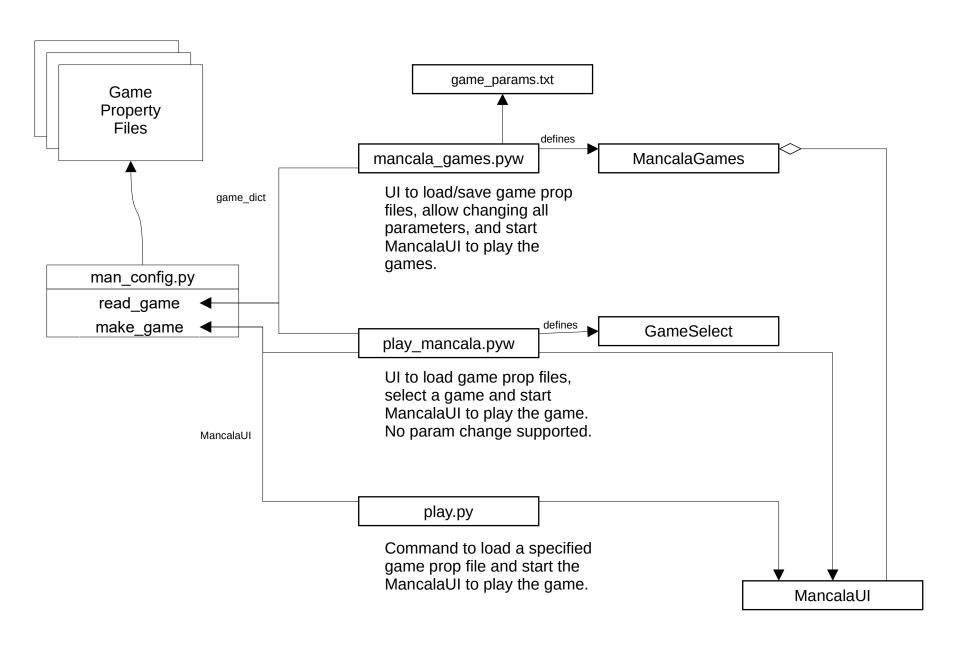
Mancala Games

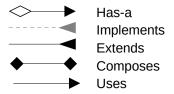


Notation Convensions

Class Diagram Convensions

Abstract Base Class

Primarily Data

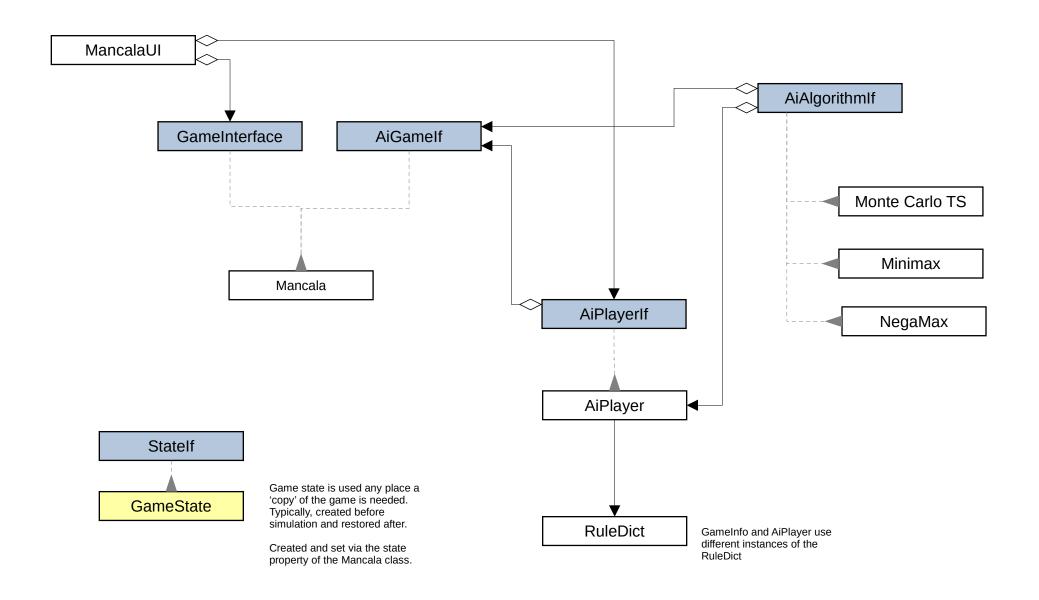


Deco Chain Convensions

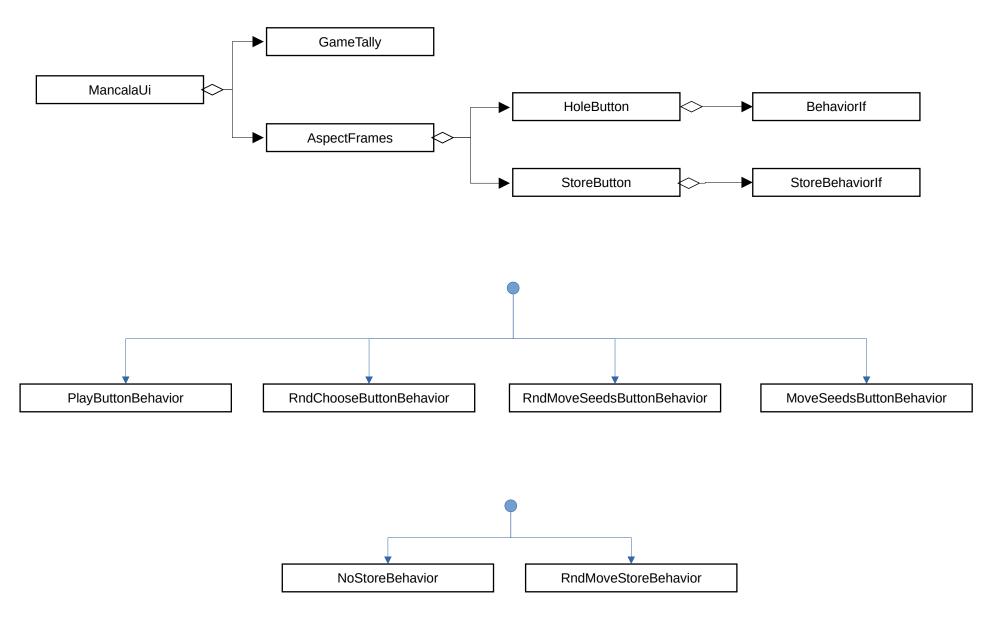
- One path down the deco chain is used.
