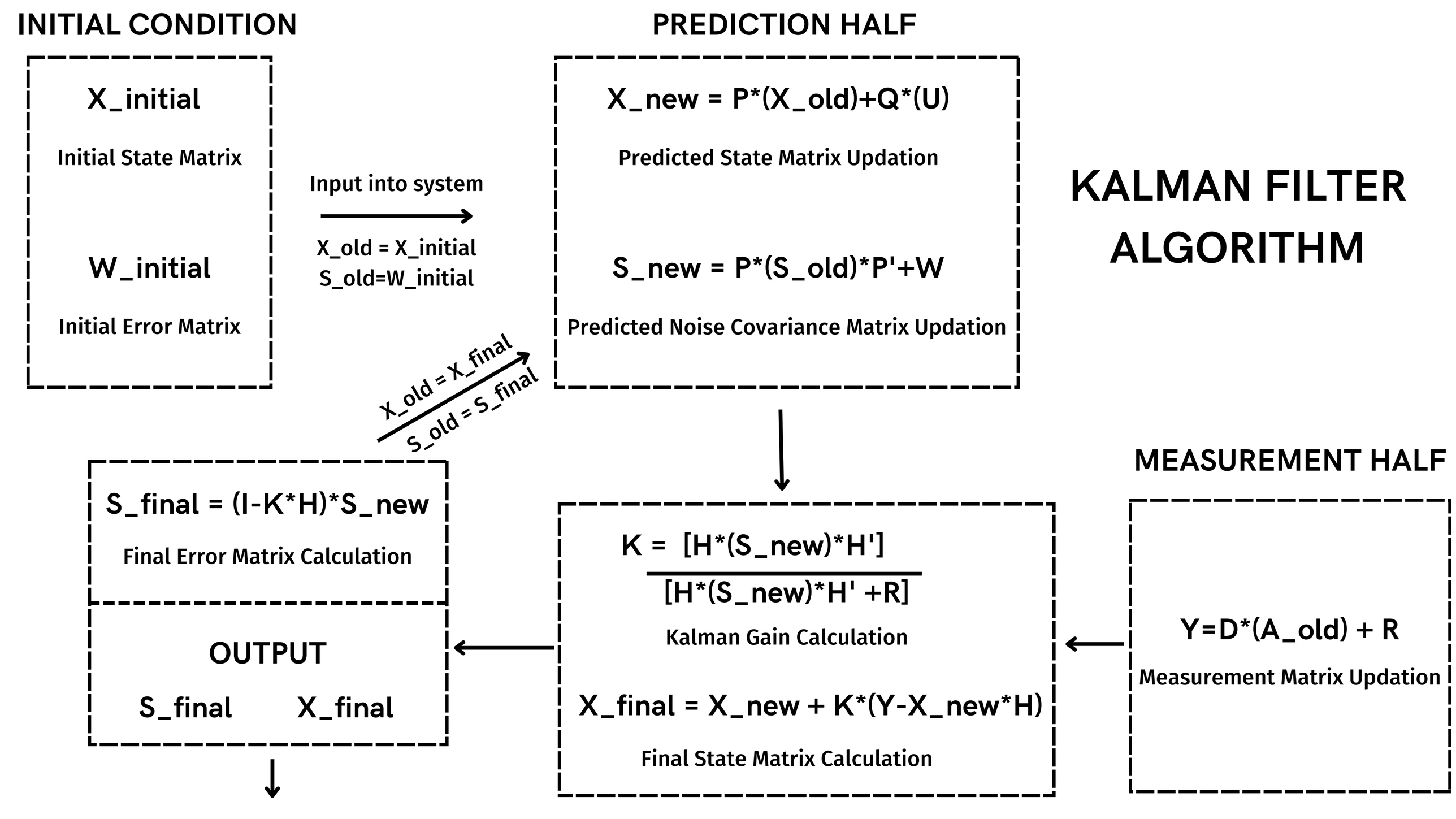
KALMAN FILTER ALGORITHM FLOWCHART FOR IMPLEMENTATION

- VEDANT PALIT


INITIAL CONDITION
X_initial
Initial State Matrix
W_initial
Initial Error Matrix
Input into system
X_old = X_initial
S_old=W_initial
PREDICTION HALF
X_new = P*(X_old)+Q*(U)
Predicted State Matrix Updation
S_new = P*(S_old)*P'+W
Predicted Noise Covariance Matrix Updation
KALMAN FILTER ALGORITHM
X_old = X_final
S_old = S_final
MEASUREMENT HALF
S_final = (I-K*H)*S_new
Final Error Matrix Calculation
OUTPUT
S_final X_final
K = [H*(S_new)*H'] / [H*(S_new)*H' +R]
Kalman Gain Calculation
X_final = X_new + K*(Y-X_new*H)
Final State Matrix Calculation
Y=D*(A_old) + R
Measurement Matrix Updation