COS214 Project

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Chapter 1

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

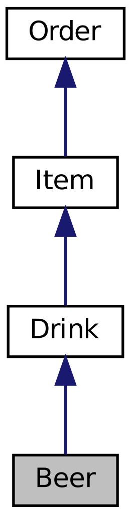
Here is a list of all documented files with brief descriptions:

Chapter 4

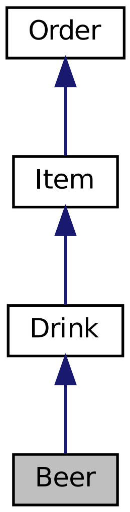
Class Documentation

4.1 Beer Class Reference

Inheritance diagram for Beer:



Collaboration diagram for Beer:



Public Member Functions

- Beer ()

  Beer Constructor.
- ∼Beer ()

  Beer Destructor.

Public Attributes

- bool gotBeerGlass = false

  Whether a beer glass has been obtained.
- bool pouredBeer = false

  Whether beer has been poured into the glass.
- bool assembledBeer = false

  Whether the beer has been assembled.

Additional Inherited Members

4.1.1 Constructor & Destructor Documentation

4.1.1.1 Beer()

```
Beer::Beer ( )
```

Beer Constructor.

Authors

Aidan Chapman (u22738917)

4.1.1.2 ∼Beer()

```
Beer::∼Beer ( )
```

Beer Destructor.

Authors

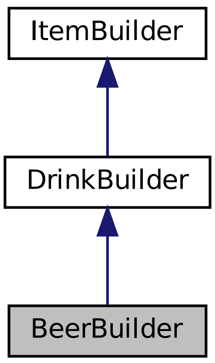
Aidan Chapman (u22738917)

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

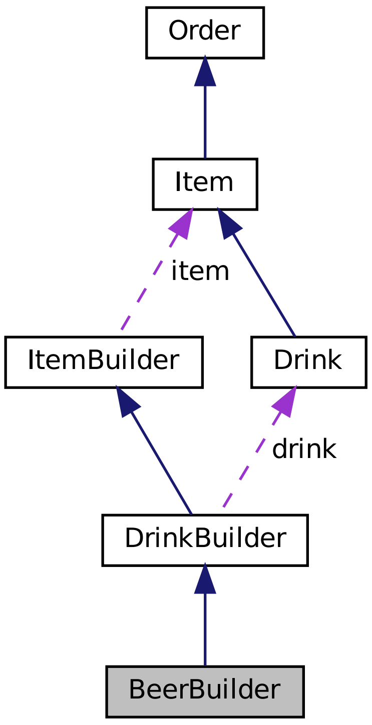
- Beer.h
- Beer.cpp

4.2 BeerBuilder Class Reference

Inheritance diagram for BeerBuilder:



Collaboration diagram for BeerBuilder:



Public Member Functions

- BeerBuilder ()

  Construct a new Beer Builder:: Beer Builder object.
- ∼BeerBuilder ()

  Destroy the Beer Builder:: Beer Builder object.
- void getGlass ()

  prepare the glass
- void pourDrink ()

  Pour the Drink object.
- void assembleDrink ()

  Assemble the Drink object.
- void getBeerGlass ()

  Get the Beer Glass object.
- void pourBeer ()

  Pour the Beer object.
- void assembleBeer ()

  Assemble the Beer object.

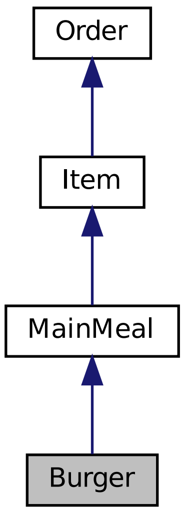
Additional Inherited Members

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

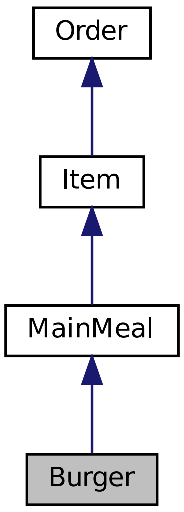
- BeerBuilder.h
- BeerBuilder.cpp

4.3 Burger Class Reference

Inheritance diagram for Burger:



Collaboration diagram for Burger:



Public Member Functions

- Burger ()

    Burger Constructor.
- ∼Burger ()

    Burger Destructor.

Public Attributes

- bool cookedPatty = false

    Whether the patty has been cooked.
- bool assembledBurger = false

    Whether the burger has been assembled.
- bool butteredBun = false

    Whether the bun has been buttered.
- bool preparedVegetables = false

    Whether the vegetables have been prepared.

Additional Inherited Members

4.3.1 Constructor & Destructor Documentation

4.3.1.1 Burger()

```
Burger::Burger ( )
```

Burger Constructor.

Authors

Aidan Chapman (u22738917)

4.3.1.2 ∼Burger()

```
Burger::∼Burger ( )
```

Burger Destructor.

Authors

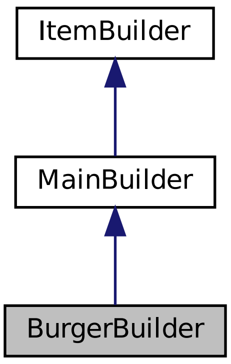
Aidan Chapman (u22738917)

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

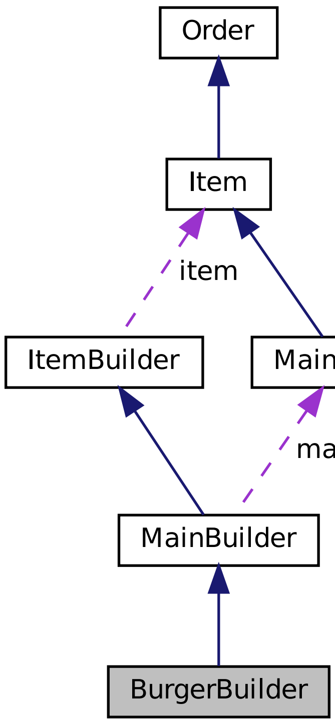
- Burger.h
- Burger.cpp

4.4 BurgerBuilder Class Reference

Inheritance diagram for BurgerBuilder:



Collaboration diagram for BurgerBuilder:



Public Member Functions

- BurgerBuilder ()

  Constructs a new BurgerBuilder object.
- ∼BurgerBuilder ()

  Destructor for the BurgerBuilder class.
- void prepareMeat ()

  Prepares the meat for the burger.
- void seasonMeat ()

  Seasons the meat for the burger.
- void cookMeat ()

  Cooks the meat for the burger.
- void plateMain ()

  Plates the main item of the burger.
- void butterBun ()

  Butters the bun for the burger.
- void prepareVegetables ()

  Prepares the vegetables for the burger.
- void cookPatty ()

  Cooks the patty for the burger.
- void applySauce ()

Applies sauce to the burger.
- void assembleBurger ()

  Assembles the burger.

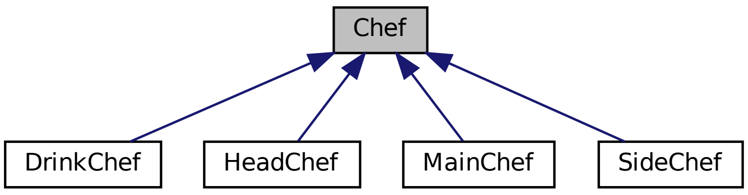
Additional Inherited Members

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

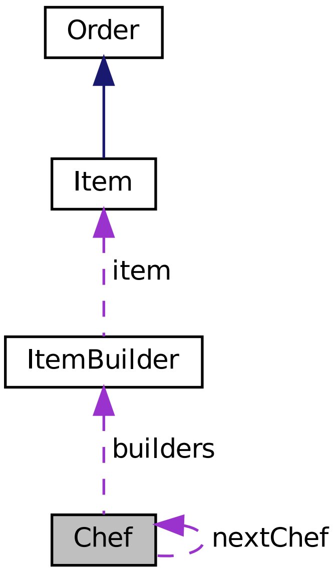
- BurgerBuilder.h
- BurgerBuilder.cpp

4.5 Chef Class Reference

Inheritance diagram for Chef:



Collaboration diagram for Chef:



Public Types

- enum **itemBuilders** {
  steak , **burger** , **fish** , **chips** ,
  salad , **beer** , **water** , **soda** }

Public Member Functions

- Chef ()

  Constructor of the Chef class.
- virtual ∼Chef ()

  Destructor of the Chef class.
- virtual void **preparePart** (string order, Order ∗o)=0
- int request (string &order)

  member function of the Chef class, implementing Adapter functionality

Public Attributes

- Chef ∗ nextChef

  Pointer to next chef in chain of responsibility.

Protected Attributes

- ItemBuilder ∗ builders [8]

  Array of ItemBuilder pointers.

4.5.1 Constructor & Destructor Documentation

4.5.1.1 Chef()

```
Chef::Chef ( )
```

Constructor of the Chef class.

Authors

Aidan Chapman (u22738917)

4.5.1.2 ∼Chef()

```
Chef::∼Chef ( )  [virtual]
```

Destructor of the Chef class.

Author

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

4.5.2 Member Function Documentation

4.5.2.1 request()

```
int Chef::request (
             string & order )
```

member function of the Chef class, implementing Adapter functionality

Parameters

order	: string&

Authors

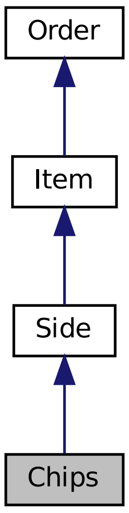
Aidan Chapman (u22738917)

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

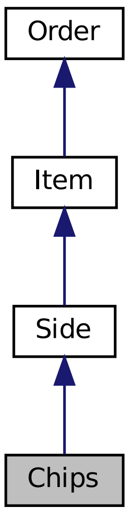
- Chef.h
- Chef.cpp

4.6 Chips Class Reference

Inheritance diagram for Chips:



Collaboration diagram for Chips:



Public Member Functions

- Chips ()

  Chips Constructor.
- ∼Chips ()

  Chips Destructor.

Public Attributes

- bool washedPotatoes = false

  Whether the potatoes have been washed.
- bool cutPotatoes = false

  Whether the potatoes have been cut.
- bool friedPotatoes = false

  Whether the potatoes have been fried.
- bool seasonedChips = false

  Whether the chips have been seasoned.

Additional Inherited Members

4.6.1 Constructor & Destructor Documentation

4.6.1.1 Chips()

```
Chips::Chips ( )
```

Chips Constructor.

Authors

Aidan Chapman (u22738917)

4.6.1.2 ∼Chips()

```
Chips::∼Chips ( )
```

Chips Destructor.

Authors

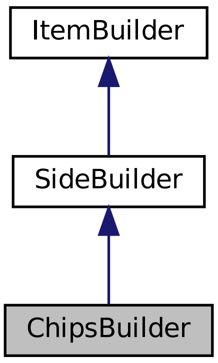
Aidan Chapman (u22738917)

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

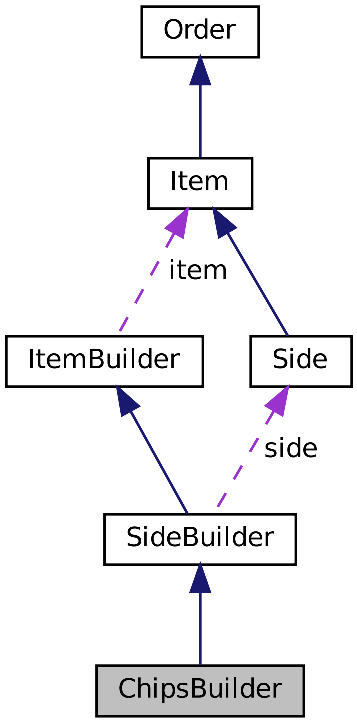
- Chips.h
- Chips.cpp

4.7 ChipsBuilder Class Reference

Inheritance diagram for ChipsBuilder:



Collaboration diagram for ChipsBuilder:



Public Member Functions

- ChipsBuilder ()

    Construct a new Chips Builder:: Chips Builder object.
- ∼ChipsBuilder ()

    Destroy the Chips Builder:: Chips Builder object.
- void washVegetables ()

    Washes the vegetables for the chips.
- void chopVegetables ()

    Chops the vegetables for the chips.
- void assembleSide ()

    Assembles the side dish.
- void plateSide ()

    Plates the side dish.
- void washPotato ()

    Washes the potatoes for the chips.
- void cutPotato ()

    Cuts the potatoes for the chips.
- void fryPotato ()

    Fries the potatoes for the chips.
- void seasonChips ()

    Seasons the chips.

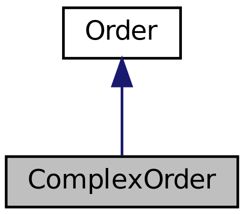
Additional Inherited Members

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

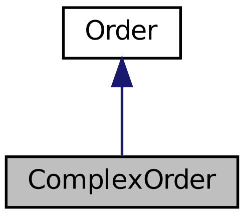
- ChipsBuilder.h
- ChipsBuilder.cpp

4.8 ComplexOrder Class Reference

Inheritance diagram for ComplexOrder:



Collaboration diagram for ComplexOrder:



Public Member Functions

- ComplexOrder (Waiter ∗waiter)

  Constructor for the ComplexOrder class.
- ∼ComplexOrder ()

  Destructor for the ComplexOrder class.
- void addToOrder (Order ∗item)

  Adds an Order object to the ComplexOrder.
- void appendToOrder (Order ∗order)

  Appends an Order object to the end of the ComplexOrder.
- float calculatePrice ()

  Calculates the total price of the ComplexOrder.

4.8.1 Constructor & Destructor Documentation

4.8.1.1 ComplexOrder()

```
ComplexOrder::ComplexOrder (
            Waiter * waiter )
```

Constructor for the ComplexOrder class.

This constructor takes in a Waiter pointer to initialise the Order's Waiter member variable.

Parameters

waiter	A Waiter pointer representing the waiter who took the order.

4.8.1.2 ∼ComplexOrder()

```
ComplexOrder::∼ComplexOrder ( )
```

Destructor for the ComplexOrder class.

This destructor frees up memory allocated to the ComplexOrder object.

4.8.2 Member Function Documentation

4.8.2.1 addToOrder()

```
void ComplexOrder::addToOrder (
             Order * item )  [virtual]
```

Adds an Order object to the ComplexOrder.

This method adds an Order object to the ComplexOrder. If the ComplexOrder already contains an Order object, it creates a new ComplexOrder object and adds the existing Order object and the new Order object to it.

Parameters

item	An Order pointer representing the Order object to be added to the ComplexOrder.

Reimplemented from Order.

4.8.2.2 appendToOrder()

```
void ComplexOrder::appendToOrder (
             Order * orderItem )  [virtual]
```

Appends an Order object to the end of the ComplexOrder.

This method appends an Order object to the end of the ComplexOrder. If the ComplexOrder already contains an Order object, it recursively calls itself on the nextOrderItem pointer until it reaches the end of the ComplexOrder.

Parameters

orderItem	An Order pointer representing the Order object to be appended to the ComplexOrder.

Reimplemented from Order.

4.8.2.3 calculatePrice()

```
float ComplexOrder::calculatePrice ( )  [virtual]
```

Calculates the total price of the ComplexOrder.

This method calculates the total price of the ComplexOrder by recursively calling itself on the nextOrderItem pointer until it reaches the end of the ComplexOrder. It then adds the price of the current Order object to the total price.

Returns

A float representing the total price of the ComplexOrder.

Reimplemented from Order.

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

- ComplexOrder.h
- ComplexOrder.cpp

4.9 Customer Class Reference

Public Member Functions

- Customer (int timestamp)

  The constructor for the Customer class.
- ∼Customer ()

  The destructor for the Customer class.
- void acceptWaiter (Waiter ∗waiter)

  The waiter member variable setter for the Customer class.
- Order ∗ getOrder ()

  The order member variable getter for the Customer class.
- string getOrderRequest ()

  A member function that generates a random order using Interface's generateOrderString() function.
- void changeRating (Rating ∗rating)

  The satisfaction member variable setter for the Customer class, also deletes the previous rating if it exists.
- void receiveOrder (Order ∗order)

  Sets the order member variable to the passed in value.
- float calculatePayment ()

  A function used to calculate what the customer pays for their meal, including the tip based on how happy they were with the service.
- Table ∗ getTable ()

  The table member variable getter for the Customer class.
- Waiter ∗ getWaiter ()

  The waiter member variable getter the Customer class.
- int getTimestamp ()

  The timestamp member variable getter for the Customer class.

4.9.1 Constructor & Destructor Documentation

4.9.1.1 Customer()

```
Customer::Customer (
              int timestamp )
```

The constructor for the Customer class.

Parameters

timestamp	an int

Authors

Aidan Chapman (u22738917)

4.9.1.2 ∼Customer()

```
Customer::∼Customer ( )
```

The destructor for the Customer class.

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545), Kabelo Chuene(u14046492)

4.9.2 Member Function Documentation

4.9.2.1 acceptWaiter()

```
void Customer::acceptWaiter (
             Waiter * waiter )
```

The waiter member variable setter for the Customer class.

Parameters

waiter	a Waiter pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545), Kabelo Chuene(u14046492)

4.9.2.2 calculatePayment()

```
float Customer::calculatePayment ( )
```

A function used to calculate what the customer pays for their meal, including the tip based on how happy they were with the service.

Returns

a float

Authors

Aidan Chapman (u22738917)

4.9.2.3 changeRating()

```
void Customer::changeRating (
            Rating * rating )
```

The satisfaction member variable setter for the Customer class, also deletes the previous rating if it exists.

Parameters

rating	a Rating pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

4.9.2.4 getOrder()

```
Order * Customer::getOrder ( )
```

The order member variable getter for the Customer class.

Returns

an Order pointer

Authors

Douglas Porter (u21797545)

4.9.2.5 getOrderRequest()

```
string Customer::getOrderRequest ( )
```

A member function that generates a random order using Interface's generateOrderString() function.

Returns

a string

Authors

Aidan Chapman (u22738917)

4.9.2.6 getTable()

```
Table * Customer::getTable ( )
```

The table member variable getter for the Customer class.

Returns

a Table pointer

Authors

Douglas Porter (u21797545)

4.9.2.7 getTimestamp()

```
int Customer::getTimestamp ( )
```

The timestamp member variable getter for the Customer class.

Returns

an int

Authors

Douglas Porter (u21797545)

4.9.2.8 getWaiter()

```
Waiter * Customer::getWaiter ( )
```

The waiter member variable getter the Customer class.

Returns

a waiter pointer

Authors

Aidan Chapman (u22738917)

4.9.2.9 receiveOrder()

```
void Customer::receiveOrder (
             Order * order )
```

Sets the order member variable to the passed in value.

Parameters

order	an Order pointer

Authors

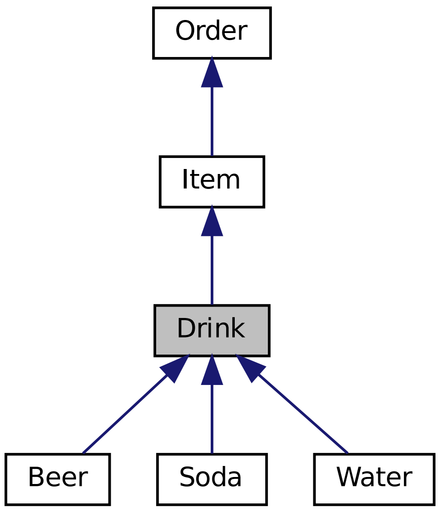
Aidan Chapman (u22738917), Douglas Porter (u21797545)

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

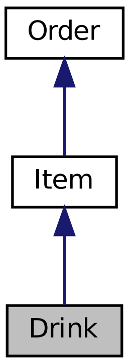
- Customer.h
- Customer.cpp

4.10 Drink Class Reference

Inheritance diagram for Drink:



Collaboration diagram for Drink:



Public Member Functions

- Drink (float price)

    Construct a new Drink:: Drink object.
- ∼Drink ()

    Destroy the Drink:: Drink object.

Public Attributes

- bool gotGlass = false

  Whether the glass has been obtained.
- bool pouredDrink = false

  Whether the drink has been poured.
- bool assembledDrink = false

  Whether the drink has been assembled.

Additional Inherited Members

4.10.1 Constructor & Destructor Documentation

4.10.1.1 Drink()

```
Drink::Drink (
              float price )
```

Construct a new Drink:: Drink object.

Parameters

price	

Returns

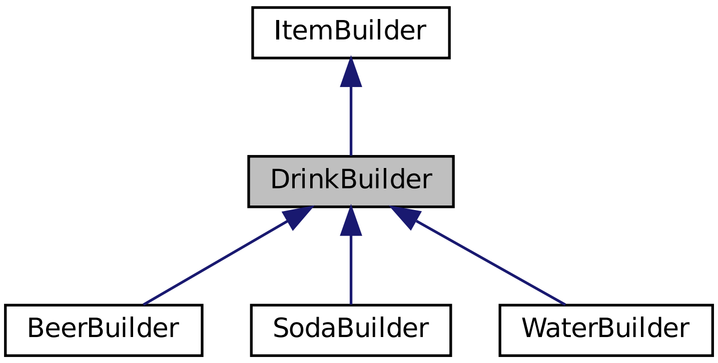
∗ Constructor

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

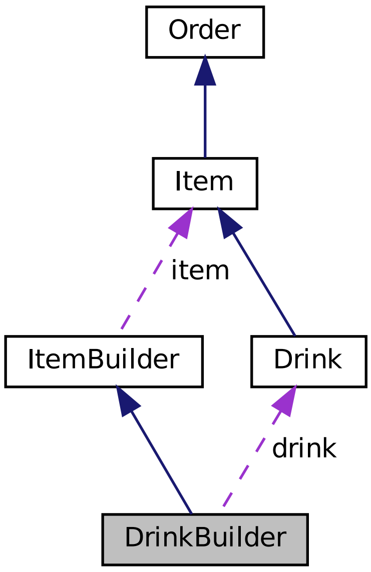
- Drink.h
- Drink.cpp

4.11 DrinkBuilder Class Reference

Inheritance diagram for DrinkBuilder:



Collaboration diagram for DrinkBuilder:



Public Member Functions

- virtual void prepareIngredients ()

Prepares the ingredients for the drink.
- virtual void assembleItem ()

  Assembles the drink by pouring and assembling it.
- virtual Item ∗ getItem ()

  Returns the item that was built.
- virtual void **getGlass** ()=0
- virtual void **pourDrink** ()=0
- virtual void **assembleDrink** ()=0

Protected Attributes

- Drink ∗ drink

  The drink that is being built.

4.11.1 Member Function Documentation

4.11.1.1 getItem()

```
Item * DrinkBuilder::getItem ( )  [virtual]
```

Returns the item that was built.

Returns

Item∗ Pointer to the item that was built.

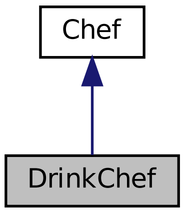
Implements ItemBuilder.

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

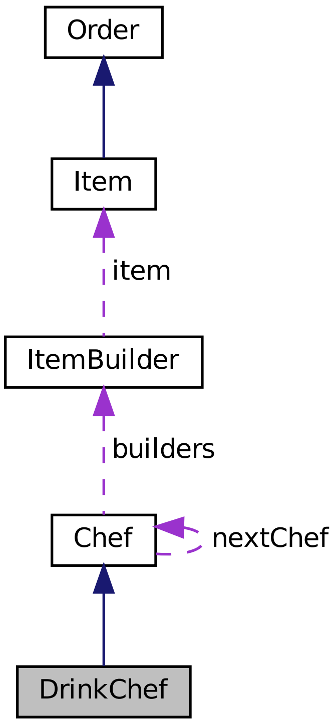
- DrinkBuilder.h
- DrinkBuilder.cpp

4.12 DrinkChef Class Reference

Inheritance diagram for DrinkChef:



Collaboration diagram for DrinkChef:



Public Member Functions

- DrinkChef ()

Constructor of the DrinkChef class.
- ∼DrinkChef ()

  Destructor of the DrinkChef class.
- void preparePart (string order, Order ∗o)

  Member function of the DrinkChef class, implementing Chain of Responsibility functionality.

Additional Inherited Members

4.12.1 Constructor & Destructor Documentation

4.12.1.1 DrinkChef()

```
DrinkChef::DrinkChef ( )
```

Constructor of the DrinkChef class.

Authors

Aidan Chapman (u22738917)

4.12.1.2 ∼DrinkChef()

```
DrinkChef::∼DrinkChef ( )
```

Destructor of the DrinkChef class.

Authors

Aidan Chapman (u22738917)

4.12.2 Member Function Documentation

4.12.2.1 preparePart()

```
void DrinkChef::preparePart (
             string order,
             Order * o )  [virtual]
```

Member function of the DrinkChef class, implementing Chain of Responsibility functionality.

Parameters

order	a string
o	an Order pointer

Authors

Aidan Chapman (u22738917)

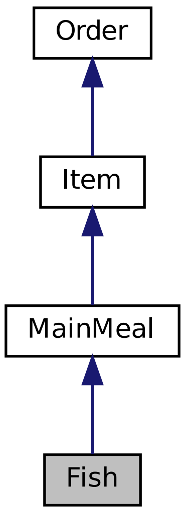
Implements Chef.

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

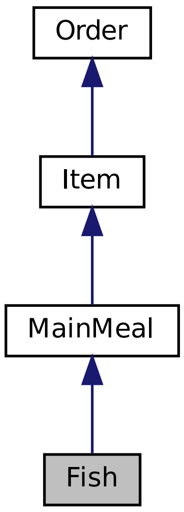
- DrinkChef.h
- DrinkChef.cpp

4.13 Fish Class Reference

Inheritance diagram for Fish:



Collaboration diagram for Fish:



Public Member Functions

- Fish ()

  Fish Constructor.
- ∼Fish ()

  Fish Destructor.

Public Attributes

- bool descaledFish = false

  Whether the fish has been descaled.
- bool seasonedFish = false

  Whether the fish has been seasoned.
- bool cookedFish = false

  Whether the fish has been cooked.
- bool platedFish = false

  Whether the fish has been plated.

Additional Inherited Members

4.13.1 Constructor & Destructor Documentation

4.13.1.1 Fish()

```
Fish::Fish ( )
```

Fish Constructor.

Authors

Aidan Chapman (u22738917)

4.13.1.2 ∼Fish()

```
Fish::∼Fish ( )
```

Fish Destructor.

Authors

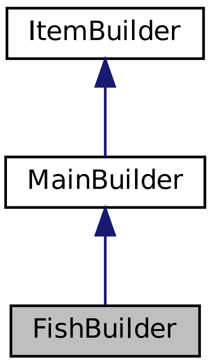
Aidan Chapman (u22738917)

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

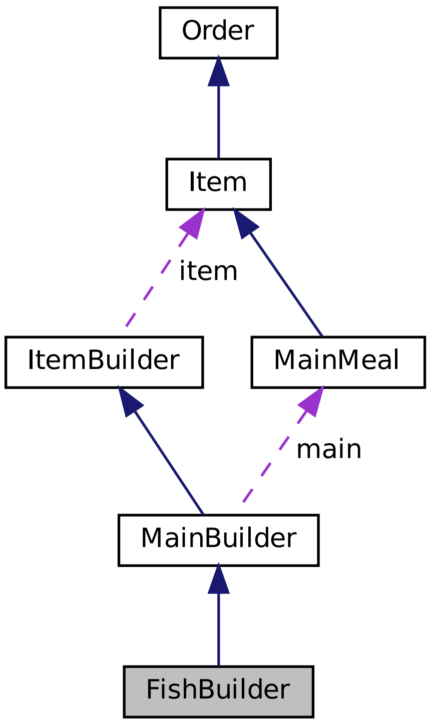
- Fish.h
- Fish.cpp

4.14 FishBuilder Class Reference

Inheritance diagram for FishBuilder:



Collaboration diagram for FishBuilder:



Public Member Functions

- FishBuilder ()

    Constructs a new FishBuilder object.
- ∼FishBuilder ()

    Destroys the FishBuilder object.
- void prepareMeat ()

    Prepares the fish by descaling it and marking it as prepared.
- void seasonMeat ()

    Seasons the fish and marks it as seasoned.
- void cookMeat ()

    Cooks the fish and marks it as cooked.
- void plateMain ()

    Plates the fish and marks it as plated.
- void descaleFish ()

    Descales the fish and marks it as descaled.
- void seasonFish ()

    Seasons the fish and marks it as seasoned.
- void cookFish ()

    Cooks the fish and marks it as cooked.
- void plateFish ()

    Plates the fish and marks it as plated.

Additional Inherited Members

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

- FishBuilder.h
- FishBuilder.cpp

4.15 Floor Class Reference

Public Member Functions

- Floor (int numTables)

  Constructor of the Floor class.
- ∼Floor ()

  Destructor of the Floor class.
- void seatCustomer (Customer ∗customer)

  A member function of the Floor class, finding an available table for the customer to sit at.
- void setRestaurant (Restaurant ∗restaurant)

  Member function of the Floor class, allowing for the setting of the Restaurant in the context of the Mediator pattern.
- int getNumTables ()

  A member function of the Floor class, returning the number of tables.
- Table ∗ getTable (Customer ∗customer)

  A member function of the Floor class, returns the table that a customer is at. Returns nullptr if no customer is found at any table.

4.15.1 Constructor & Destructor Documentation

4.15.1.1 Floor()

```
Floor::Floor (
              int numTables )
```

Constructor of the Floor class.

Parameters

numTables	an integer

Authors

Aidan Chapman (u22738917)

4.15.1.2 ∼Floor()

```
Floor::∼Floor ( )
```

Destructor of the Floor class.

Authors

Aidan Chapman (u22738917)

4.15.2 Member Function Documentation

4.15.2.1 getNumTables()

```
int Floor::getNumTables ( )
```

A member function of the Floor class, returning the number of tables.

Returns

an integer

Authors

Aidan Chapman (u22738917)

4.15.2.2 getTable()

```
Table * Floor::getTable (
             Customer * customer )
```

A member function of the Floor class, returns the table that a customer is at. Returns nullptr if no customer is found at any table.

Parameters

customer	a Customer pointer

Returns

a Table pointer

Authors

Aidan Chapman (u22738917)

4.15.2.3 seatCustomer()

```
void Floor::seatCustomer (
             Customer * customer )
```

A member function of the Floor class, finding an available table for the customer to sit at.

Parameters

customer	a Customer pointer

Authors

Aidan Chapman (u22738917)

4.15.2.4 setRestaurant()

```
void Floor::setRestaurant (
             Restaurant * restaurant )
```

Member function of the Floor class, allowing for the setting of the Restaurant in the context of the Mediator pattern.

