

## Cat Mouse

High Distinction Project for HIT2302 Object Oriented Programming

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## Contents

<b>1</b>	<b>Objective-C Coupled Implementation</b>	<b>1</b>
<b>2</b>	<b>Class Documentation</b>	<b>2</b>
2.1	CMAnt Class Reference . . . . .	2
2.1.1	Detailed Description . . . . .	3
2.1.2	Method Documentation . . . . .	4
2.1.3	Member Data Documentation . . . . .	4
2.1.4	Property Documentation . . . . .	4
2.2	CMCat Class Reference . . . . .	4
2.2.1	Detailed Description . . . . .	6
2.2.2	Method Documentation . . . . .	6
2.3	CMGame Class Reference . . . . .	7
2.3.1	Detailed Description . . . . .	8
2.3.2	Method Documentation . . . . .	8
2.4	CMGUI Class Reference . . . . .	9
2.4.1	Detailed Description . . . . .	10
2.4.2	Method Documentation . . . . .	10
2.4.3	Member Data Documentation . . . . .	11
2.5	CMMouse Class Reference . . . . .	11
2.5.1	Detailed Description . . . . .	12
2.6	CMNetwork Class Reference . . . . .	13
2.6.1	Detailed Description . . . . .	15
2.6.2	Method Documentation . . . . .	15
2.6.3	Member Data Documentation . . . . .	15
2.6.4	Property Documentation . . . . .	15

## 1 Objective-C Coupled Implementation

Version

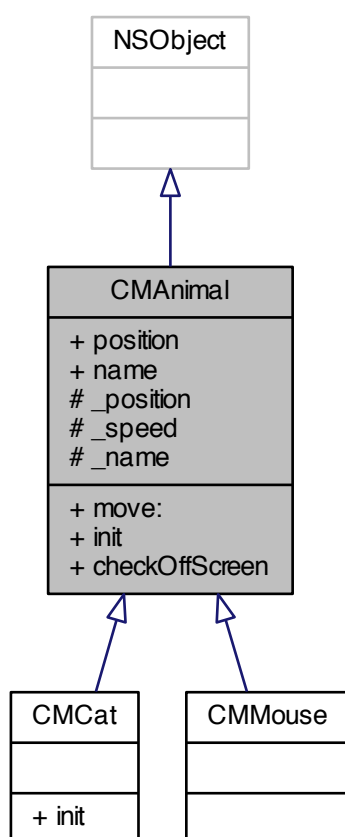
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## 2 Class Documentation

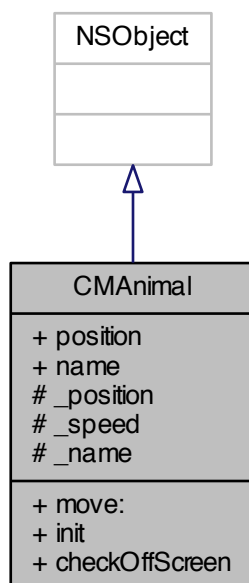
### 2.1 CMAntimal Class Reference

```
#import <CMAntimal.h>
```

Inheritance diagram for CMAntimal:



Collaboration diagram for CMAbstract:



#### Instance Methods

- (void) - **move:**
- (id) - **init**[implementation]
- (void) - **checkOffScreen**[implementation]

#### Protected Attributes

- CGPoint2D \* **\_position**
- int **\_speed**
- NSString \* **\_name**

#### Properties

- CGPoint2D \* **position**
- NSString \* **name**

#### 2.1.1 Detailed Description

Defines an abstract, base class for a playable 'thing' on the screen which can move around etc.

#### Author

Alex Cummaudo

#### Date

23 Oct 2013

## 2.1.2 Method Documentation

### 2.1.2.1 -(void) move: (dirs) dir

Move implementation for a Animal to move an animal in a direction at its speed.

#### Parameters

<i>dir</i>	Direction the animal is told to move in (alters x and y axis position of poision accordingly)
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### 2.1.2.2 -(id) init [implementation]

Default constructor for initialising `_position` and `_speed` for all new Animals.

#### Returns

The self class pointer

Reimplemented in **CMCat** (p. 7).

### 2.1.2.3 -(void) checkOffScreen [implementation]

Off screen check that prevents any Animal from going outside the borders of the screen.

## 2.1.3 Member Data Documentation

### 2.1.3.1 -(CGPoint2D\*) \_position [protected]

Centrepont position of the animal.

### 2.1.3.2 -(int) \_speed [protected]

Speed at which animals move at, set to a value of 3.

