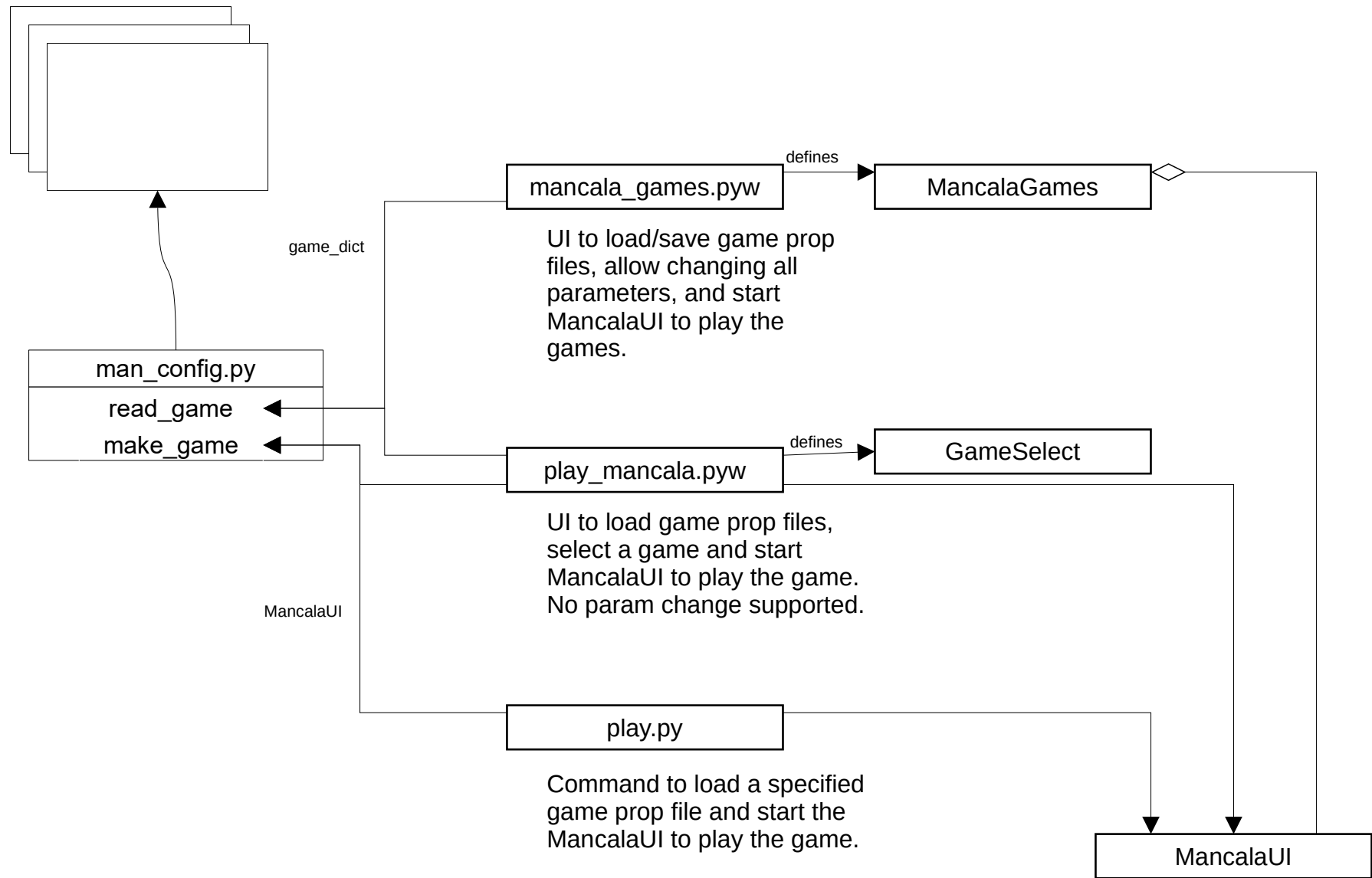
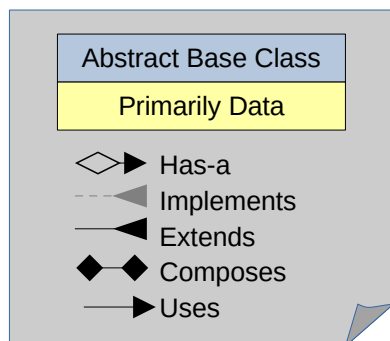