Parameters

restaurant	a Restaurant pointer

Authors

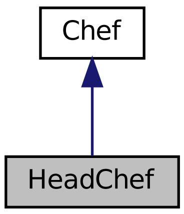
Aidan Chapman (u22738917)

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

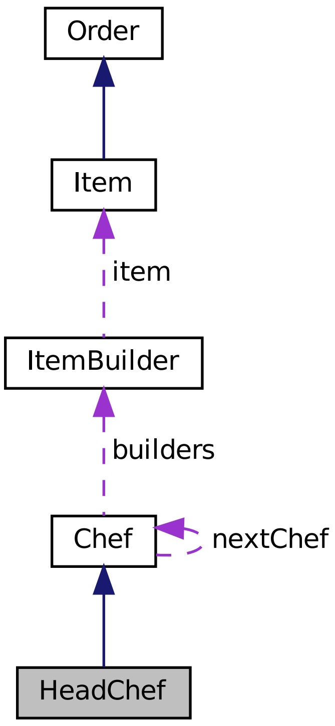
- Floor.h
- Floor.cpp

4.16 HeadChef Class Reference

Inheritance diagram for HeadChef:



Collaboration diagram for HeadChef:



Public Member Functions

- HeadChef ()

Constructor of the HeadChef class.
- ∼HeadChef ()

  Destructor of the HeadChef class.
- void **preparePart** (string order, Order ∗o)

Additional Inherited Members

4.16.1 Constructor & Destructor Documentation

4.16.1.1 HeadChef()

```
HeadChef::HeadChef ( )
```

Constructor of the HeadChef class.

Authors

Aidan Chapman (u22738917)

4.16.1.2 ∼HeadChef()

```
HeadChef::∼HeadChef ( )
```

Destructor of the HeadChef class.

Authors

Aidan Chapman (u22738917)

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

- HeadChef.h
- HeadChef.cpp

4.17 Interface Class Reference

Public Member Functions

- Interface ()

  Constructor of the Interface class.
- ∼Interface ()

  Destructor of the Interface class.
- int generateNumberOfCustomers ()

  Member function of the Interface class, returns a random number of customers between 1 and 10.
- float runCustomer ()

  Member function of the Interface class, returns the amount that the Customer paid.
- Restaurant ∗ **getRestaurant** ()

Static Public Member Functions

- static int getCurrentUnixTime ()

  Member function of the Interface class, returns the current unix time. Dependent on system clock.
- static string generateOrderString ()

  Member function of the Interface class, returns a randomOrder string to be adapted by the chef. The string is composed of at least 1 main meal. There are a maximum of 6 mains, sides and drinks per order.

4.17.1 Constructor & Destructor Documentation

4.17.1.1 Interface()

```
Interface::Interface ( )
```

Constructor of the Interface class.

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545),Kabelo CHuene(14046492)

4.17.1.2 ∼Interface()

```
Interface::∼Interface ( )
```

Destructor of the Interface class.

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545),Kabelo CHuene(14046492)

4.17.2 Member Function Documentation

4.17.2.1 generateNumberOfCustomers()

```
int Interface::generateNumberOfCustomers ( )
```

Member function of the Interface class, returns a random number of customers between 1 and 10.

Returns

an int

Authors

Aidan Chapman (u22738917)

4.17.2.2 generateOrderString()

```
string Interface::generateOrderString ( )  [static]
```

Member function of the Interface class, returns a randomOrder string to be adapted by the chef. The string is composed of at least 1 main meal. There are a maximum of 6 mains, sides and drinks per order.

Returns

an string

Authors

Aidan Chapman (u22738917),Kabelo CHuene(14046492)

4.17.2.3 getCurrentUnixTime()

```
int Interface::getCurrentUnixTime ( )  [static]
```

Member function of the Interface class, returns the current unix time. Dependent on system clock.

Returns

an int

Authors

Aidan Chapman (u22738917)

4.17.2.4 runCustomer()

```
float Interface::runCustomer ( )
```

Member function of the Interface class, returns the amount that the Customer paid.

Returns

a float

Authors

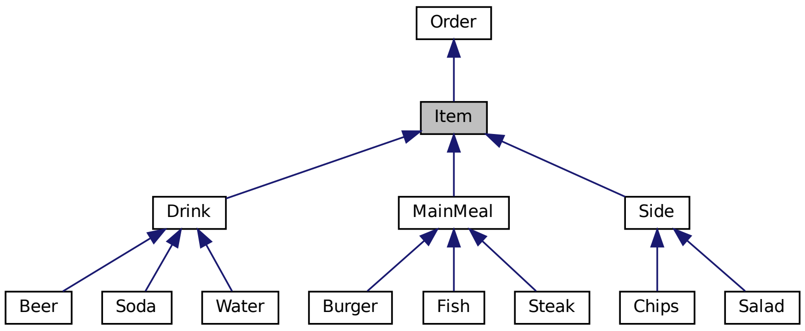
Aidan Chapman (u22738917), Douglas Porter (u21797545),Kabelo CHuene(14046492)

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

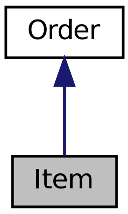
- Interface.h
- Interface.cpp

4.18 Item Class Reference

Inheritance diagram for Item:



Collaboration diagram for Item:



Public Member Functions

- Item (float price)

  Constructor of the Item class. Sets the float variable with the price input.
- ∼Item ()

  Destructor of the Item class. Does nothing.
- float calculatePrice ()

  Calculates the price of the item.

Protected Attributes

- float price

  The price of the item.

4.18.1 Constructor & Destructor Documentation

4.18.1.1 Item()

```
Item::Item (
             float price )
```

Constructor of the Item class. Sets the float variable with the price input.

Parameters

price	a float

Authors

Aidan Chapman (u22738917)

4.18.2 Member Function Documentation

4.18.2.1 calculatePrice()

```
float Item::calculatePrice ( )  [virtual]
```

Calculates the price of the item.

Returns

float the price of the item

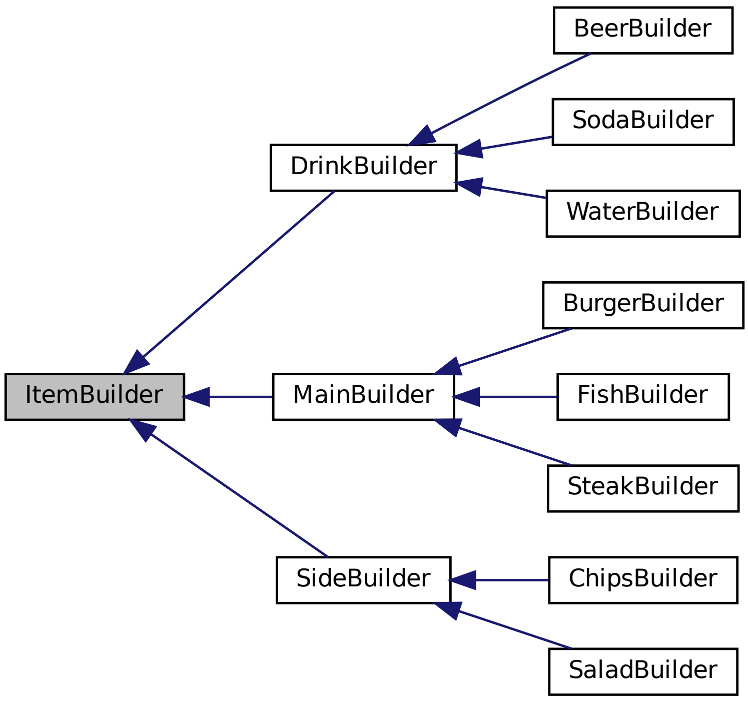
Reimplemented from Order.

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

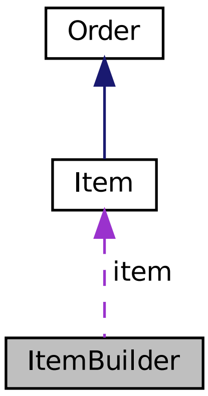
- Item.h
- Item.cpp

4.19 ItemBuilder Class Reference

Inheritance diagram for ItemBuilder:



Collaboration diagram for ItemBuilder:



Public Member Functions

- virtual void **prepareIngredients** ()=0
- virtual void **assembleItem** ()=0
- virtual Item ∗ **getItem** ()=0

Protected Attributes

- Item ∗ item

  Item object.

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

- ItemBuilder.h

4.20 Kitchen Class Reference

Public Member Functions

- Kitchen ()

  Constructor of the Kitchen class.
- void receiveOrder (OrderContainer ∗orderContainer)

  A member function of the Kitchen class, adds order specified in parameter to the orderQueue member variable.
- void makeNextOrder ()

  Member function of the Kitchen class, pops the next order from the queue and sends it to the chefs for preparation.
- void setRestaurant (Restaurant ∗restaurant)

  Member variable of the Kitchen class, setting the Restaurant member variable for use with the mediator pattern.

4.20.1 Constructor & Destructor Documentation

4.20.1.1 Kitchen()

```
Kitchen::Kitchen ( )
```

Constructor of the Kitchen class.

Destructor of the Kitchen class.

Authors

Aidan Chapman (u22738917)

4.20.2 Member Function Documentation

4.20.2.1 makeNextOrder()

```
void Kitchen::makeNextOrder ( )
```

Member function of the Kitchen class, pops the next order from the queue and sends it to the chefs for preparation.

Authors

Aidan Chapman (u22738917)

4.20.2.2 receiveOrder()

```
void Kitchen::receiveOrder (
            OrderContainer * orderContainer )
```

A member function of the Kitchen class, adds order specified in parameter to the orderQueue member variable.

Parameters

orderContainer	an OrderContainer pointer

Authors

Aidan Chapman (u22738917)

4.20.2.3 setRestaurant()

```
void Kitchen::setRestaurant (
            Restaurant * restaurant )
```

Member variable of the Kitchen class, setting the Restaurant member variable for use with the mediator pattern.

Parameters

restaurant	a Restaurant pointer

Authors

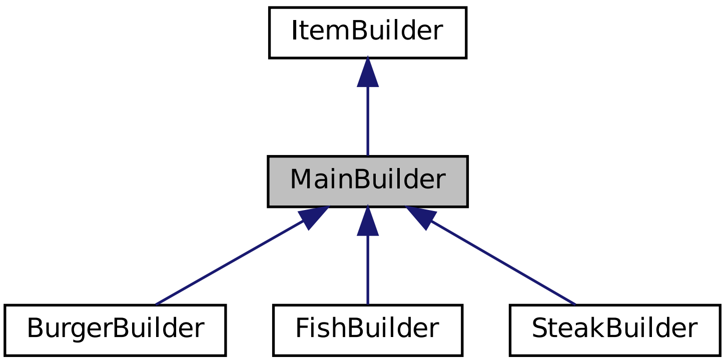
Aidan Chapman (u22738917)

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

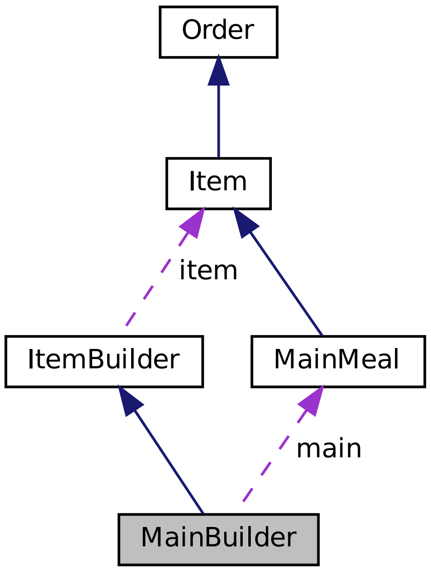
- Kitchen.h
- Kitchen.cpp

4.21 MainBuilder Class Reference

Inheritance diagram for MainBuilder:



Collaboration diagram for MainBuilder:



Public Member Functions

- virtual void **prepareIngredients** ()

- virtual void assembleItem ()

  Assembles the main dish.
- virtual Item ∗ getItem ()

  Returns the item that was built.
- virtual void **prepareMeat** ()=0
- virtual void **seasonMeat** ()=0
- virtual void **cookMeat** ()=0
- virtual void **plateMain** ()=0

Protected Attributes

- MainMeal ∗ main

  MainMeal object.

4.21.1 Member Function Documentation

4.21.1.1 getItem()

```
Item * MainBuilder::getItem ( )  [virtual]
```

Returns the item that was built.

Returns

Item∗ Pointer to the item that was built

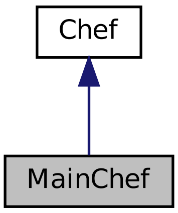
Implements ItemBuilder.

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

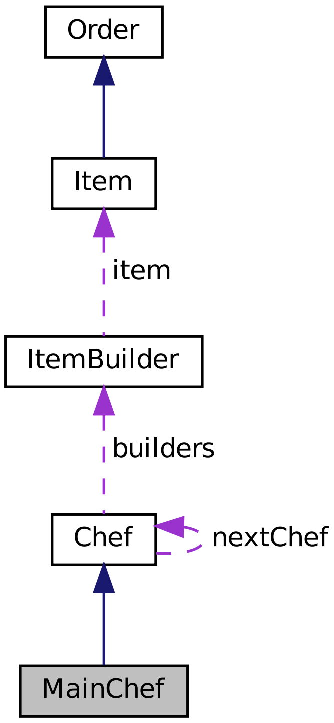
- MainBuilder.h
- MainBuilder.cpp

4.22 MainChef Class Reference

Inheritance diagram for MainChef:



Collaboration diagram for MainChef:



Public Member Functions

- MainChef ()

Constructor of the MainChef class.

- ∼MainChef ()

  Destructor of the MainChef class.

- void preparePart (string order, Order ∗o)

  The Chain of responsibility handle() method.

Additional Inherited Members

4.22.1 Constructor & Destructor Documentation

4.22.1.1 MainChef()

```
MainChef::MainChef ( )
```

Constructor of the MainChef class.

Authors

Aidan Chapman (u22738917)

4.22.1.2 ∼MainChef()

```
MainChef::∼MainChef ( )
```

Destructor of the MainChef class.

Authors

Aidan Chapman (u22738917)

4.22.2 Member Function Documentation

4.22.2.1 preparePart()

```
void MainChef::preparePart (
             string order,
             Order * o )  [virtual]
```

The Chain of responsibility handle() method.

Parameters

order	a string
o	an Order pointer

Authors

Aidan Chapman (u22738917)

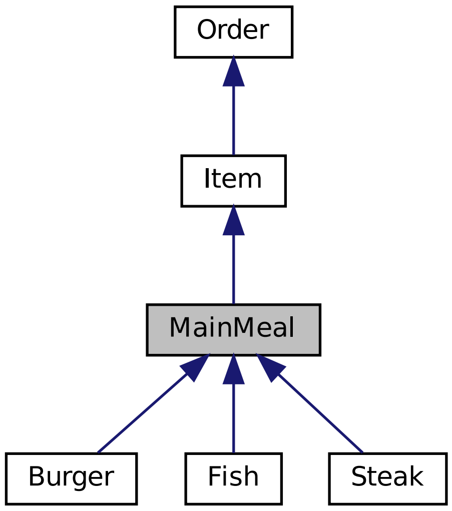
Implements Chef.

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

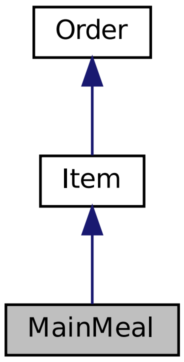
- MainChef.h
- MainChef.cpp

4.23 MainMeal Class Reference

Inheritance diagram for MainMeal:



Collaboration diagram for MainMeal:



Public Member Functions

- MainMeal (float price)

  Constructor for the MainMeal class.
- ∼MainMeal ()

  Destructor for the MainMeal class.

Public Attributes

- bool preparedMain = false

  Whether the main has been prepared.
- bool seasonedMain = false

  Whether the main has been seasoned.
- bool cookedMain = false

  Whether the main has been cooked.
- bool platedMain = false

  Whether the main has been plated.

Additional Inherited Members

4.23.1 Constructor & Destructor Documentation

4.23.1.1 MainMeal()

```
MainMeal::MainMeal (
            float price )
```

Constructor for the MainMeal class.

Parameters

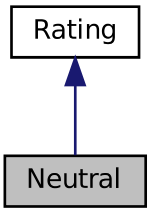
price	The price of the MainMeal

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

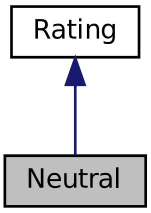
- MainMeal.h
- MainMeal.cpp

4.24 Neutral Class Reference

Inheritance diagram for Neutral:



Collaboration diagram for Neutral:



Public Member Functions

- Neutral ()

  Constructs a new Neutral object.
- ∼Neutral ()

  Destroys the Neutral object.

- float calculateTip ()

  Function for calculating the tip of the customer.
- void changeState (Customer ∗customer)

  Function for changing the rating of the customer.
- string getRating ()

  Function for getting the rating of the customer.

4.24.1 Member Function Documentation

4.24.1.1 calculateTip()

```
float Neutral::calculateTip ( )  [virtual]
```

Function for calculating the tip of the customer.

Returns

float The tip of the customer.

Implements Rating.

4.24.1.2 changeState()

```
void Neutral::changeState (
             Customer * customer )  [virtual]
```

Function for changing the rating of the customer.

Parameters

customer	The customer whose rating will be changed.

Implements Rating.

4.24.1.3 getRating()

```
string Neutral::getRating ( )
```

Function for getting the rating of the customer.

Returns

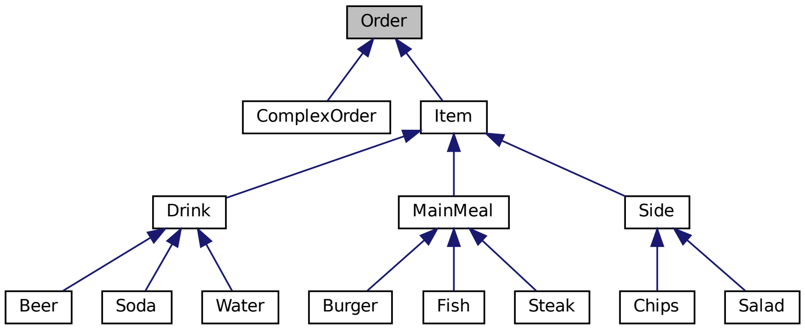
string The rating of the customer.

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

- Neutral.h
- Neutral.cpp

4.25 Order Class Reference

Inheritance diagram for Order:



Public Member Functions

- Order ()

  Default constructor for the Order class.
- Order (Waiter ∗waiter)

  Constructor for the Order class.
- virtual ∼Order ()

  Destructor for the Order class.
- virtual void addToOrder (Order ∗item)

  Adds an Order object to the order.
- virtual void appendToOrder (Order ∗order)

  Appends an Order object to the order.
- virtual float calculatePrice ()

  Calculates the price of the order.
- Waiter ∗ getWaiter ()

  Gets the waiter that is attached to the order.

4.25.1 Constructor & Destructor Documentation

4.25.1.1 Order()

```
Order::Order (
                Waiter ∗ waiter )
```

Constructor for the Order class.

Parameters

waiter	The waiter that is attached to the order.

4.25.2 Member Function Documentation

4.25.2.1 addToOrder()

```
void Order::addToOrder (
            Order * item )  [virtual]
```

Adds an Order object to the order.

Parameters

item	An Order pointer representing the Order object to be added to the order.

Reimplemented in ComplexOrder.

4.25.2.2 appendToOrder()

```
void Order::appendToOrder (
            Order * order )  [virtual]
```

Appends an Order object to the order.

Parameters

order	An Order pointer representing the Order object to be appended to the order.

Reimplemented in ComplexOrder.

4.25.2.3 calculatePrice()

```
float Order::calculatePrice ( )  [virtual]
```

Calculates the price of the order.

Returns

float The price of the order.

Reimplemented in Item, and ComplexOrder.

4.25.2.4 getWaiter()

```
Waiter * Order::getWaiter ( )
```

Gets the waiter that is attached to the order.

Returns

Waiter∗ A pointer to the waiter that is attached to the order.

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

- Order.h
- Order.cpp

4.26 OrderContainer Class Reference

Public Member Functions

- OrderContainer (string o, Order ∗order)

  Constructs an OrderContainer object with the given string and Order pointer.
- ∼OrderContainer ()

  Destructor for the OrderContainer class.
- Order ∗ getOrder ()

  Returns the Order pointer stored in the container.
- string getRequestedOrder ()

  Returns the string stored in the container.

4.26.1 Constructor & Destructor Documentation

4.26.1.1 OrderContainer()

```
OrderContainer::OrderContainer (
              string o,
              Order * order )
```

Constructs an OrderContainer object with the given string and Order pointer.

Parameters

o	The string to be set as the order container's identifier.
order	The Order pointer to be stored in the container.

4.26.2 Member Function Documentation

4.26.2.1 getOrder()

```
Order * OrderContainer::getOrder ( )
```

Returns the Order pointer stored in the container.

Returns

An Order pointer representing the Order object stored in the container.

4.26.2.2 getRequestedOrder()

```
string OrderContainer::getRequestedOrder ( )
```

Returns the string stored in the container.

Returns

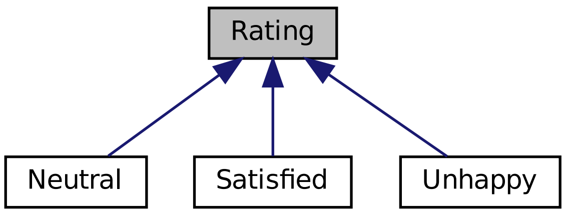
A string representing the string stored in the container.

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

- OrderContainer.h
- OrderContainer.cpp

4.27 Rating Class Reference

Inheritance diagram for Rating:



Public Member Functions

- Rating ()

  Default constructor for the Rating class.
- virtual ∼Rating ()

  Destructor for the Rating class.
- virtual float **calculateTip** ()=0
- virtual void **changeState** (Customer ∗customer)=0

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

- Rating.h
- Rating.cpp

4.28 Restaurant Class Reference

Public Member Functions

- Restaurant (int numTables)

  Constructor of the Restaurant class.
- ∼Restaurant ()

  Destructor of the Restaurant class.
- void seatCustomer (Customer ∗customer)

  implements the functionality to seat a customer, link a Waiter observer to the customer and take the customer's order
- void placeOrder (OrderContainer ∗orderContainer)

  A method used to send the order to the kitchen.
- void **makeNextOrder** ()
- void initialise ()

  A function to be called directly after the constructor for Restaurant has been called in order to link all member variables properly.
- void cleanUp (Customer ∗customer)

  A function to be called when the customer leaves to properly delete/clean the customer and their related objects.

4.28.1 Constructor & Destructor Documentation

4.28.1.1 Restaurant()

```
Restaurant::Restaurant (
                int numTables )
```

Constructor of the Restaurant class.

Parameters

numTables	an int

Authors

Aidan Chapman (u22738917)

4.28.1.2 ∼Restaurant()

```
Restaurant::∼Restaurant ( )
```

Destructor of the Restaurant class.

Authors

Aidan Chapman (u22738917)

4.28.2 Member Function Documentation

4.28.2.1 cleanUp()

```
void Restaurant::cleanUp (
            Customer * customer )
```

A function to be called when the customer leaves to properly delete/clean the customer and their related objects.

Parameters

customer	a Customer pointer

Authors

Aidan Chapman (u22738917)

4.28.2.2 initialise()

```
void Restaurant::initialise ( )
```

A function to be called directly after the constructor for Restaurant has been called in order to link all member variables properly.

Authors

Aidan Chapman (u22738917)

4.28.2.3 placeOrder()

```
void Restaurant::placeOrder (
            OrderContainer * order )
```

A method used to send the order to the kitchen.

Parameters

orderContainer	an OrderContainer pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

4.28.2.4 seatCustomer()

```
void Restaurant::seatCustomer (
            Customer * customer )
```

implements the functionality to seat a customer, link a Waiter observer to the customer and take the customer's order

Parameters

customer	a Customer pointer

Authors

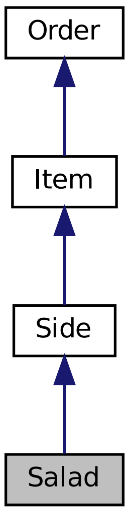
Aidan Chapman (u22738917)

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

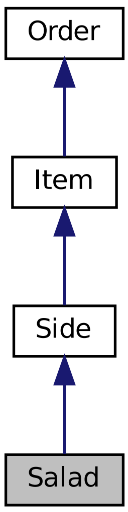
- Restaurant.h
- Restaurant.cpp

4.29 Salad Class Reference

Inheritance diagram for Salad:



Collaboration diagram for Salad:



Public Member Functions

- Salad ()

    Salad Constructor.
- ∼Salad ()

    Salad Destructor.

Public Attributes

- bool washedLettuce = false

    Whether the lettuce has been washed.
- bool cutLettuce = false

    Whether the lettuce has been cut.
- bool washedTomato = false

    Whether the tomato has been washed.
- bool cutTomato = false

    Whether the tomato has been cut.
- bool washedCucumber = false

    Whether the cucumber has been washed.
- bool cutCucumber = false

    Whether the cucumber has been cut.
- bool cutFeta = false

    Whether the feta has been cut.
- bool assembledSalad = false

    Whether the salad has been assembled.
- bool platedSalad = false

    Whether the salad has been plated.

Additional Inherited Members

4.29.1 Constructor & Destructor Documentation

4.29.1.1 Salad()

```
Salad::Salad ( )
```

Salad Constructor.

Authors

Aidan Chapman (u22738917)

4.29.1.2 ∼Salad()

```
Salad::∼Salad ( )
```

Salad Destructor.

Authors

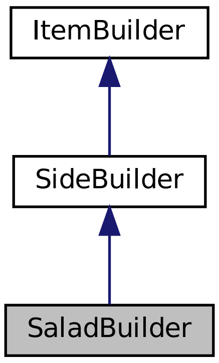
Aidan Chapman (u22738917)

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

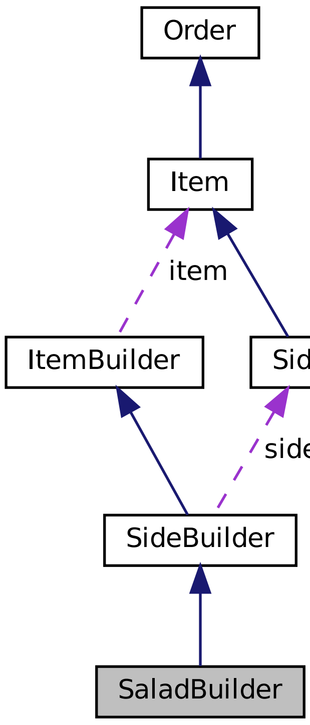
- Salad.h
- Salad.cpp

4.30 SaladBuilder Class Reference

Inheritance diagram for SaladBuilder:



Collaboration diagram for SaladBuilder:



Public Member Functions

- SaladBuilder ()

  Construct a new Salad Builder:: Salad Builder object.
- ∼SaladBuilder ()

  Destroy the Salad Builder:: Salad Builder object.
- void washVegetables ()

  Wash the vegetables.
- void chopVegetables ()

  Chop the vegetables.
- void assembleSide ()

  Assemble the side.
- void plateSide ()

  Plate the side.
- void washLettuce ()

  Wash the lettuce.
- void cutLettuce ()

  Cut the lettuce.
- void washTomato ()

  Wash the tomato.
- void cutTomato ()

Cut the tomato.
- void washCucumber ()

  Wash the cucumber.
- void cutCucumber ()

  Cut the cucumber.
- void cutFeta ()

  Cut the feta cheese.
- void assembleSalad ()

  Assemble the salad.

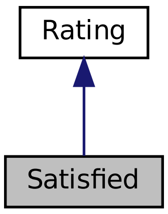
Additional Inherited Members

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

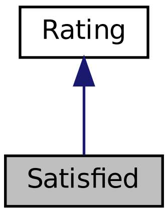
- SaladBuilder.h
- SaladBuilder.cpp

4.31 Satisfied Class Reference

Inheritance diagram for Satisfied:



Collaboration diagram for Satisfied:



Public Member Functions

- Satisfied ()

    Default constructor for the Satisfied class.
- ∼Satisfied ()

    Destructor for the Satisfied class.
- float calculateTip ()

    Function for calculating the tip of the customer.
- void changeState (Customer ∗customer)

    Function for changing the rating of the customer.
- string getRating ()

    Function for getting the rating of the customer.

4.31.1 Member Function Documentation

4.31.1.1 calculateTip()

```
float Satisfied::calculateTip ( )  [virtual]
```

Function for calculating the tip of the customer.

Returns

float

Implements Rating.

4.31.1.2 changeState()

```
void Satisfied::changeState (
            Customer * customer )  [virtual]
```

Function for changing the rating of the customer.

Parameters

customer	

Implements Rating.

4.31.1.3 getRating()

```
string Satisfied::getRating ( )
```

Function for getting the rating of the customer.

Returns

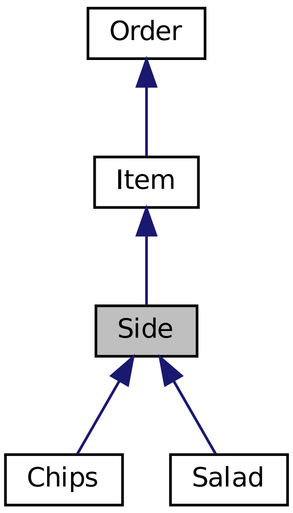
string

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

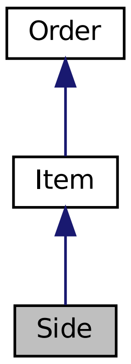
- Satisfied.h
- Satisfied.cpp

4.32 Side Class Reference

Inheritance diagram for Side:



Collaboration diagram for Side:



Public Member Functions

- Side (float price)

  Constructor for the Side class.
- ∼Side ()

  Destructor for the Side class.

Public Attributes

- bool washedVegetables = false

  Whether the vegetables have been washed.
- bool cutVegetables = false

  Whether the vegetables have been cut.
- bool assembledSide = false

  Whether the side has been assembled.
- bool platedSide = false

  Whether the side has been plated.

Additional Inherited Members

4.32.1 Constructor & Destructor Documentation

4.32.1.1 Side()

```
Side::Side (
            float price )
```

Constructor for the Side class.

Parameters

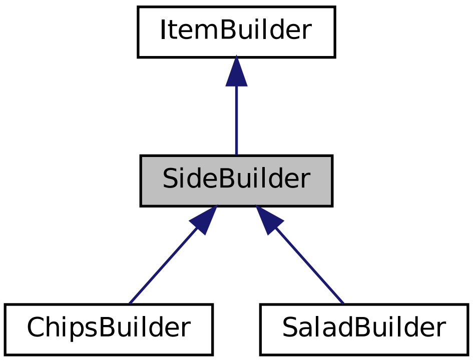
price	The price of the side

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

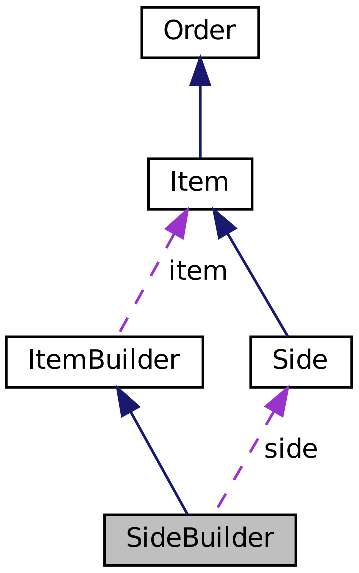
- Side.h
- Side.cpp

4.33 SideBuilder Class Reference

Inheritance diagram for SideBuilder:



Collaboration diagram for SideBuilder:



Public Member Functions

- virtual void prepareIngredients ()

  Prepares the ingredients for the side dish by washing and chopping the vegetables.
- virtual void assembleItem ()

  Assembles the side dish by calling the assembleSide() and plateSide() functions.
- virtual Item ∗ getItem ()

  Returns the item that was built by the SideBuilder.
- virtual void **washVegetables** ()=0
- virtual void **chopVegetables** ()=0
- virtual void **assembleSide** ()=0
- virtual void **plateSide** ()=0

Protected Attributes

- Side ∗ side

  Side object.

