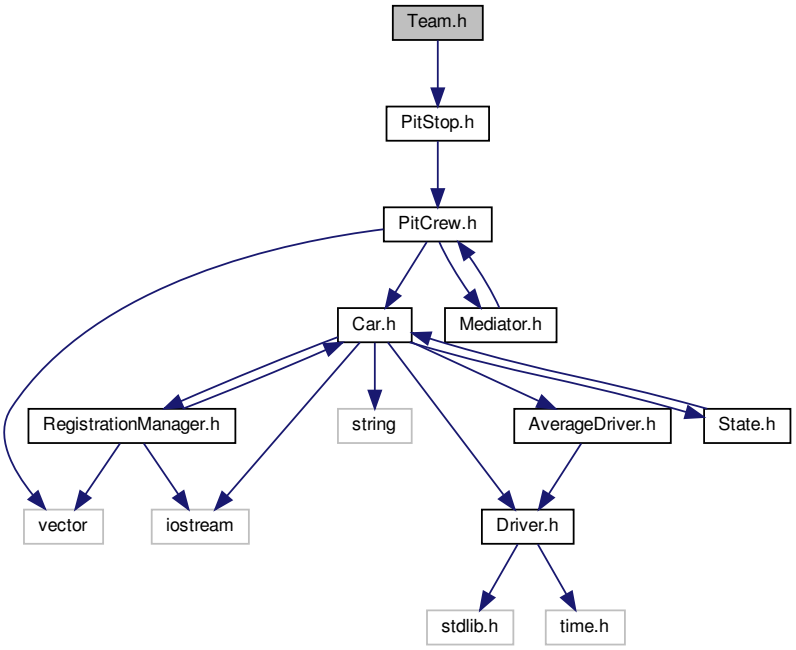
- class Straight

  Leaf for Composite design pattern.

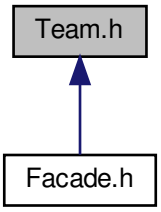
5.52 Team.h File Reference

```
#include "PitStop.h"
```

Include dependency graph for Team.h:



This graph shows which files directly or indirectly include this file:



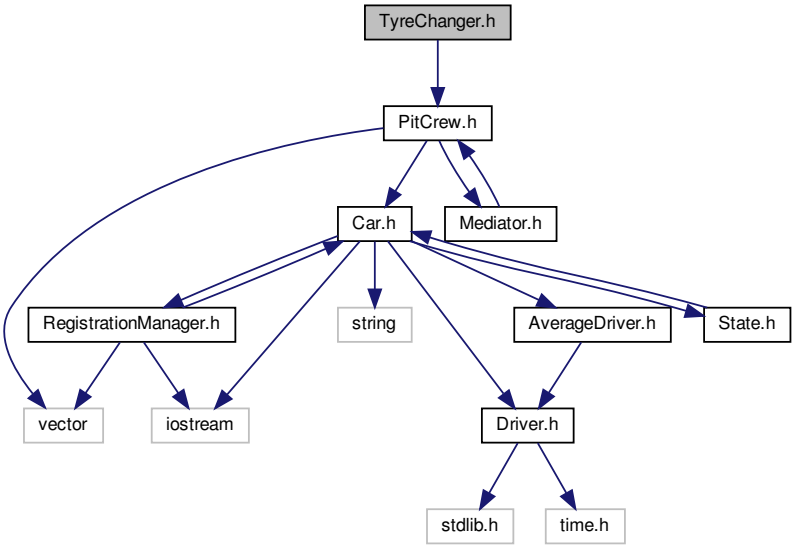
Classes

- class Team

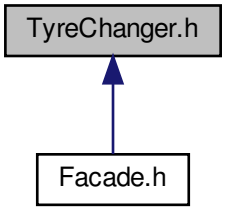
5.53 TyreChanger.h File Reference

```
#include "PitCrew.h"
```

Include dependency graph for TyreChanger.h:



This graph shows which files directly or indirectly include this file:



Classes

- class TyreChanger

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