- Intersecting arrows are decision points.
- Shown in call order from start dot (constructed in reverse order). Calls down the deco chain maybe at any point in a deco's processing.
- All paths shown might not be possible (see ginfo_rules).

Optional deco

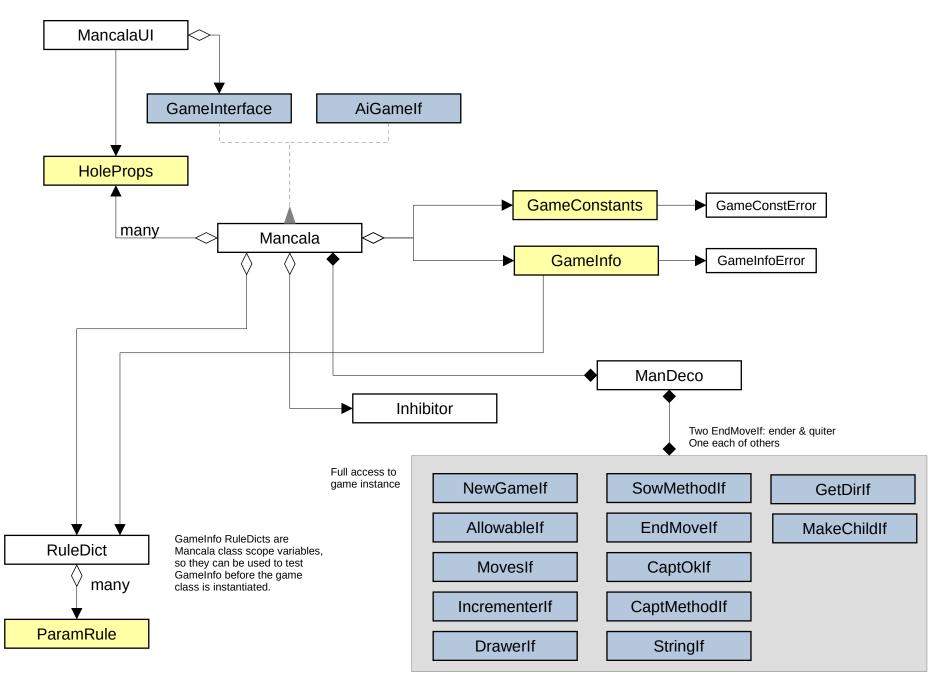
Mancala, GameState, AlPlayer and AlAlgorithm



