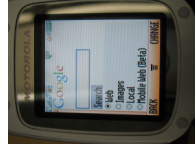


# Google™ Mobile Search:

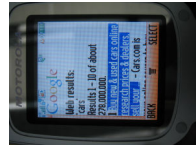
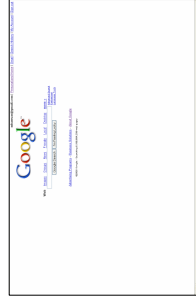
A first Glimpse into the State of Mobile Search

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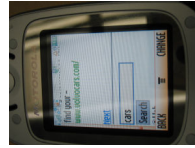
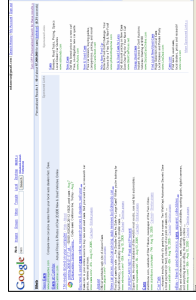
## XHTML vs. HTML Interface



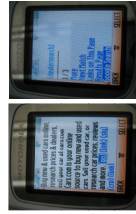
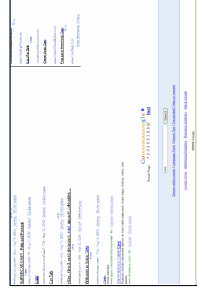
Front page



Top of 1st Search Results page



Bottom of 1st Search Results page



Click-thru on search result



## Other Mobile Google Interfaces

Users are redirected to one of 4 mobile-specific interfaces based on their phone's user-agent

Each interface is rendered using a different markup language

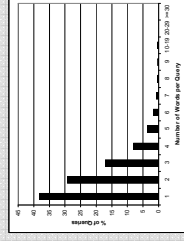
- [www.google.com/awml](http://www.google.com/awml) rendered in WML (click-thrus are transcoded)
- [www.google.com/xhtml](http://www.google.com/xhtml) rendered in XHTML (click-thrus are transcoded)
- [www.google.com/imode](http://www.google.com/imode) rendered in CHTML (click-thrus are transcoded)
- [www.google.com/pda](http://www.google.com/pda) rendered in HTML (click-thrus are not transcoded)

## Data Set

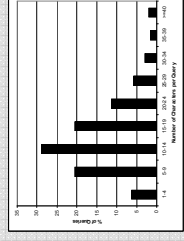
- > 1 Million hits to Google's XHTML interface randomly sampled over the course of two months.
- Only English Web searches were considered in this study.
- To eliminate potential non-mobile traffic and confounding factors of network latency, we restrict our data set to those hits coming from a single US carrier.

## Query Analytics

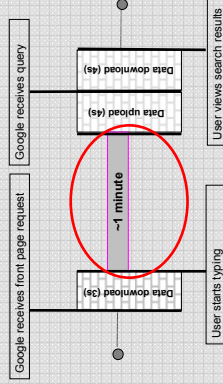
### 2.3 Words per Query



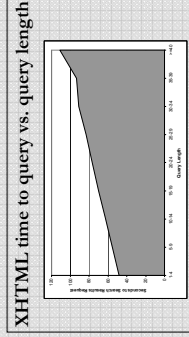
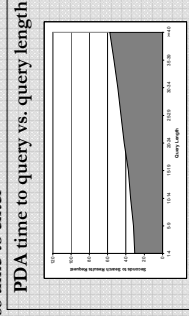
### 15 - 16 Characters per Query



Queries entered from a PDA average 2.7 Words per Query and 17-18 characters per query. Previously published statistics report an average of 2.35[1][2] and 2.6[4] words per query for queries originating from conventional computers.



Queries entered from a PDA take about half the key presses to enter, and not surprisingly less time to enter



## Future Work



## References

1. Jansen, B. J., Spink, A., Bakeman, J., Sarawacik, T. 1994. Real time information retrieval: A study of user queries on the web. SIGIR Forum, Vol. 32, No. 1, pp. 5-17.
2. Silverstein, C., Heninger, H., Maron, H., Motcia, M. 1999. Analysis of Very Large Web Search Engine Query Logs. SIGIR Forum, Vol. 33, No. 1, pp. 6-12.
3. Jansen, B. J., Spink, A., Bakeman, J., Sarawacik, T. 1994. Real time information retrieval: A study of user queries on the web. SIGIR Forum, Vol. 32, No. 3, pp. 285-296.
4. Spink, A., Jansen, B., Wolfman, D., Sarawacik, T. 2002. From E-Search to E-Commerce: Web search in engine. IEEE Computer, Vol. 35, No.3, pp. 107-110.

### Query Categories (top 10 of 23)

Categorization	% of all queries	average length of a query	average number of words per query
Total	100	15.2	2.3
Adult	>20	12.5	2.2
Entertainment	>10	16.5	2.8
Internet & Telecom	>10	15.2	2.4
Local Services	>5	18.7	2.9
Games	>2	16.3	2.8
Lifestyle & Communities	>2	17.2	2.9
Computers & Technology	>2	14.7	2.4
Health & Beauty	>2	17.9	2.7
Sports	>2	15.1	2.4
Society	>2	18.6	2.8
UNCLASSIFIED	>15	14.4	1.1

[3] reported the top desktop categories to be "Commerce, travel, employment or economy", "People, places and things" and "Computer or Internet".

### Session Statistics

For sessions which contained at least one query, the average session length was ~220 seconds, The average number of queries in those sessions was 1.6 (median 1)



"A series of queries by a single user made within a small range of time". We will refer to this range of time as the session delta. Following [3], we will use a session delta of 5 minutes - if no interaction happens within 5 minutes of the previous interaction, a user's session is deemed closed. The next interaction is considered a separate session.

- Which aspects of a search result (title, snippet, URL, click-through page) are the most important for a searcher user? This must be answered, especially in consideration of the long latencies associated with clicking a link.
- How does interface accessibility change search patterns? Will this bring in a different set of users; will they have different search patterns?
- Are there any patterns in click through positions for the clicks? How much does being "below the fold" (items that require a scroll action) reduce the click-through rate.