# Shot Chart Documentation

## Data Points:

- Shot_num          shot number of data sheet (starts at 0)
- Shooter          Number of shooter
- Goalie_hand          Hand of goalie
  - (right=0, left=1)
- shot_hand          hand of shot
  - (right=0, left=1)
- Type_shot_0          type of shot
  - Over hand = 0 ; side arm = 1 ; under hand = 2 ; back hand = 3 ; behind the back = 4
- type_shot_1          type of shot
  - Stationary = 0 ; on the run = 1 ; quick stick = 2 ; MORE?
- Loc_x          location of shot horizontally from goal in yards
  - (-20,20)
- Loc_y          location of shot vertically from goal in yards
  - (0,20)
- Dist          distance from goal in yards
  - $\sqrt{(loc\ x)^2 + (loc\ y)^2}$
- Loc_goal          location of shot on goal (SUBJECT TO CHANGE)
- Bounce          bouncer shot?
  - 0 = yes ; 1 = no
- Result          result of shot
  - 0 = goal ; 1 = save ; 2 = miss ; 3 = pipe ; 4 = blocked
- Screen          Was the shot screened?
  - 0 = yes ; 1 = no
- HUDLtime          timestamp in HUDL
- Notes          extra notes pertaining to the shot

# Field dimensions for manual data collection
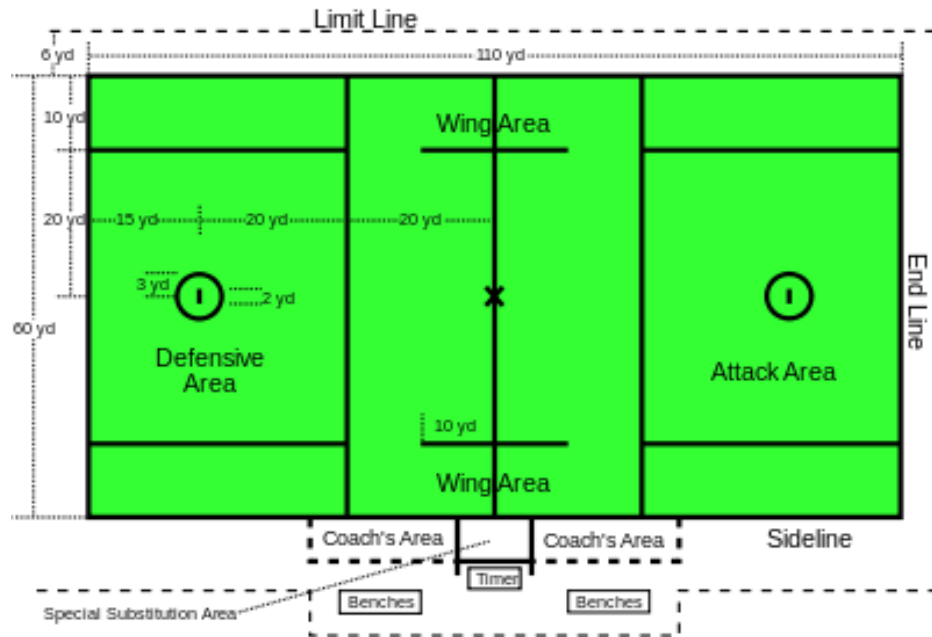


# Data and Plots Example:

## Example Data

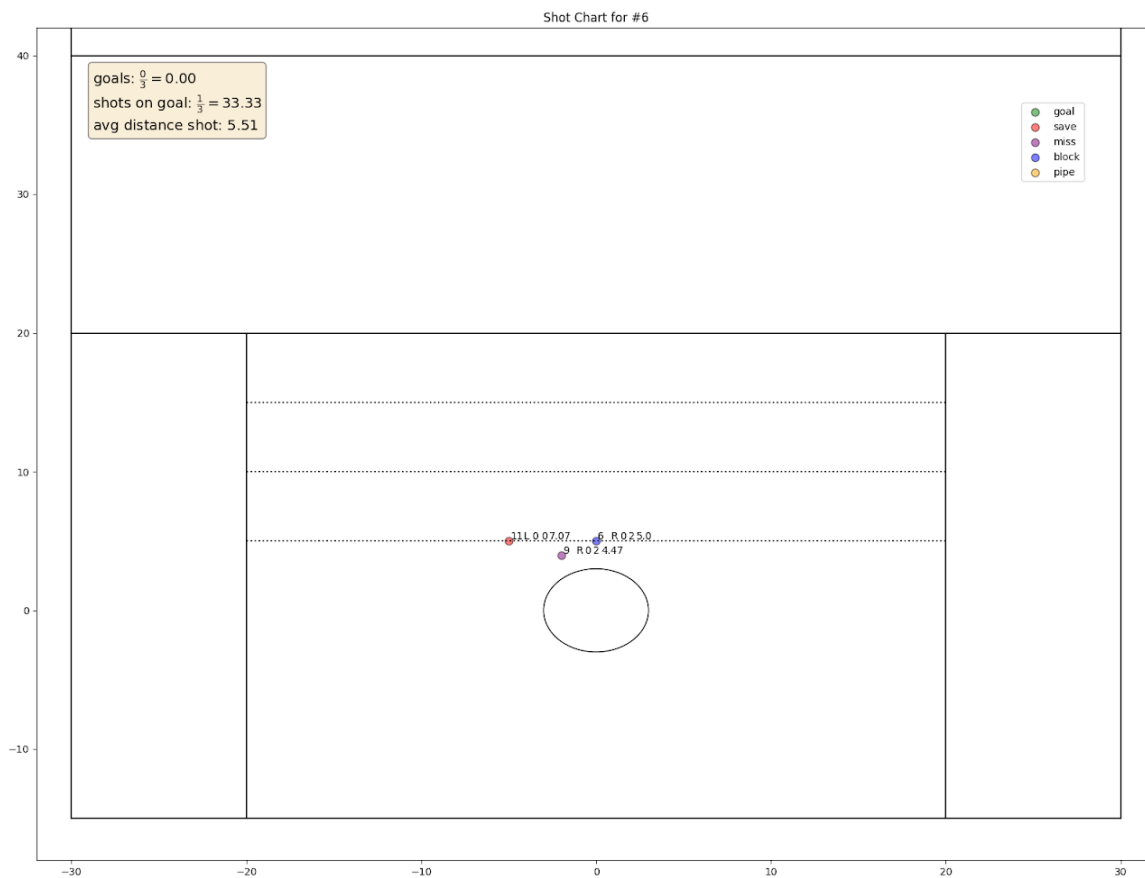| shot_num | shooter | goalie_hand | shot_hand | type_shot_0 | type_shot_1 | loc_x | loc_y | dist | loc_goal | bounce | result | screen | HUDLtime | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 6 | 0 | 0 | 0 | 2 | -2 | 4 | 4.47 | 9 | 1 | 2 | 1 | 21.45 | |
| 1 | 4 | 0 | 1 | 0 | 0 | -4 | 6 | 7.21 | 14 | 1 | 3 | 1 | 24.27 | |
| 2 | 5 | 0 | 0 | 0 | 1 | 4 | 3 | 5 | 17 | 1 | 0 | 1 | 25.32 | |
| 3 | 4 | 0 | 0 | 1 | 0 | -1 | 13 | 13.04 | 5 | 1 | 0 | 0 | 32.35 | |
| 4 | 6 | 0 | 0 | 0 | 2 | 0 | 5 | 5 | 6 | 0 | 4 | 0 | 34.04 | |
| 5 | 5 | 0 | 0 | 0 | 1 | -4 | 12 | 12.65 | 13 | 1 | 1 | 0 | 36.32 | |
| 6 | 6 | 0 | 1 | 0 | 0 | -5 | 5 | 7.07 | 11 | 1 | 1 | 1 | N/A | |