Mancala UI Classes



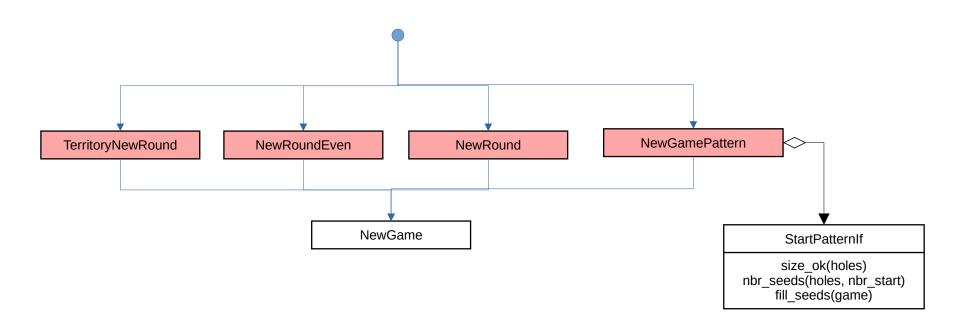
Mancala Classes



Decorator Usage

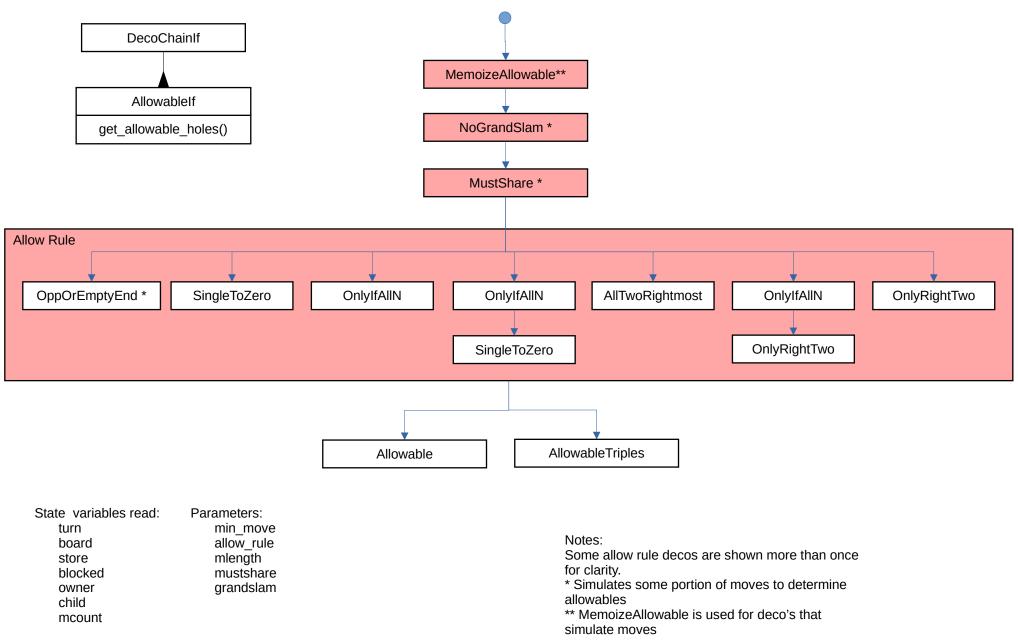
Game Op/Step	Primary Decorator	Other Classes & Decorators Used	Description
New Game	new_game	StartPattern, inhibitor	Setups the game for initial play. Applies any prescribed moves.
Determine Drawable Holes	allow		Return a list of holes that are playable.
Collect Moves	get_moves		Return a list of possible moves.
Draw seeds to start a move	drawer		Parse the move, determine number of seeds to sow, possibly leave one seed
Determine sow direction	get_direction		Convert the move & location into an actual sowable direction: clockwise or counter-clockwise.
Sow	sower	incr, make_child, inhibitor	Drop the seeds into the board holes.
Capture seeds	capturer & capt_ok	incr, make_child, inhibitor	Perform any captures.
Evaluate end of game	ender		At the end of each move determine if the game is over: game has been won, no more moves, game outcome can't change, etc.
Logging	get_string		Creates an ASCII string for the game.
Force end of game	quitter		The game needs to end either because of endless sow or user selection. Something fair will be done.