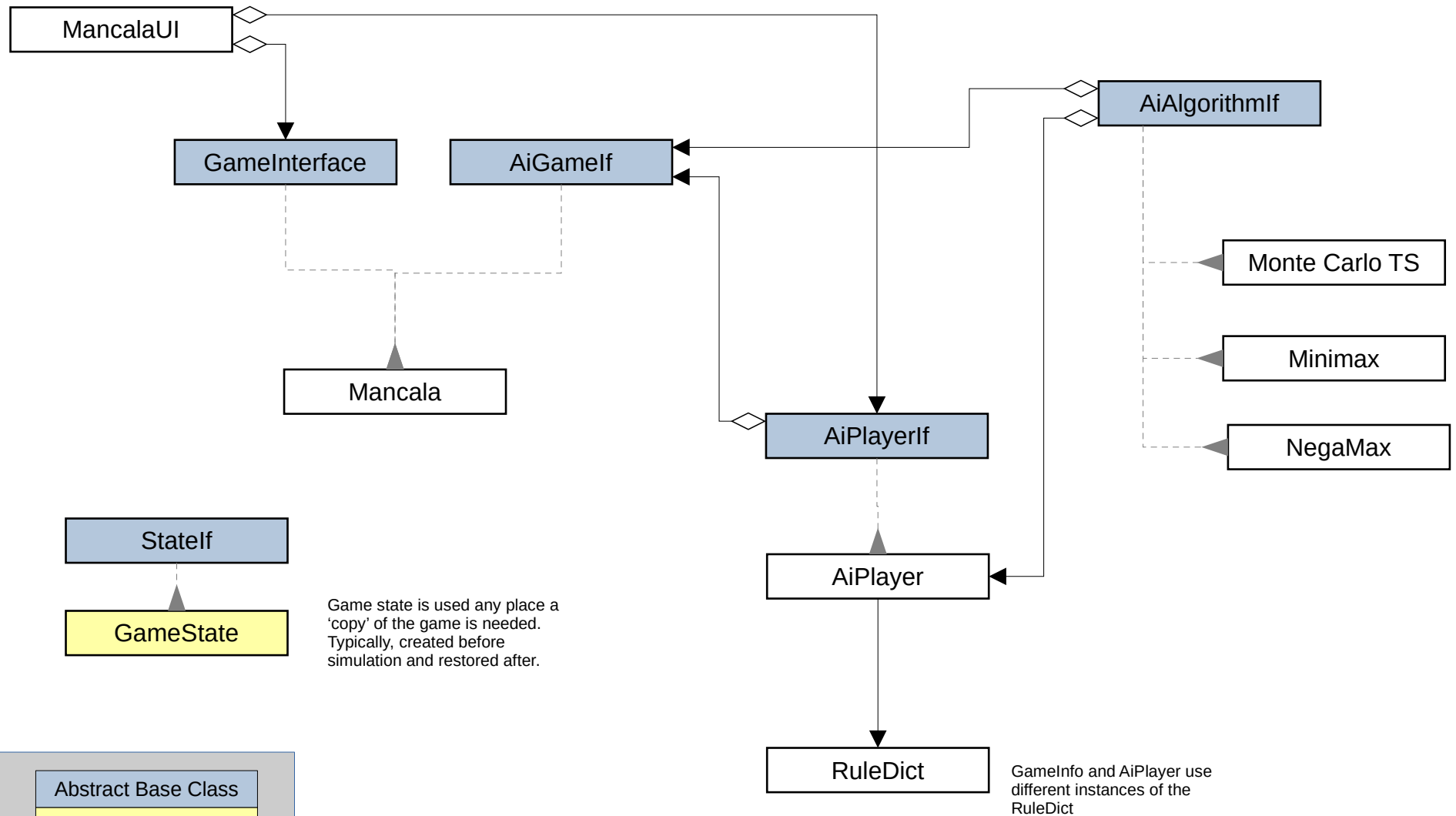


