Search Engine Marketing Bidding @ Scale

Ryan Wilber
Director of Performance Marketing @ Tiki
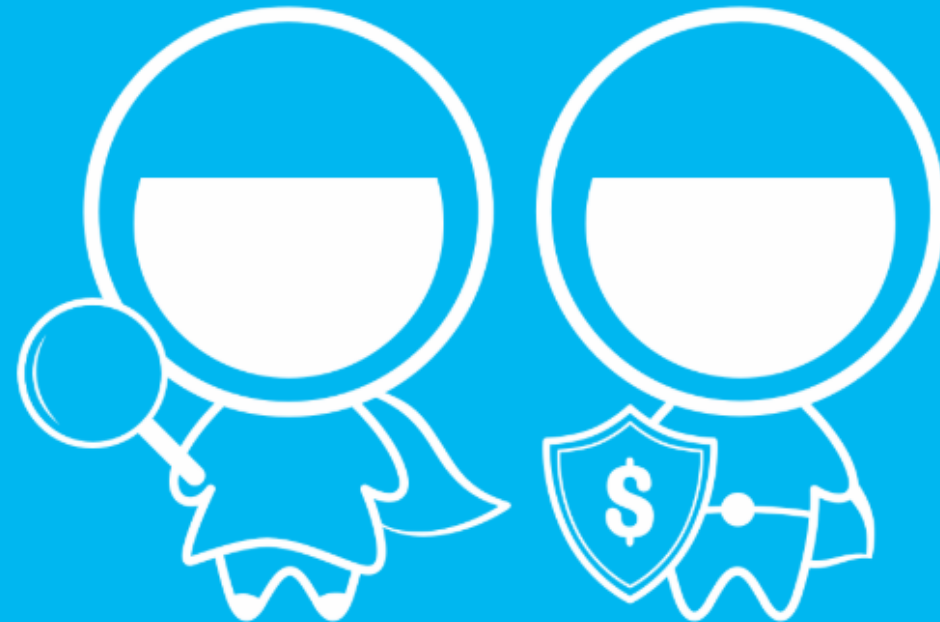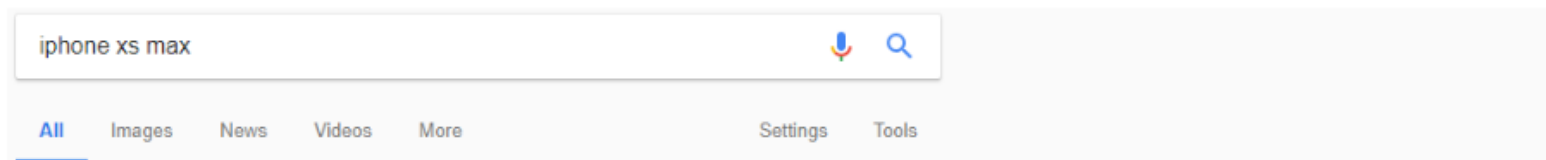
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Ryan Wilber
Director of Performance Marketing @ Tiki

- Director of Performance Marketing @ TIKI
  - Performance Marketing
  - Brand Marketing
  - Marketing Analytics
  - Onsite Merchandising

- Past Experience
  - Director of Marketing Product Management @ coupang
  - Head of SEO and SEM Operations, EMEA @ GROUPON

- Designed, built, and operated Marketing Automation technology for ~150M keyword portfolios and +$100M USD yearly ad spend budgets

- Designed multiple closed loop Search Engine Marketing Automation platforms for multiple search engines (Google, Bing, Naver)

Anatomy of a Search Engine Results Page (SERP)

SEM Text Ad
Paid Advertisement on a CPC Basis

SEO Listing
Free listing decided by Googles Search Algorithm
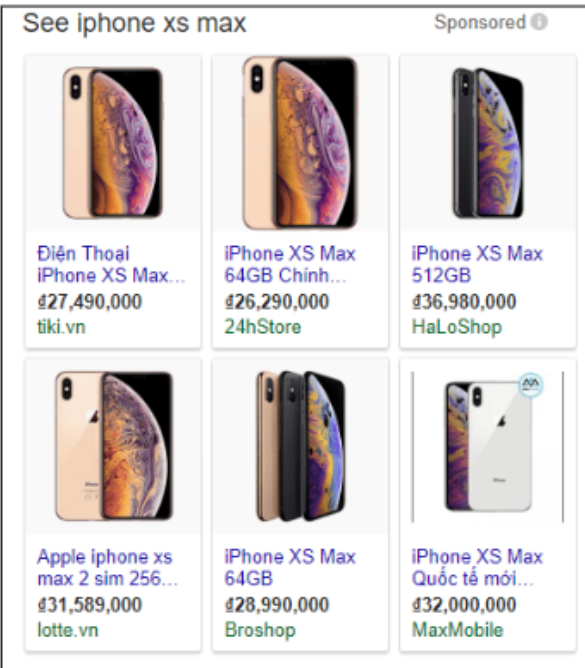
SEM PLA
Paid Advertisement on a CPC Basis