New Game Decorators and Chain

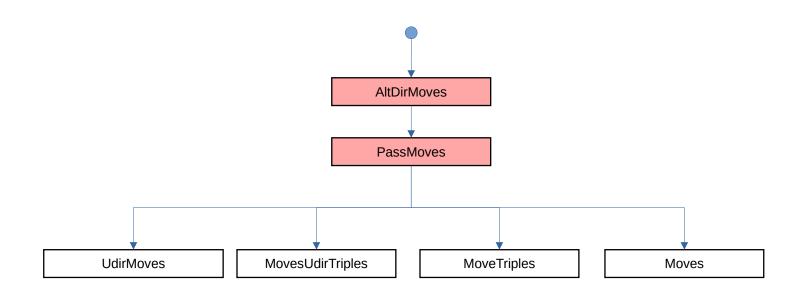




Allowables Decorators and Chain



Get Moves Decorators and Chain



State variables read:

blocked mlength
board mustpass
owner sow_direct
starter udir_holes
store udirect

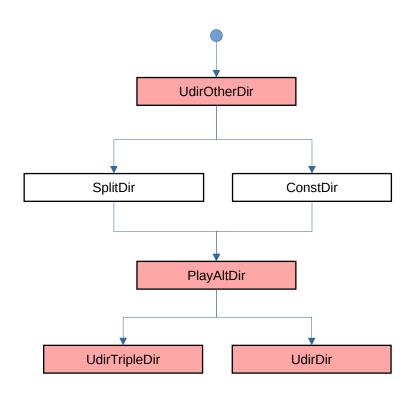
turn

DecoChainIf

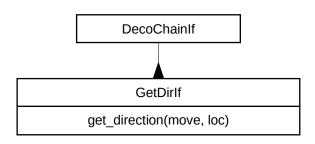
MovesIf

get_moves()

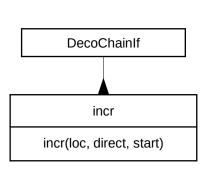
Get Direction Decorators and Chain

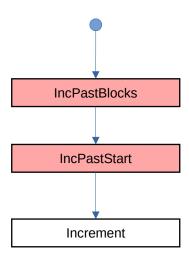


State variables read: mcount turn Parameters: no_sides sow_direct udir_holes udirect



