# Class Diagram Justification

# Model

**Absorber** – Represents the absorber in Gizmoball.

**Ball** – Represents the ball.

**StandardGizmo** – Abstract class to provide template for the other gizmos, provides required methods and fields for all other gizmos.

**SquareBumper** – Square shaped gizmo.

**CircularBumper** – Circle shaped gizmo.

**TriangularBumper** – Triangular shaped gizmo.

**LeftFlipper** – Flipper which rotates to the left. Separate class to RightFlipper grants clarity on what its functionality will be.

**RightFlipper** – Flipper which rotates to the right. Separate class to LeftFlipper grants clarity on what its functionality will be.

**Absorber** – Absorber class.

**FileIO** – Separate class to handle reading and writing to/from files.

Walls – Class for the outer walls of the game.

**CollisionDetails** – Class to hold information on collisions. Used by model class to pass around collision data in one object.

**Model** – Class to represent the game. Houses the physics loop and all information required by the board.

# View

**Board** – All board details contained here, only one board as the gridlines required in build mode can be added through a method call.

**BuildMenu** – Side menu required by the build controller, contains all options available during build mode.

**RunMenu** – Side menu required by the run controller, contains all options available during run mode.

**ViewMenu** – Interface used by the above menu classes. Serves as a contract to enforce similar behaviour.

# Controller

**GizmoballController** – Main controller to handle all events, passes related duties to build and run controllers. Used to delegate tasks. Two subsequent classes are used to separate unrelated tasks which are ‘mode’ appropriate.

**BuildController** – Controller to handle build mode related tasks, such as adding gizmos to the board etc.

**RunController** – Controller to handle run mode related tasks, such as starting the timer etc.

## Gizmoball – Main class of the system, used to start the application and holds main control flow.