# Mancala Games

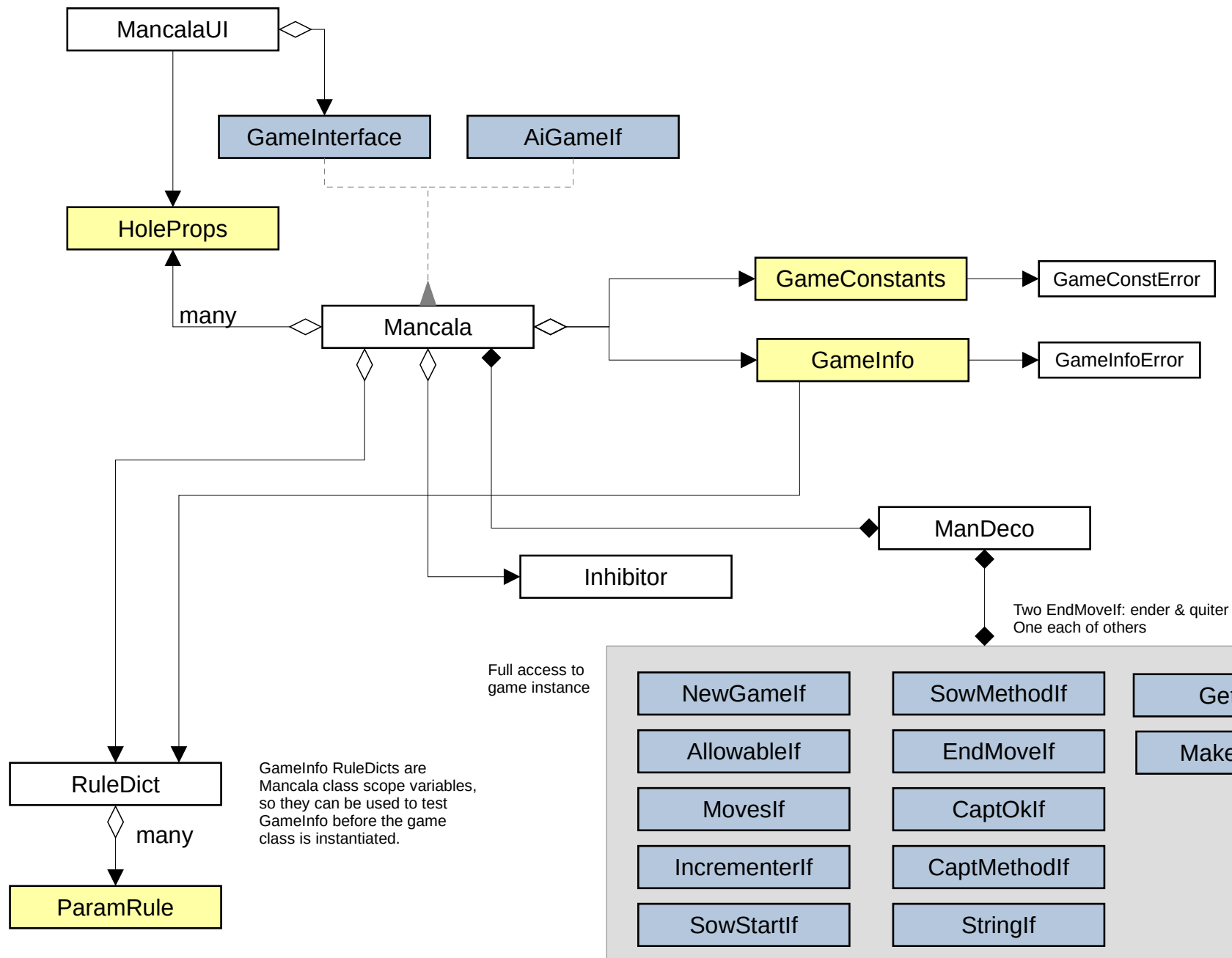
## Game Property Files



# Mancala UI, Mancala & AI Classes



# Mancala Classes



# Decorator Usage

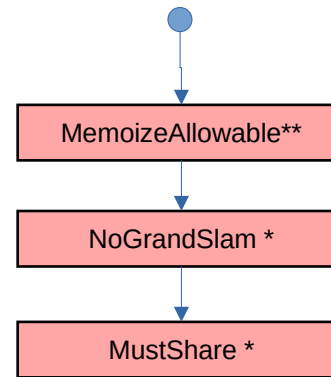
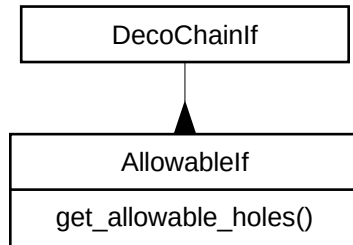
## Mancala Move Steps