4.33.1 Member Function Documentation

4.33.1.1 getItem()

```
Item * SideBuilder::getItem ( )  [virtual]
```

Returns the item that was built by the SideBuilder.

Returns

Item∗ A pointer to the item that was built.

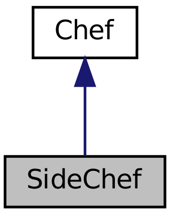
Implements ItemBuilder.

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

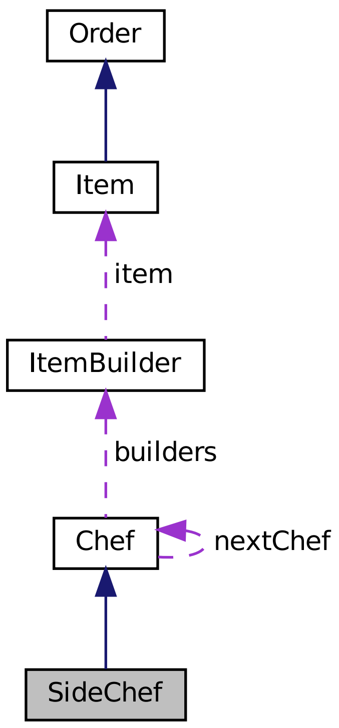
- SideBuilder.h
- SideBuilder.cpp

4.34 SideChef Class Reference

Inheritance diagram for SideChef:



Collaboration diagram for SideChef:



Public Member Functions

- SideChef ()

  Constructor of the SideChef class.
- ∼SideChef ()

  Destructor of the SideChef class.
- void preparePart (string order, Order ∗o)

  The Chain of responsibility handle() method.

Additional Inherited Members

4.34.1 Constructor & Destructor Documentation

4.34.1.1 SideChef()

```
SideChef::SideChef ( )
```

Constructor of the SideChef class.

Authors

Aidan Chapman (u22738917)

4.34.1.2 ∼SideChef()

```
SideChef::∼SideChef ( )
```

Destructor of the SideChef class.

Authors

Aidan Chapman (u22738917)

4.34.2 Member Function Documentation

4.34.2.1 preparePart()

```
void SideChef::preparePart (
            string order,
            Order * o )  [virtual]
```

The Chain of responsibility handle() method.

Parameters

order	a string
o	an Order pointer

Authors

Aidan Chapman (u22738917)

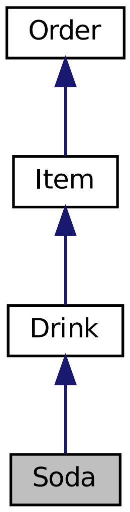
Implements Chef.

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

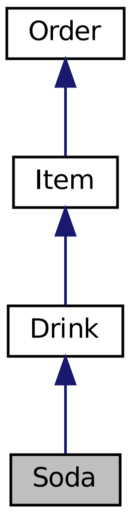
- SideChef.h
- SideChef.cpp

4.35 Soda Class Reference

Inheritance diagram for Soda:



Collaboration diagram for Soda:



Public Member Functions

- Soda ()

    Soda Constructor.
- ∼Soda ()

    Soda Destructor.

Public Attributes

- bool gotSodaGlass = false

    Whether a soda glass has been obtained.
- bool pouredSoda = false

    Whether soda has been poured into the glass.
- bool assembledSoda = false

    Whether the soda has been assembled.

Additional Inherited Members

4.35.1 Constructor & Destructor Documentation

4.35.1.1 Soda()

```
Soda::Soda ( )
```

Soda Constructor.

Authors

Aidan Chapman (u22738917)

4.35.1.2 ∼Soda()

```
Soda::∼Soda ( )
```

Soda Destructor.

Authors

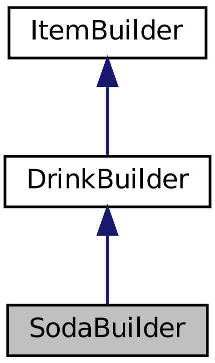
Aidan Chapman (u22738917)

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

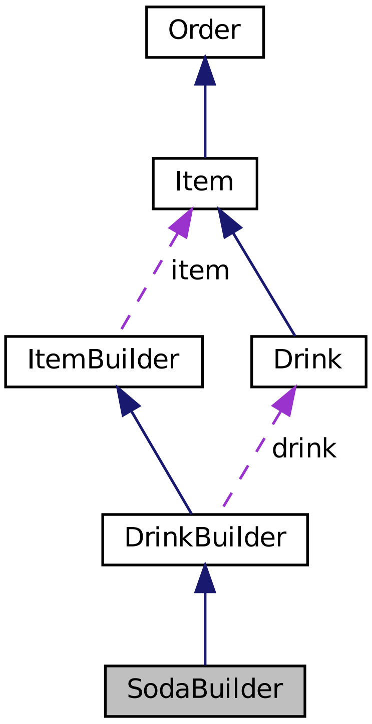
- Soda.h
- Soda.cpp

4.36 SodaBuilder Class Reference

Inheritance diagram for SodaBuilder:



Collaboration diagram for SodaBuilder:



Public Member Functions

- SodaBuilder ()

  Construct a new Soda Builder:: Soda Builder object.
- ∼SodaBuilder ()

  Destroy the Soda Builder:: Soda Builder object.
- void getGlass ()

  Get the Glass object.
- void pourDrink ()

  Pour Drink object.
- void assembleDrink ()

  Assemble Drink object.
- void getSodaGlass ()

  Get the Soda Glass object.
- void pourSoda ()

  Pour Soda object.
- void assembleSoda ()

  Assemble Soda object.

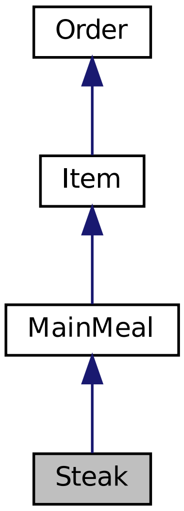
Additional Inherited Members

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

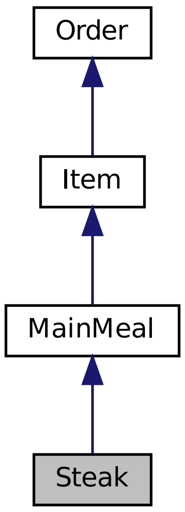
- SodaBuilder.h
- SodaBuilder.cpp

4.37 Steak Class Reference

Inheritance diagram for Steak:



Collaboration diagram for Steak:



Public Member Functions

- Steak ()

  Steak Constructor.
- ∼Steak ()

  Steak Destructor.

Public Attributes

- bool tenderisedSteak = false

  Whether the steak has been tenderised.
- bool seasonedSteak = false

  Whether the steak has been seasoned.
- bool cookedSteak = false

  Whether the steak has been cooked.
- bool platedSteak = false

  Whether the steak has been plated.

Additional Inherited Members

4.37.1 Constructor & Destructor Documentation

4.37.1.1 Steak()

```
Steak::Steak ( )
```

Steak Constructor.

Authors

Aidan Chapman (u22738917)

4.37.1.2 ∼Steak()

```
Steak::∼Steak ( )
```

Steak Destructor.

Authors

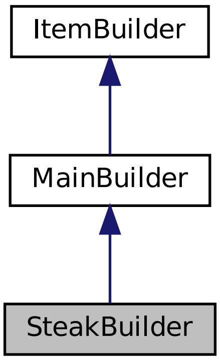
Aidan Chapman (u22738917)

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

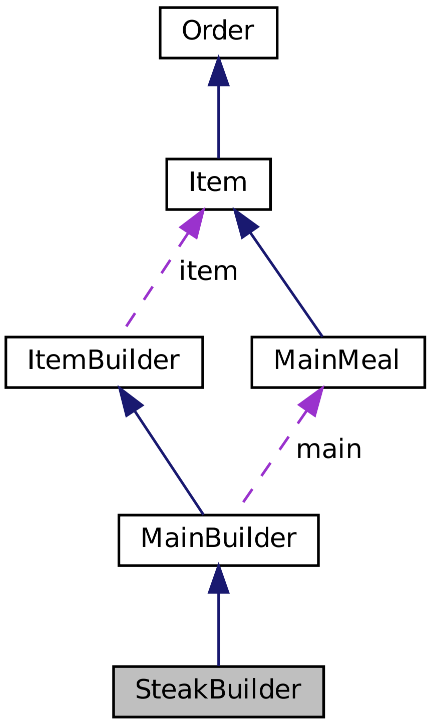
- Steak.h
- Steak.cpp

4.38 SteakBuilder Class Reference

Inheritance diagram for SteakBuilder:



Collaboration diagram for SteakBuilder:



Public Member Functions

- SteakBuilder ()

  Construct a new Steak Builder:: Steak Builder object.
- ∼SteakBuilder ()

  Destroy the Steak Builder:: Steak Builder object.
- void prepareMeat ()

  Prepare the main meal.
- void seasonMeat ()

  Season the main meal.
- void cookMeat ()

  Cook the main meal.
- void **plateMain** ()
- void tenderiseSteak ()

  Tenderise the steak.
- void seasonSteak ()

  Season the steak.
- void cookSteak ()

  Cook the steak.
- void plateSteak ()

  Plate the steak.

Additional Inherited Members

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

- SteakBuilder.h
- SteakBuilder.cpp

4.39 Table Class Reference

Public Member Functions

- Table ()

  Constructor for the Table Class.
- ∼Table ()

  Destructor for the Table Class.
- void addCustomer (Customer ∗customer)

  Sets the customer member variable.
- Customer ∗ getCustomer ()

  A getter for the customer member variable.
- void cleanUp ()

  A function to be called after the customer has received their food. This is used to properly remove the customer object from the table.

4.39.1 Constructor & Destructor Documentation

4.39.1.1 Table()

```
Table::Table ( )
```

Constructor for the Table Class.

Authors

Aidan Chapman (u22738917)

4.39.1.2 ∼Table()

```
Table::∼Table ( )
```

Destructor for the Table Class.

Authors

Aidan Chapman (u22738917)

4.39.2 Member Function Documentation

4.39.2.1 addCustomer()

```
void Table::addCustomer (
            Customer * customer )
```

Sets the customer member variable.

Parameters

customer	A Customer pointer

Authors

Aidan Chapman (u22738917)

4.39.2.2 cleanUp()

```
void Table::cleanUp ( )
```

A function to be called after the customer has received their food. This is used to properly remove the customer object from the table.

Authors

Aidan Chapman (u22738917)

4.39.2.3 getCustomer()

```
Customer * Table::getCustomer ( )
```

A getter for the customer member variable.

Authors

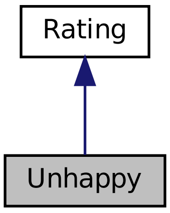
Aidan Chapman (u22738917)

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

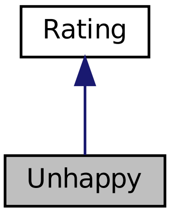
- Table.h
- Table.cpp

4.40 Unhappy Class Reference

Inheritance diagram for Unhappy:



Collaboration diagram for Unhappy:



Public Member Functions

- Unhappy ()

  Construct a new Unhappy:: Unhappy object.
- ∼Unhappy ()

  Destroy the Unhappy:: Unhappy object.
- float calculateTip ()

  Function for calculating the tip of the customer.
- void changeState (Customer ∗customer)

  Function for changing the state of the customer.
- string getRating ()

  Function for getting the rating of the customer.

4.40.1 Member Function Documentation

4.40.1.1 calculateTip()

```
float Unhappy::calculateTip ( )  [virtual]
```

Function for calculating the tip of the customer.

Returns

float

Implements Rating.

4.40.1.2 changeState()

```
void Unhappy::changeState (
            Customer * customer )  [virtual]
```

Function for changing the state of the customer.

Parameters

customer	

Implements Rating.

4.40.1.3 getRating()

```
string Unhappy::getRating ( )
```

Function for getting the rating of the customer.

Returns

string

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

- Unhappy.h
- Unhappy.cpp

4.41 Waiter Class Reference

Public Member Functions

- Waiter (Restaurant ∗restaurant)

  Constructor for the Waiter Class.
- ∼Waiter ()

  Destructor for the Waiter Class.
- void **visitCustomer** (Customer ∗customer)
- void takeOrder (OrderContainer ∗orderContainer)

  A member function of the Waiter Class. Used to take the customer's order.
- void serveCustomer (Order ∗order)

  A member function of the Waiter Class. Calls the customer's receiveOrder(Order∗ order) function.
- Customer ∗ getCustomer ()

  A member function of the Waiter class. A getter for the Customer member variable.
- Restaurant ∗ getRestaurant ()

  A member function of the Waiter class. A getter for the Restaurant member variable.
- void cleanUp ()

  A member function of the Waiter class. Resets customer member variable.

4.41.1 Constructor & Destructor Documentation

4.41.1.1 Waiter()

```
Waiter::Waiter (
            Restaurant ∗ restaurant )
```

Constructor for the Waiter Class.

Parameters

restaurant	a Restaurant pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

4.41.1.2 ∼Waiter()

```
Waiter::∼Waiter ( )
```

Destructor for the Waiter Class.

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

Parameters

customer	a Customer pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

4.41.2 Member Function Documentation

4.41.2.1 cleanUp()

```
void Waiter::cleanUp ( )
```

A member function of the Waiter class. Resets customer member variable.

Authors

Aidan Chapman (u22738917)

4.41.2.2 getCustomer()

```
Customer * Waiter::getCustomer ( )
```

A member function of the Waiter class. A getter for the Customer member variable.

Returns

customer reference

Authors

Aidan Chapman (u22738917)

4.41.2.3 getRestaurant()

```
Restaurant * Waiter::getRestaurant ( )
```

A member function of the Waiter class. A getter for the Restaurant member variable.

Returns

Restaurant reference

Authors

Aidan Chapman (u22738917)

4.41.2.4 serveCustomer()

```
void Waiter::serveCustomer (
             Order * order )
```

A member function of the Waiter Class. Calls the customer's receiveOrder(Order∗ order) function.

Parameters

order	an Order pointer

Authors

Aidan Chapman (u22738917), Douglas Porter (u21797545)

4.41.2.5 takeOrder()

```
void Waiter::takeOrder (
            OrderContainer * orderContainer )
```

A member function of the Waiter Class. Used to take the customer's order.

Parameters

orderContainer	an OrderContainer pointer

Authors

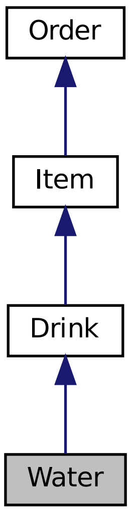
Aidan Chapman (u22738917), Douglas Porter (u21797545)

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

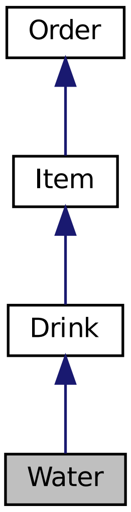
- Waiter.h
- Waiter.cpp

4.42 Water Class Reference

Inheritance diagram for Water:



Collaboration diagram for Water:



Public Member Functions

- Water ()

    Water Constructor.
- ∼Water ()

    Water Destructor.

Public Attributes

- bool gotWaterGlass = false

    Whether a water glass has been obtained.
- bool pouredWater = false

    Whether water has been poured into the glass.
- bool assembledWater = false

    Whether the water has been assembled.

Additional Inherited Members

4.42.1 Constructor & Destructor Documentation

4.42.1.1 Water()

```
Water::Water ( )
```

Water Constructor.

Authors

Aidan Chapman (u22738917)

4.42.1.2 ∼Water()

```
Water::∼Water ( )
```

Water Destructor.

Authors

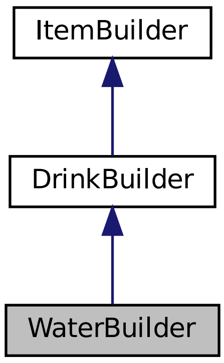
Aidan Chapman (u22738917)

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

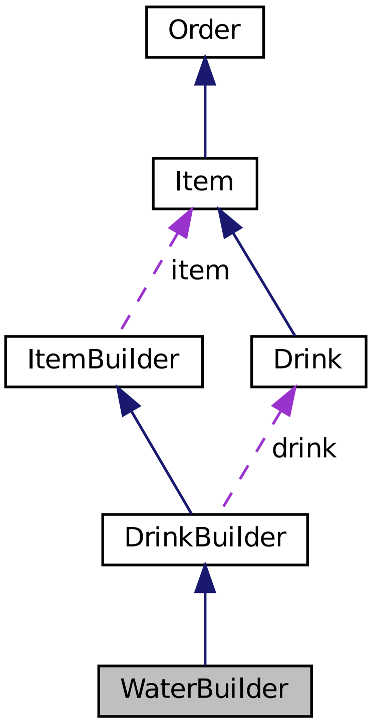
- Water.h
- Water.cpp

4.43 WaterBuilder Class Reference

Inheritance diagram for WaterBuilder:



Collaboration diagram for WaterBuilder:



Public Member Functions

- WaterBuilder ()

  Construct a new Water Builder:: Water Builder object.
- ∼WaterBuilder ()

  Destroy the Water Builder:: Water Builder object.
- void getGlass ()

  prepare the glass
- void pourDrink ()

  Pour the Drink object.
- void assembleDrink ()

  Assemble the Drink object.
- void getWaterGlass ()

  Get the Water Glass object.
- void pourWater ()

  Pour the Water object.
- void assembleWater ()

  Assemble the Water object.

Additional Inherited Members

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

- WaterBuilder.h
- WaterBuilder.cpp

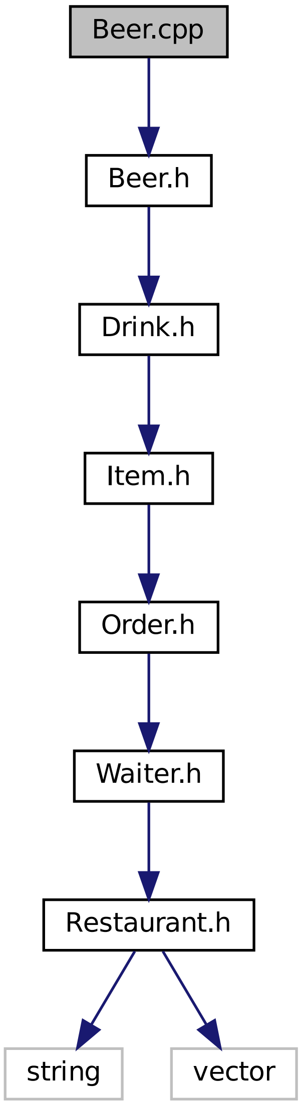
Chapter 5

File Documentation

5.1 Beer.cpp File Reference

Contains implementation for the Beer class.

```
#include "Beer.h"
```
Include dependency graph for Beer.cpp:



5.1.1 Detailed Description

Contains implementation for the Beer class.

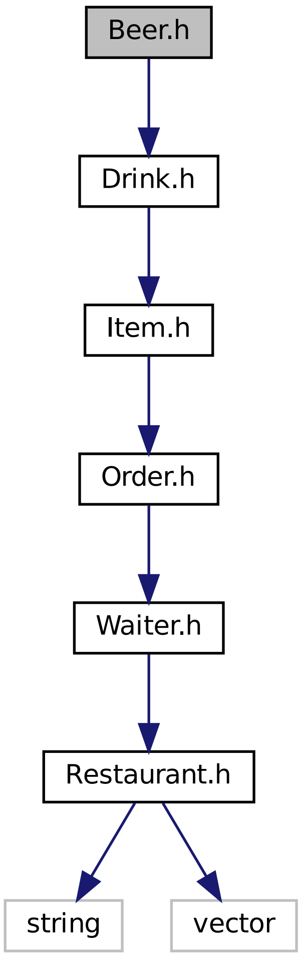
Authors

Aidan Chapman (u22738917)

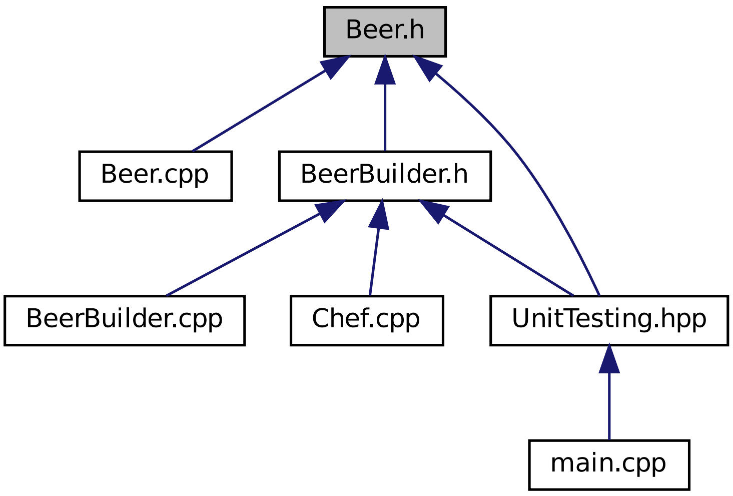
5.2 Beer.h File Reference

Contains the declaration for the Beer class.

```
#include "Drink.h"
```
Include dependency graph for Beer.h:



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



Classes

- class Beer

5.2.1 Detailed Description

Contains the declaration for the Beer class.

This file defines the Beer class, which is a subclass of the Drink class. It contains boolean variables to keep track of whether a beer glass has been obtained, whether beer has been poured into the glass, and whether the beer has been assembled.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

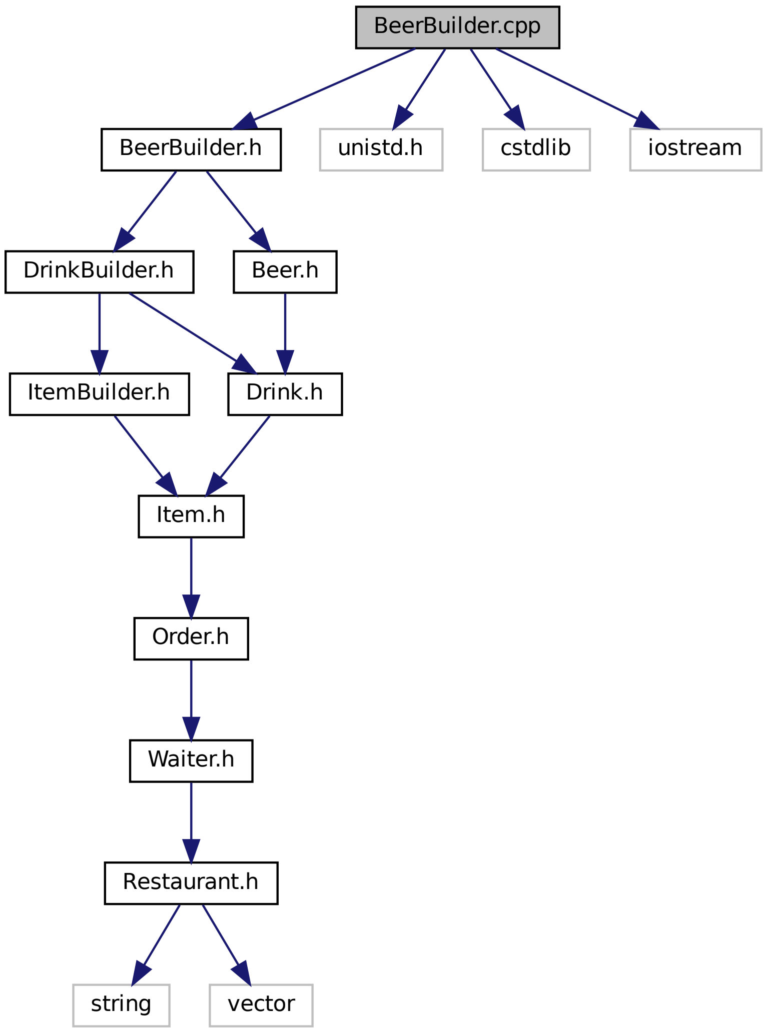
5.3 BeerBuilder.cpp File Reference

Implementation of the BeerBuilder class.

```
#include "BeerBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```

Include dependency graph for BeerBuilder.cpp:



5.3.1 Detailed Description

Implementation of the BeerBuilder class.

This file contains the implementation of the BeerBuilder class, which is responsible for building a Beer object. The class defines methods for getting the glass, pouring the drink, and assembling the drink. It also defines methods for getting the beer glass, pouring the beer, and assembling the beer.

Author

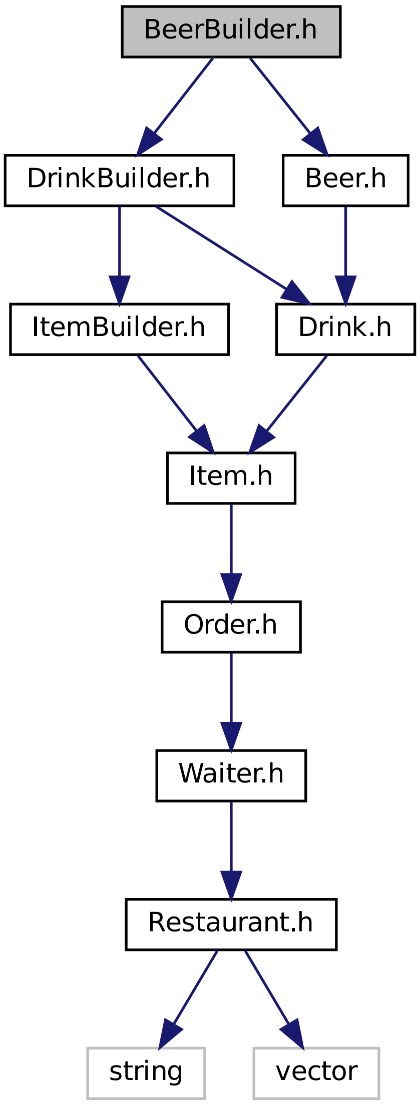
- Graeme Blain (u22625462)

5.4 BeerBuilder.h File Reference

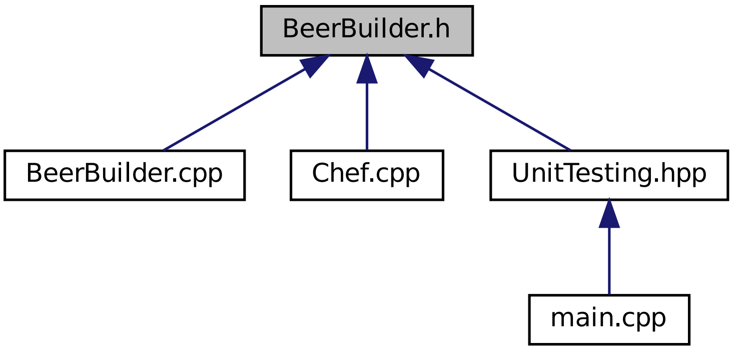
Contains declaration for the BeerBuilder class.

```
#include "DrinkBuilder.h"
#include "Beer.h"
```

Include dependency graph for BeerBuilder.h:



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



Classes

- class BeerBuilder

5.4.1 Detailed Description

Contains declaration for the BeerBuilder class.

This file defines the BeerBuilder class, which is a subclass of the DrinkBuilder class. BeerBuilder is used to build a Beer object, and contains functions to get a beer glass,

Author

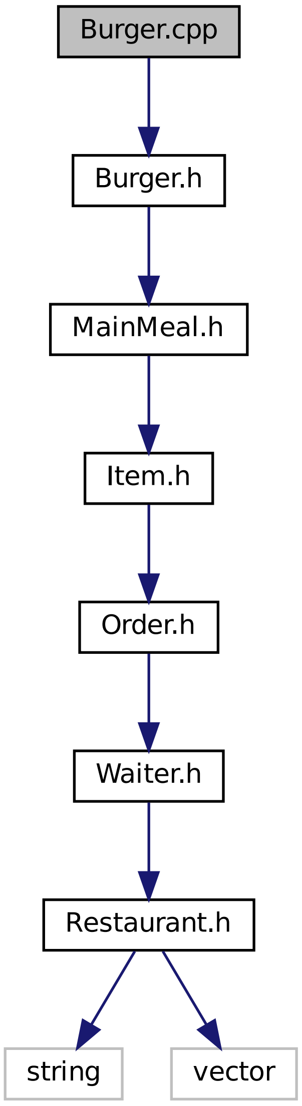
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.5 Burger.cpp File Reference

Contains implementation for the Burger class.

```
#include "Burger.h"
```

Include dependency graph for Burger.cpp:



5.5.1 Detailed Description

Contains implementation for the Burger class.

Authors

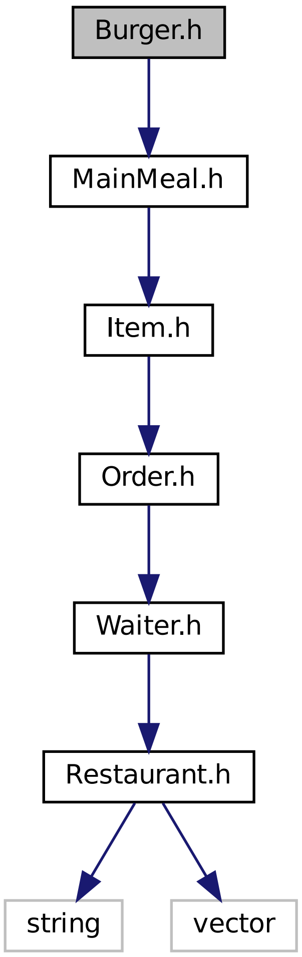
Aidan Chapman (u22738917)

5.6 Burger.h File Reference

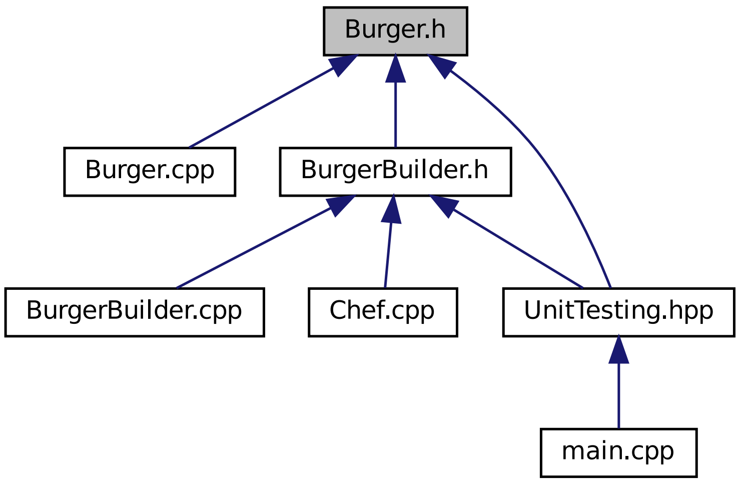
Contains declaration for the Burger class.