### 2.1.3.3 -(NSString\*) \_name [protected]

Name of animals, overridden by children (i.e. 'Cat' or 'Mouse')

## 2.1.4 Property Documentation

### 2.1.4.1 -(CGPoint2D\*) position [read], [write], [atomic], [retain]

Readwrite property to update position, used by **CMGame** (p. 7).

### 2.1.4.2 -(NSString\*) name [read], [atomic], [assign]

Readonly property to name, used by **CMGUI** (p. 9) and **CMNetwork** (p. 13).

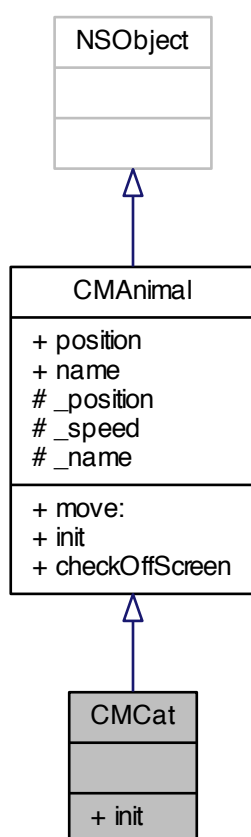
The documentation for this class was generated from the following files:

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/**C-MAAnimal.h**
- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/**C-MAAnimal.m**

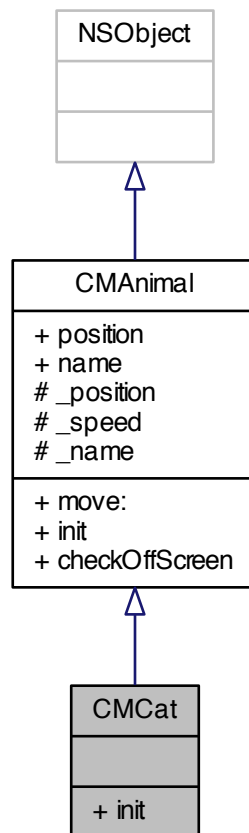
## 2.2 CMCat Class Reference

```
#import <CMCatMouse.h>
```

Inheritance diagram for CMCat:



Collaboration diagram for CMCat:



#### Instance Methods

- (id) - **init**[implementation]

#### Additional Inherited Members

##### 2.2.1 Detailed Description

Defines an class for a playable chaser (i.e. the chasing cat)

#### Author

Alex Cummaudo

#### Date

24 Oct 2013

##### 2.2.2 Method Documentation

**2.2.2.1** `-(id) init` [implementation]

The default constructor for the cat constructs parent and sets position on lefthand-side of screen.

**Returns**

The self class pointer

Reimplemented from **CMAnimal** (p. 4).

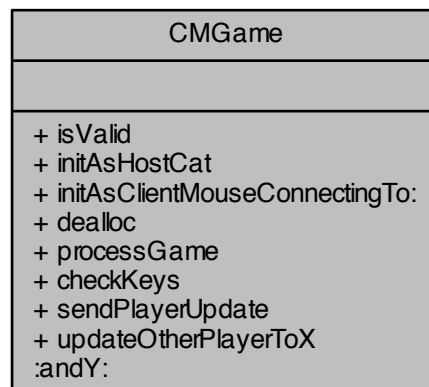
The documentation for this class was generated from the following files:

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/**CMCatMouse.h**
- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/**CMCatMouse.m**

**2.3 CMGame Class Reference**

```
#import <CMGame.h>
```

Collaboration diagram for CMGame:

**Instance Methods**

- (BOOL) - **isValid** [implementation]
- (id) - **initWithHostCat** [implementation]
- (id) - **initWithClientMouseConnectingTo:** [implementation]
- (void) - **dealloc** [implementation]
- (void) - **processGame** [implementation]
- (void) - **checkKeys** [implementation]
- (void) - **sendPlayerUpdate** [implementation]
- (void) - **updateOtherPlayerToX:andY:** [implementation]



### 2.3.1 Detailed Description

Defines class for the general 'game' of the cat and mice.

#### Author

Alex Cummaudo

#### Date

16 Oct 2013

### 2.3.2 Method Documentation

#### 2.3.2.1 -(BOOL) isValid [implementation]

Implementation of the isValid property.

#### Returns

Valid connection of network

#### 2.3.2.2 -(id) initWithHostCat [implementation]

On construction of a game, this overloaded version of the constructor will initialise the network as a host, and make the player a cat.

#### 2.3.2.3 -(id) initWithClientMouseConnectingTo: (NSString \*) ipAddr [implementation]

On construction of a game, this overloaded version of the constructor will initialise the network as a client, and make the player a mouse.