Mancala Methods (mancala.py)		Description	Decorator(s)
move	do_sow	Start Sow (parse move, first hole, seeds)	sow_start
		Get Direction (CW or CCW)	get_direction
		Sow – drop seeds	sower, capt_ok, incrementer & make_child
	capture_seeds	Capture Seeds	capt_ok, capturer, incrementer & make_child
	win_conditions	Win Condition – is game over	ender

## Decorator Calls (non-move)

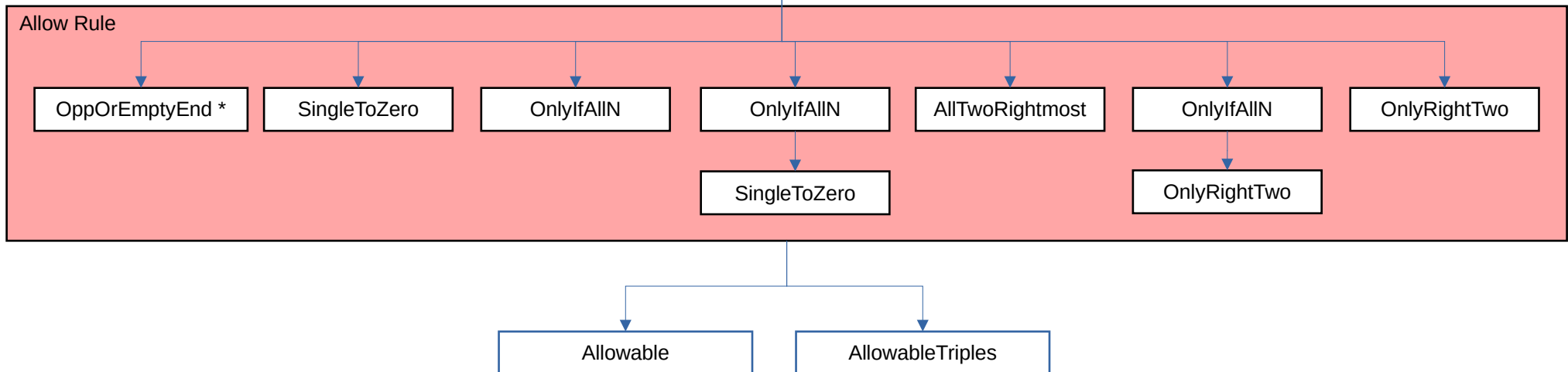
Interface	Method (mancala.py)	Decorator
GameInterface	new_game	new_game
GameInterface	end_game	quitter
GameInterface	get_allowable_holes	allow
AIGameIf	get_moves	get_moves
not applicable	__str__	get_string

# Allowables Decorators and Chain



- One path down the deco chain is used.
- Intersecting arrows are decision points.
- Shown in **call order** from start dot (constructed in reverse order). Calls down the deco chain maybe at any point in a deco's processing.
- All paths shown might not be possible (see ginfo\_rules).

Optional deco



State variables read:

turn  
board  
store  
blocked  
owner  
child  
mcount

Parameters:

min\_move  
allow\_rule  
mlength  
mustshare  
grandslam

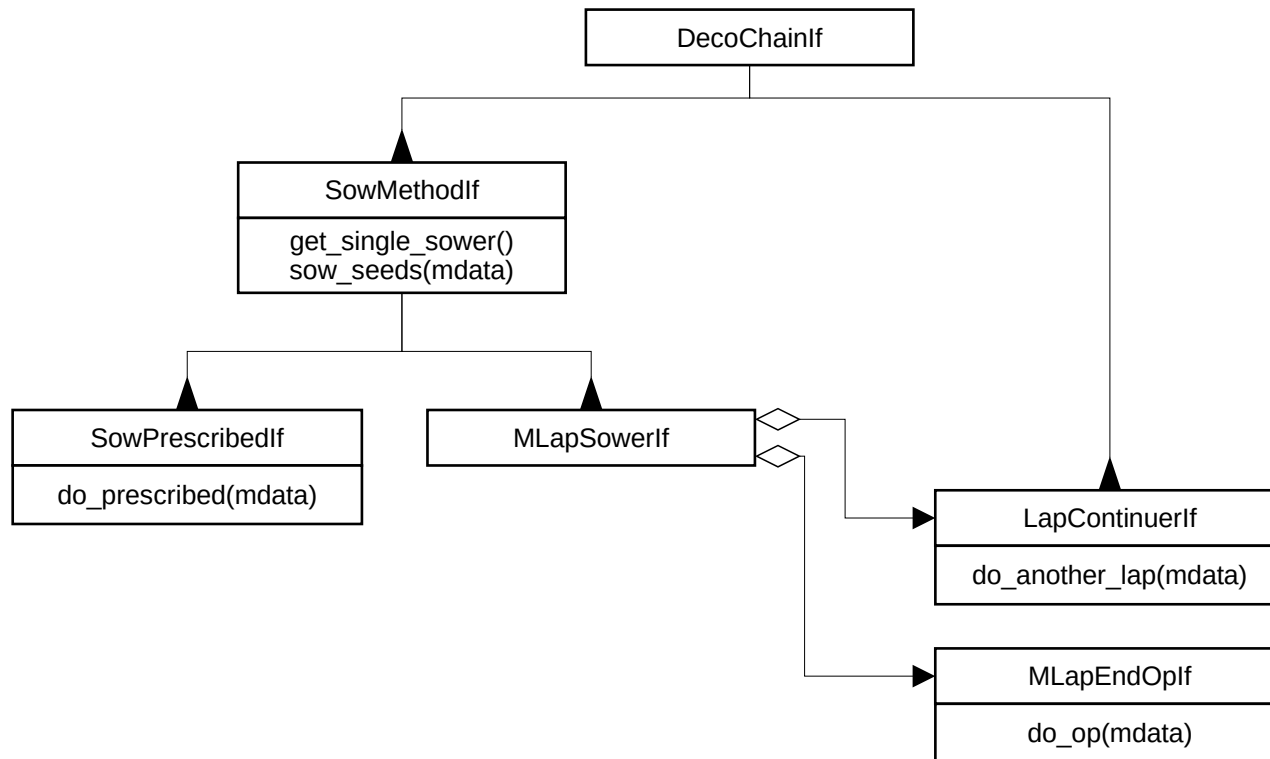
Notes:

Some allow rule decos are shown more than once for clarity.

\* Simulates some portion of moves to determine allowables

\*\* MemoizeAllowable is used for deco's that simulate moves

# Sower Decorators

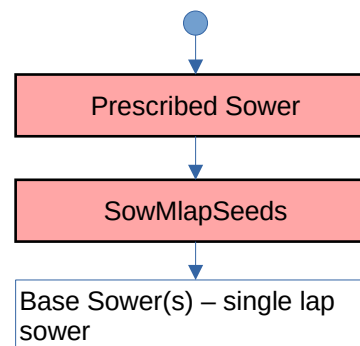


State variables:

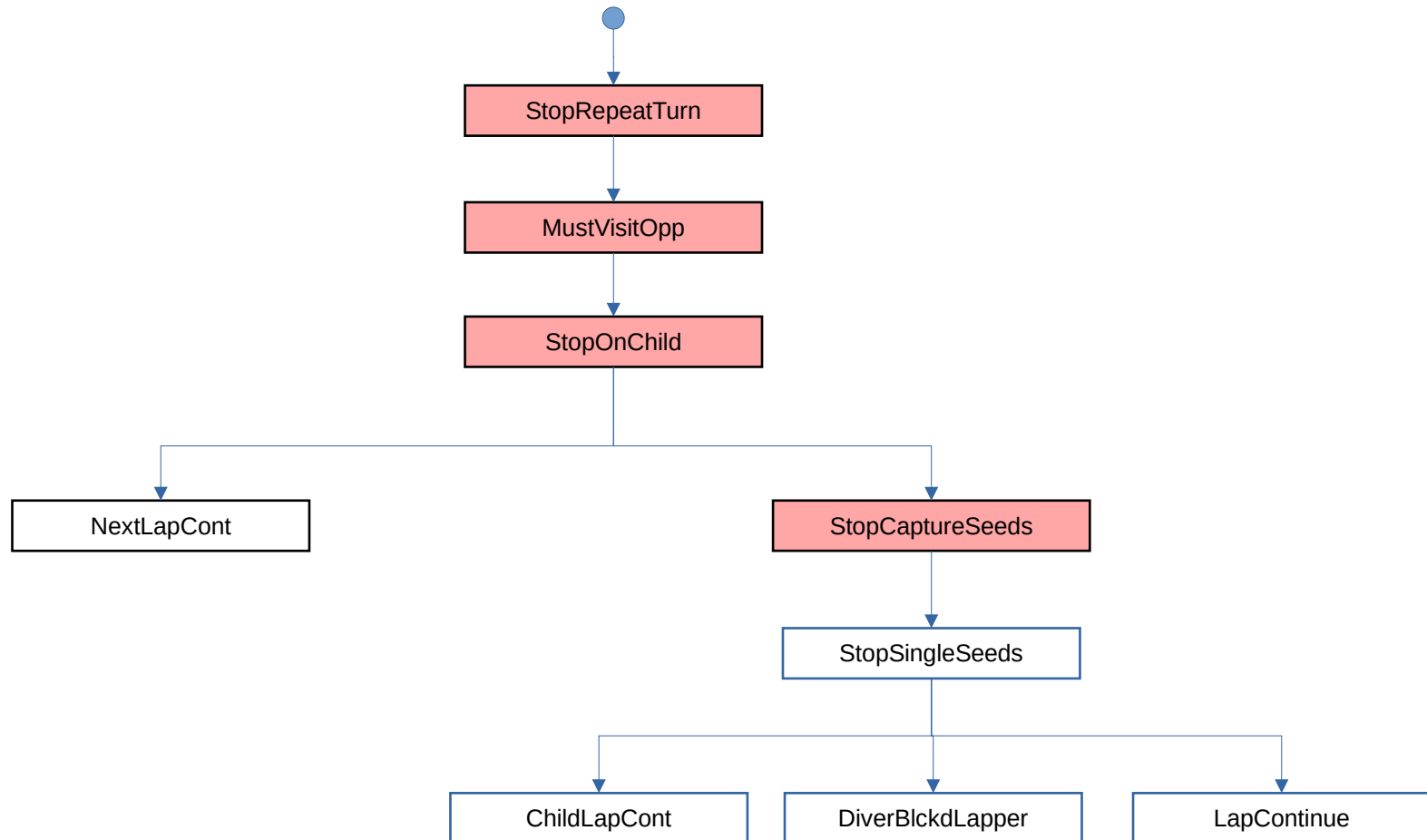
Reads  
inhibitor  
turn  
child  
mcount  
Changes  
board  
store  
blocked

Parameters:

capt\_max  
capt\_min  
capt\_on  
child\_type  
crosscapt  
evens  
goal  
gparam\_one  
mlaps  
prescribed  
sow\_direct  
sow\_own\_store  
sow\_rule  
visit\_opp