```
#include "MainMeal.h"
```

Include dependency graph for Burger.h:



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



Classes

- class Burger

5.6.1 Detailed Description

Contains declaration for the Burger class.

The Burger class is a subclass of the MainMeal class. It represents a burger

Authors

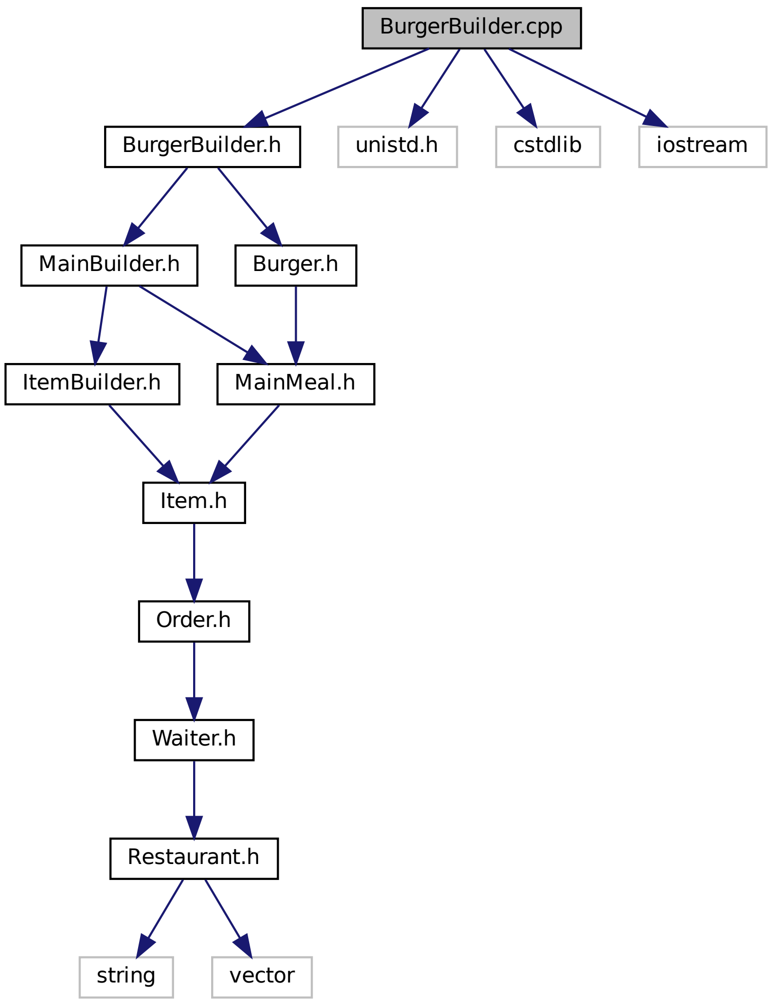
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)
- Douglas Porter (u21797545)

5.7 BurgerBuilder.cpp File Reference

Contains the implementation for the BurgerBuilder class.

```
#include "BurgerBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```
Include dependency graph for BurgerBuilder.cpp:



5.7.1 Detailed Description

Contains the implementation for the BurgerBuilder class.

This file contains the implementation of the BurgerBuilder class, which is responsible for building a Burger object.

Authors

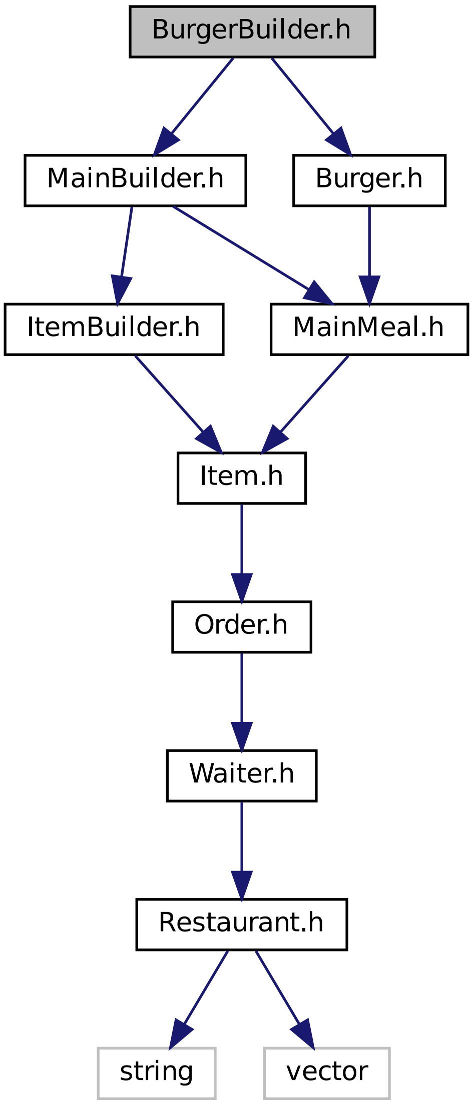
- Douglas Porter (u21797545)
- Graeme Blain (u22625462)

5.8 BurgerBuilder.h File Reference

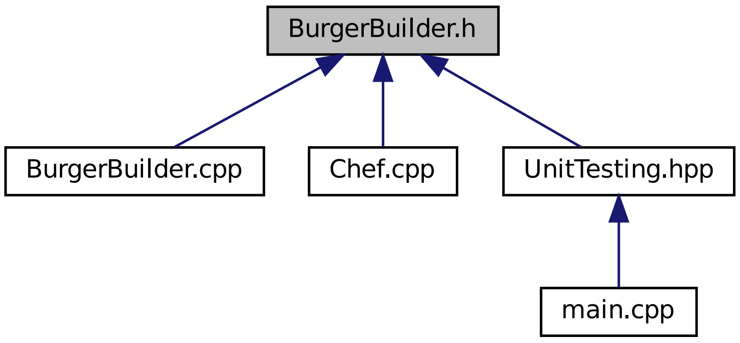
Contains declaration for the BurgerBuilder class.

```
#include "MainBuilder.h"
#include "Burger.h"
```

Include dependency graph for BurgerBuilder.h:



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



Classes

- class BurgerBuilder

5.8.1 Detailed Description

Contains declaration for the BurgerBuilder class.

This file contains the declaration for the BurgerBuilder class. BurgerBuilder is a concrete builder class that inherits from the MainBuilder class. It is responsible for building a Burger object using the template method pattern.

See also

MainBuilder

Burger

Authors

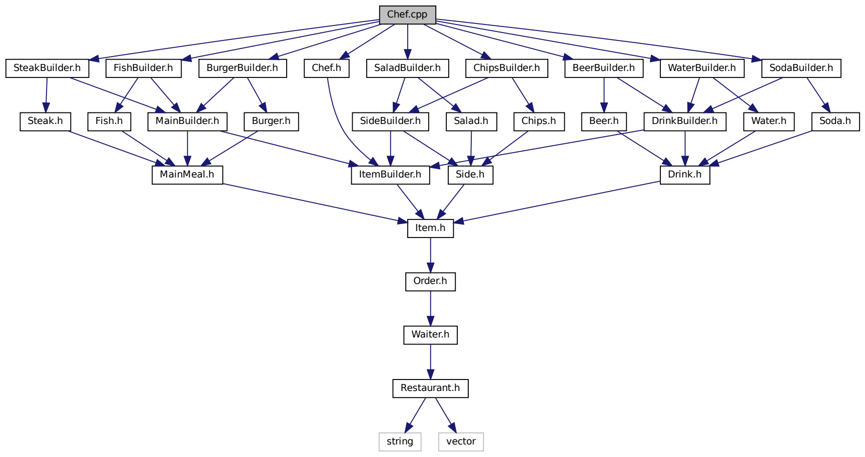
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)
- Douglas Porter (u21797545)

5.9 Chef.cpp File Reference

Contains implementation for the Chef class.

```
#include "Chef.h"
#include "SteakBuilder.h"
#include "BurgerBuilder.h"
#include "FishBuilder.h"
```

```
#include "ChipsBuilder.h"
#include "SaladBuilder.h"
#include "BeerBuilder.h"
#include "WaterBuilder.h"
#include "SodaBuilder.h"
```
Include dependency graph for Chef.cpp:



5.9.1 Detailed Description

Contains implementation for the Chef class.

This file contains the implementation for the Chef class. The Chef class is responsible for building the order.

Authors

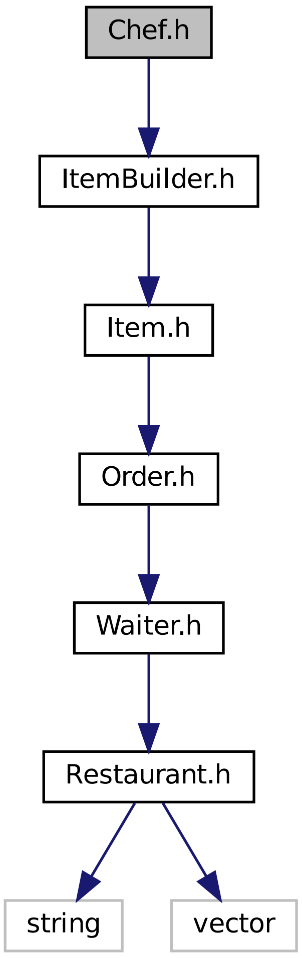
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.10 Chef.h File Reference

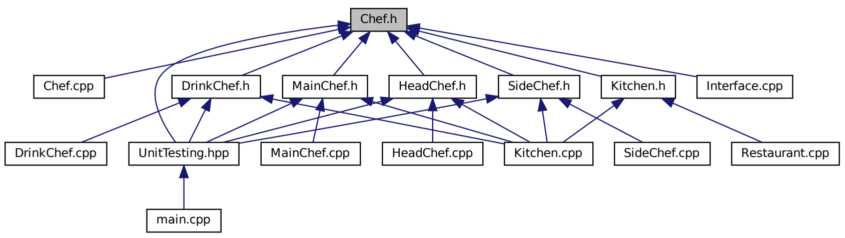
Contains declaration for the Chef class.

```
#include "ItemBuilder.h"
```

Include dependency graph for Chef.h:



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



Classes

- class Chef

5.10.1 Detailed Description

Contains declaration for the Chef class.

This file contains the declaration for the Chef class, which is responsible for preparing different parts of an order using various ItemBuilder objects.

Note

This class is abstract and cannot be instantiated directly.

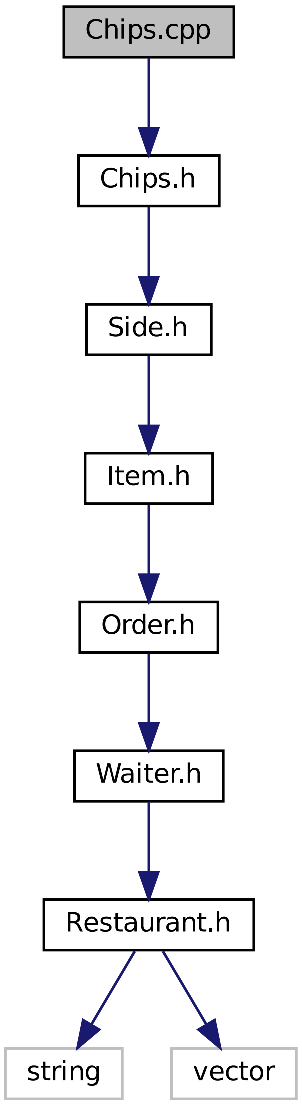
Author

Aidan Chapman

5.11 Chips.cpp File Reference

Contains implementation for the Chips class.

```
#include "Chips.h"
```
Include dependency graph for Chips.cpp:



5.11.1 Detailed Description

Contains implementation for the Chips class.

Authors

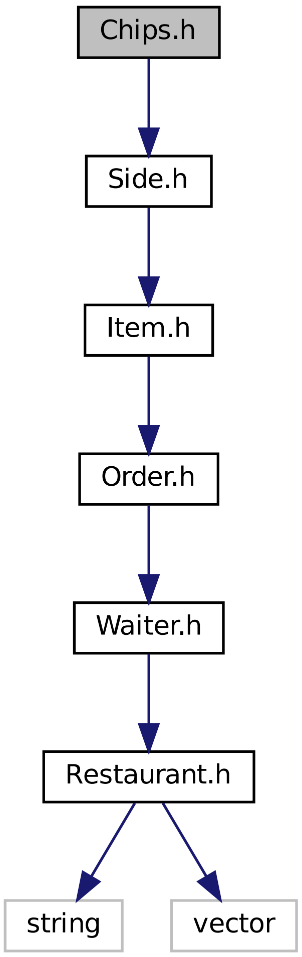
Aidan Chapman (u22738917)

5.12 Chips.h File Reference

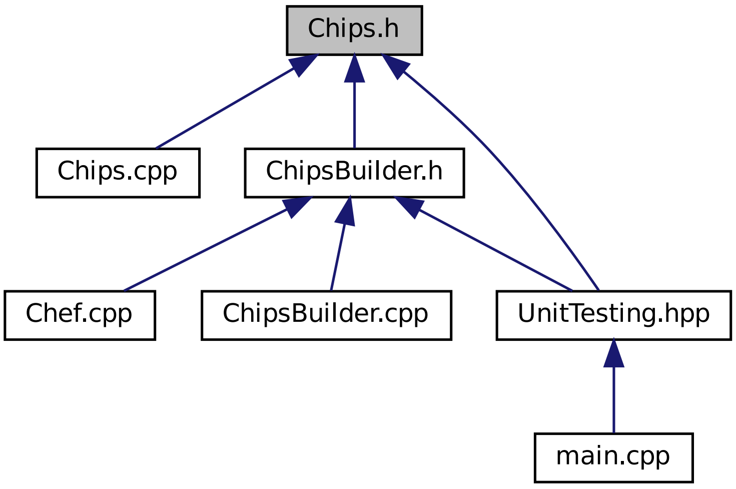
Contains declaration for the Chips class.

```
#include "Side.h"
```

Include dependency graph for Chips.h:



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



Classes

- class Chips

5.12.1 Detailed Description

Contains declaration for the Chips class.

Authors

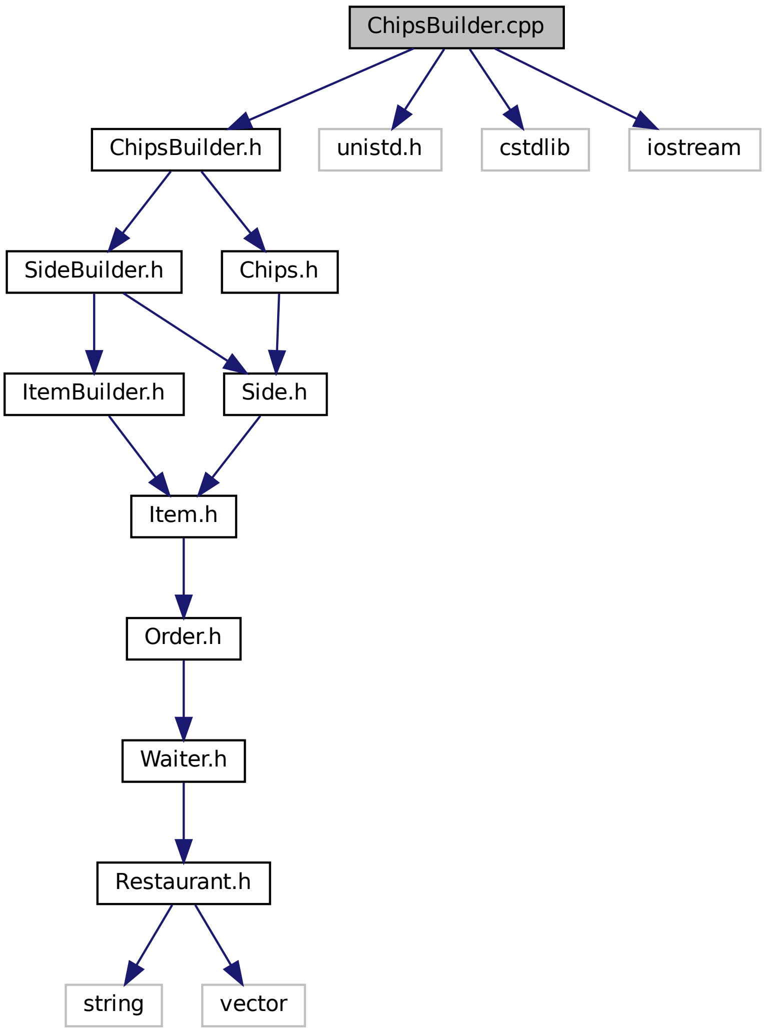
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.13 ChipsBuilder.cpp File Reference

Implementation of the ChipsBuilder class.

```
#include "ChipsBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```
Include dependency graph for ChipsBuilder.cpp:



5.13.1 Detailed Description

Implementation of the ChipsBuilder class.

This file contains the implementation of the ChipsBuilder class, which is responsible for building chips as a side dish. The class defines methods for washing, chopping, assembling, and plating the side dish, as well as for washing, cutting, frying, and seasoning the potatoes.

Author

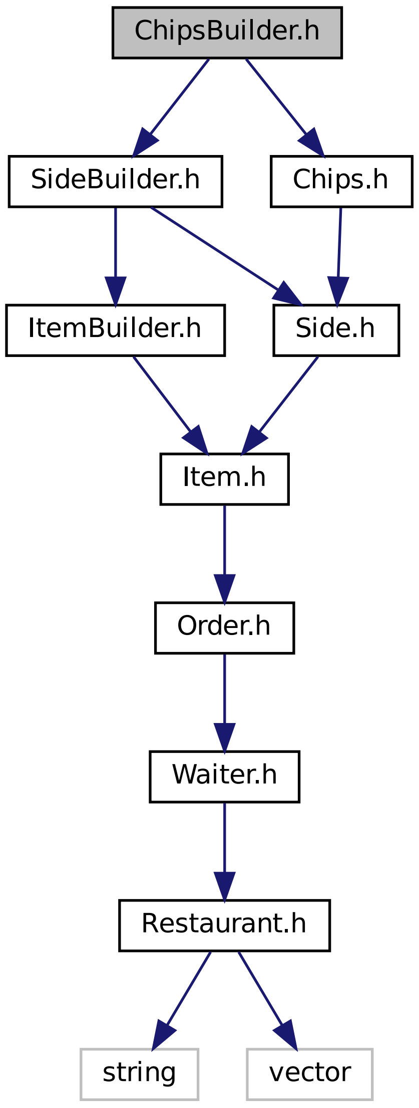
- Graeme Blain (u22625462)

5.14 ChipsBuilder.h File Reference

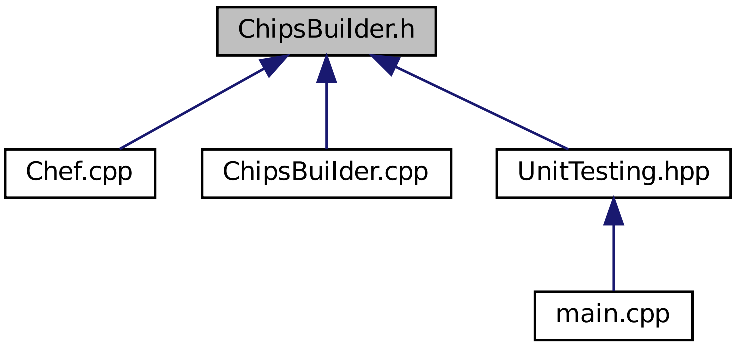
Contains declaration for the ChipsBuilder class.

```
#include "SideBuilder.h"
#include "Chips.h"
```

Include dependency graph for ChipsBuilder.h:



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



Classes

- class ChipsBuilder

5.14.1 Detailed Description

Contains declaration for the ChipsBuilder class.

Represents a concrete builder in the builder pattern. Responsible for building a Chips object.

Author

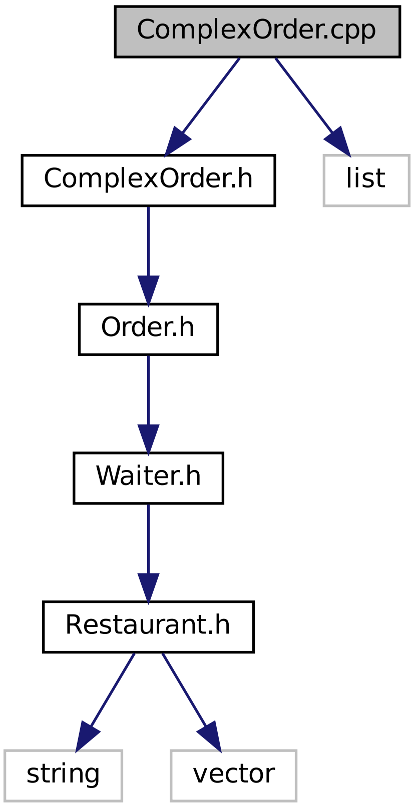
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.15 ComplexOrder.cpp File Reference

Contains the implementation for the ComplexOrder class.

```
#include "ComplexOrder.h"
#include <list>
```

Include dependency graph for ComplexOrder.cpp:



5.15.1 Detailed Description

Contains the implementation for the ComplexOrder class.

This file contains the implementation for the ComplexOrder class, which is a concrete implementation of the Order abstract class. The ComplexOrder class represents a complex order that can contain multiple orders, including other complex orders.

Author

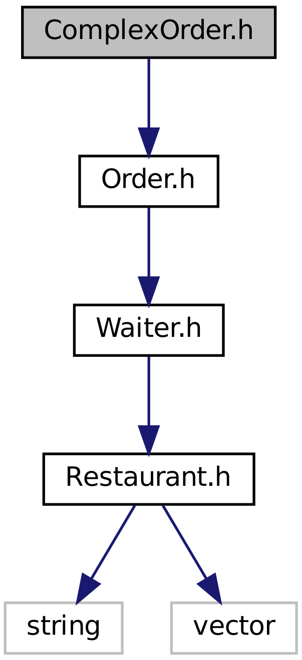
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)
- Sange Tshakumane (u21479748)

5.16 ComplexOrder.h File Reference

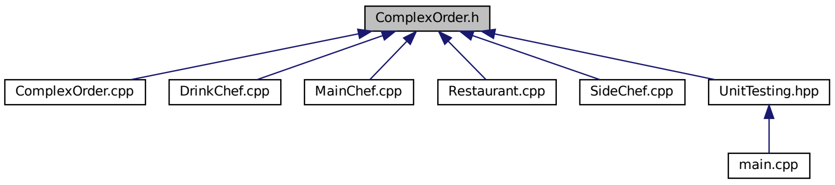
Contains declaration for the ComplexOrder class.

```
#include "Order.h"
```

Include dependency graph for ComplexOrder.h:



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



Classes

- class ComplexOrder

5.16.1 Detailed Description

Contains declaration for the ComplexOrder class.

ComplexOrder is a concrete class which inherits from Order. It is a composite in the composite pattern. It is responsible for storing a list of orders and calculating the total price of the order.

Authors

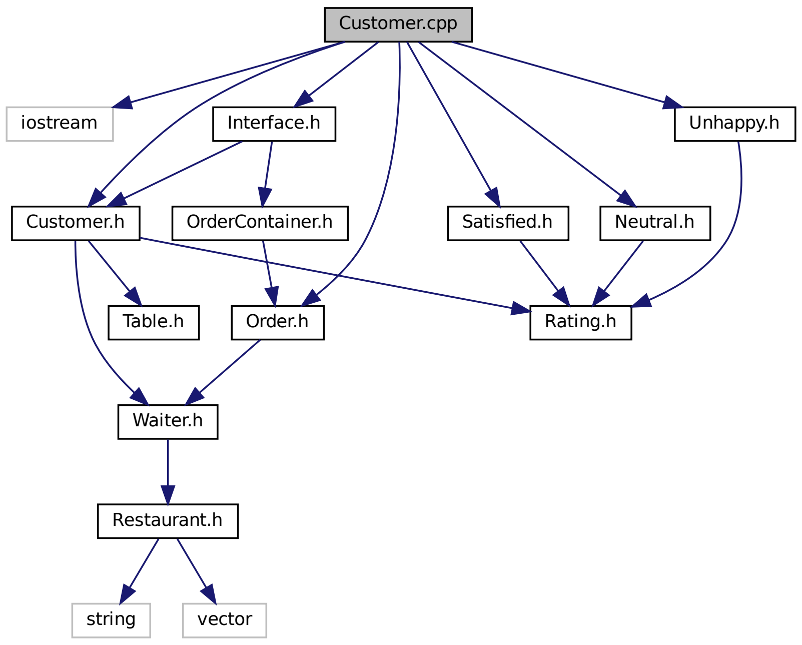
- Aidan Chapman (u22738917)

5.17 Customer.cpp File Reference

Contains implementation for the Customer class.

```
#include <iostream>
#include "Customer.h"
#include "Order.h"
#include "Interface.h"
#include "Satisfied.h"
#include "Neutral.h"
#include "Unhappy.h"
```

Include dependency graph for Customer.cpp:



5.17.1 Detailed Description

Contains implementation for the Customer class.

This file contains the implementation of the Customer class, which is responsible for representing a customer in the restaurant.

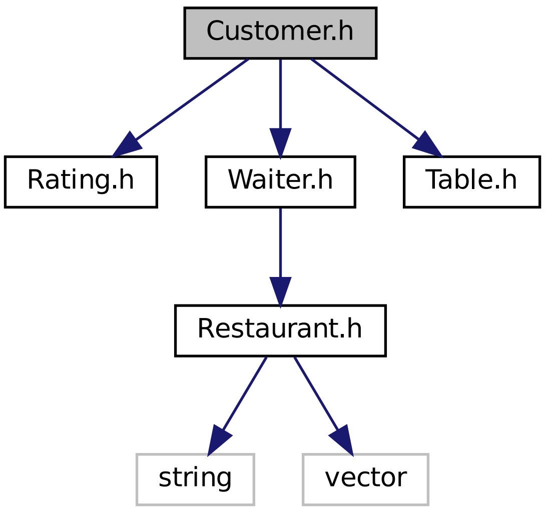
Authors

Aidan Chapman (u22738917)

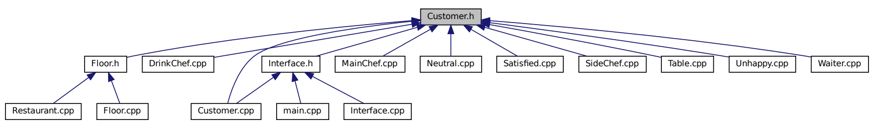
5.18 Customer.h File Reference

Contains declaration for the Customer class.

```
#include "Rating.h"
#include "Waiter.h"
#include "Table.h"
```
Include dependency graph for Customer.h:



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



Classes

- class Customer

5.18.1 Detailed Description

Contains declaration for the Customer class.

Contains the declaration of the Customer class, which represents a customer

Authors

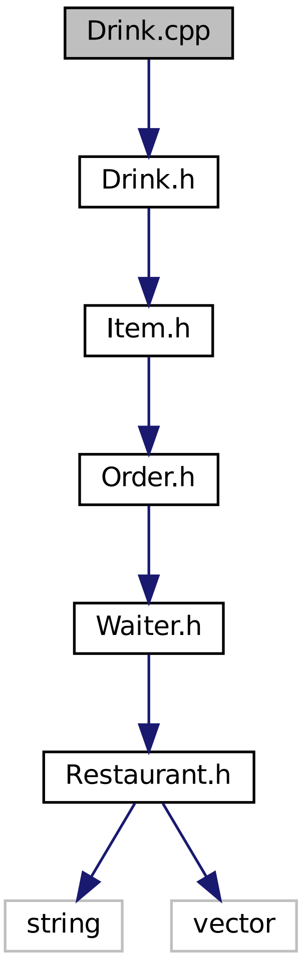
- Aidan Chapman (u22738917)

5.19 Drink.cpp File Reference

Contains implementation for the Drink class.

```
#include "Drink.h"
```

Include dependency graph for Drink.cpp:



5.19.1 Detailed Description

Contains implementation for the Drink class.

This file contains the implementation of the Drink class, which is responsible for building a Drink object.

Authors

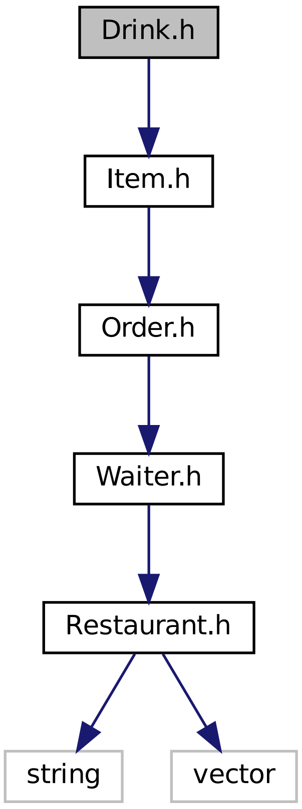
- Sange Tshakumane (u21479748)
- Aidan Chapman (u22738917)

5.20 Drink.h File Reference

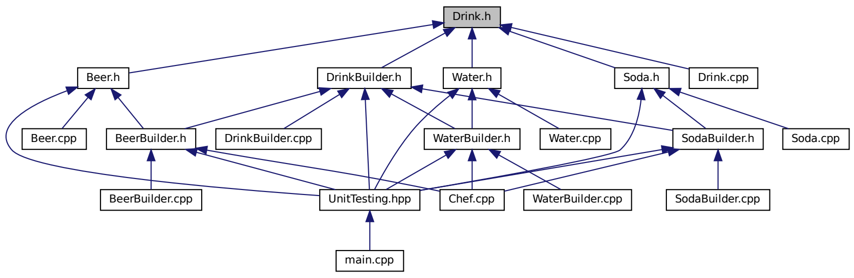
Contains declaration for the Drink class.

```
#include "Item.h"
```

Include dependency graph for Drink.h:



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



Classes

- class Drink

5.20.1 Detailed Description

Contains declaration for the Drink class.

Drink is a derived class of Item, representing a drink item on the menu.

Authors

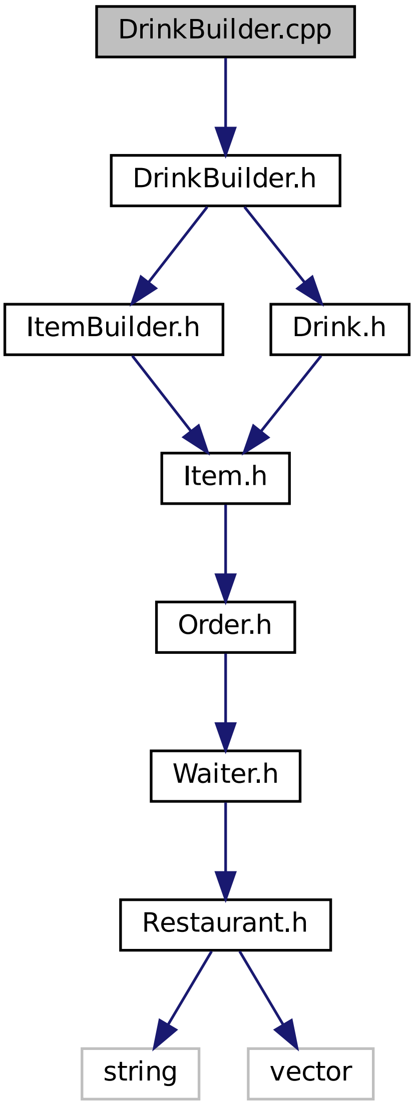
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.21 DrinkBuilder.cpp File Reference

Implementation of the DrinkBuilder class.

