SIMULATOR

Terms

Term	*Description*
goal	The target viewability rate (example 0.5 = 50%)
threshold	Place a bid when a predicted viewability for impression is above the threshold
compensating_rate	The viewability goal adjusted to past over/under-performance
actual_rate	The actual viewability rate
historical_rate	The actual viewability rate at some point in the past (usually 24-48 hours behind)
window_rate	The estimated viewability rate for a rolling window
predictors_view	Predicted viewability given that impression is measurable: *P(view|measured)*
predictors_measure	Predicted measurability: *P(measured)*
prob_in_view	Predicted viewability for an impression: *P(view)=P(view|measured) x P(measured)*
n	The duration (in impressions)
e	Threshold adjustment fact
l	The data latency, for how many last impressions we don't have actuals
w	The window size for calculating the window rate (in impressions)

Time

The simulator uses the "impression time". In other words, all durations are in the number of impressions.

The Algorithm

- For each bid request
  1. Lookup *predictors_view* and *predictors_measure*
  2. Calculate
     - window_rate = Σ predictors_view x predictors_measure / Σ predictors_measure
     - historical_rate = Σ viewable impressions / Σ measured impressions
     - compensating_rate = (goal – elapsed x historical_rate) / (1 – elapsed)
       where elapsed = impressions / n
     - threshold = Σ e x (compensating_rate – window_rate)
  3. If *predictors_view* >= threshold
     - Place a bid