# Lapper Continuer Deco Chain



# Captuer Decorators

## State variables

### Reads

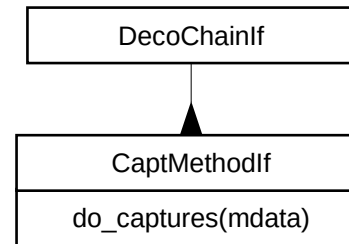
inhibitor  
starter  
turn

### Changes

board  
child  
store

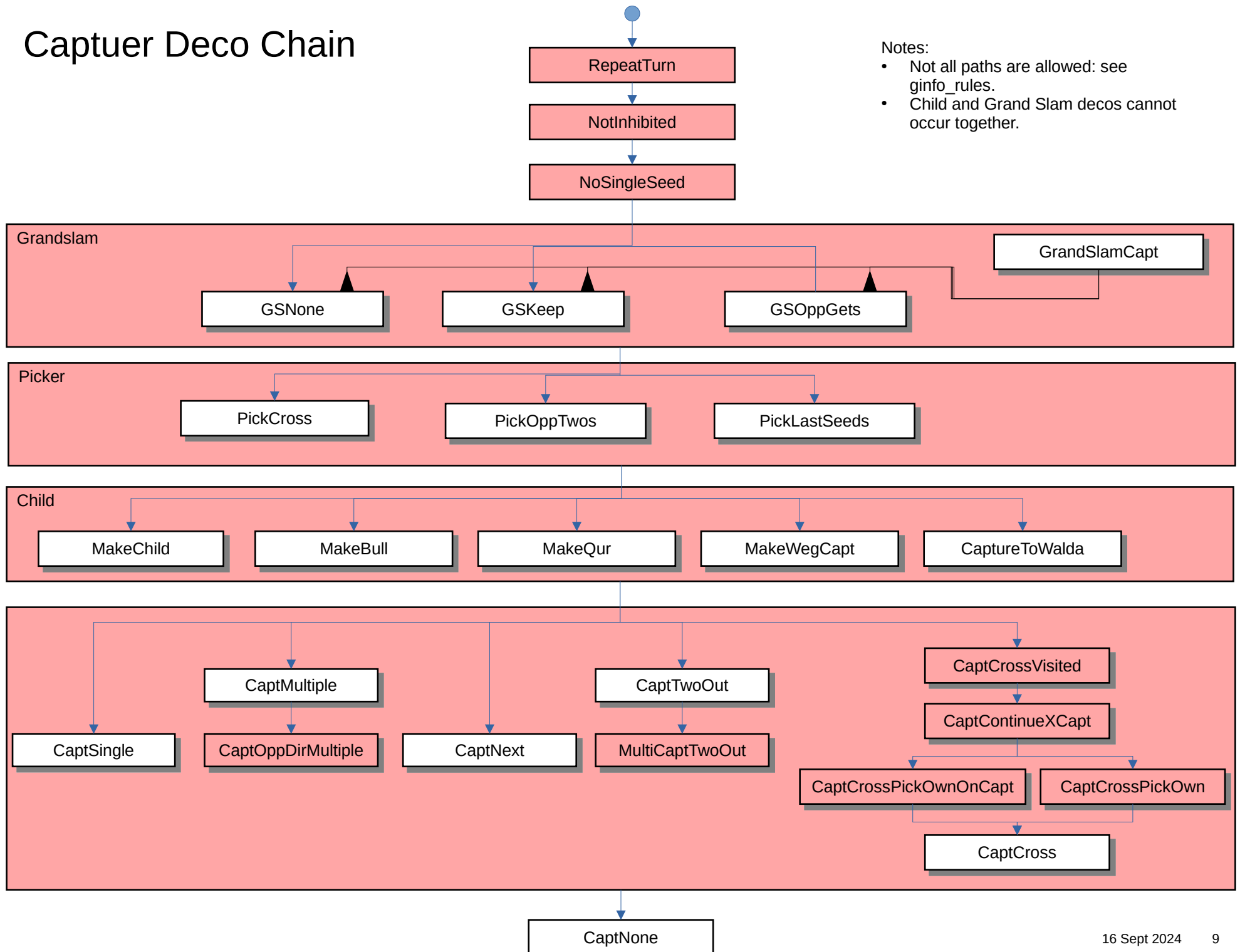
## Parameters:

capsamedir  
capt\_max  
capt\_min  
capt\_next  
capt\_on  
capt\_rturn  
capttwoout  
child\_cvt  
child\_type  
crosscapt  
evens  
grandslam  
mlaps  
multicapt  
nocaptfirst  
nosinglecapt  
oppsidecapt  
pickextra  
prescribed  
round\_fill  
xc\_sown  
xcpickown





