

## Doof Ball Design

State, Actions, behaviour Descriptions for DOOBALL game

### 2x Player Behaviours

States:	Comments
Idle_Wait_Position	This will be a consequential – of reaching Target Op Position
Running_Towards_Ball	
Dribbling_Forward	
Running_Towards_Op_Position	
Striking_Ball	
Passing_The_Ball	
Celebrating	<i>A consequential State of a Goal being Scored</i>

Tactical Actions:	Comments	Associated 'helper' Observations bools
None	Wait at Current Position	
Chase_BallPlayer	Assume Auto Tackle within Ball Distance => Displaces the Ball (Countdown: Re Tackle)	IsAbleToChase
Dribble_Forward		IsAbleToDribble
GoTo_Ops_Pos (Target)	Go Into Wait_At_Position state, when reached Ops Point	IsAbleOpsPos
Strike_Ball		IsAbleStrike
Pass_The_Ball		IsAblePassBall

**Player has access to following Game Objects:**

- ⇒ Both 2x Oppo Players (Proximity Check)
- ⇒ Team Player (Forward Check and Pass To Direction)
- ⇒ The Ball
- ⇒ The Game Manager ( & Pitch Positions)

Observations:	Definition
Currently Has Ball	
Ball Team Ownership	None(Free), Own_Team, Other_Team
Team Mate Is Forward	
Player Closest Ball	
An Oppo Player Is Close	
In Strike Range	

### Proposed Behaviour Map

The following **Tactical Action** returned from a Call into **ReviewTacticalOptions( )**

When adopting an moving **Tactical Action**: Choose a **Target Op\_Position**, Then Rotate & Face and Delta Move Forward Towards => Op\_Position. Upon Reaching TargetOp\_Position should then either (likely should be able to **Strike** if **Dribbling**, or Go Into **Idle\_Wait** State if a **Goto\_Strike/Defend** Action)

The **ClosestToBall** Check needs to be disabled (Return False) during a **KickDown** Delay – Just like the **CheckForPossession**

Currently Has Ball	Ball Team Ownership	Team Mate Is Forward	Player Closest Ball	An Oppo Player Is Close	In Strike Area	Tactical Action	Additional Conditions
No	None (Free)	N/A	Yes	N/A	N/A	Chase_BallPlayer	
No	None (Free)	N/A	No	N/A	N/A	GoTo_Ops_Pos (Eithey/Nay Strike/Defend)	Will then go into Idle_Wait
No	Other_Team (NOT Goalie)	N/A	Yes	N/A	N/A	Chase BallPlayer	
No	Other_Team (Goalie)	N/A	N/A	N/A	N/A	GoTo_Ops_Pos : Defend	Will then go into Idle_Wait
No	Other_Team	N/A	No	N/A	N/A	GoTo_Ops_Pos : Defend	Will then go into Idle_Wait

No	Own_Team	N/A	N/A	N/A	N/A	GoTo_Ops_Pos: Strike	Will then go into Idle_Wait
Yes	N/A	N/A	N/A	No	No	Dribble_Forward	
Yes	N/A	N/A	N/A	N/A	Yes	Strike_Ball	
Yes	N/A	No	N/A	Yes	No	Dribble_Forward	
Yes	N/A	Yes	N/A	Yes	No	Pass_The_Ball	

Gets a constant Jitter on Defensive Goto Ops positions, when has reached the Ops Position, because state goes into idle, causing a new Target Position to be generated.

Need to wait in Idle (and face the Ball) if there has been No Change in OpsChange. Only swap state (new Target Ops) out of Idle if new Tactic.

### 1x Goal Keeper Behaviours

States:	Comments
Idle_GoalKeeper	
Goal_Keeping	
Making_A_Save (Handling)	<i>A consequential State of a Goal being (Likely) Saved</i>
Missing_A_Save	<i>A consequential State of a Goal being (Likely) Missing A Save</i>
Passing_The_Ball	

Actions:	Comments
GoalKeeper_Idle	
Goal_Keep	
Pass_The_Ball	<i>Will follow ownership, consequence of a Save Animation completion</i>
Miss_Save	<i>Consequential _Action of Ball_Will_BeSaved predictor</i>
Make-Save	<i>Consequential _Action of Ball_Will_BeSaved predictor</i>

**GoalKeeper has access to following Game Objects:**

- ⇒ Both 2x Team Players (To Pass Ball To)
- ⇒ The Ball
- ⇒ The Game Manager ( & Pitch Positions)

Observations:	Definition
Currently Has Ball	
Ball Team Ownership	None(Free), Own_Team, Other_Team
Ball_In_Own_Half	
Ball_Approaching_Goal	Ball Approaching Goal Area
Ball_Will_BeSaved	An Active Forward Intercept prediction of Colliding with Goalie

**Proposed Behaviour Map**

Currently Has Ball	Ball Team Ownership	Ball In Own Half	Ball_Approaching_Goal	Ball_Will_BeSaved	Proposed Action	Additional Conditions
No	None (Free)	No	N/A	N/A	GoalKeeper_Idle	
No	None (Free)	Yes	No	N/A	Goal_Keep	
No	Other_Team	No	N/A	N/A	GoalKeeper_Idle	
No	Other_Team	Yes	No	N/A	Goal_Keep	
No	Own_Team	N/A	N/A	N/A	GoalKeeper_Idle	
No	Own_Team	N/A	Yes	N/A	GoalKeeper_Idle	
No	None (Free)	Yes	Yes	Yes	Make_Save	
No	None (Free)	Yes	Yes	No	Miss_Save	
No	Other_Team	Yes	Yes	Yes	Make_Save	
No	Other_Team	Yes	Yes	No	Miss_Save	
Yes	N/A	N/A	N/A	N/A	Pass_The_Ball	