Gizmo Ball Design

Changes

A number of groups of listeners were merge into a single listener as they code was repeated in each one. Run listener was removed as the inheriting classes would not use the methods they gain from it. A number of the methods no longer inherit the build listener for the same reason. Listeners were added from save, load and tick which were missed in the original design. A keypress listener was added to check for when keys are pressed.
Absorber is now covered under the gizmo interface as it shared many of the same methods.

Model

IModel:
This is the interface for the model which contains all the abstract methods which deal with gizmos and the physics.

Model:
Model is the class which implements the IModel class.

IGizmo:
This is the interface class for making objects of the gizmos listed below.

- Circle
- Triangle
- Right Flipper
- Square
- Left Flipper
- Absorber

Ball:
This is the class for making an object of the ball.

IDrawable
An interface between the model and view to allow the view access to only necessary information to draw the gizmo, without the ability to modify them.

DrawableGizmo
A class that will allow the view to read information about where to draw the Gizmo.

DrawableBall
A class that will allow the view to read information about where to draw the ball.

Display

IDisplay:
This is the interface for the view part of the system.

Display:
Display is the class which implements the IDisplay class so this class will create, display and redisplay the gui in all its various states.

BuildBoard:
This class will create the board in building mode

RunBoard:
This class will create the board in running mode

BuildButtons:
This class will create the buttons in building mode

RunButtons:
This class will create the buttons in running mode

Controller

BuildListener:
An interface for controlling all the mouse inputs during build mode

AddGizmoListener:
Activated by square,triangle, circle, or flipper button, inherits BuildListener. The process of adding a gizmo will then begin then be displayed on the GUI

MoveListener:
Activated by the move button, inherits BuildListener. The process of moving a gizmo on the board will then begin.

BindListener:
Activated by the bind button inherits BuildListener. The process to bind a key to a gizmo will then take place.

DeleteListener:
Activated by the delete button inherits BuildListener. The process for deleting a gizmo or ball then takes place.

RotateListener:
Activated by the rotate button inherits BuildListener. The process for rotating a gizmo will then begin.

ConnectListener:
Activated by the connect button, inherits BuildListener. The process for connecting one gizmo to another will then take place.

DisconnectListener:
Activated by the disconnect button inherits BuildListener. The process for disconnecting a gizmo from another gizmo and bound keys begins.

AddAbsorberListener:
Activated by the absorber button inherits BuildListener. An absorber object will then be created in the model and displayed in the gui.

BallListener:

Activated by the ball button inherits BuildListener. A ball object will then be created in the model and displayed in the gui.

FrictionListener:

Activated by the friction button. The value for friction will then be updated in the model.

GravityListener:

Activated by the gravity button. The value for gravity is updated in the model.

ClearListener:

Activated by the clear button. This will clear the board of all objects leaving the board completely empty.

ChangeButtonsListener

Activated by the add gizmo, setup, operations and back buttons. This will change the buttons displayed on the GUI

ModeListener:

Activated by the Run mode or build mode button. This will switch the view between build and run mode and vice versa.

StartStopListener:

Activated by the start or stop button. This will switch between the game running and the game stopped

LoadListener

Activated by the load menu option. Will start the process of loading a file into the board

SaveListener

Activated by the save menu option. Will start the process of saving the current board state to file

KeyListener

Checks for whether the key bound to a gizmo has been pressed if so it activates the action mapped to that key