```
#include "DrinkBuilder.h"
```

Include dependency graph for DrinkBuilder.cpp:



5.21.1 Detailed Description

Implementation of the DrinkBuilder class.

This file contains the implementation of the DrinkBuilder class, which is responsible for building drinks. It defines the functions to prepare the ingredients, assemble the drink, and return the built item.

Authors

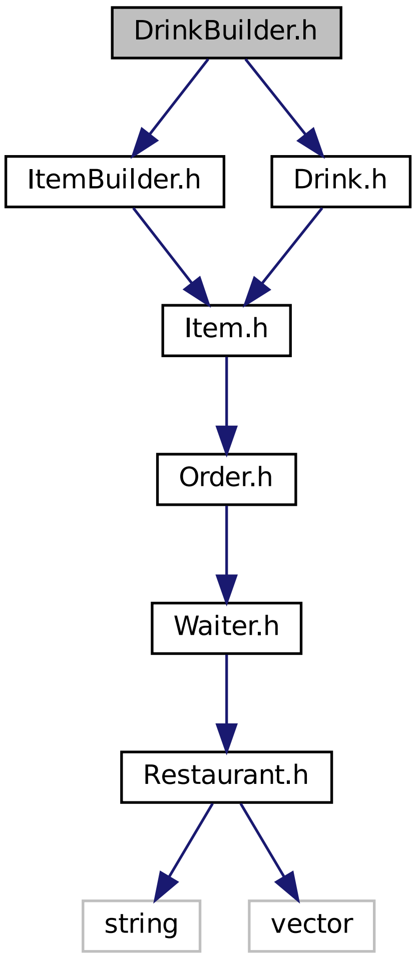
- Graeme Blain (u22625462)

5.22 DrinkBuilder.h File Reference

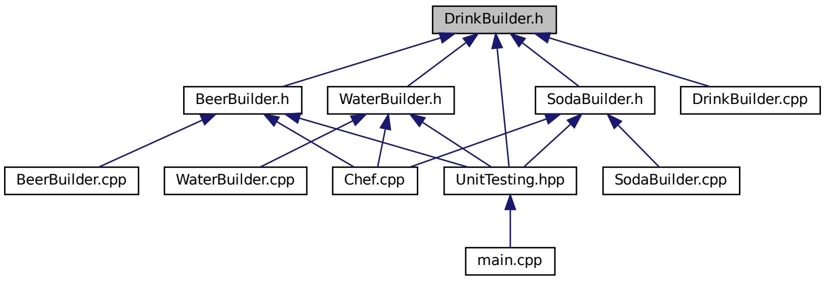
Contains declaration for the DrinkBuilder class.

```
#include "ItemBuilder.h"
#include "Drink.h"
```

Include dependency graph for DrinkBuilder.h:



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



Classes

- class DrinkBuilder

5.22.1 Detailed Description

Contains declaration for the DrinkBuilder class.

This file defines the DrinkBuilder class, which is a subclass of the ItemBuilder class. DrinkBuilder is used to build a Drink object, and contains functions to prepare ingredients,

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

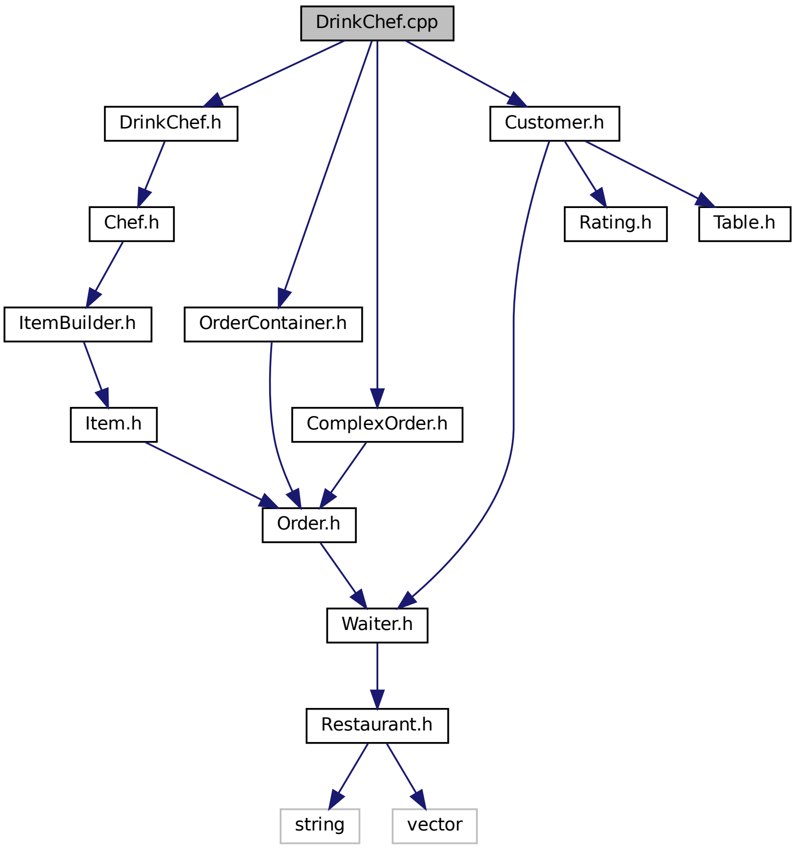
5.23 DrinkChef.cpp File Reference

Contains implementation for the DrinkChef class.

```
#include "DrinkChef.h"
#include "Customer.h"
#include "OrderContainer.h"
```

`#include "ComplexOrder.h"`

Include dependency graph for DrinkChef.cpp:



5.23.1 Detailed Description

Contains implementation for the DrinkChef class.

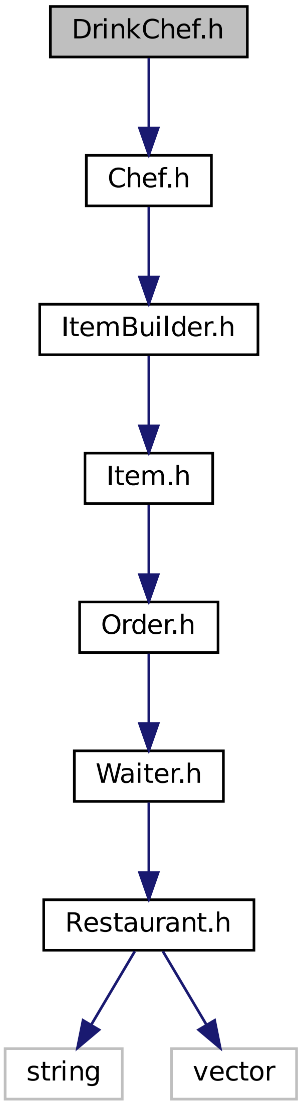
Authors

Aidan Chapman (u22738917)

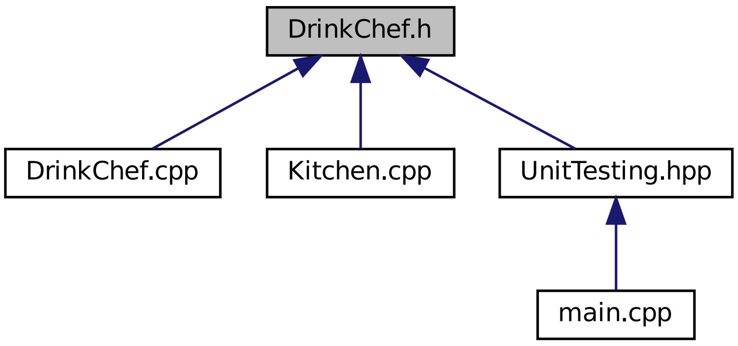
5.24 DrinkChef.h File Reference

Contains declaration for the DrinkChef class.

```
#include "Chef.h"
```
Include dependency graph for DrinkChef.h:



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



Classes

- class DrinkChef

5.24.1 Detailed Description

Contains declaration for the DrinkChef class.

DrinkChef is a derived class of Chef, representing a chef that prepares drinks.

Authors

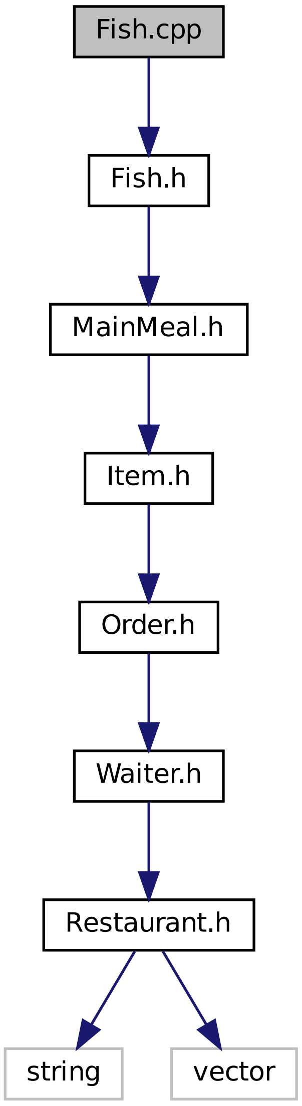
Aidan Chapman (u22738917)

5.25 Fish.cpp File Reference

Contains implementation for the Fish class.

```
#include "Fish.h"
```

Include dependency graph for Fish.cpp:



5.25.1 Detailed Description

Contains implementation for the Fish class.

Authors

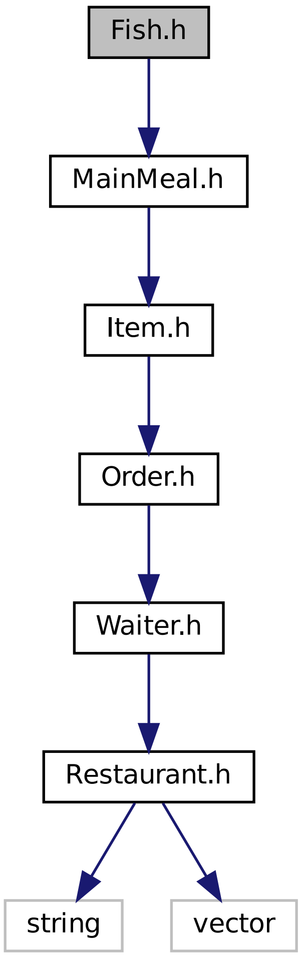
Aidan Chapman (u22738917)

5.26 Fish.h File Reference

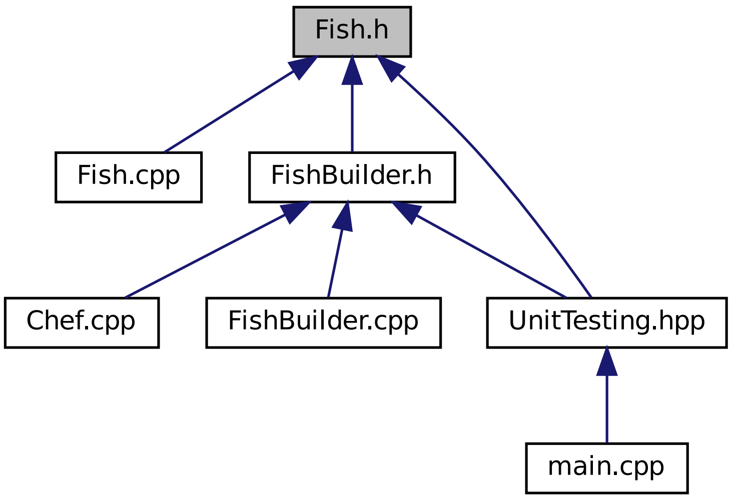
Contains declaration for the Fish class.

```
#include "MainMeal.h"
```

Include dependency graph for Fish.h:



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



Classes

- class Fish

5.26.1 Detailed Description

Contains declaration for the Fish class.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

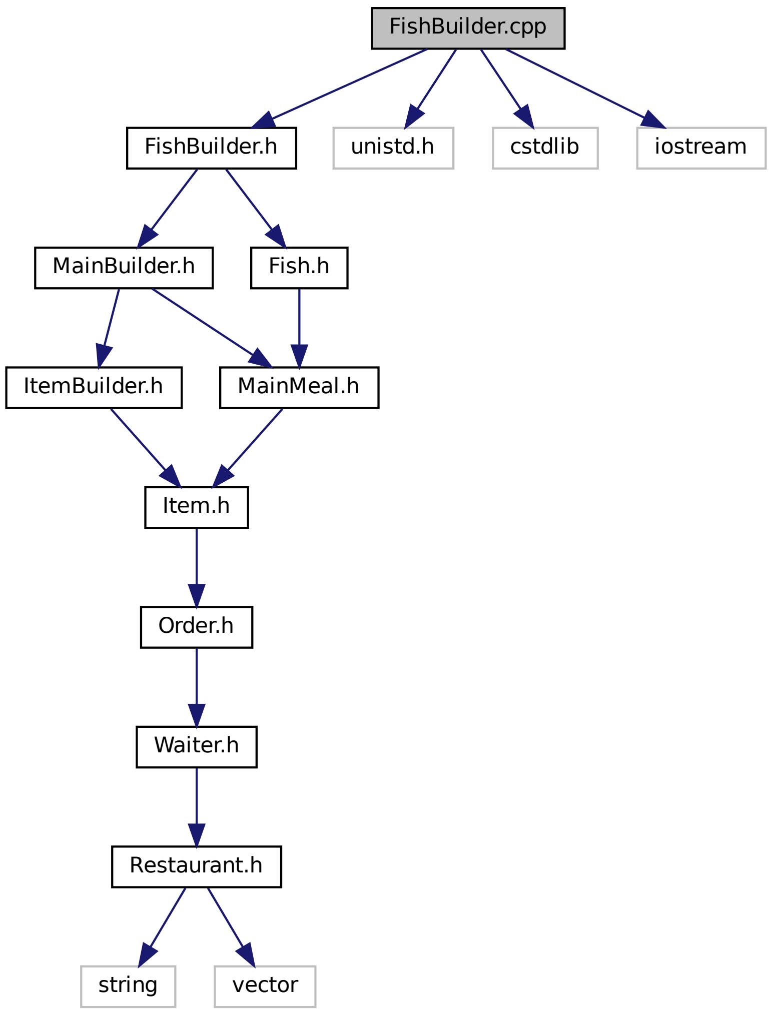
5.27 FishBuilder.cpp File Reference

Contains the implementation for the FishBuilder class.

```
#include "FishBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```

Include dependency graph for FishBuilder.cpp:



5.27.1 Detailed Description

Contains the implementation for the FishBuilder class.

Authors

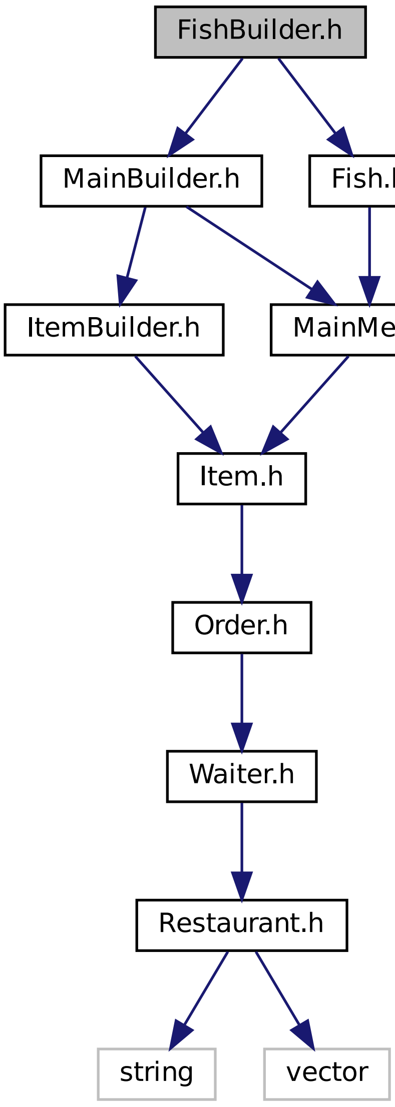
- Graeme Blain (u22625462)
- Douglas Porter (u21797545)

5.28 FishBuilder.h File Reference

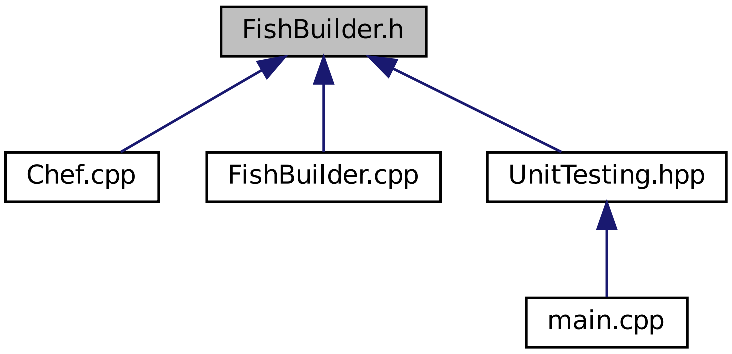
Contains declaration for the FishBuilder class.

```
#include "MainBuilder.h"
#include "Fish.h"
```

Include dependency graph for FishBuilder.h:



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



Classes

- class FishBuilder

5.28.1 Detailed Description

Contains declaration for the FishBuilder class.

FishBuilder is a derived class of MainBuilder, representing a chef that prepares fish. FishBuilder is a concrete builder in the Builder design pattern.

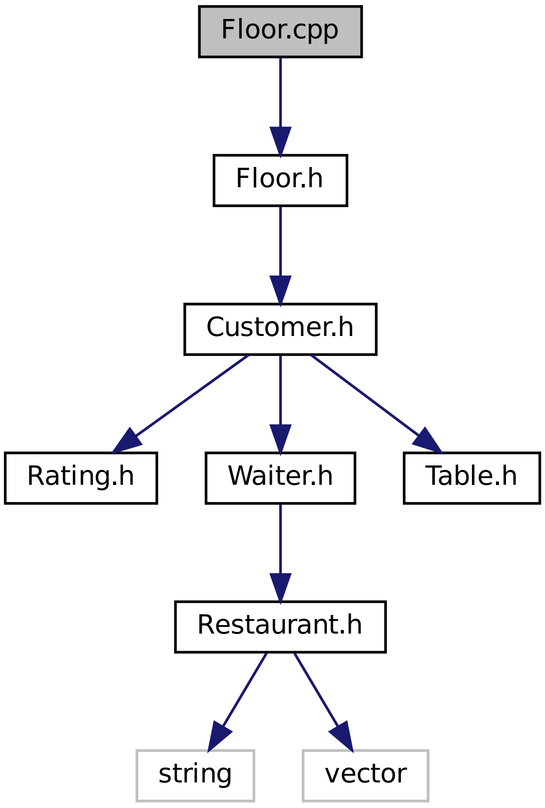
Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.29 Floor.cpp File Reference

Contains implementation for the Floor class.

```
#include "Floor.h"
```
Include dependency graph for Floor.cpp:



5.29.1 Detailed Description

Contains implementation for the Floor class.

Authors

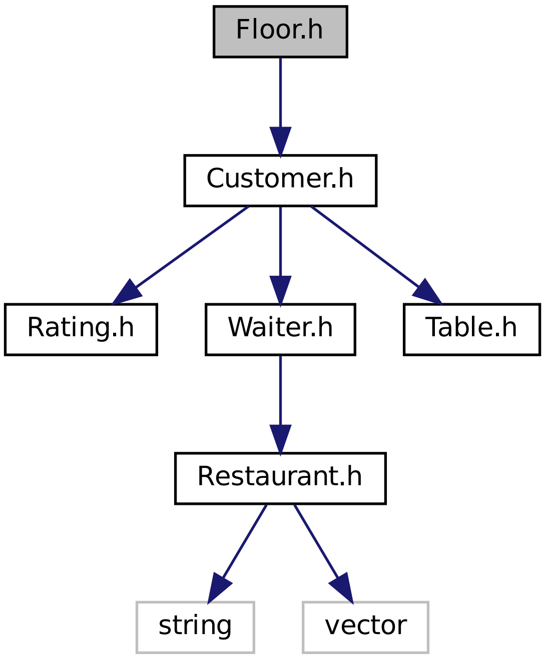
Aidan Chapman (u22738917)

5.30 Floor.h File Reference

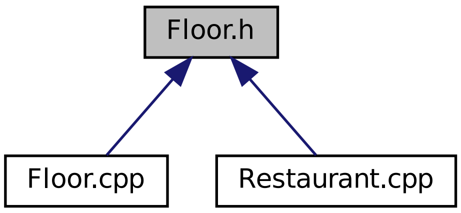
Contains declaration for the Floor class.

```
#include "Customer.h"
```

Include dependency graph for Floor.h:



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



Classes

- class Floor

5.30.1 Detailed Description

Contains declaration for the Floor class.

Floor is a class that represents a floor in a restaurant. It contains a vector of Table pointers. It also contains a pointer to a Restaurant object.

Authors

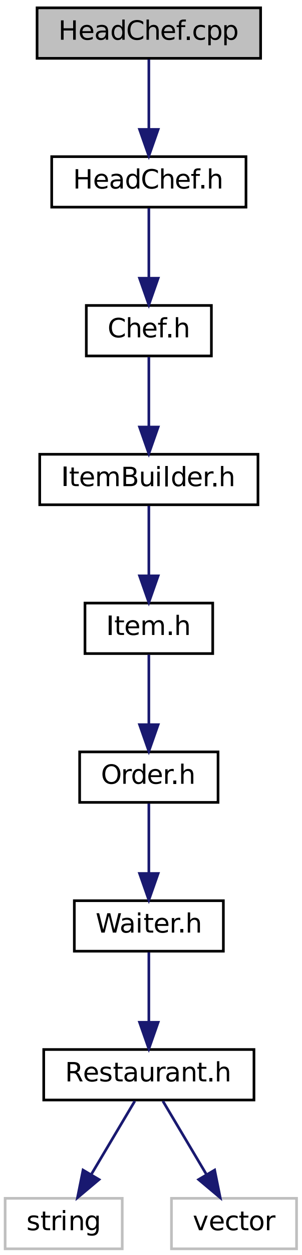
Aidan Chapman (u22738917)

5.31 HeadChef.cpp File Reference

Contains implementation for the HeadChef class.

```
#include "HeadChef.h"
```

Include dependency graph for HeadChef.cpp:



5.31.1 Detailed Description

Contains implementation for the HeadChef class.

Authors

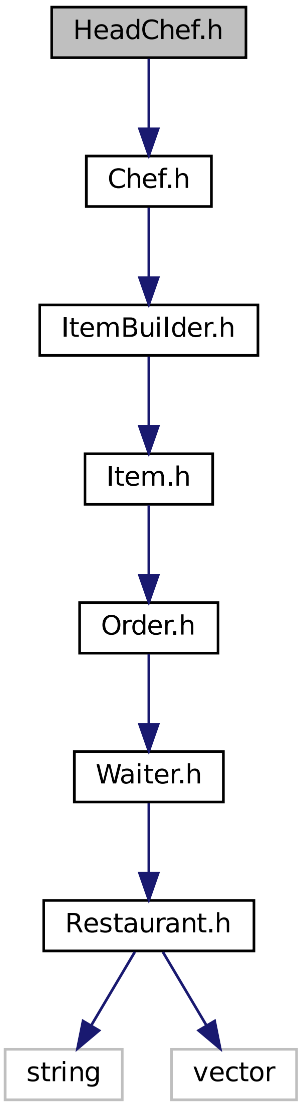
Aidan Chapman (u22738917)

5.32 HeadChef.h File Reference

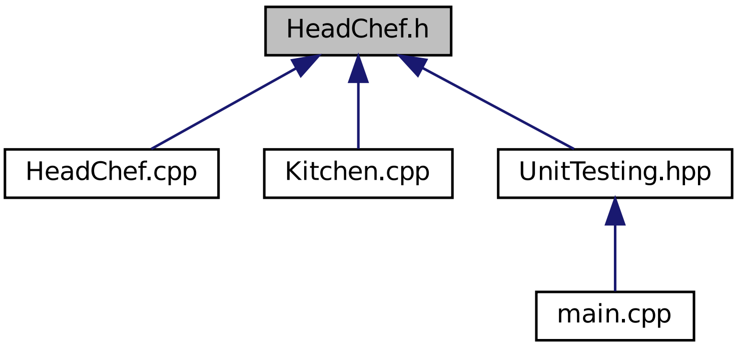
Contains declaration for the HeadChef class.

```
#include "Chef.h"
```

Include dependency graph for HeadChef.h:



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



Classes

- class HeadChef

5.32.1 Detailed Description

Contains declaration for the HeadChef class.

HeadChef is a derived class of Chef, representing a chef that prepares finishes meals.

Authors

Aidan Chapman (u22738917)

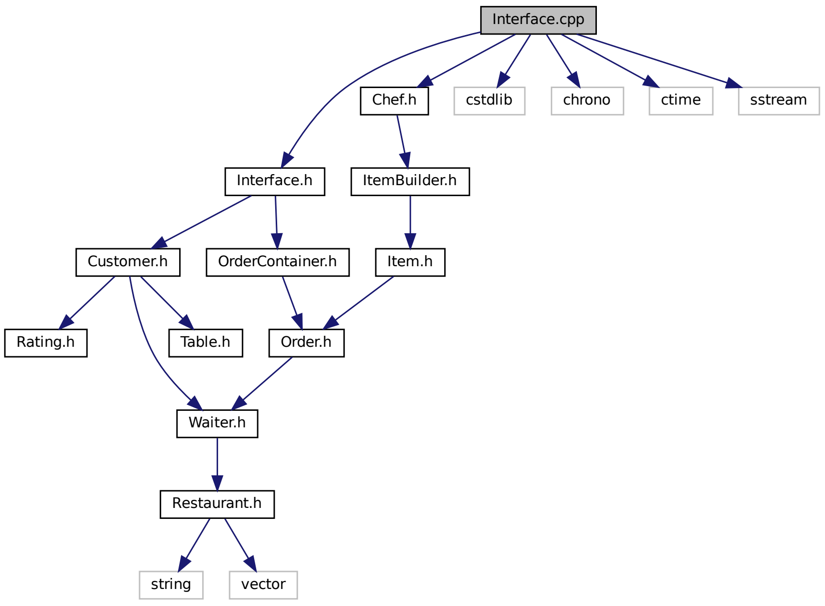
5.33 Interface.cpp File Reference

Contains implementation for the Interface class.

```
#include "Interface.h"
#include "Chef.h"
#include <cstdlib>
#include <chrono>
#include <ctime>
```

```
#include <sstream>
```

Include dependency graph for Interface.cpp:



5.33.1 Detailed Description

Contains implementation for the Interface class.

Authors

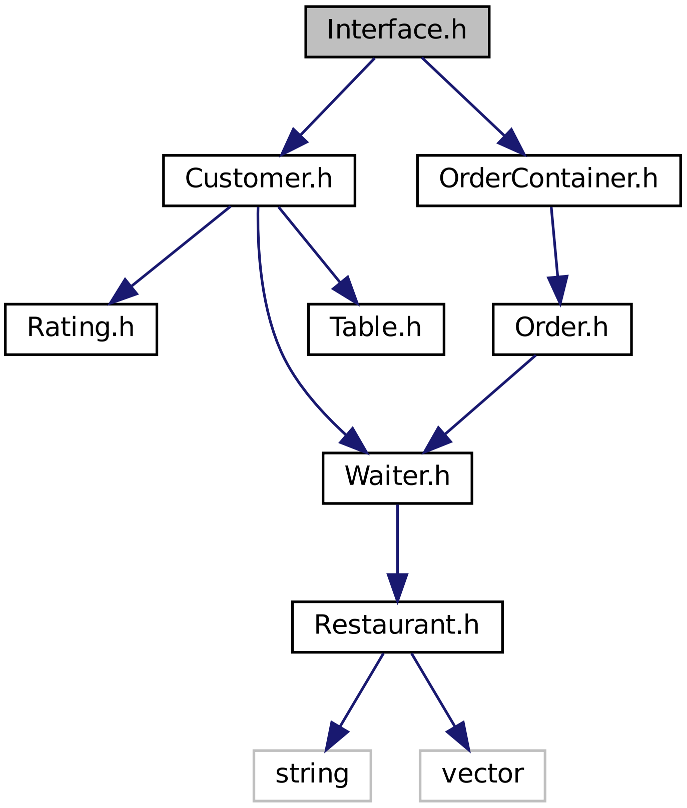
Aidan Chapman (u22738917), Douglas Porter (u21797545), Kabelo Chuene(u14046492)

5.34 Interface.h File Reference

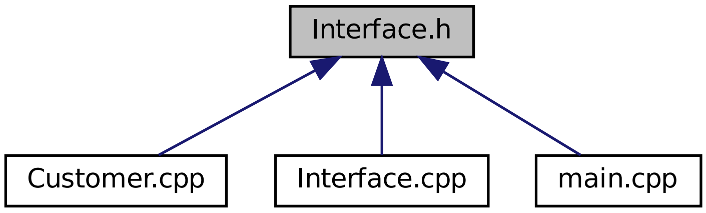
Contains declaration for the Interface class.

```
#include "Customer.h"
#include "OrderContainer.h"
```

Include dependency graph for Interface.h:



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



Classes

- class Interface

5.34.1 Detailed Description

Contains declaration for the Interface class.

Interface is a class that handles the user interface for the program. Aggregates Restaurant and Customer objects and their functions.

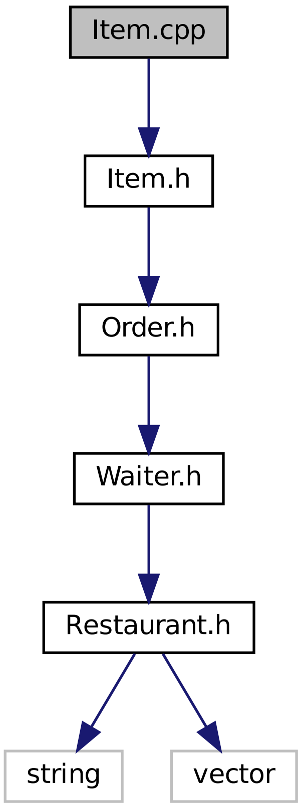
Authors

Aidan Chapman (u22738917)

5.35 Item.cpp File Reference

Contains implementation for the Item class.

```
#include "Item.h"
```
Include dependency graph for Item.cpp:



5.35.1 Detailed Description

Contains implementation for the Item class.

Authors

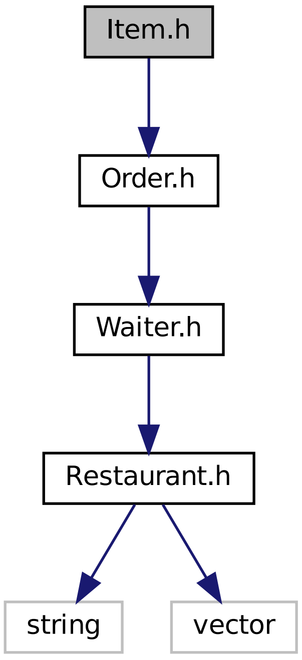
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.36 Item.h File Reference

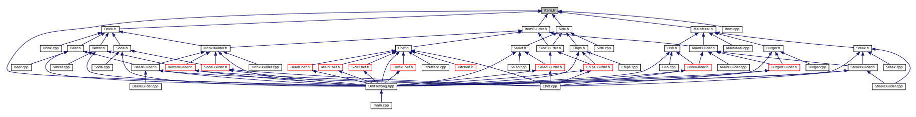
Contains declaration for the Item class.

```
#include "Order.h"
```

Include dependency graph for Item.h:



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



Classes

- class Item

5.36.1 Detailed Description

Contains declaration for the Item class.

