

Design for 20 questions

FileReader: This file takes the input xml file and transform it into a tree

- Instance variable : a binary tree - instance of BinaryTree
- Instance method:
 - + fileReader: read the file
 - + parseMovieFile: parse the xml file in as a tree
 - + parseAnswerNode: parse Yes/No
 - + parseQuestionNode: parse question node a specific order (Yes -> left, no -> right)

GameModel : store the logic of the game

- Instance variable:
 - + file - instance of FileReader
 - + View- instance of GameView
 - + Tree - instance of BinaryTree
 - + Node - instance of BinaryTreeNode
- Instance method:
 - + Yes: manipulate the game when a yes answer is clicked
 - + No : manipulate the game when a no answer is chosen
(For unrestricted game, a no answer at the leaf node is handle differently, asking+adding new input from user in the tree)

GameView: act as controller as well as view

- Instance variable:
 - + Model - instance of GameModel
 - + Panels: question panel, answer panel, instruction panel
 - + Buttons: start, yes, no
- Instance method:
 - + createInstruction: create instruction panel in the center
 - + Question panel: create the question panel in the north
 - + Answer panel: create answer panel in the south
 - + Initial panel: panel before the game starts, first frame
 - + createView: method that build the overall view with all panels
 - + Start game: view after the user start the game
 - + End game: game end, all buttons disabled but start button for restart
 - + actionPerformed: perform action on buttons
 - + For unrestricted game, we have a pop up for user input