1 Formal Grammar of tennis

$$S \rightarrow s_1S \mid fA \mid rB$$
$$A \rightarrow s_2A \mid fp \mid rB$$
$$B \rightarrow lB \mid p$$

Terms:
Non terminal nodes: N = $\{$ S, A, B $\}$
Terminal Nodes: Σ = $\{$ s_1, s_2, f, r, l, p $\}$

$s_1 \rightarrow$ First Serve
$s_2 \rightarrow$ Second Serve
f $\rightarrow$ Fault
r $\rightarrow$ Return of Service
l $\rightarrow$ Rally
p $\rightarrow$ point awarded $\{$ end of rally / point $\}$

Every point played is considered an event. After every event there is score updation.
An event is a string which represents a history of shots played.
An event 'E' can be represented as:

$$(s_1 \mid s_2 \mid f \mid r \mid l \mid p)^*$$

governed by the above grammar. Every shot is represented as a tuple.

$\forall$ x, (x $\in \Sigma$), x can be represented as a nested tuple:

$$(X,(s_1,s_2,s_3,s_4,s_5,s_6,s_7,s_8,s_9,s_{10},s_{11},s_{12},s_{13},s_{14},s_{15}\ ),(c_1,c_2,c_3))$$

Where, X is the name of the shot and $s_i \in S_i$, S_i is the set of all possible values s_i can have.

s_1 denotes the type of the shot.
s_2 denotes area in which the shot was hit.
s_3 denotes where the shot was hit with respect to the player.
s_4 denotes the racket parameters.
s_5 denotes the number and type of bounce the incoming ball has.
s_6 denotes the trajectory of the ball hit.
s_7 denotes where the ball was hit to.
s_8 denotes the pace of the ball hit.
s_9 denotes the spin of the ball hit.
s_{10} denotes the grip with which the ball was hit
s_{11} denotes the roll of the ball.
s_{12} denotes the action with which the ball was hit.

s_{13} denotes whether it's an attacking or defensive shot.
s_{14} denotes the position of the opponent.
s_{15} denotes the result of the shot hit.
c_1 denotes the position(coordinates) of player A (The one who hit the shot).
c_2 denotes the position(coordinates) of player B (The receiver).
c_3 denotes the position(coordinates) of the ball bounce after the shot was hit.