Gizmoball: Class Descriptions

CS308 Group MW1

Model:

Absorber - A rectangular gizmo that is located along the bottom of the grid which collects the ball and shoots them vertically to the top of the grid.

IAbsorber - An interface for the absorber to interact with the model and controller.

Ball - The ball class will represent the ball on the gizmoball grid. Every ball has an initial position and a velocity.

IBall - An interface for the ball to interact with the model and collisions.

SquareBumper – A square gizmo that deflects balls from but performs no action when triggered.

TriangleBumper - A triangular gizmo that deflects balls from but performs no action when triggered.

CircleBumper – A circular gizmo that deflects balls from but performs no action when triggered.

IBumper - An interface to allow the bumpers to interact with the collisions.

RFlipper – A rounded rectangular gizmo located on the right, which reflect balls from their surface when triggered. They sweep in a clockwise motion.

LFlipper - A rounded rectangular gizmo located on the left of which reflect balls from their surface when triggered. They sweep in a counterclockwise motion.

IFlipper - An interface for the flippers to interact with the connections and collisions.

Collisions - Deals with the collisions the ball has with bumpers, gizmos and walls on the board.

GizmoConnection - Allow the user to connect connect multiple gizmos together and disconnect them if necessary.

KeyConnection - This class connects the press of a key to a unique action will also allow for disconnection.

Load - Allow loading of a build from text file.

LoadModel - Class responsible for loading the elements necessary to load up the board.

Model - Class responsible for holding most data about the model, that has access to all the Gizmo classes in model.

IModel - Interface responsible for interacting with most listeners in Controller.

Save - Allow the saving of a build to a text file.

Walls - Represents the boundaries of the grid, it has no actions but can trigger others

View:

Board - Superclass for the Board will hold all methods for both play and build boards.

PlayBoard - Will inherit methods from board superclass. Play mode board will be without a grid.

BuildBoard - Will inherit methods from board superclass. Build mode board will have a grid to aid in placing the various gizmos.

BuildGUI - GUI for build mode.

PlayGUI - GUI for play mode.

IGUI - An interface to interact with the controller.

Controller

Build Mode Listeners:

AddSquareBL - Handles the mouse click event, on the button “Add Square” in the build mode GUI. Will then allow the user to select a square on the grid to add that gizmo via mouse click.

AddCircleBL - Handles the mouse click event, on the button “Add Circle” in the build mode GUI.
Will then allow the user to select a square on the grid to add that gizmo via mouse click.

AddTriangleBL - Handles the mouse click event, on the button “Add Triangle” in the build mode GUI. Will then allow the user to select a square on the grid to add that gizmo via mouse click.

AddAbsorberL - Handles the mouse click event, on the button “Add Absorber” in the build mode GUI. Will then allow the user to select a square on the grid to add that gizmo via mouse click.

AddLFlipperL - Handles the mouse click event, on the button “Add Left Flipper” in the build mode GUI. Will then allow the user to select a square on the grid to add that gizmo via mouse click.

AddRFlipperL - Handles the mouse click event, on the button “Add Right Flipper” in the build mode GUI. Will then allow the user to select a square on the grid to add that gizmo via mouse click.

MoveGizmoL - Handles the mouse click event, on the button “Move Gizmo” in the build mode GUI. Will then allow the user to click and drag a gizmo on the board.

RotateGizmoL - Handles the mouse click event, on the button “Rotate Gizmo” in the build mode GUI. Will then allow the user to click a specific gizmo on the board and rotate it. symmetrical gizmos will be unaffected by this.

DeleteGizmoL - Handles the mouse click event, on the button “Delete Gizmo” in the build mode GUI. Will then allow the user to click on a specific gizmo on the board and delete it from the board.

ClearBoardL - Handles the mouse click event, on the button “Clear Board” in the build mode GUI. Upon clicking, a pop message asking if the user really wants to clear the board will show and of they select yes, the board will be cleared of all gizmos.

ConnectGizmoL - Handles the mouse click event, on the button “Connect Gizmo” in the build mode GUI. Will then allow the user to click on a specific gizmo then click on another to connect their actions together.

DisconnectGizmoL - Handles the mouse click event, on the button “Disconnect Gizmo” in the build mode GUI. Will then allow the user to click on connected gizmos to remove the connection.

KeyConnectL - Handles the mouse click event, on the button “Key Connect Gizmo” in the build mode GUI. Will then allow the user to click on a specific gizmo then press a key on the keyboard to assign its operation to that key.

KeyDisconnectL - Handles the mouse click event, on the button “Key Disconnect Gizmo” in the build mode GUI. Will then allow the user to click on a specific gizmo that is connected to a key to remove that connection.

SetFrictionL - Handles the mouse click event, on the button “Friction” in the build mode GUI. Precondition is that the input field beside the button has valid numbers entered for the friction.

SetGravityL - Handles the mouse click event, on the button “Gravity” in the build mode GUI. Precondition is that the input field beside the button has valid numbers entered for the friction.

AddBallL - Handles the mouse click event, on the button “Add Ball” in the build mode GUI.The Ball will then be added to the board at the already specified coordinates within the code.

SaveL - Handles the mouse click event, on the menu option “Save” in the build mode GUI. Will then ask the user to name the build and save it to a text file.

LoadL - Handles the mouse click event, on the menu option “Load” in the build mode GUI. Will bring up a pop-up window allowing the user to select a saved build from the list of builds.

SwitchToPML - Handles the mouse click event, on the button “Play Mode” in the build mode GUI. The application will then switch to play mode.

Play Mode Listeners:

ReloadL - Handles the mouse click event, on the button “Reload” in the play mode GUI. The build that was loaded at the start of play mode will then be re-loaded.

StartL - Handles the mouse click event, on the button “Start” in the play mode GUI. The ball will then begin to move and the game will be started.

PauseL - Handles the mouse click event, on the button “Pause” in the play mode GUI. The ball will then stop moving around the game board.

TickL - Handles the mouse click event, on the button “Reload” in the play mode GUI. Allows for one tick of the time clock for the ball.

SwitchToBML - Handles the mouse click event, on the button “Reload” in the play mode GUI. Switches the application to build mode.

PlayModeKeyL - Listener responsible for detecting key presses (triggers) during Play Mode.

Superclass Listeners:

PlayL - Superclass to handle all play mode listeners, allowing the listeners to interact with the View.

BuildL - Superclass to handle all build mode listeners, allowing the listeners to interact with the View.

GizmoBallL - Interface responsible interaction between the Play and Build Mode listeners.

Main:

Main - Main class that builds the Build Mode GUI and Play Mode GUI.