Authors

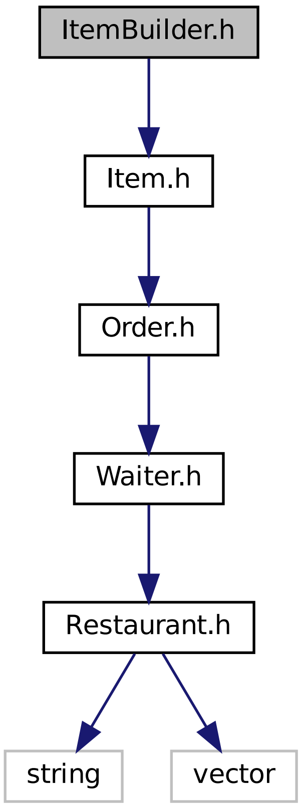
Aidan Chapman (u22738917)

5.37 ItemBuilder.h File Reference

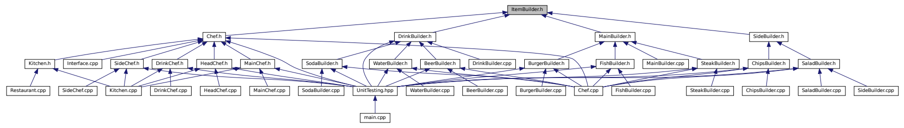
Contains declaration for the ItemBuilder class.

```
#include "Item.h"
```

Include dependency graph for ItemBuilder.h:



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



Classes

- class ItemBuilder

5.37.1 Detailed Description

Contains declaration for the ItemBuilder class.

Superclass for all ItemBuilders, which are used to build Items

Authors

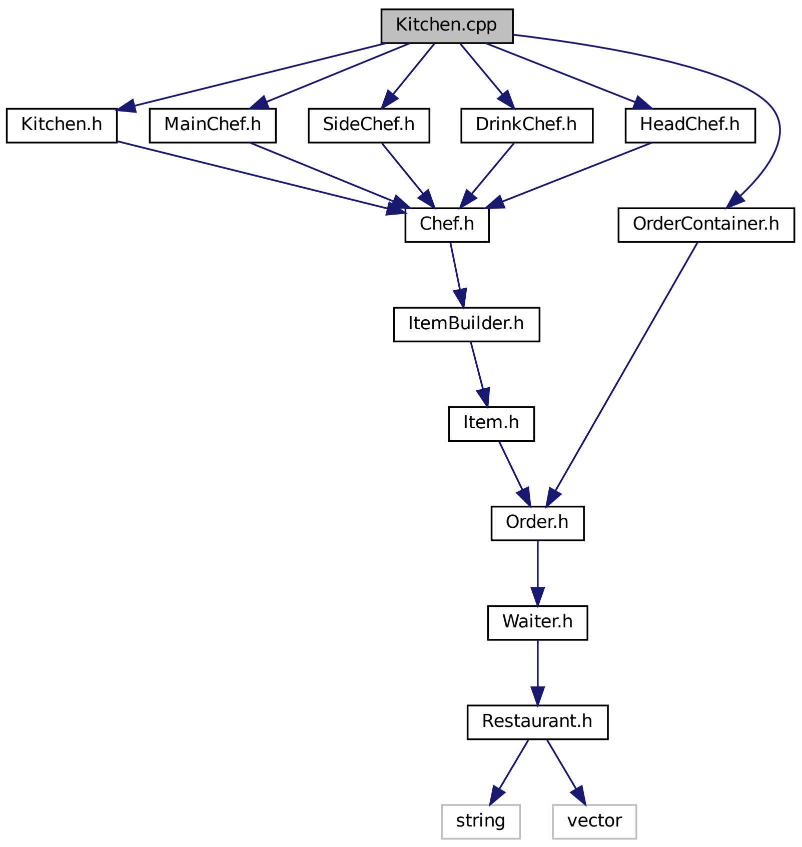
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.38 Kitchen.cpp File Reference

Contains implementation for the Kitchen class.

```
#include "Kitchen.h"
#include "MainChef.h"
#include "SideChef.h"
#include "DrinkChef.h"
#include "HeadChef.h"
#include "OrderContainer.h"
```

Include dependency graph for Kitchen.cpp:



5.38.1 Detailed Description

Contains implementation for the Kitchen class.

Authors

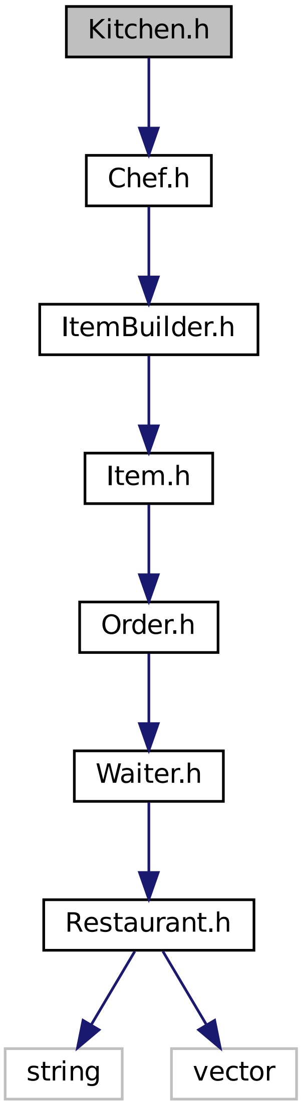
Aidan Chapman (u22738917)

5.39 Kitchen.h File Reference

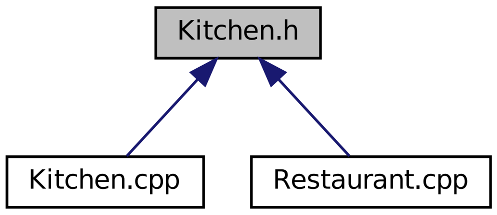
Contains declaration for the Kitchen class.

```
#include "Chef.h"
```

Include dependency graph for Kitchen.h:



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



Classes

- class Kitchen

5.39.1 Detailed Description

Contains declaration for the Kitchen class.

The Kitchen class is responsible for receiving orders from the Restaurant class and passing them to the Chef class. Kitchen holds a vector of OrderContainer objects, which are used to pass orders to the Chef class. Kitchen has a pointer to a Chef object, which is the chain of responsibility object.

Authors

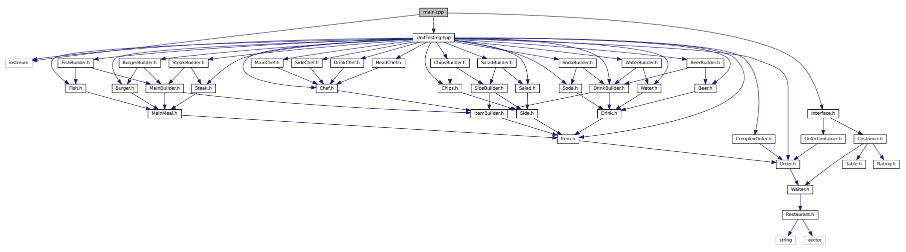
Aidan Chapman (u22738917)

5.40 main.cpp File Reference

This is the file that the user will interact with.

```
#include <iostream>
#include "Interface.h"
#include "UnitTesting.hpp"
```

Include dependency graph for main.cpp:



Functions

- void **run** ()
- int main ()

  A function used to run the program.

5.40.1 Detailed Description

This is the file that the user will interact with.

Authors

Aidan Chapman (u22738917)

5.40.2 Function Documentation

5.40.2.1 main()

```
int main ( )
```

A function used to run the program.

Authors

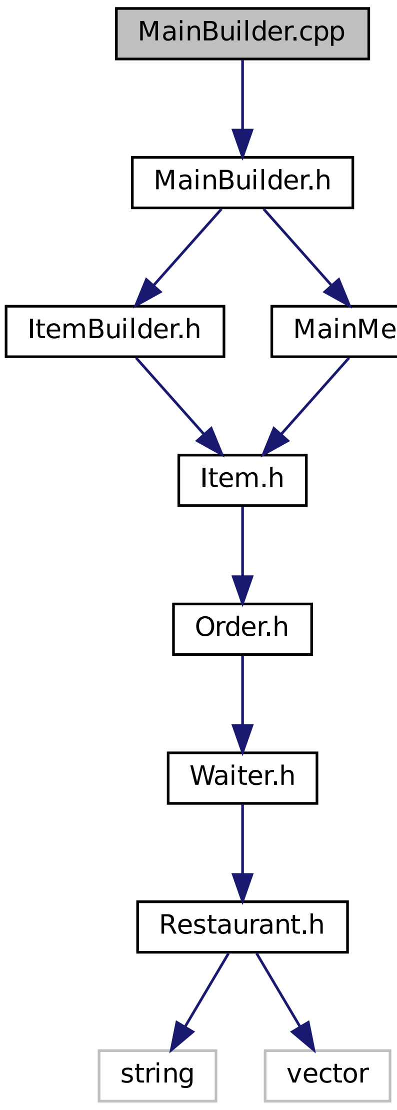
Aidan Chapman (u22738917)

5.41 MainBuilder.cpp File Reference

Contains the implementation for the MainBuilder class.

```
#include "MainBuilder.h"
```

Include dependency graph for MainBuilder.cpp:



5.41.1 Detailed Description

Contains the implementation for the MainBuilder class.

Authors

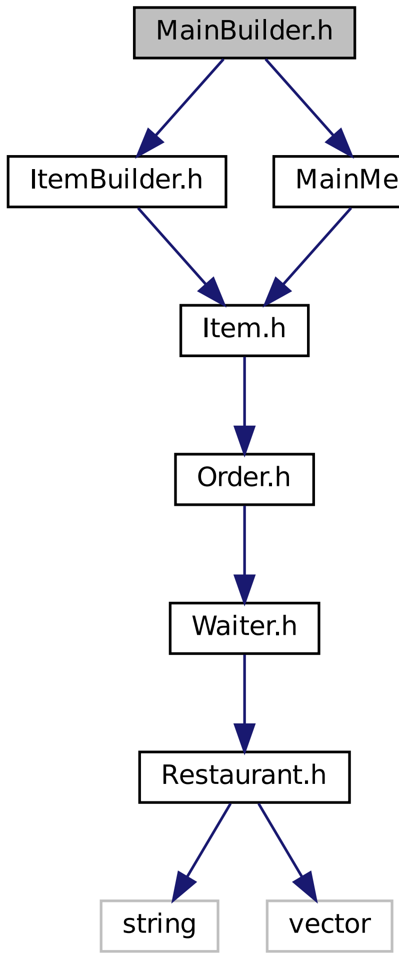
Douglas Porter (u21797545)

5.42 MainBuilder.h File Reference

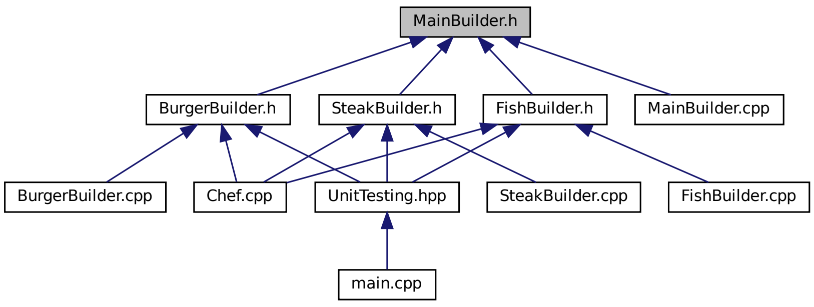
Contains declaration for the MainBuilder class.

```
#include "ItemBuilder.h"
#include "MainMeal.h"
```

Include dependency graph for MainBuilder.h:



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



Classes

- class MainBuilder

5.42.1 Detailed Description

Contains declaration for the MainBuilder class.

MainBuilder is a derived class of ItemBuilder, representing a builder that prepares main meals.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)
- Douglas Porter (u21797545)

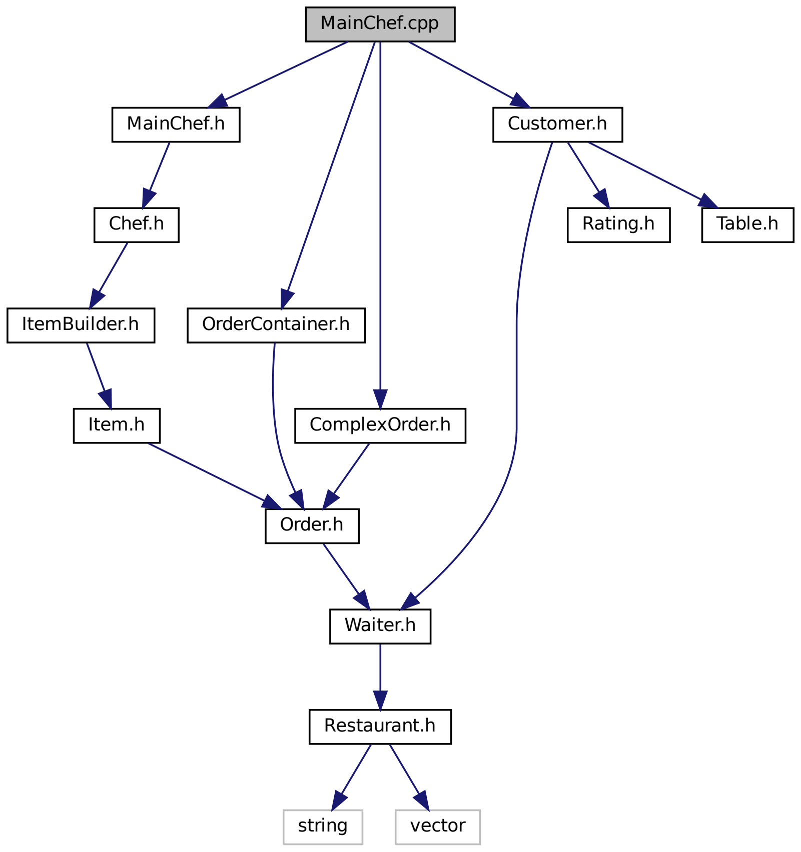
5.43 MainChef.cpp File Reference

Contains implementation for the MainChef class.

```
#include "MainChef.h"
#include "Customer.h"
#include "OrderContainer.h"
```

```
#include "ComplexOrder.h"
```

Include dependency graph for MainChef.cpp:



5.43.1 Detailed Description

Contains implementation for the MainChef class.

Authors

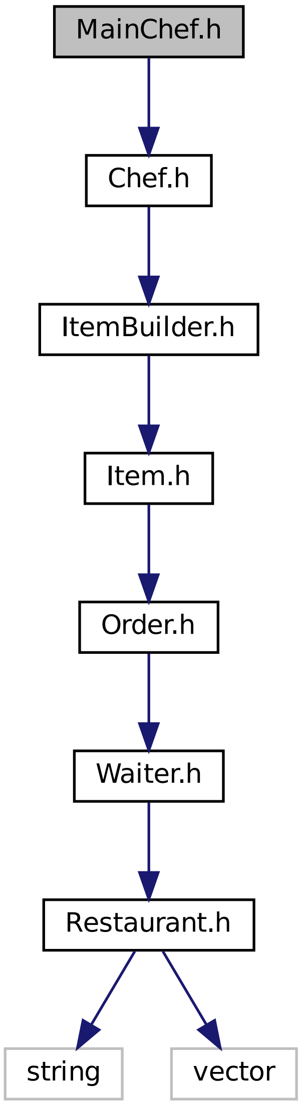
Aidan Chapman (u22738917)

5.44 MainChef.h File Reference

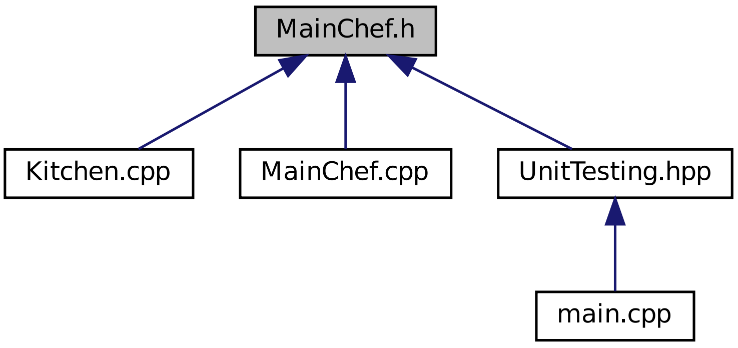
Contains declaration for the MainChef class.

```
#include "Chef.h"
```

Include dependency graph for MainChef.h:



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



Classes

- class MainChef

5.44.1 Detailed Description

Contains declaration for the MainChef class.

The MainChef class is a concrete class which inherits from the Chef class. It represents a chef that prepares main meals.

Authors

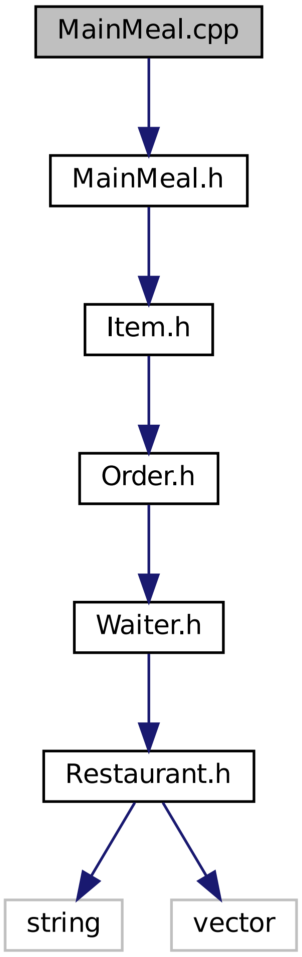
Aidan Chapman (u22738917)

5.45 MainMeal.cpp File Reference

Contains implementation for the MainMeal class.

```
#include "MainMeal.h"
```

Include dependency graph for MainMeal.cpp:



5.45.1 Detailed Description

Contains implementation for the MainMeal class.

Authors

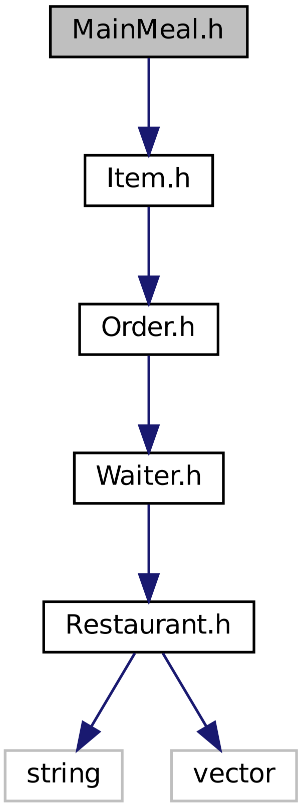
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.46 MainMeal.h File Reference

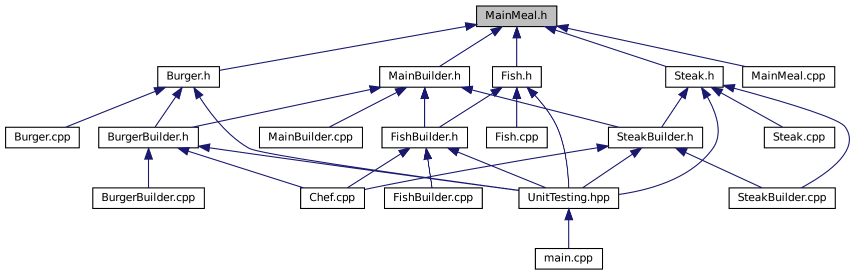
Contains declaration for the MainMeal class.

`#include "Item.h"`

Include dependency graph for MainMeal.h:



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



Classes

- class MainMeal

5.46.1 Detailed Description

Contains declaration for the MainMeal class.

MainMeal is a derived class of Item, representing a main meal.

Authors

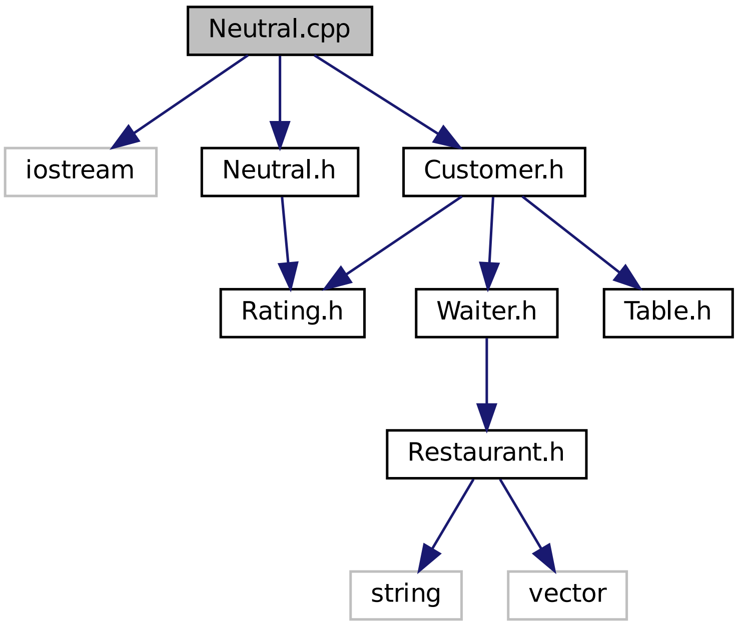
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.47 Neutral.cpp File Reference

Contains implementation for the Neutral class.

```
#include <iostream>
#include "Neutral.h"
#include "Customer.h"
```

Include dependency graph for Neutral.cpp:



5.47.1 Detailed Description

Contains implementation for the Neutral class.

Authors

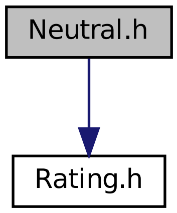
Sange Tshakumane (u21479748)

5.48 Neutral.h File Reference

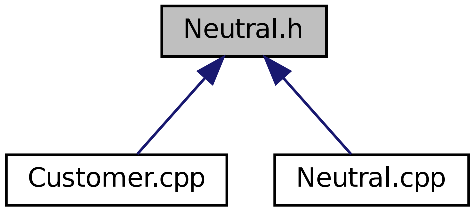
Contains declaration for the Neutral class.

```
#include "Rating.h"
```

Include dependency graph for Neutral.h:



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



Classes

- class Neutral

5.48.1 Detailed Description

Contains declaration for the Neutral class.

Neutral is a derived class of Rating, representing a neutral rating. Neutral ratings do not affect the tip.

Authors

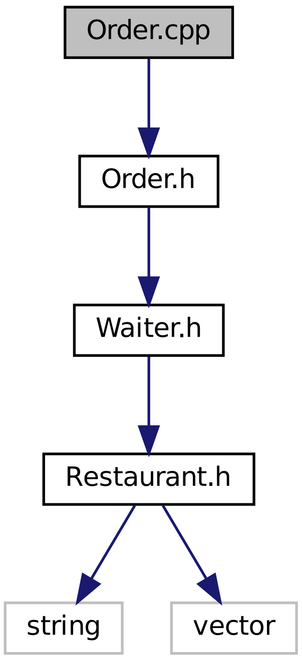
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.49 Order.cpp File Reference

Contains implementation for the Order class.

```
#include "Order.h"
```

Include dependency graph for Order.cpp:



5.49.1 Detailed Description

Contains implementation for the Order class.

Authors

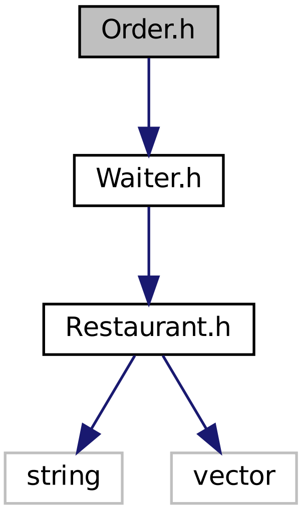
Sange Tshakumane (u21479748)

5.50 Order.h File Reference

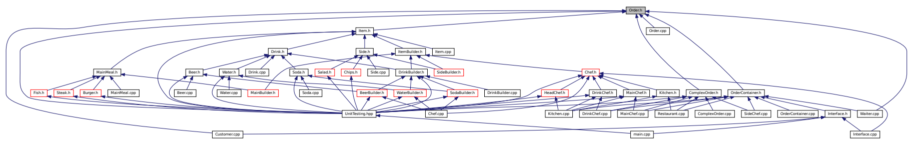
Contains declaration for the Order class.

```
#include "Waiter.h"
```

Include dependency graph for Order.h:



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



Classes

- class Order

5.50.1 Detailed Description

Contains declaration for the Order class.

This file contains the declaration for the Order class. Order is an abstract class that is used to represent an order.

Authors

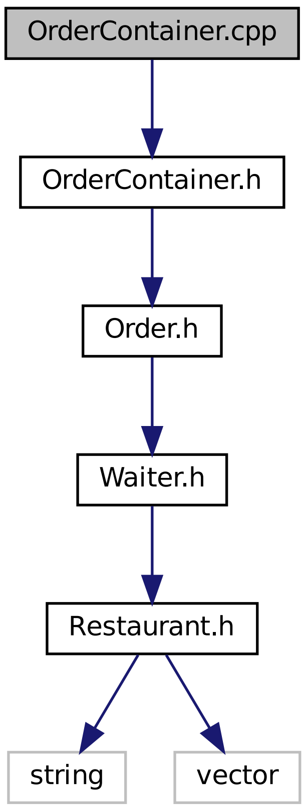
Aidan Chapman (u22738917)

5.51 OrderContainer.cpp File Reference

Contains implementation for the OrderContainer class.

```
#include "OrderContainer.h"
```

Include dependency graph for OrderContainer.cpp:



5.51.1 Detailed Description

Contains implementation for the OrderContainer class.

Authors

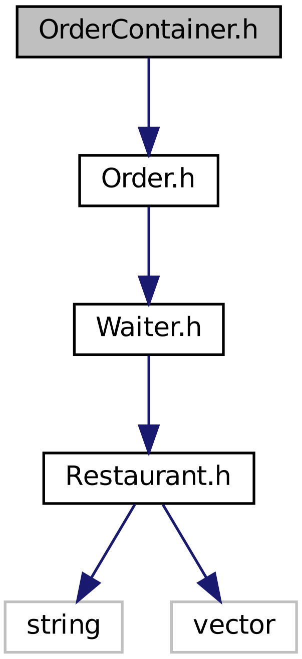
Aidan Chapman (u22738917)

5.52 OrderContainer.h File Reference

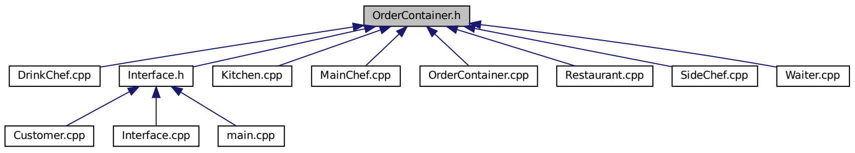
The OrderContainer class represents a container for an Order object and its corresponding requested order string.

```
#include "Order.h"
```

Include dependency graph for OrderContainer.h:



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



Classes

- class OrderContainer

5.52.1 Detailed Description

The OrderContainer class represents a container for an Order object and its corresponding requested order string.

The OrderContainer class is used to pass orders to the Chef class.

Authors

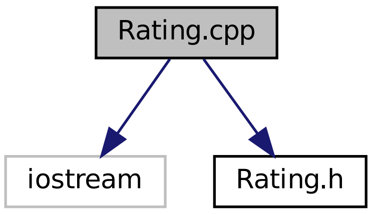
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)
- Sange Tshakumane (u21479748)

5.53 Rating.cpp File Reference

Contains implementation for the Rating class.

```
#include <iostream>
#include "Rating.h"
```

Include dependency graph for Rating.cpp:



5.53.1 Detailed Description

Contains implementation for the Rating class.

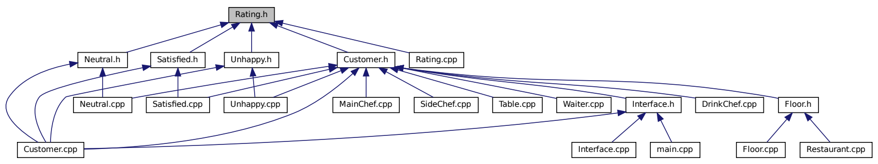
Authors

Sange Tshakumane (u21479748)

5.54 Rating.h File Reference

Contains declaration for the Rating class.

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



Classes

- class Rating

5.54.1 Detailed Description

Contains declaration for the Rating class.

Rating is an abstract class that represents a rating. Ratings are used to calculate the tip for a customer.

Authors

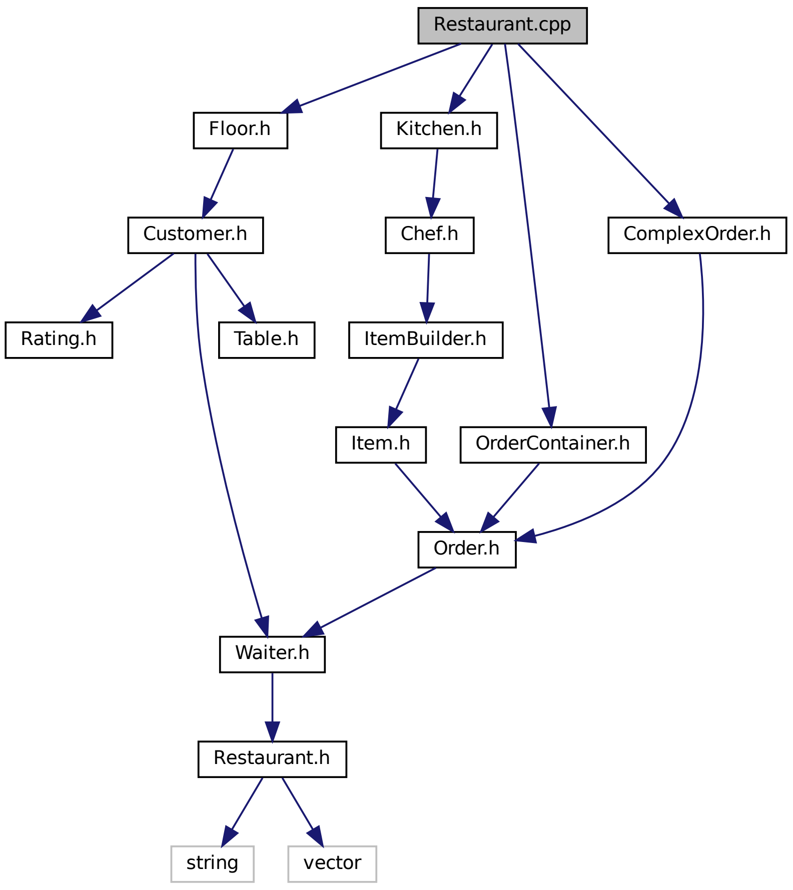
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.55 Restaurant.cpp File Reference

Contains implementation for the Restaurant class.

```
#include "Floor.h"
#include "Kitchen.h"
#include "OrderContainer.h"
#include "ComplexOrder.h"
```

Include dependency graph for Restaurant.cpp:



5.55.1 Detailed Description

Contains implementation for the Restaurant class.

