Benjamin Korobkin

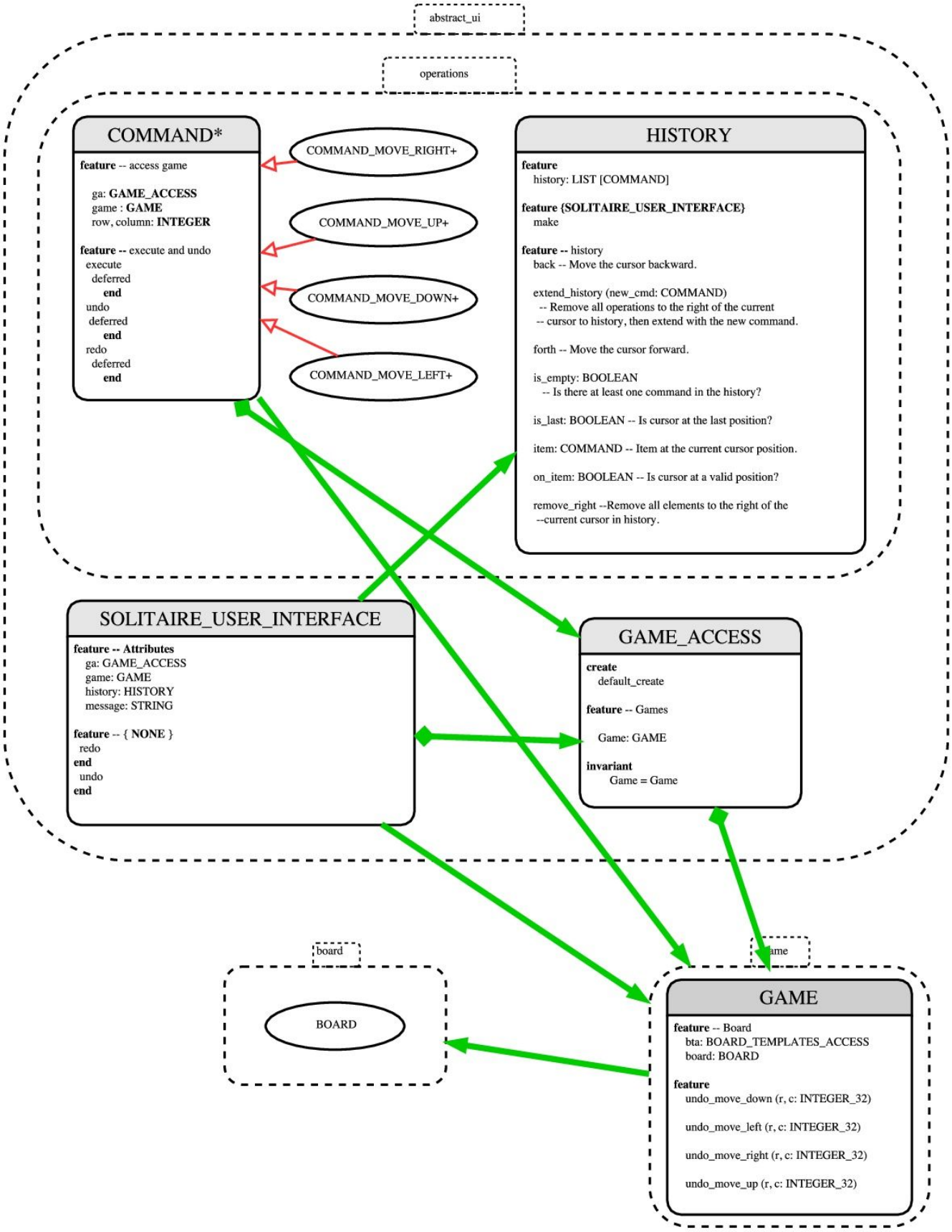
bjk125

EECS3311

Lab 4 Report

Peg Solitaire UI

Due: November 17 Fall 2017


abstract_ui
operations
COMMAND*
feature -- access game
ga: GAME_ACCESS
game : GAME
row, column: INTEGER
feature -- execute and undo
execute
deferred
end
undo
deferred
end
redo
deferred
end
COMMAND_MOVE_RIGHT+
COMMAND_MOVE_UP+
COMMAND_MOVE_DOWN+
COMMAND_MOVE_LEFT+
HISTORY
feature
history: LIST [COMMAND]
feature {SOLITAIRE_USER_INTERFACE}
make
feature -- history
back -- Move the cursor backward.
extend_history (new_cmd: COMMAND)
-- Remove all operations to the right of the current
-- cursor to history, then extend with the new command.
forth -- Move the cursor forward.
is_empty: BOOLEAN
-- Is there at least one command in the history?
is_last: BOOLEAN -- Is cursor at the last position?
item: COMMAND -- Item at the current cursor position.
on_item: BOOLEAN -- Is cursor at a valid position?
remove_right --Remove all elements to the right of the
--current cursor in history.
SOLITAIRE_USER_INTERFACE
feature -- Attributes
ga: GAME_ACCESS
game: GAME
history: HISTORY
message: STRING
feature -- { NONE }
redo
end
undo
end
GAME_ACCESS
create
default_create
feature -- Games
Game: GAME
invariant
Game = Game
board
BOARD
ame
GAME
feature -- Board
bta: BOARD_TEMPLATES_ACCESS
board: BOARD
feature
undo_move_down (r, c: INTEGER_32)
undo_move_left (r, c: INTEGER_32)
undo_move_right (r, c: INTEGER_32)
undo_move_up (r, c: INTEGER_32)

When the player moves a peg with a command, that command is stored in the (arrayed) list, history, contained in the HISTORY class. If at any point the player wishes to undo a command, the cursor in the history list undoes the most recent command and moves the cursor back one space. The player can keep undoing commands until the cursor reaches the beginning of the list. If the player wishes to redo a command that was undone, the cursor moves forward and executes the next command on the history list. This can continue until there are no more commands to redo. If at any point a normal ‘move’ command is executed, the player cannot redo any commands as the list removes all commands to the right side of the cursor.

The GAME_ACCESS singleton class ensures that every instance in the history list points to the same game.