# Example Plots

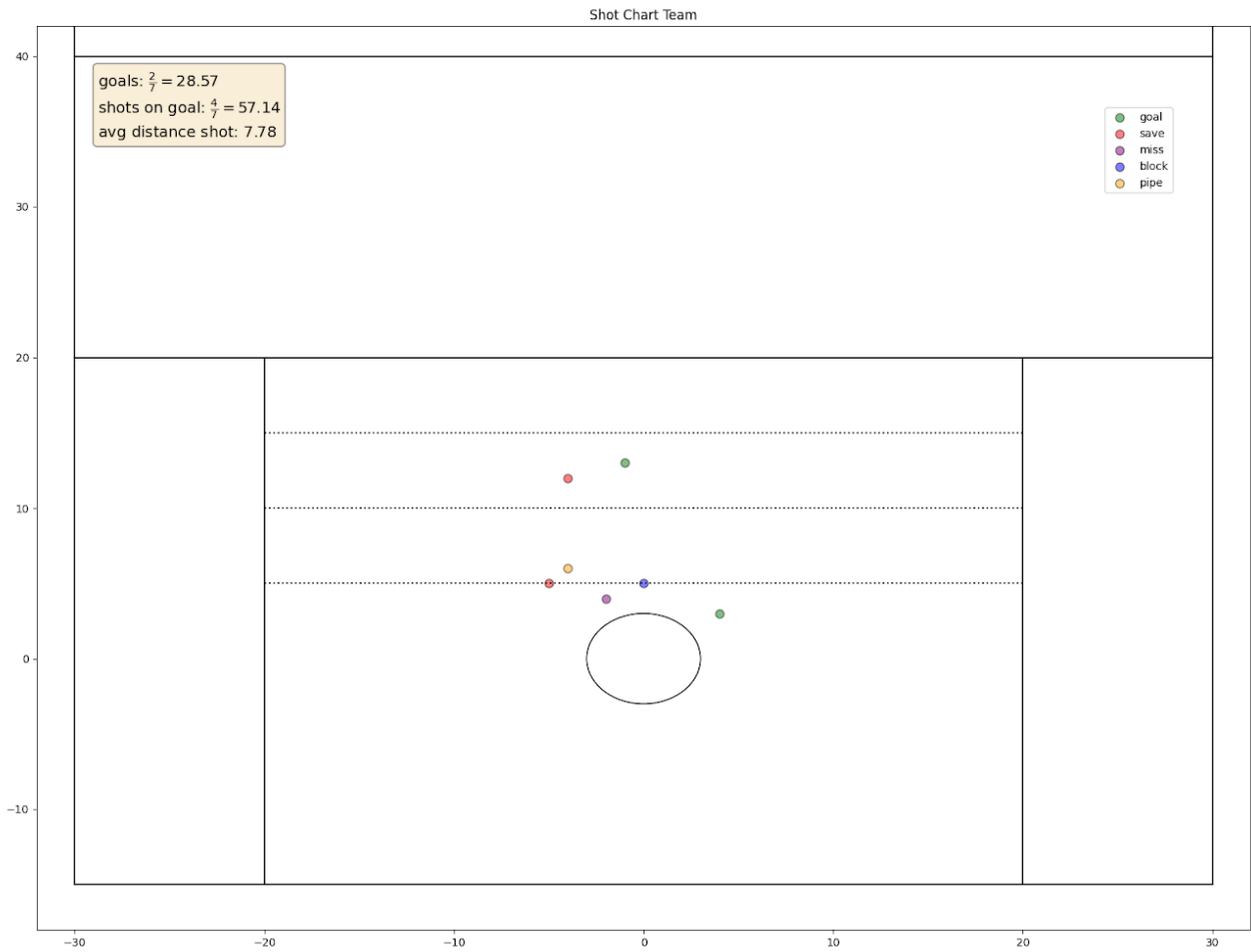Can get shot charts for specific players
From example data charts are shown for player #4,5,6 and whole team
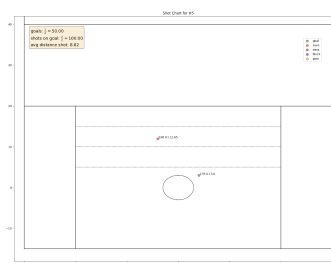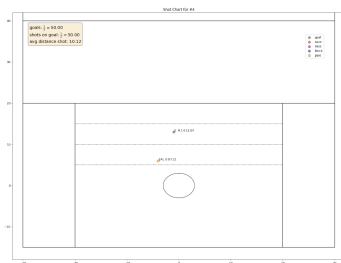



Order of extra data if wanted on chart:
- Goal location [0,29] N for NA (see Goal Location section below)
- Hand shot (L,R)
- Type_shot_0
  - Over hand = 0 ; side arm = 1 ; under hand = 2 ; back hand = 3 ; behind the back = 4
- Type_shot_1
  - Stationary = 0 ; on the run = 1 ; quick stick = 2 ; MORE?
- Distance from goal

goals: $\frac{2}{7} = 28.57$

shots on goal: $\frac{4}{7} = 57.14$

avg distance shot: 7.78

- goal
- save
- miss
- block
- pipe

# Goal Location

Done by sectioning the goal into 16 boxes and extending boxes to the outside area of the goal. Orange is the goal space, green is miss.

| 0 | 5 | 10 | 15 | 20 | 25 |
|---|---|----|----|----|----|
| 1 | 6 | 11 | 16 | 21 | 26 |
| 2 | 7 | 12 | 17 | 22 | 27 |
| 3 | 8 | 13 | 18 | 23 | 28 |
| 4 | 9 | 14 | 19 | 24 | 29 |