Incrementer Decorators and Chains

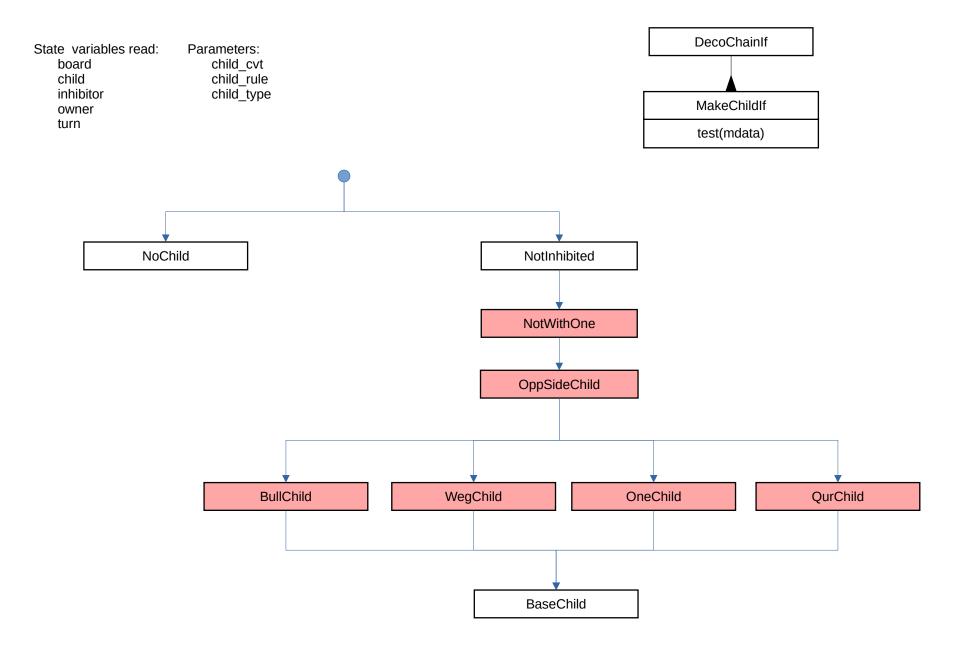




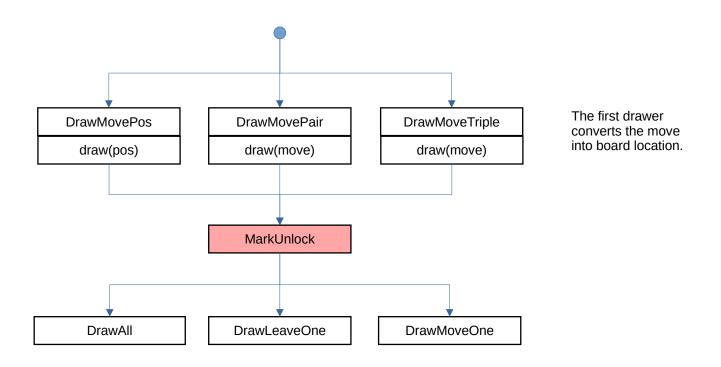
State variables read: blocked

Parameters: blocks skip_start

MakeChild Decorator and Chain

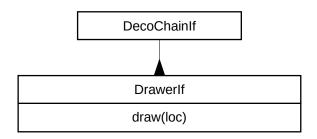


Draw Decorators and Chain

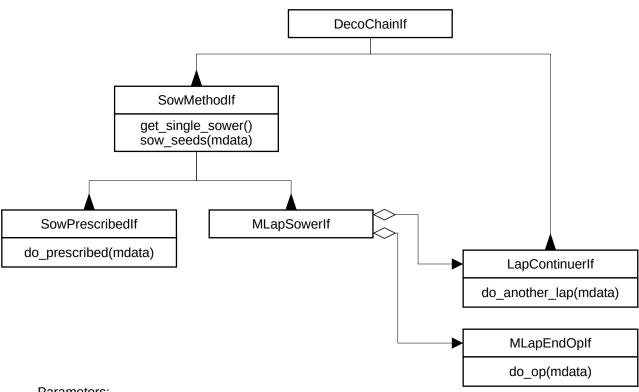


State variables:
Read:
turn
Changed:
board
unlocked

Parameters: mlength move_one moveunlock sow_start

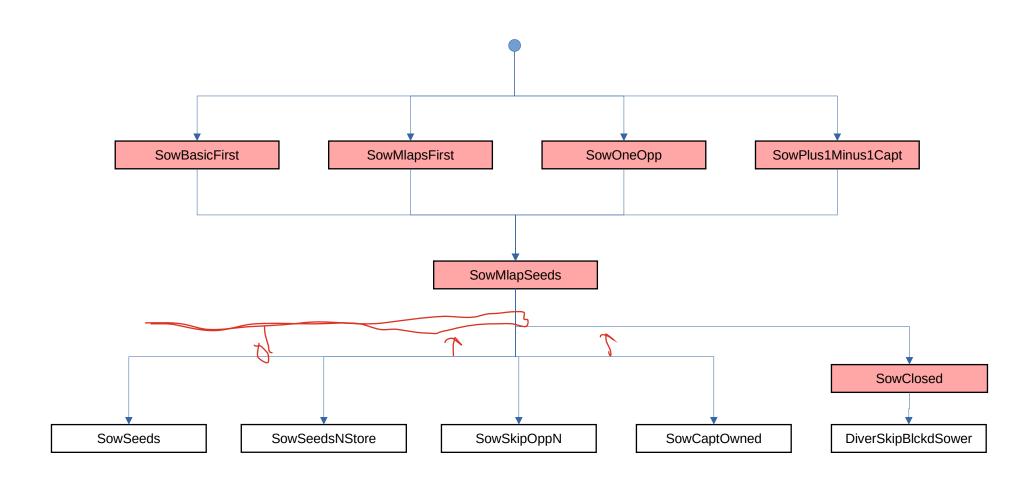


Sower Decorators

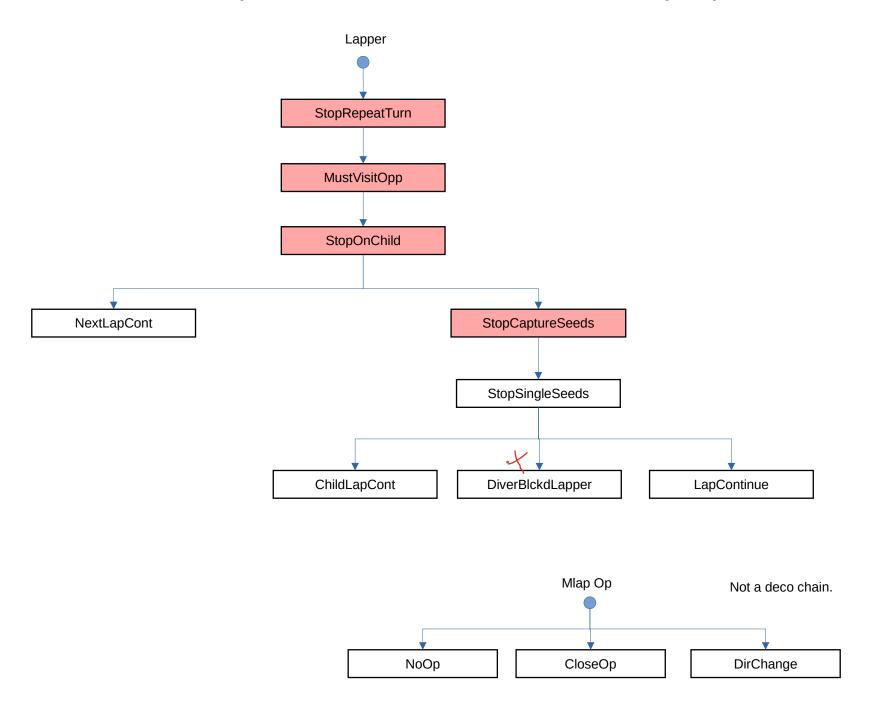


State variables: Parameters: Reads capt_max inhibitor capt_min capt on turn child_type child crosscapt mcount Changes evens board goal store gparam_one blocked mlaps prescribed sow_direct sow own store sow_rule visit_opp

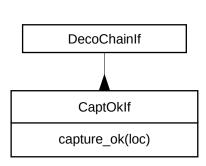
Sower Deco Chain



Lap Continuer Deco Chain and Mlap Operation



Capt Ok Decorators and Chains



State variables read:

board

child

turn

unlocked

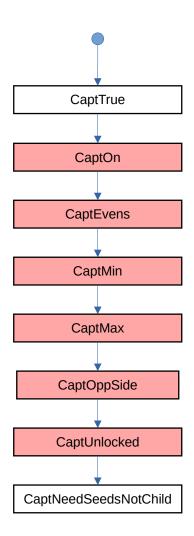