# Captuer Deco Chain



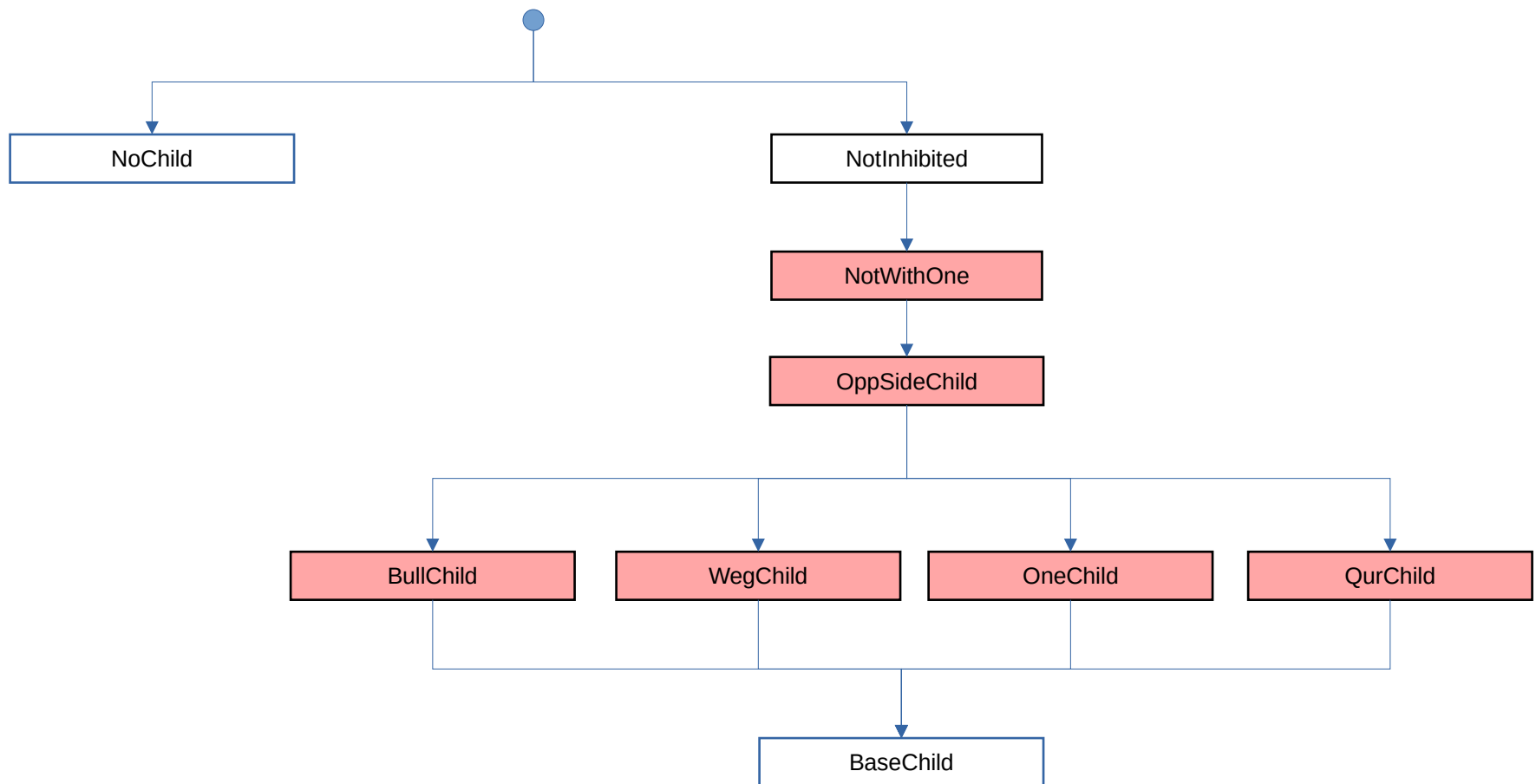
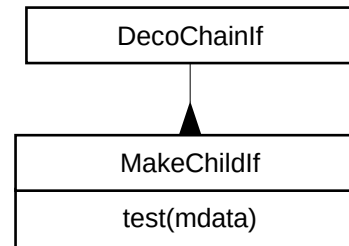
Notes:

- Not all paths are allowed: see ginfo\_rules.
- Child and Grand Slam decos cannot occur together.

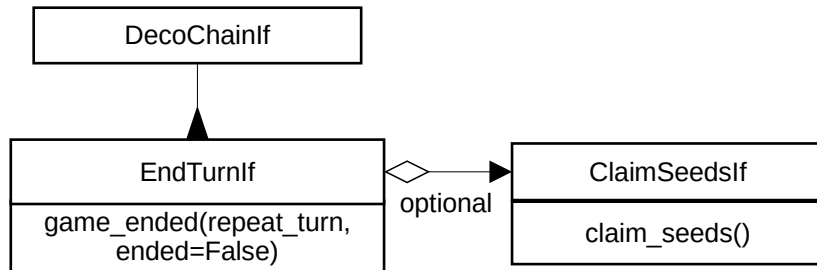
# MakeChild Decorator and Chain

State variables read:  
board  
child  
inhibitor  
owner  
turn

Parameters:  
child\_cvt  
child\_rule  
child\_type



# Ender & Quitter Decorators and Chains



State variables:

Reads:

child  
owner  
turn

Changes:

board  
store

Parameters:

capt\_min  
capt\_next  
capt\_on  
capttwoout  
child\_cvt  
child\_type  
crosscapt  
evens  
goal  
gparam\_one  
min\_move  
mlaps  
mustpass  
mustshare  
no\_sides  
round\_fill  
rounds  
sow\_own\_store  
stores