#### Parameters

<i>ipAddr</i>	Host to connect to
---------------	--------------------

#### 2.3.2.4 -(void) dealloc [implementation]

Destructor removes all references to my owned views.

#### 2.3.2.5 -(void) processGame [implementation]

Called to process the game.

#### 2.3.2.6 -(void) checkKeys [implementation]

Method called to update the players position and send it to the remote model.

#### 2.3.2.7 -(void) sendPlayerUpdate [implementation]

Sends a message over the network to update the current player's position.

#### 2.3.2.8 -(void) updateOtherPlayerToX: (float) x and Y:(float) y [implementation]

Updates the other player's position.

## Note

This is called from **CMNetwork** (p. 13)

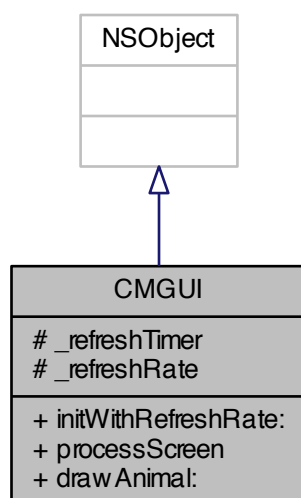
The documentation for this class was generated from the following file:

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/**CMGame.m**

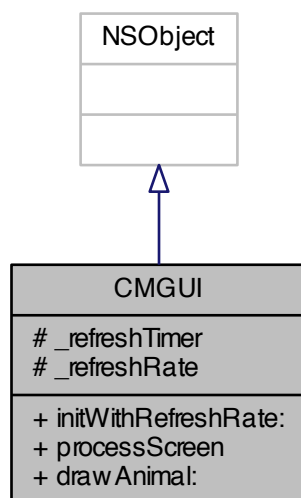
## 2.4 CMGUI Class Reference

```
#import <CMGUI.h>
```

Inheritance diagram for CMGUI:



Collaboration diagram for CMGUI:



#### Instance Methods

- (id) - **initWithRefreshRate:**
- (void) - **processScreen**
- (void) - **drawAnimal:**

#### Protected Attributes

- SGTimer \* **\_refreshTimer**
- float **\_refreshRate**

#### 2.4.1 Detailed Description

Provides GUI View for the game to display the game on in a graphics window.

#### Author

Alex Cummaudo

#### Date

22 Oct 2013

#### 2.4.2 Method Documentation

2.4.2.1 - (id) initWithRefreshRate: (float) *refRate*

2.4.2.2 - (void) processScreen

2.4.2.3 - (void) drawAnimal: (CMAntimal \*) animalToDraw

### 2.4.3 Member Data Documentation

2.4.3.1 - (SGTimer\*) \_refreshTimer [protected]

Timer used to refresh the screen at the by clearing the screen and resetting at refreshRate given

2.4.3.2 - (float) \_refreshRate [protected]

Seconds to refresh the screen at.

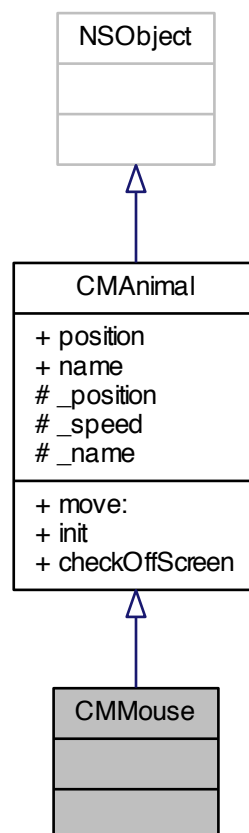
The documentation for this class was generated from the following file:

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/C-MGUI.h

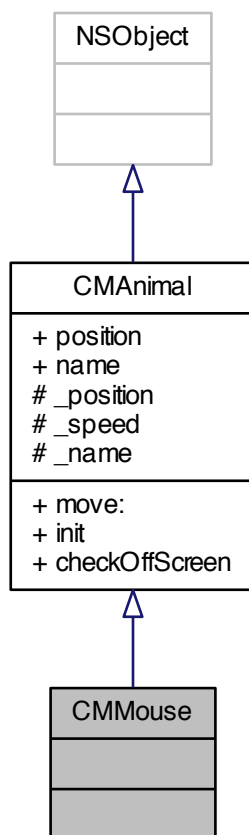
## 2.5 CMMouse Class Reference

```
#import <CMCatMouse.h>
```

Inheritance diagram for CMMouse:



Collaboration diagram for CMMouse:



## Additional Inherited Members

### 2.5.1 Detailed Description

Defines an class for a playable chasee (i.e. the hunted mouse)

#### Author

Alex Cummaudo

#### Date

18 Oct 2013

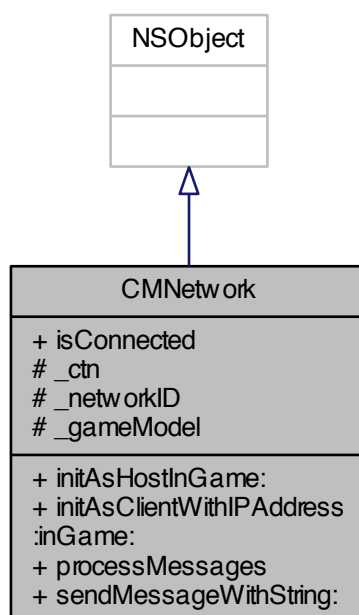
The documentation for this class was generated from the following file:

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/C-MCatMouse.h

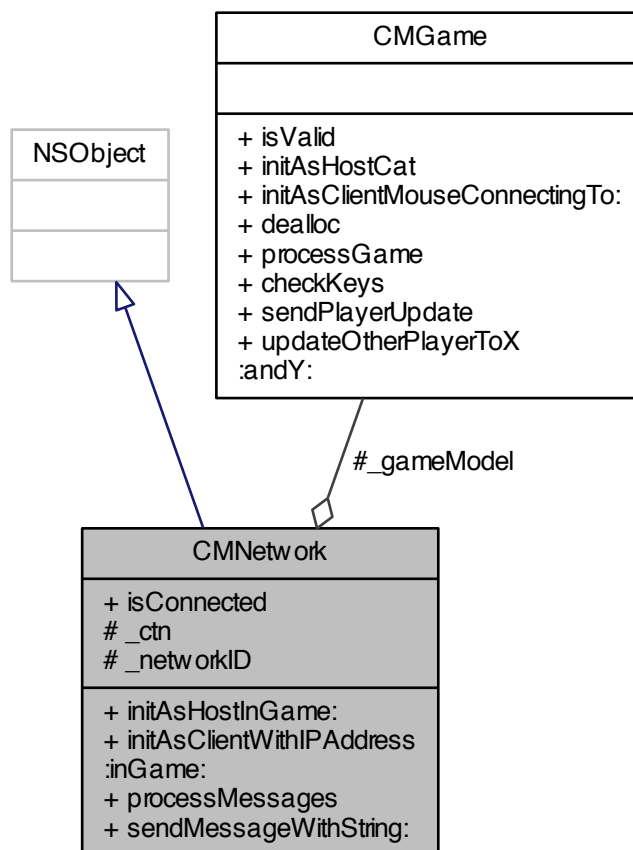
## 2.6 CMNetwork Class Reference

```
#import <CMNetwork.h>
```

Inheritance diagram for CMNetwork:



Collaboration diagram for CMNetwork:



#### Instance Methods

- (id) - **initAsHostInGame:**
- (id) - **initAsClientWithIPAddress:inGame:**
- (void) - **processMessages**
- (void) - **sendMessageWithString:**

#### Protected Attributes

- SGConnection \* **\_ctn**
- NSString \* **\_networkID**
- **CMGame** \* **\_gameModel**

#### Properties

- BOOL **isConnected**

### 2.6.1 Detailed Description

Packages up data recieved from the controller and passes it to a given network.

#### Author

Alex Cummaudo

#### Date

22 Oct 2013

### 2.6.2 Method Documentation

2.6.2.1 - (id) initWithGame: (CMGame \*) *gameModel*

2.6.2.2 - (id) initWithIPAddress: (NSString \*) *ipAddr* inGame:(CMGame \*) *gameModel*

2.6.2.3 - (void) processMessages

2.6.2.4 - (void) sendMessageWithString: (NSString \*) *msg*

### 2.6.3 Member Data Documentation

2.6.3.1 - (SGConnection\*) *\_ctn* [protected]

Network connection controller between client and host.

2.6.3.2 - (NSString\*) *\_networkID* [protected]

Defines a unique address of this machine.

2.6.3.3 - (CMGame\*) *\_gameModel* [protected]

Defines the coupling between game and network.

### 2.6.4 Property Documentation

2.6.4.1 - (BOOL) *isConnected* [read], [atomic], [assign]

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

- /Users/Alex/Dropbox/Swinburne/HIT2302 - OOP/Projects/Cat and Mouse/#4\_CatMouse\_ObjC\_Coupled/src/C-MNetwork.h