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A Simplified Explanation of Google's CPC Auction

Max CPC Bid X Expected CTR of Ad X Expected Impact of Extensions = Position On SERP

	Bid	Quality	Format Impact	>	Ad Rank	
	$2	HIGH	HIGH		20	Position 1
	$3	HIGH	LOW		15	Position 2
	$1	MEDIUM	MEDIUM		8	Position 3
	$4	LOW	NO FORMATS		5	Not Shown
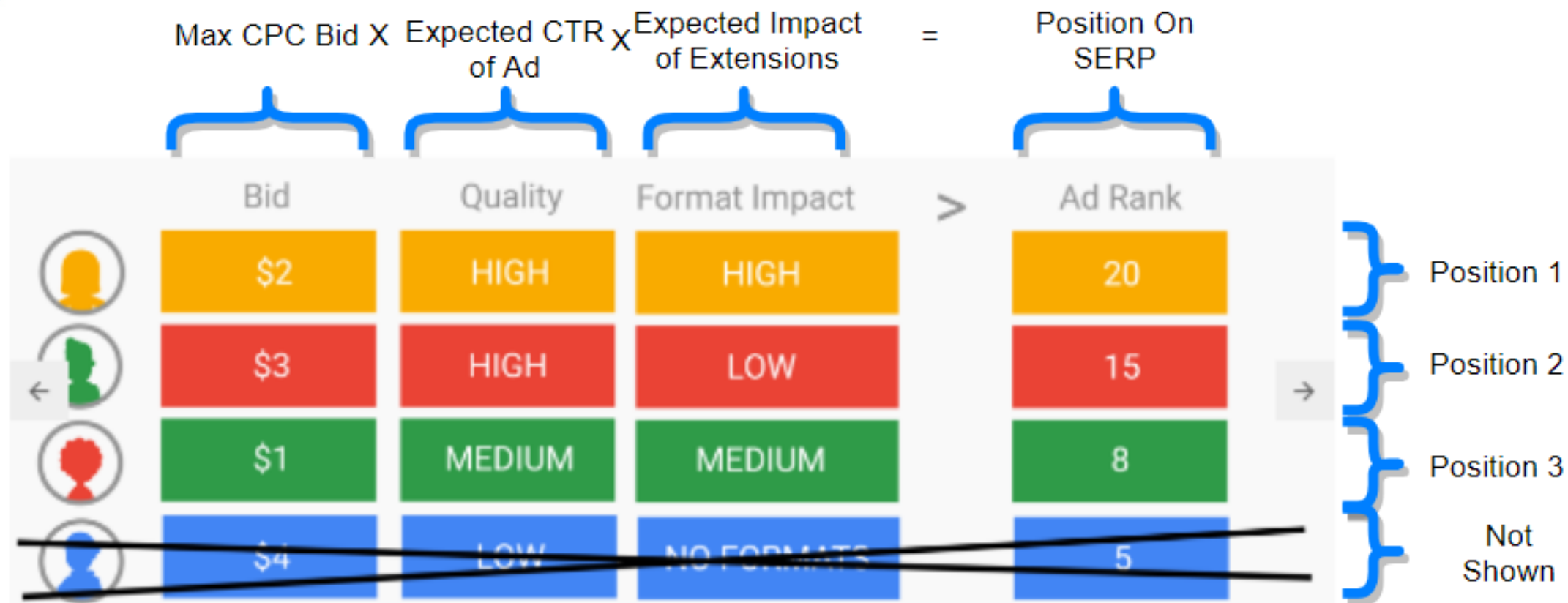
Advertisers set a Maximum CPC they are willing to pay for a click. After the auction, we end up paying only 1 cent more than the next advertisers bid needed to maintain our position. Across a number of clicks, this is known as our avg. CPC

Goal: For every dollar we spend on Ads, we want to make X dollars in revenue

Ad Spend

Ads

Revenue From Orders

Keywords have a cost per click and generate revenue per click
If we want to make $10 for every $1 we spend, our revenue per click for a keyword needs to be 10 times the cost per click we end up paying.