Authors

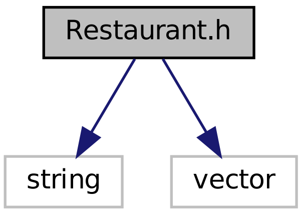
Aidan Chapman (u22738917)

5.56 Restaurant.h File Reference

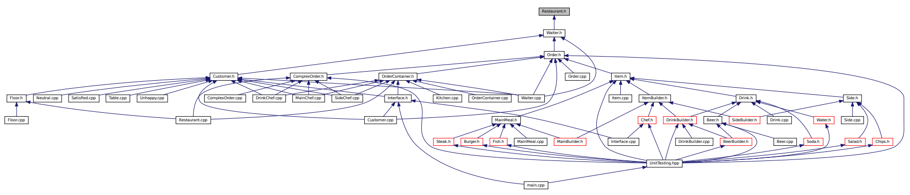
Contains declaration for the Restaurant class.

```
#include <string>
#include <vector>
```

Include dependency graph for Restaurant.h:



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



Classes

- class Restaurant

5.56.1 Detailed Description

Contains declaration for the Restaurant class.

Restaurant class is the mediator class of the program. It contains the floor and kitchen and is responsible for seating customers, placing orders, and handling the flow of the program.

Authors

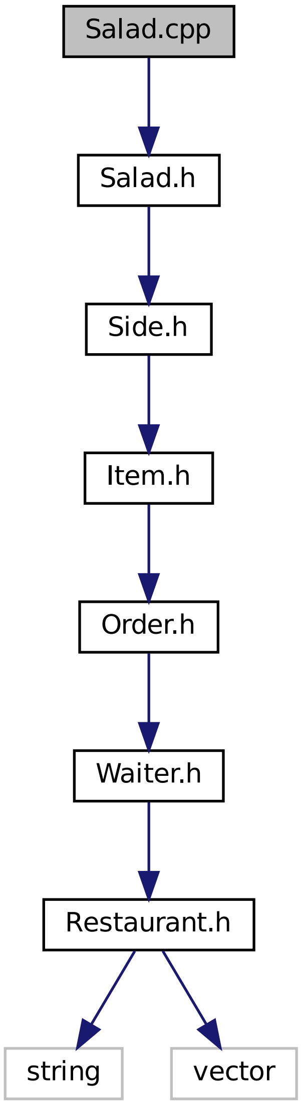
Aidan Chapman (u22738917)

5.57 Salad.cpp File Reference

Contains implementation for the Salad class.

```
#include "Salad.h"
```

Include dependency graph for Salad.cpp:



5.57.1 Detailed Description

Contains implementation for the Salad class.

Authors

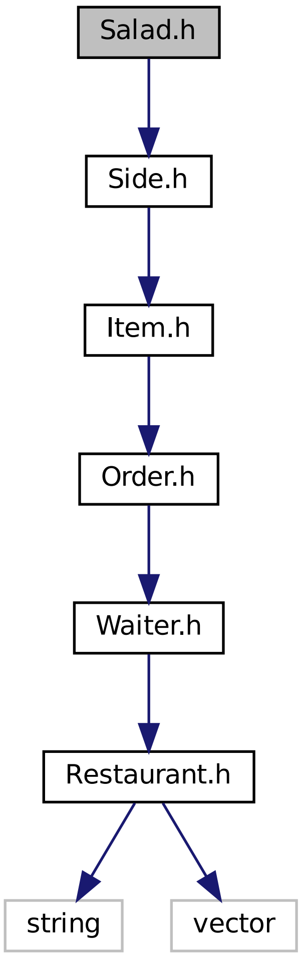
Aidan Chapman (u22738917)

5.58 Salad.h File Reference

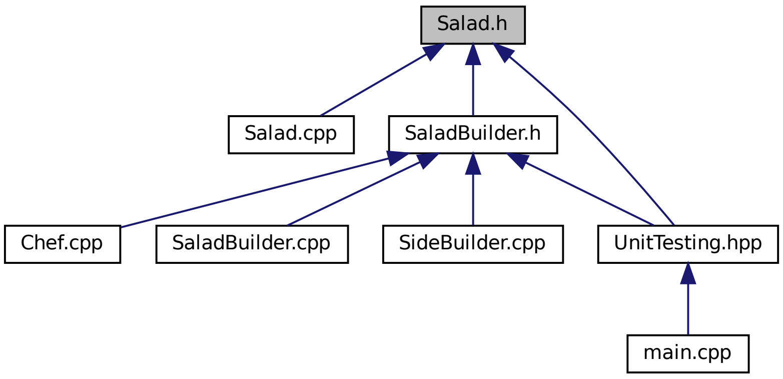
Contains declaration for the Salad class.

```
#include "Side.h"
```

Include dependency graph for Salad.h:



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



Classes

- class Salad

5.58.1 Detailed Description

Contains declaration for the Salad class.

Authors

Aidan Chapman (u22738917)

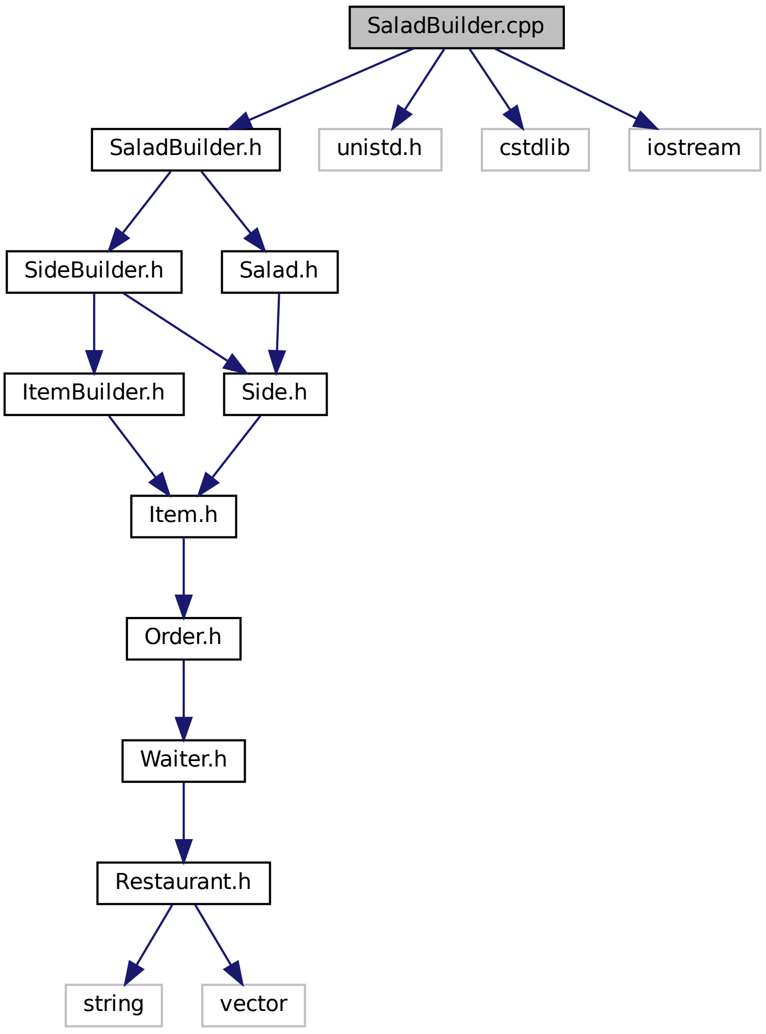
5.59 SaladBuilder.cpp File Reference

Contains implementation for the SaladBuilder class.

```
#include "SaladBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```

Include dependency graph for SaladBuilder.cpp:



5.59.1 Detailed Description

Contains implementation for the SaladBuilder class.

Authors

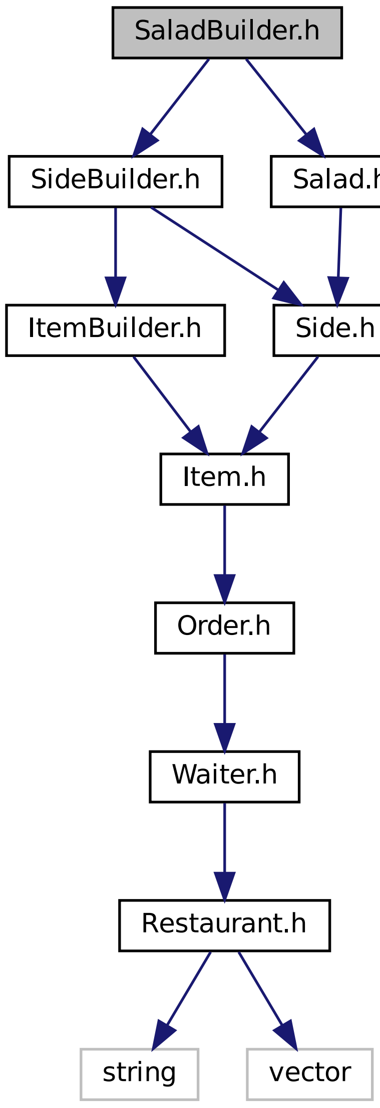
- Graeme Blain (u22625462)

5.60 SaladBuilder.h File Reference

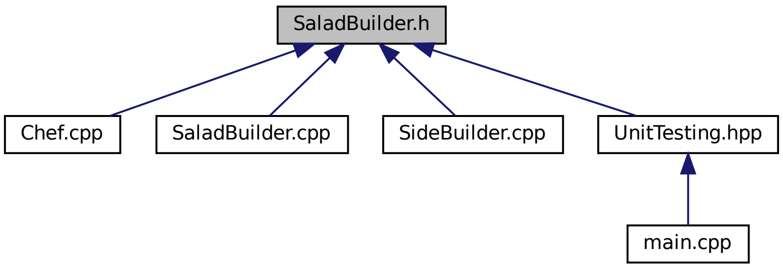
Contains declaration for the SaladBuilder class.

```
#include "SideBuilder.h"
#include "Salad.h"
```

Include dependency graph for SaladBuilder.h:



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



Classes

- class SaladBuilder

5.60.1 Detailed Description

Contains declaration for the SaladBuilder class.

SaladBuilder is a concrete builder for the Salad class and inherits from SideBuilder. It is responsible for building a Salad object using the template method pattern.

Authors

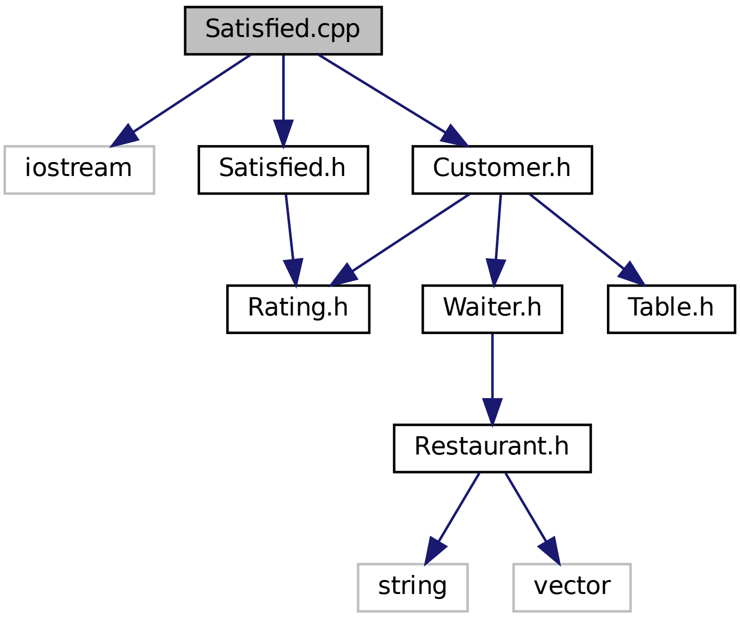
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.61 Satisfied.cpp File Reference

Contains implementation for the Satisfied class.

```
#include <iostream>
#include "Satisfied.h"
```

```
#include "Customer.h"
```
Include dependency graph for Satisfied.cpp:



5.61.1 Detailed Description

Contains implementation for the Satisfied class.

Authors

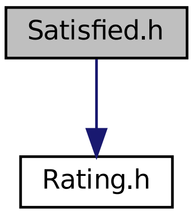
Sange Tshakumane (u21479748)

5.62 Satisfied.h File Reference

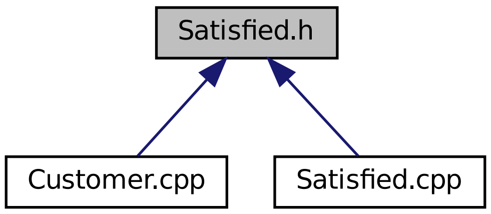
Contains declaration for the Satisfied class.

```
#include "Rating.h"
```

Include dependency graph for Satisfied.h:



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



Classes

- class Satisfied

5.62.1 Detailed Description

Contains declaration for the Satisfied class.

This class is a concrete implementation of the Rating class. It is used to represent a satisfied customer. It is used to calculate the tip for a customer. Satified customers tip 25% of their bill.

Authors

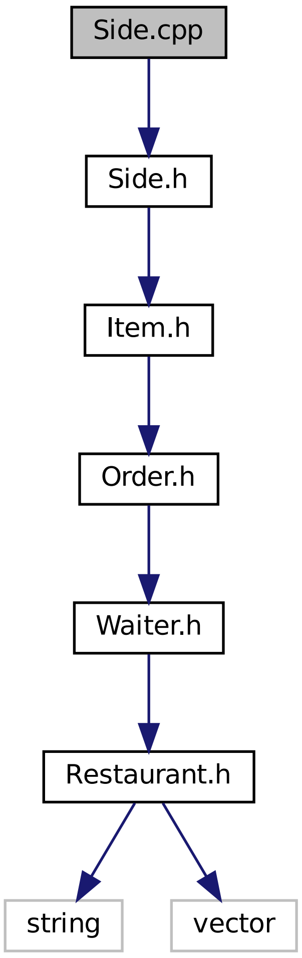
Aidan Chapman (u22738917), Sange Tshakumane (u21479748)

5.63 Side.cpp File Reference

Contains implementation for the Side class.

```
#include "Side.h"
```

Include dependency graph for Side.cpp:



5.63.1 Detailed Description

Contains implementation for the Side class.

Authors

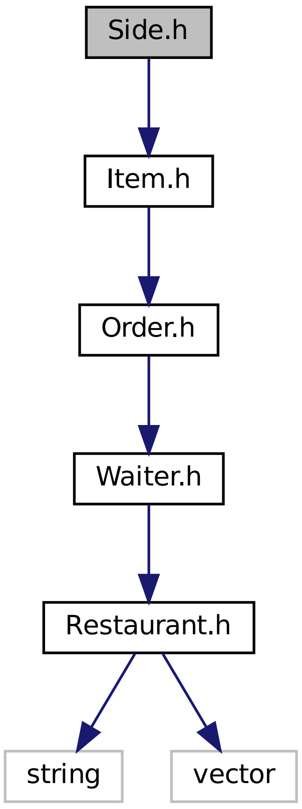
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.64 Side.h File Reference

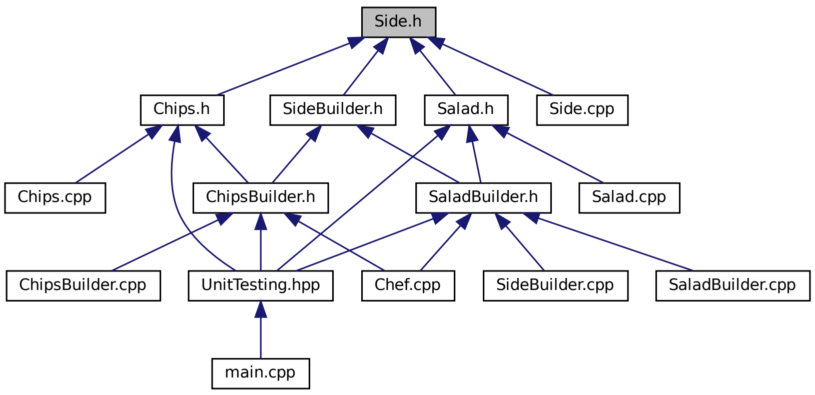
Contains declaration for the Side class.

```
#include "Item.h"
```

Include dependency graph for Side.h:



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



Classes

- class Side

5.64.1 Detailed Description

Contains declaration for the Side class.

Authors

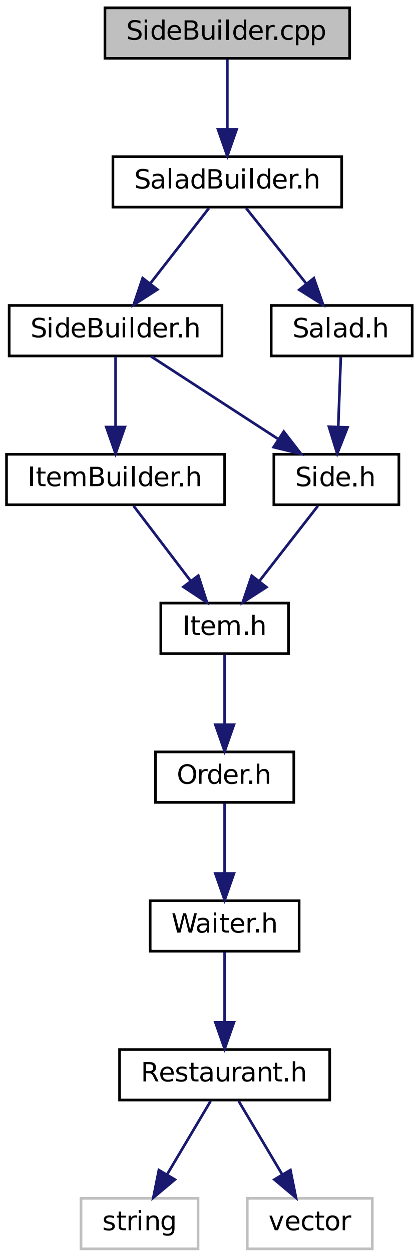
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.65 SideBuilder.cpp File Reference

Contains implementation for the SideBuilder class.

`#include "SaladBuilder.h"`

Include dependency graph for SideBuilder.cpp:



5.65.1 Detailed Description

Contains implementation for the SideBuilder class.

Authors

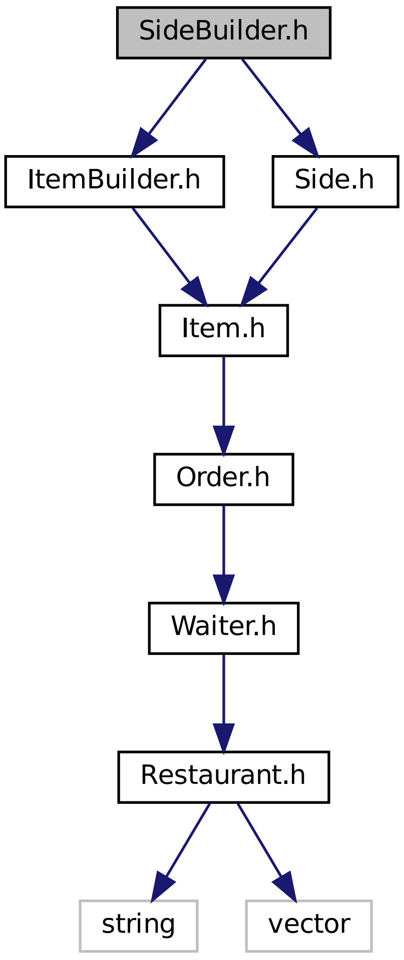
- Graeme Blain (u22625462)

5.66 SideBuilder.h File Reference

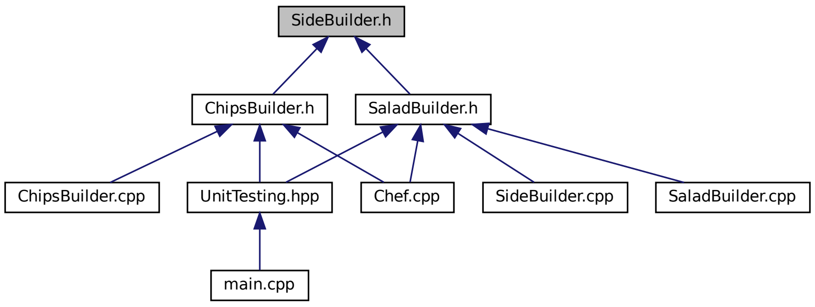
Contains declaration for the SideBuilder class.

```
#include "ItemBuilder.h"
#include "Side.h"
```

Include dependency graph for SideBuilder.h:



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



Classes

- class SideBuilder

5.66.1 Detailed Description

Contains declaration for the SideBuilder class.

SideBuilder is an abstract class that inherits from ItemBuilder. It is used to build Side objects. It contains functions to prepare ingredients, assemble the item, and get the item.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

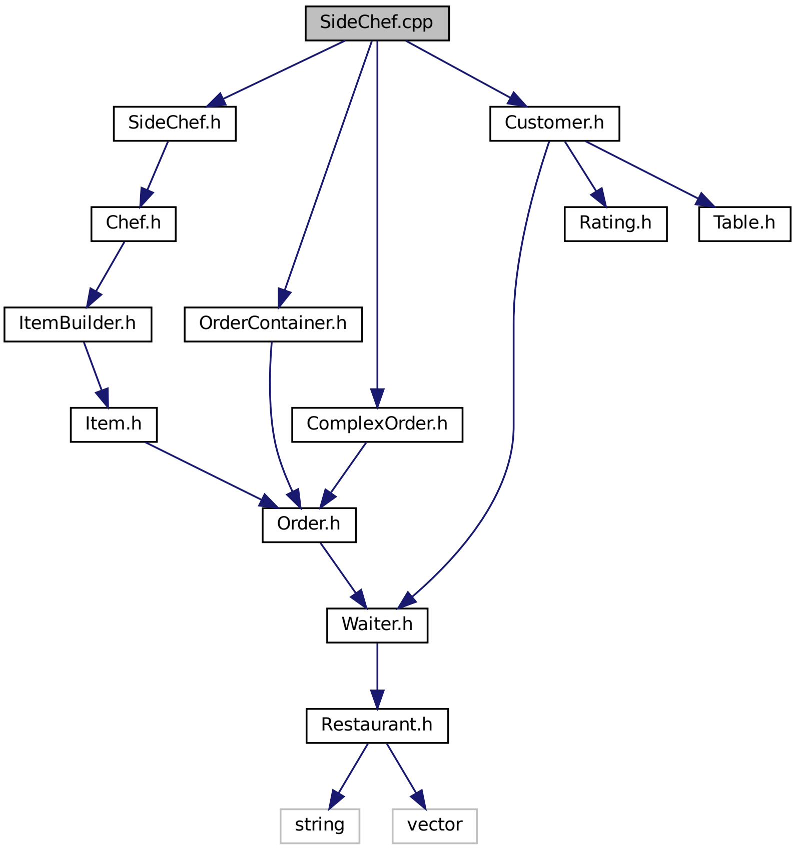
5.67 SideChef.cpp File Reference

Contains implementation for the SideChef class.

```
#include "SideChef.h"
#include "Customer.h"
#include "OrderContainer.h"
```

```
#include "ComplexOrder.h"
```

Include dependency graph for SideChef.cpp:



5.67.1 Detailed Description

Contains implementation for the SideChef class.

Authors

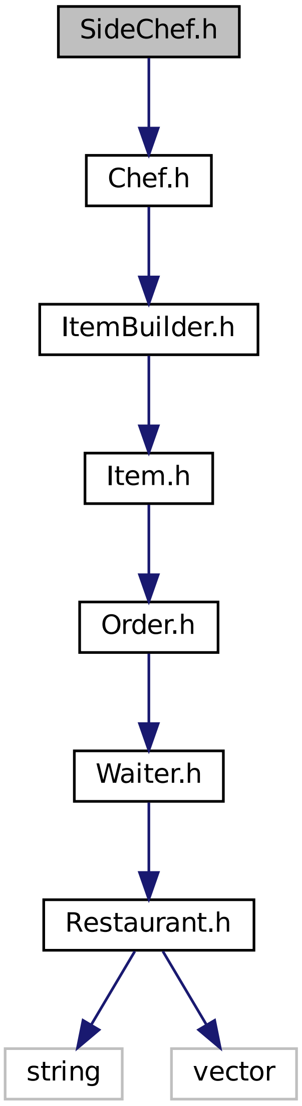
Aidan Chapman (u22738917)

5.68 SideChef.h File Reference

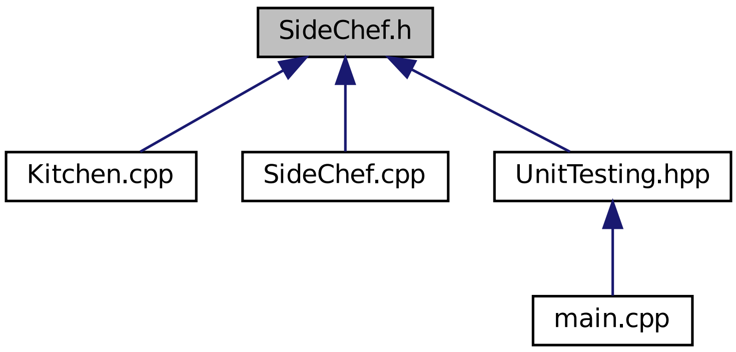
Contains declaration for the SideChef class.

```
#include "Chef.h"
```

Include dependency graph for SideChef.h:



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



Classes

- class SideChef

5.68.1 Detailed Description

Contains declaration for the SideChef class.

SideChef is a concrete class which inherits from Chef. It is responsible for preparing the side part of the order.

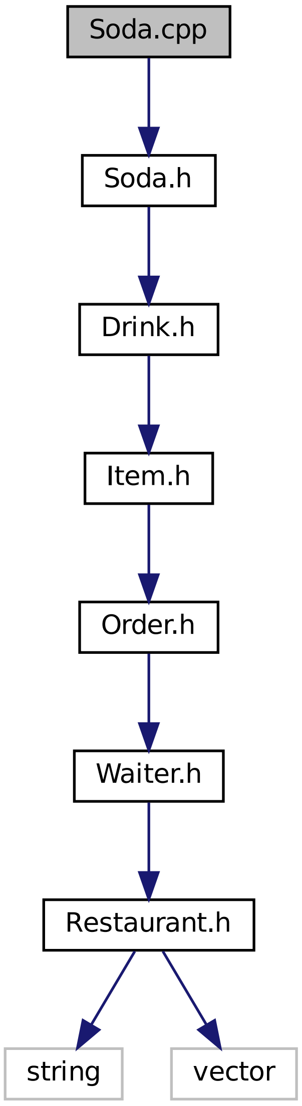
Authors

Aidan Chapman (u22738917)

5.69 Soda.cpp File Reference

Contains implementation for the Soda class.

```
#include "Soda.h"
```
Include dependency graph for Soda.cpp:



5.69.1 Detailed Description

Contains implementation for the Soda class.

Authors

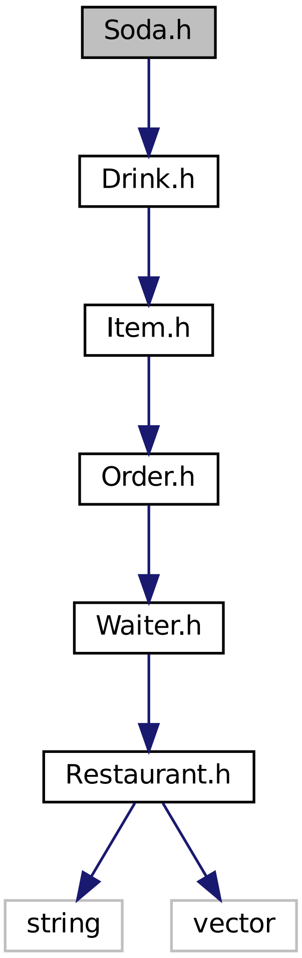
Aidan Chapman (u22738917)

5.70 Soda.h File Reference

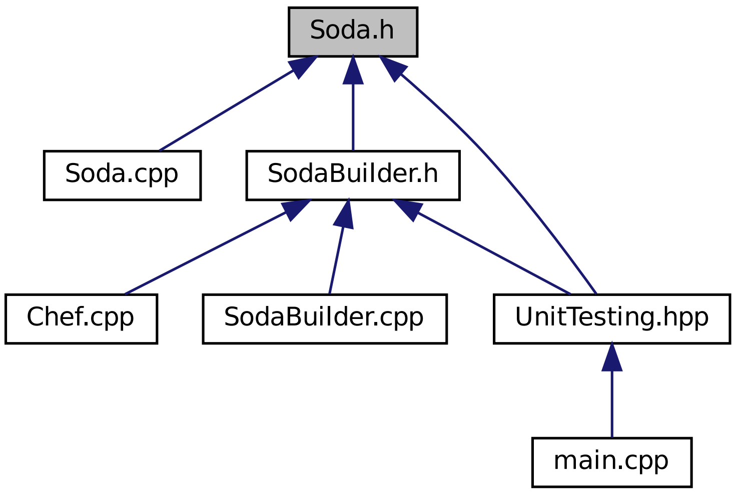
Contains declaration for the Soda class.

```
#include "Drink.h"
```

Include dependency graph for Soda.h:



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



Classes

- class Soda

5.70.1 Detailed Description

Contains declaration for the Soda class.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

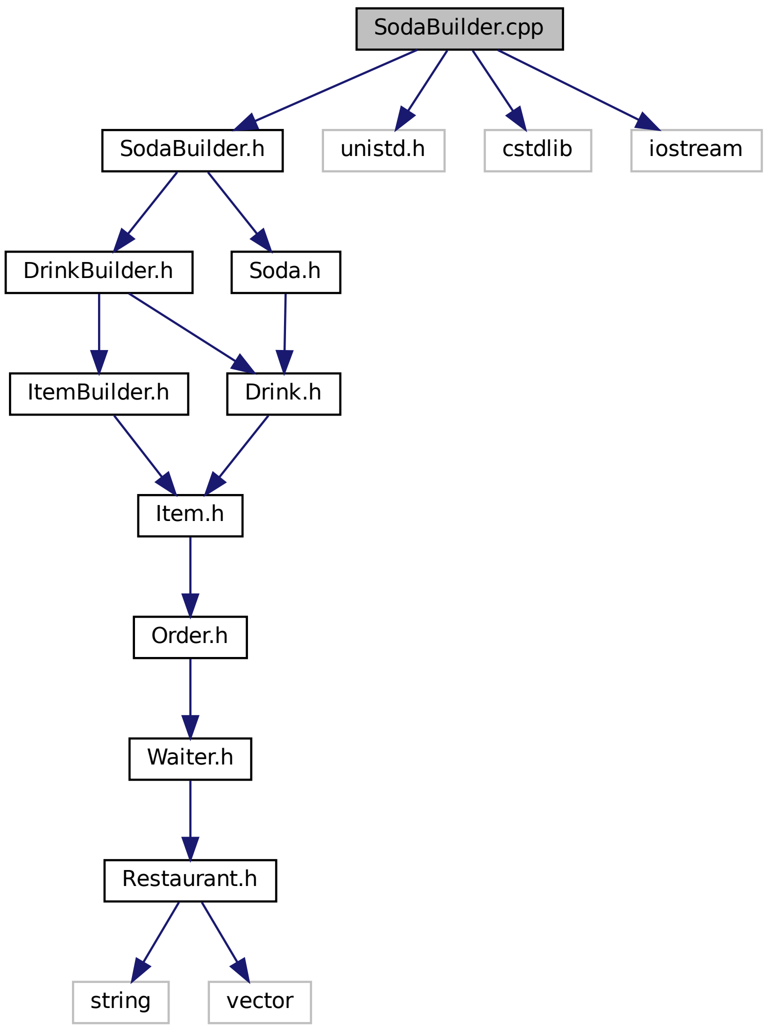
5.71 SodaBuilder.cpp File Reference

Contains implementation for the SodaBuilder class.

