

## Ball

```

- position : double
- velocity : double
+ Ball()
+ get_position() : double
+ set_position(double) : void
+ get_velocity() : double
+ set_velocity(double) : void
+ push(direction:Push, velocity:double) : void

```

## Controller

```

- ball : Ball
- beam : Beam
- kp : double
- ki : double
- kd : double
- desired_pos : double
- time_passed : uint_fast64_t
+ Controller(Ball, Beam, double, double, double)
+ control(position:double) : double angle
+ update(double angle, time_passed:uint_fast64_t) : void

```

## Beam

```

- length : double
- angle : double
- ang_velocity : double
+ Beam()
+ Beam(length:double, angle:double, ang_velocity:double)
+ get_angle() : double
+ set_angle(desired_angle:double, time_passed:uint_fast64_t)

```

<<Enumeration>>

## Push

```

-left
-right

```