Our bidding algorithm is built to ensure this ratio is hit across a keyword portfolio of any size.

Simplified Bidding Algorithm

$$\text{Max CPC for a Keyword} = \frac{\text{Revenue}}{\text{Clicks}} \times \text{Efficiency Ratio} \times \text{Max CPC to Avg. CPC Ratio}$$

$$\text{Iphone XS Max CPC} = \frac{\$10,000}{1,000} \times 0.1 \times 1.5 = \$1.50 \text{ Max CPC}$$

Additional Considerations

- Individual clicks give you the sample mean for a keywords revenue per click population mean. You need a statistically significant sample of clicks to understand the population mean and set a bid on a keyword.

- The Max CPC to Average CPC ratio is very hard to model and must be done differently for different positions on the SERP

- You must pick a time window over which to aggregate historical data and handle seasonality and fresh/stale data importance

With Machines!
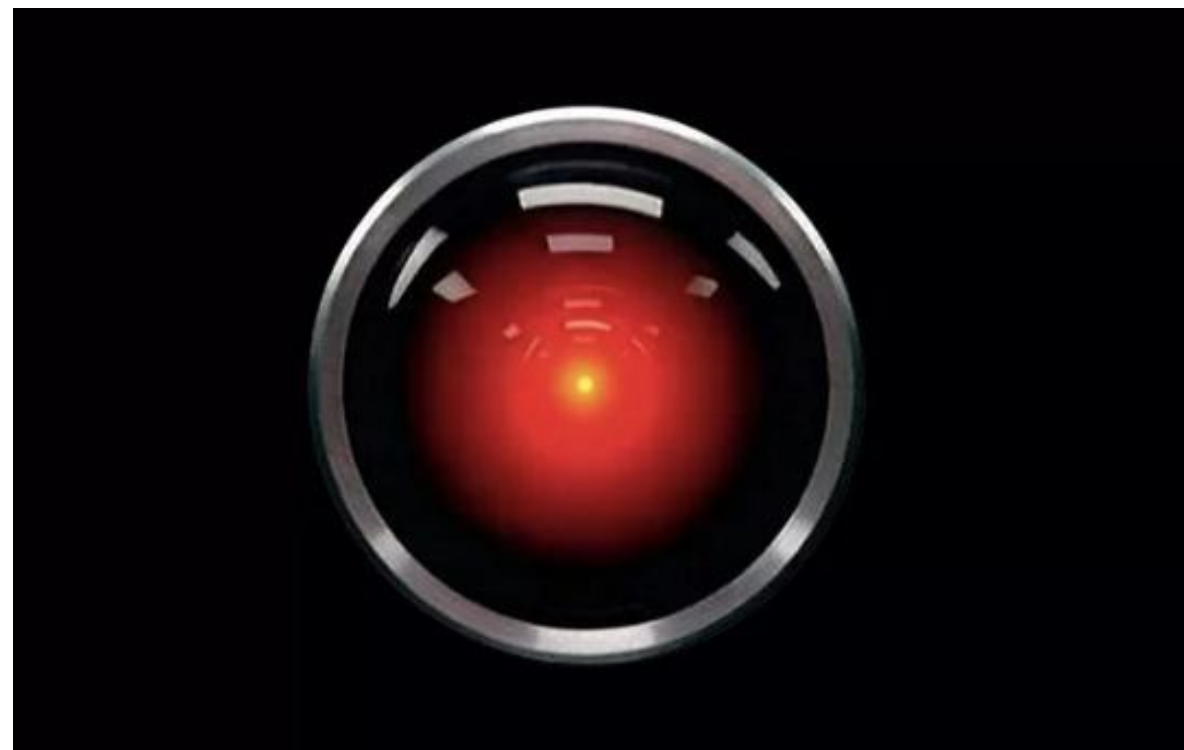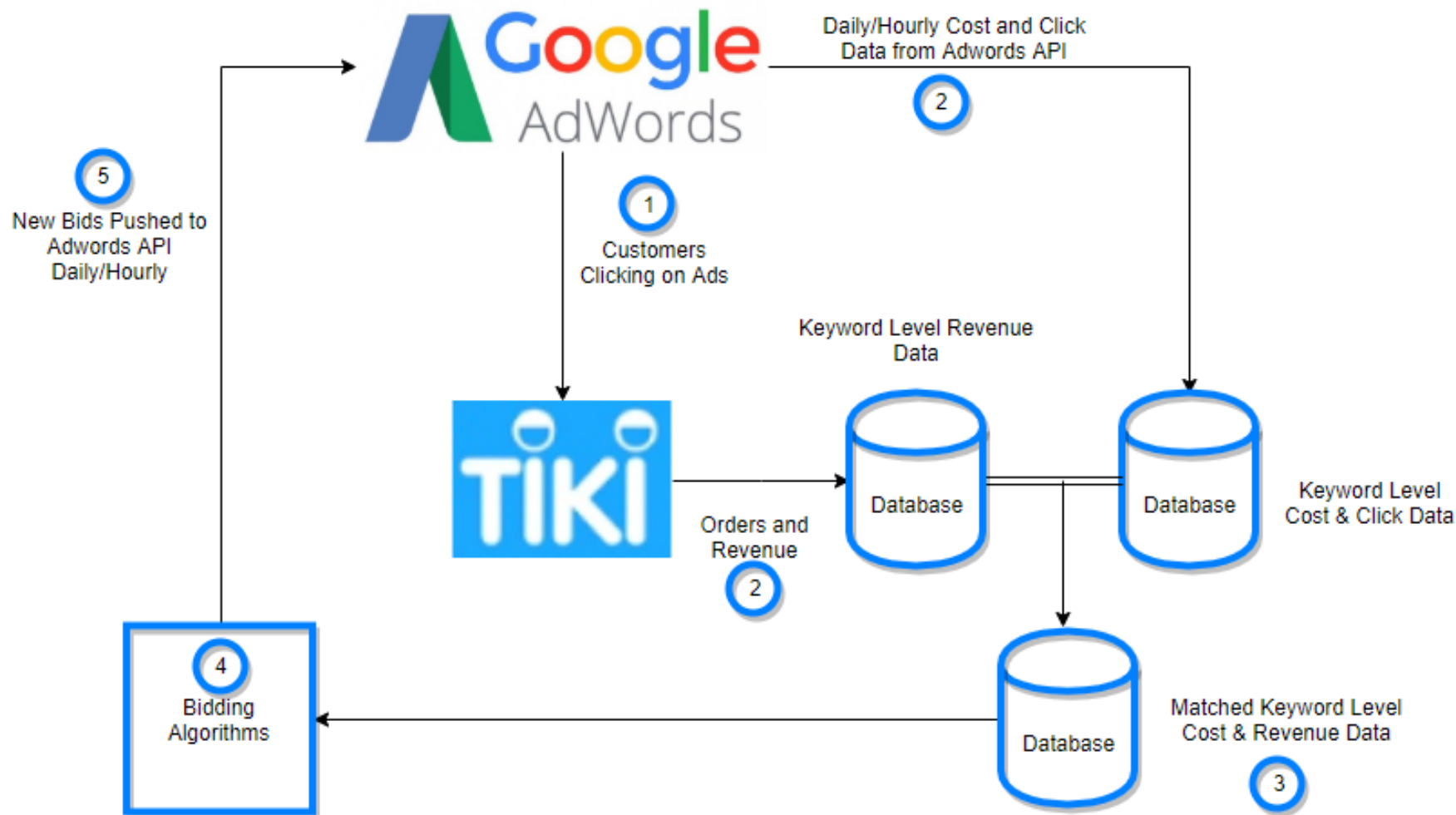
1. Customers click on SEM Text ads

1. Store revenue data and click data at a keyword level in internal Databases

1. Match keyword level click and revenue data at a keyword level in internal Databases

1. Apply bidding algorithms to keyword click and revenue data

1. Push new bids to adwords API Daily/Hourly

- Bidding differently in a data sparse environment versus a data dense environment (Head vs. Tail Bidding)

- Modelling the max cpc to average CPC ratio

- Real time bidding and testing algorithms

- Big data analytics (+B rows of data)

- Bidding to incremental Long Term Customer Value

- Building marketing automation and data analytics technology

- Hiring for
  a. Marketing Channel Managers
  b. Data Analysts
  c. Data Scientists
  d. Software Engineers
  e. Product Managers

Thanks!