Parameters:

capt_max

capt_min

capt_on

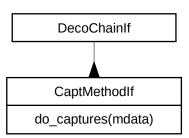
moveunlock
oppsidecapt



Capturer Decorators

State variables Parameters: Reads capsamedir inhibitor capt_max starter capt min turn capt_next Changes capt on board capt rturn child capttwoout store

child_cvt
child_type
crosscapt
evens
grandslam
mlaps
multicapt
nocaptfirst
nosinglecapt
oppsidecapt
pickextra
prescribed
round_fill
xc_sown
xcpickown



Capturer Deco Chain Notes: RepeatTurn Not all paths are allowed: see ginfo rules. Child and Grand Slam decos cannot NotInhibited occur together. NoSingleSeed Grandslam GrandSlamCapt GSOppGets **GSNone GSKeep** Picker **PickCross PickOppTwos** PickLastSeeds Child MakeBull MakeQur CaptureToWalda MakeChild MakeWegCapt CaptCrossVisited CaptMultiple CaptTwoOut CaptContinueXCapt CaptSingle CaptOppDirMultiple CaptNext MultiCaptTwoOut CaptCrossPickOwnOnCapt CaptCrossPickOwn CaptCross CaptNone 9 Nov 2024 19

Ender & Quiter Decorators and Chains

