Speak With Me

Client vs. Server
How about both?

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Vision

• We believe technology should be centered around our humanity.

• We believe technology should connect us more with our world, rather than remove us from it.

• We believe in creating compassionate products for the human race, that connect us more to our world and to one another.
A conversation with the Siri team… April 2010…

“Wow, your client side stuff is so much faster than our server side stuff” – Tom Gruber

“Wouldn’t it be great if our client side stuff worked with your server side stuff? – Me to Adam Cheyer, Tom Gruber, and Gummi Hafsteinsson

“Yeah, that’d be awesome! How do we do that?” – Tom Gruber

“I have no idea, do you?” – Me
“No.” – Tom
“No.” – Adam
“No.” – Gummi
Two Ten Year Bets... converge

DARPA - 1995

SRI
Belief - Not enough client side compute power in 10 years
Siri - 2007
Server Centric

CMU
Belief - Unreliable network connections in 10 years
Speak With Me - 2005
Client Centric
Wouldn't it be great to combine the two? - 2010
SimulRec - 2012
Client / Server Seamless Switching
Solution

• A hybrid client/server voice system that switches to the server only when needed

• It must be:
  – Responsive
  – Accurate
  – Scalable
  – Low Cost
  – Work when not connected to the internet
What does Speak With Me Aria do?

• We keep track of:
  – Information about the user.
  – Information about the modality of the input.
  – Confidence level about the input.
  – Information about the data.
  – The structure of the data.
  – What the previous requests were.
  – What the next query is likely to be.
  – The subset of data to have the speech recognizer focus on.

• And we use all of that information to:
  – Find things for you
  – Do things for you
  – Converse with you in Natural Language
  – Manage the input and output modalities
  – Run Online AND Offline