* **Goal keeper (reversion 1/22)**

The following behaviours will be analysed and reported when the ball is goal or shot to area around the goal:

1. Slow reaction time1 or no reaction to shot on goal [include: penalty kick] (reacrion longer than a therehold)
2. Move to direction of shot slowly with average ball speed (movement speed is low in the time period from the goal to one second before goal)
3. Diving the wrong way (keeper movement cause the final position far away from ball)
4. Low jumping reach or no attempt to jump for high ball2 (both feet didn't left the ground or distance is smaller then a therehold)
5. Hands not raised for high ball2 (hand not upper then head)
6. Hands not stretched fully for saves (angle of elbow not ~180)
7. Withdrawal of hands (angle of elbow decrease)
8. Goal with slow ball speed3 (goal when ball speed < x)
9. Let the ball slip off after catching it in slow ball speed (hand touch the ball & ball speed
10. Allow the ball to roll through his legs (ball goal location between two leg)

annotate:

1. reaction time :count start from opposing playrer kick the ball to the goal
2. high ball :ball position upper then keeper neck
3. slow ball speed : adjustable

* **Players within 20 meters (diameter) of the ball**

1. The following behaviours should be analysed and reported:
2. Movement direction: run in the opposite direction of the ball (e.g. the ball moves backward but the player moves forward)
3. Jogging instead of running during critical moments ( the first and second player (other then keeper) does not accelerate (moving speed increase) to chase the ball, when the ball is moving towards the gate)
4. Stay in the position and take no action (location change smaller then therehold)
5. Lack of pressure on opponents4 and fail to close them down5
6. Pass the ball to opponents in stress-free situation6
7. wasting passes7 from teammates more then 8 times in the match
8. Consistently being outpaced undefinded
9. Kick the ball outside the pitch
10. Delay restart8 (e.g. throws-in, free kicks, goal kicks), especially when the opponent is leading
11. Poor positioning (Keeper didn't stands in the possiable atteck area9)
12. committing fouls10
13. In one-on-one situation11, the goalkeeper remains inside the penalty area and does not come out. (GKEM12 score hight)

annotate:

4. Lack of pressure on opponents :opponent within 2m

5. close them down :move toward the ball

6: stress-free situation :no opponents within 10m (diameter) in front of the player

7: wasting passes :pass the ball to opponents

8: delay restart :hold the ball more than 10s before restart

9: possiable atteck area :area between vanguard and the left and right goalpost

10: committing fouls : VIII. undefinded

11: one-on-one situation : i. only keeper located within the possiable atteck area

ii. vanguard is the closest player (except the keeper) to the goal

iii. the shot is completed by vanguard with feet

12: GKEM :goalkeeper engagment metric

* **Other players in the match (player with distinctive feature)**

The following parameters of all players or any individual player should be analysed and measured to provide objective information and evidence for experts to judge:

* Total distance travelled
* Average speed
* Maximum speed
* Minimal speed
* Position heat map – the frequency that a player stay on a particular spot in the pitch
* Comparison of any of the above in different time period of the same match (e.g., last 15 mins compared to first 75 minutes.)
* Comparison of any of the above with previous matches