```
#include "SodaBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```

Include dependency graph for SodaBuilder.cpp:



5.71.1 Detailed Description

Contains implementation for the SodaBuilder class.

Authors

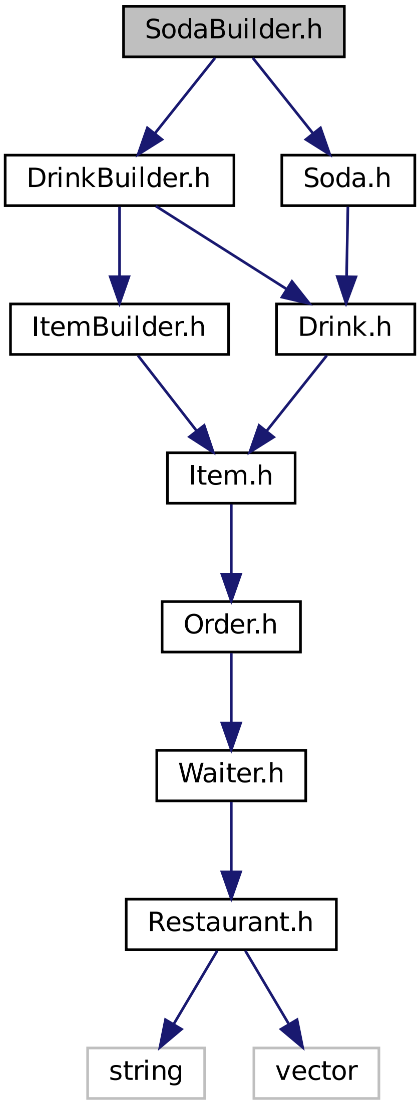
- Graeme Blain (u22625462)

5.72 SodaBuilder.h File Reference

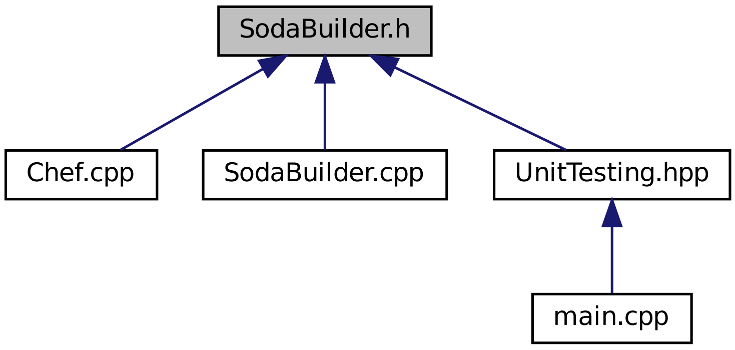
Contains delcaration for the SodaBuilder class.

```
#include "DrinkBuilder.h"
#include "Soda.h"
```

Include dependency graph for SodaBuilder.h:



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



Classes

- class SodaBuilder

5.72.1 Detailed Description

Contains delcaration for the SodaBuilder class.

SodaBuilder is a concrete builder for the DrinkBuilder interface. It is used to create a Soda object. It is responsible for building a Soda object using the template method pattern.

Authors

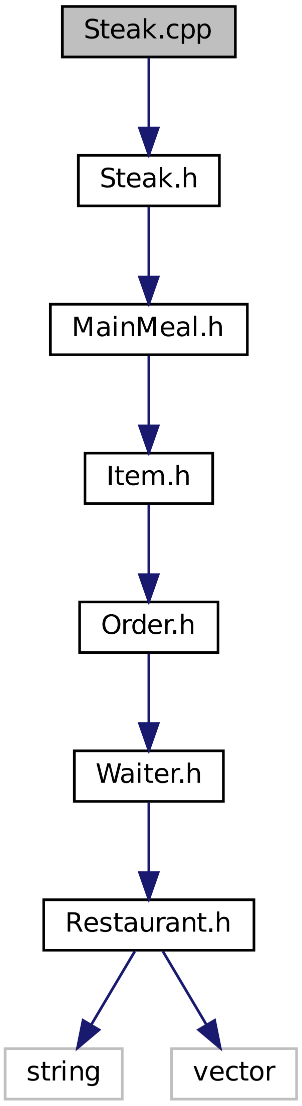
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.73 Steak.cpp File Reference

Contains implementation for the Steak class.

`#include "Steak.h"`

Include dependency graph for Steak.cpp:



5.73.1 Detailed Description

Contains implementation for the Steak class.

Authors

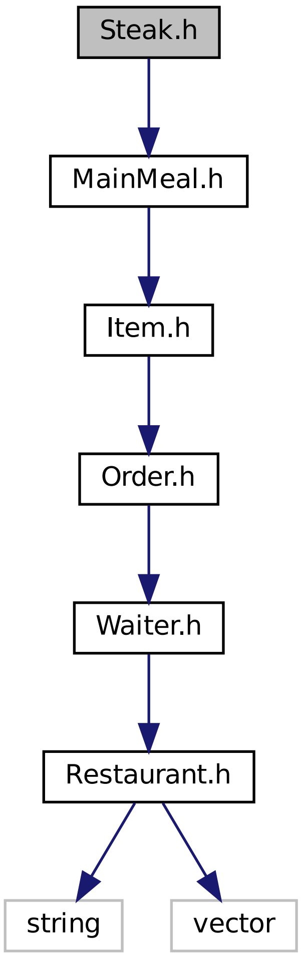
Aidan Chapman (u22738917)

5.74 Steak.h File Reference

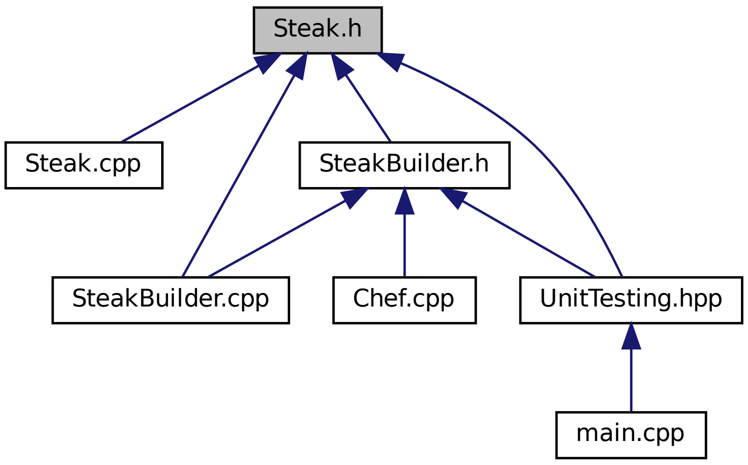
Contains declaration for the Steak class.

```
#include "MainMeal.h"
```

Include dependency graph for Steak.h:



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



Classes

- class Steak

5.74.1 Detailed Description

Contains declaration for the Steak class.

Authors

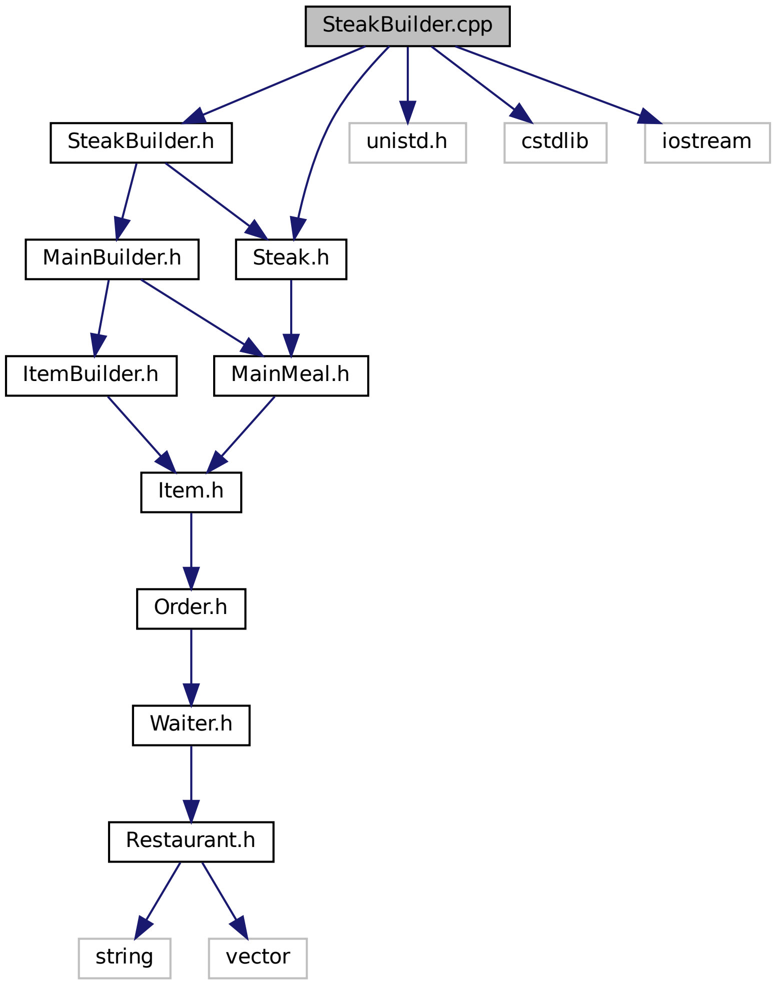
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.75 SteakBuilder.cpp File Reference

Contains the implementation for the SteakBuilder class.

```
#include "SteakBuilder.h"
#include "Steak.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```
Include dependency graph for SteakBuilder.cpp:



5.75.1 Detailed Description

Contains the implementation for the SteakBuilder class.

Authors

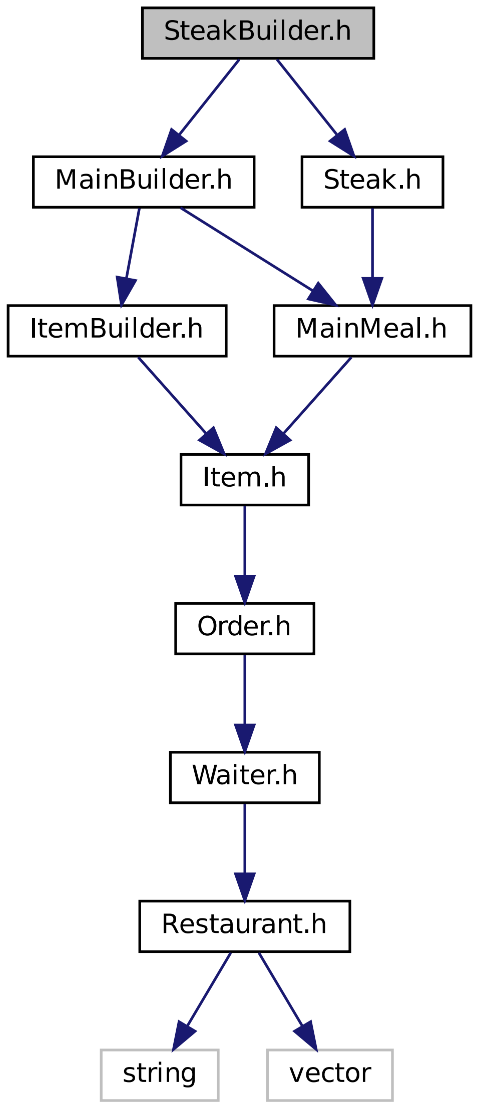
- Graeme Blain (u22625462)
- Douglas Porter (u21797545)

5.76 SteakBuilder.h File Reference

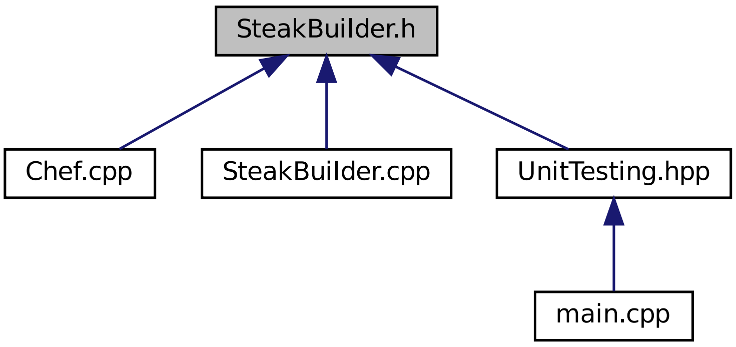
Contains declaration for the SteakBuilder class.

```
#include "MainBuilder.h"
#include "Steak.h"
```

Include dependency graph for SteakBuilder.h:



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



Classes

- class SteakBuilder

5.76.1 Detailed Description

Contains declaration for the SteakBuilder class.

SteakBuilder is a concrete builder for the Steak class. Responsible for creating a Steak object.

Authors

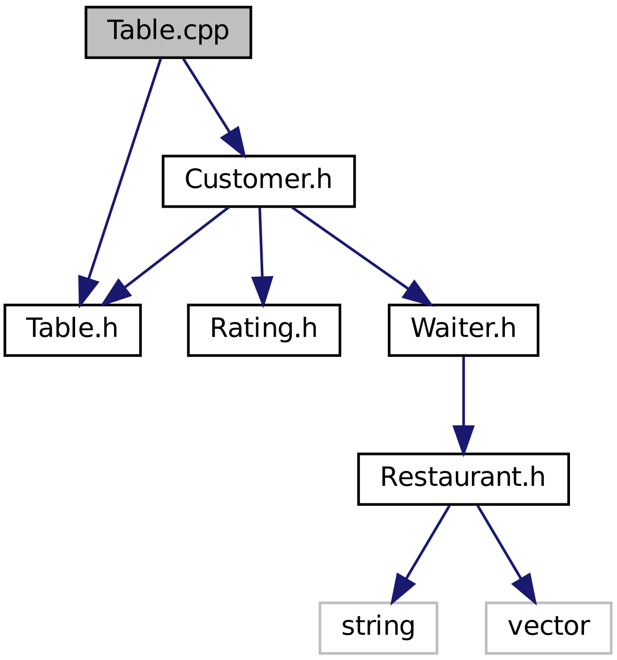
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.77 Table.cpp File Reference

Contains implementation for the Table class.

```
#include "Table.h"
#include "Customer.h"
```

Include dependency graph for Table.cpp:



5.77.1 Detailed Description

Contains implementation for the Table class.

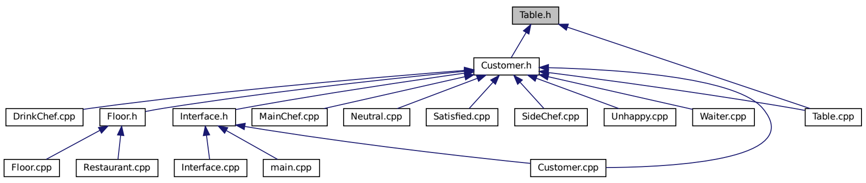
Authors

Aidan Chapman (u22738917)

5.78 Table.h File Reference

Contains declaration for the Table class.

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



Classes

- class Table

5.78.1 Detailed Description

Contains declaration for the Table class.

The Table class is used to represent a table in the restaurant. It contains a pointer to a Customer object, which is used to represent the customer sitting at the table.

Authors

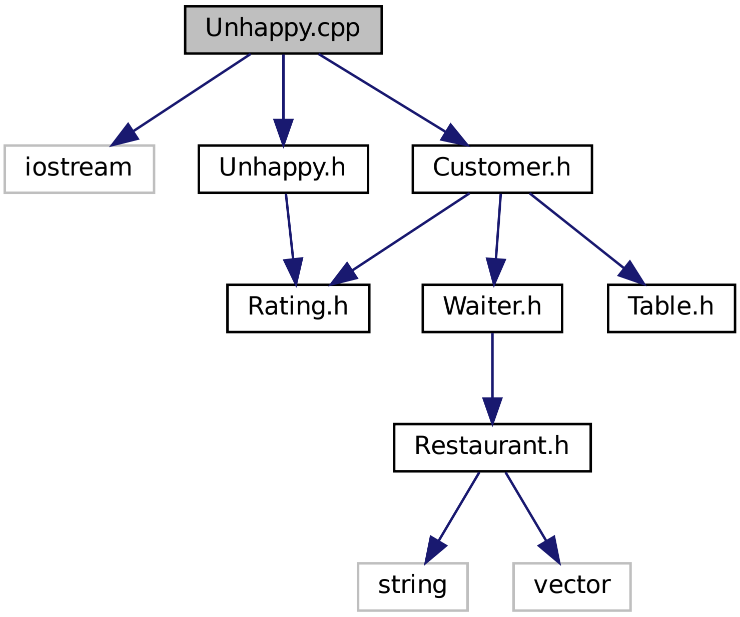
Aidan Chapman (u22738917)

5.79 Unhappy.cpp File Reference

Contains implementation for the Unhappy class.

```
#include <iostream>
#include "Unhappy.h"
#include "Customer.h"
```

Include dependency graph for Unhappy.cpp:



5.79.1 Detailed Description

Contains implementation for the Unhappy class.

Authors

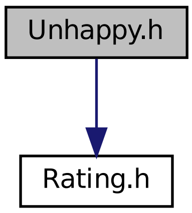
Sange Tshakumane (u21479748)

5.80 Unhappy.h File Reference

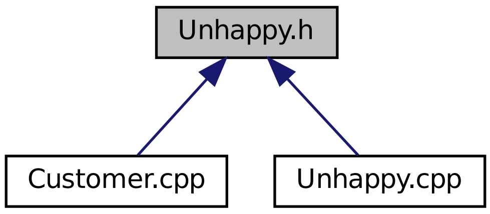
Contains declaration for the Unhappy class.

```
#include "Rating.h"
```

Include dependency graph for Unhappy.h:



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



Classes

- class Unhappy

5.80.1 Detailed Description

Contains declaration for the Unhappy class.

Unhappy is a derived class of Rating. It is one of the states of the State Pattern. It is used to represent a customer who is unhappy with the service they received. Unhappy customers do not tip.

Authors

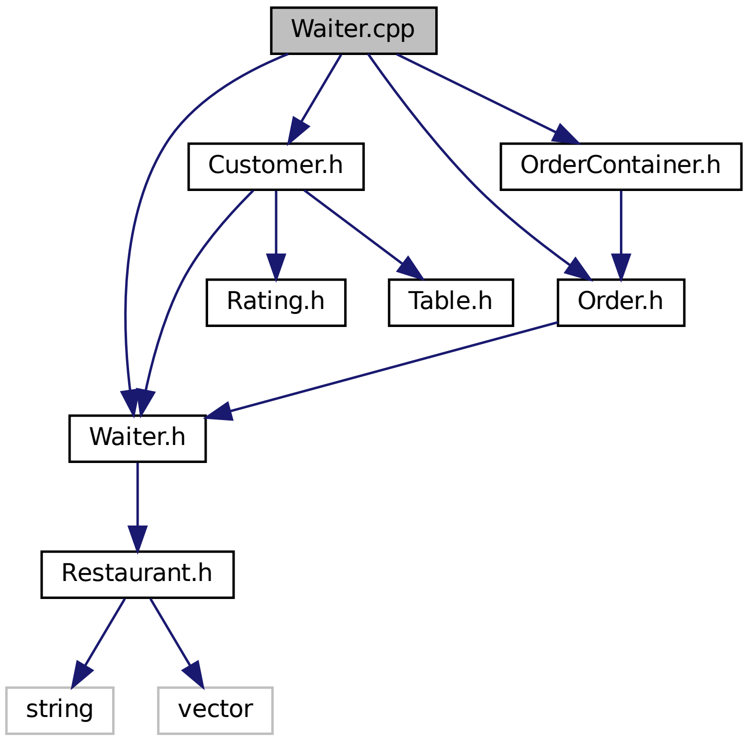
- Aidan Chapman (u22738917)
- Sange Tshakumane (u21479748)

5.81 Waiter.cpp File Reference

Contains implementation for the Waiter class.

```
#include "Waiter.h"
#include "Customer.h"
#include "Order.h"
#include "OrderContainer.h"
```

Include dependency graph for Waiter.cpp:



5.81.1 Detailed Description

Contains implementation for the Waiter class.

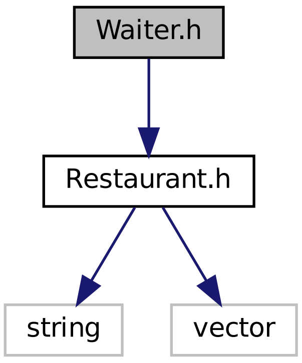
Authors

Aidan Chapman (u22738917)

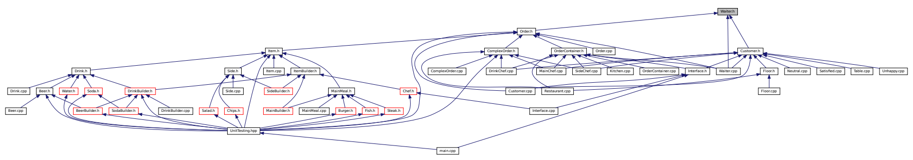
5.82 Waiter.h File Reference

Contains declaration for the Waiter class.

`#include "Restaurant.h"`
Include dependency graph for Waiter.h:



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



Classes

- class Waiter

5.82.1 Detailed Description

Contains declaration for the Waiter class.

The Waiter class is used to represent a waiter in the restaurant. It contains a pointer to a Customer object, which is used to represent the customer that the waiter is serving.

Authors

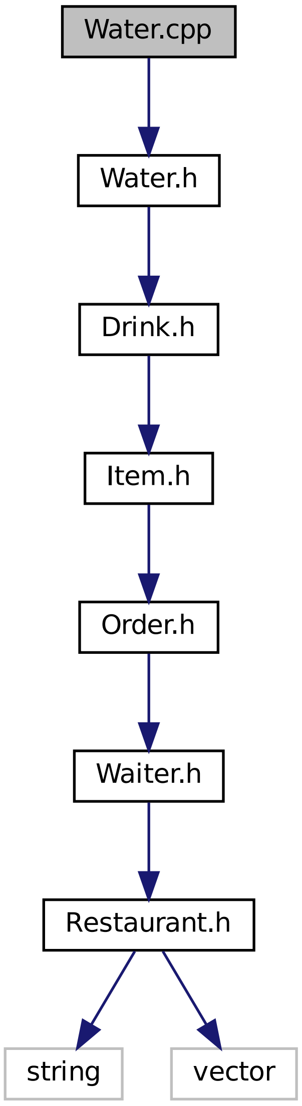
Aidan Chapman (u22738917)

5.83 Water.cpp File Reference

Contains implementation for the Water class.

```
#include "Water.h"
```

Include dependency graph for Water.cpp:



5.83.1 Detailed Description

Contains implementation for the Water class.

Authors

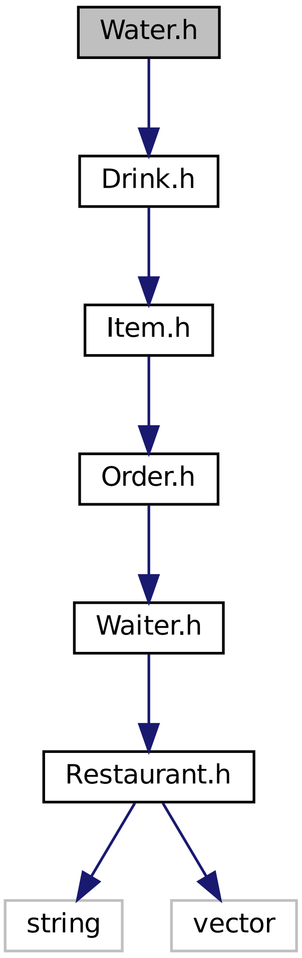
Aidan Chapman (u22738917)

5.84 Water.h File Reference

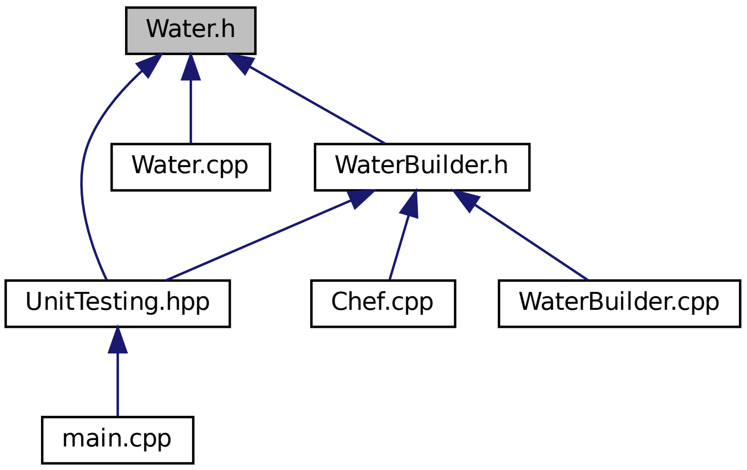
Contains declaration for the Water class.

```
#include "Drink.h"
```

Include dependency graph for Water.h:



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



Classes

- class Water

5.84.1 Detailed Description

Contains declaration for the Water class.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

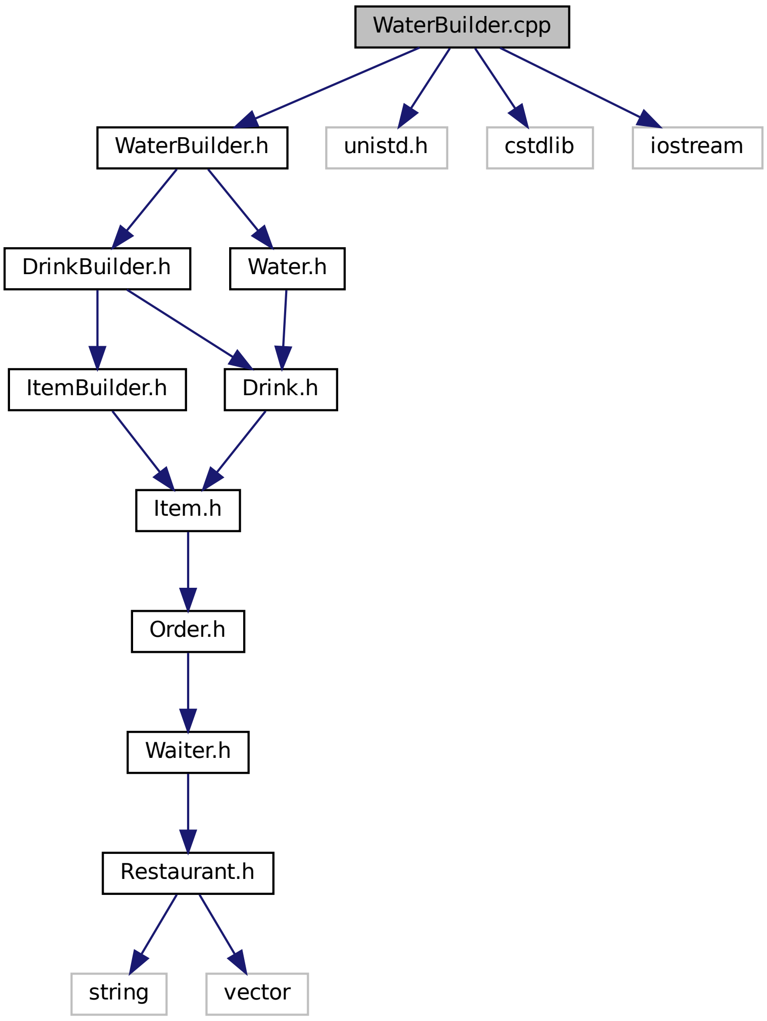
5.85 WaterBuilder.cpp File Reference

Contains implementation for the WaterBuilder class.

```
#include "WaterBuilder.h"
#include <unistd.h>
#include <cstdlib>
```

```
#include <iostream>
```

Include dependency graph for WaterBuilder.cpp:



5.85.1 Detailed Description

Contains implementation for the WaterBuilder class.

Authors

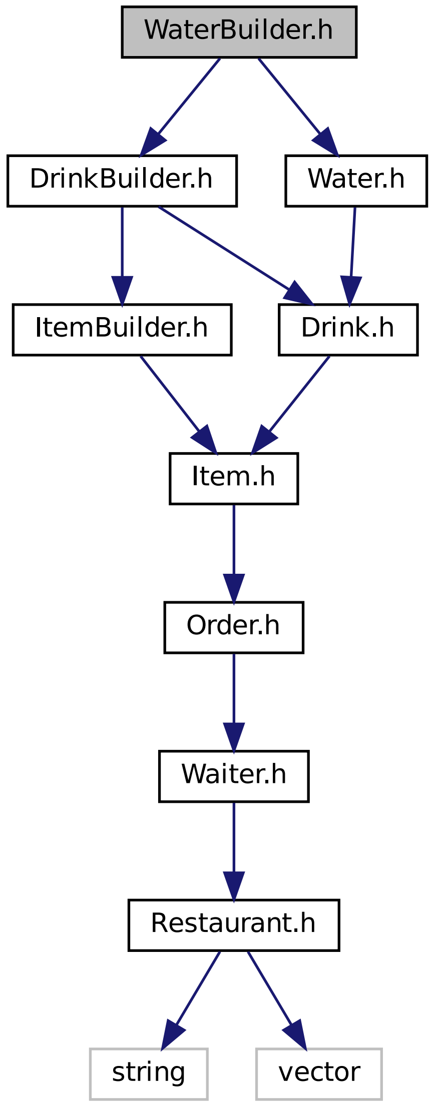
- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

5.86 WaterBuilder.h File Reference

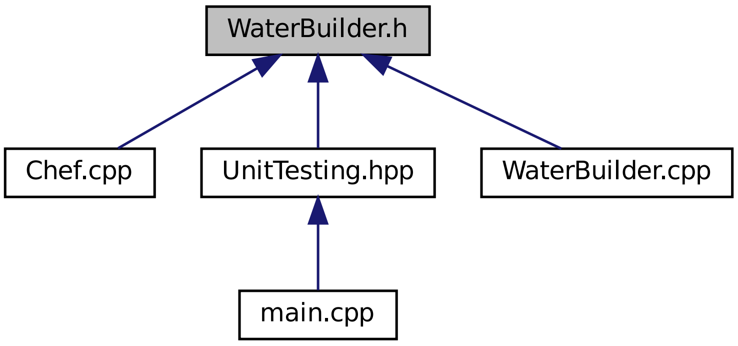
Contains declaration for the WaterBuilder class.

```
#include "DrinkBuilder.h"
#include "Water.h"
```

Include dependency graph for WaterBuilder.h:



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



Classes

- class WaterBuilder

5.86.1 Detailed Description

Contains declaration for the WaterBuilder class.

This file contains the declarations for the functions to build a Water object using the Builder design pattern. WaterBuilder is a concrete builder class that inherits from the DrinkBuilder class. It is responsible for building a Water object using the template method pattern.

Authors

- Aidan Chapman (u22738917)
- Graeme Blain (u22625462)

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