Voice User Interfaces—unlocking Data Service on Mobile Phones
March 2008

Vision

- ## Mobile Internet held hostage by 12 keys
  - Less than ⅓ use mobile web browsers[1]
  - Less than ¼ download applications[2]
  - Barely half (54%) have bought ringtones, games, or other content
  - 85% of mobile TV users abandoned the service after just one viewing, underscoring the user interface difficulties facing mobile multimedia services[3]
  - > 70% of subscribers who signed up for content bundles failed to actually consume any mobile content, indicating that usability, not price, was the culprit[3]

Statistics are US only
(1) Merrill Lynch, June 2007
(2) Telephia bill & survey analysis of subscriber behavior during Q1 2007
(3) Cellular News - *Ease-of-use Outranks Price As Key Barrier to Mobile Data Usage*, Feb 2008

Opportunity—Unlocking the Growth

Carriers are looking to data as the primary source of ARPU growth

US Data ARPU Projections

$18
$16
$14
$12
$10
$8
$6

2007 2008 2009 2010 2011
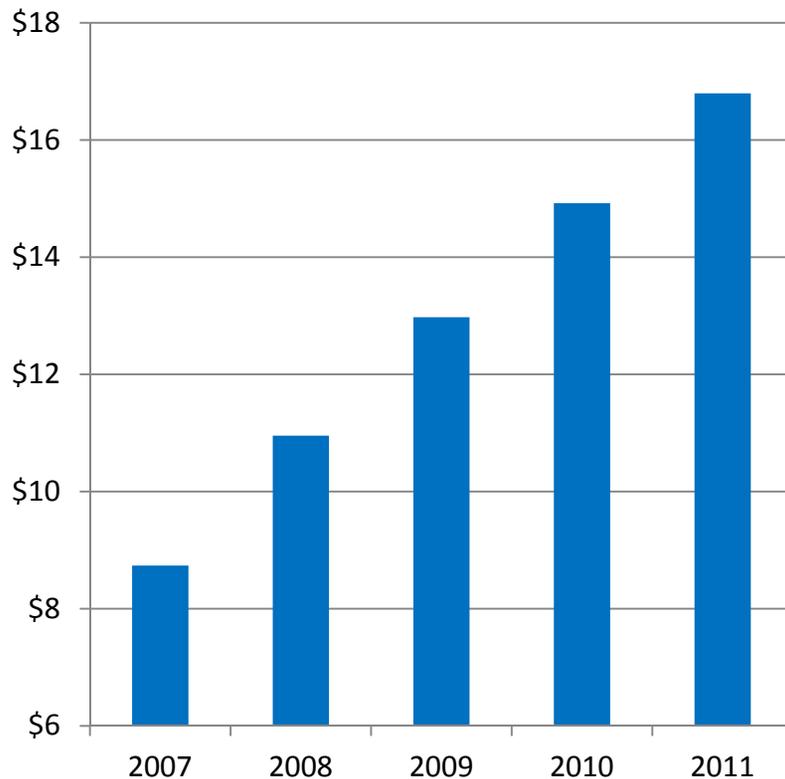
US Data ARPU Breakdown		

	2007	2011
Total Data ARPU		
SMS	$3.60	$3.96
IM	$0.44	$1.13
MMS	$0.84	$1.13
Other Data	$4.26	$10.57
Total	$8.73	$16.80
% of Total ARPU		
SMS	41%	24%
IM	5%	7%
MMS	5%	7%
Other Data	49%	63%
Total	100%	100%

Source: IDC, Gartner

Why vlingo?

- ## Vlingo's unique breakthrough user experience
  - Only voice UI that can work seamlessly across all apps
  - Unmatched accuracy
  - Adapts and improves with users and usage
  - User not constrained to particular grammars

- ## Simple integration
  - ASP business model eliminates upfront costs
  - No training required
  - Not tied to specific application

2008 Emerging Mobile Player to Watch

In a report published on February 6, 2008, vlingo was identified by IDC as one of "Ten Emerging Mobile Players to Watch in 2008"

"IDC believes that voice/speech technology will continue to play a critical role in mobility for both the consumer and enterprises. vlingo has assembled a strong field of technology experts and experienced managers to address the need to deploy speech technology across a broader set of applications, in a more efficient and rapid manner and across a more open environment."

IDC

Analyze the Future

End-User vlingo Press Reviews

|	
The New York Times	*Vlingo's service lets people talk naturally, rather than making them use a limited number of set phrases. It was all fast and efficient. Vlingo is designed to adapt to the voice of its primary user.*
Scobleizer	*This is the first thing I've seen for mobile phones that might get me to not buy an iPhone.*
PCWorld	*I was impressed with vlingo*
ars technica the art of technology	*Its voice-powered interface for mobile phones that makes voice recognition both magnitudes easier to use and learns from its mistakes.*
xconomy	*The system works—in fact, it works so well that vlingo officials who wanted to show me how easy it is to correct an error couldn't get the system to make a transcription mistake in the first place.*

Demo

Technology
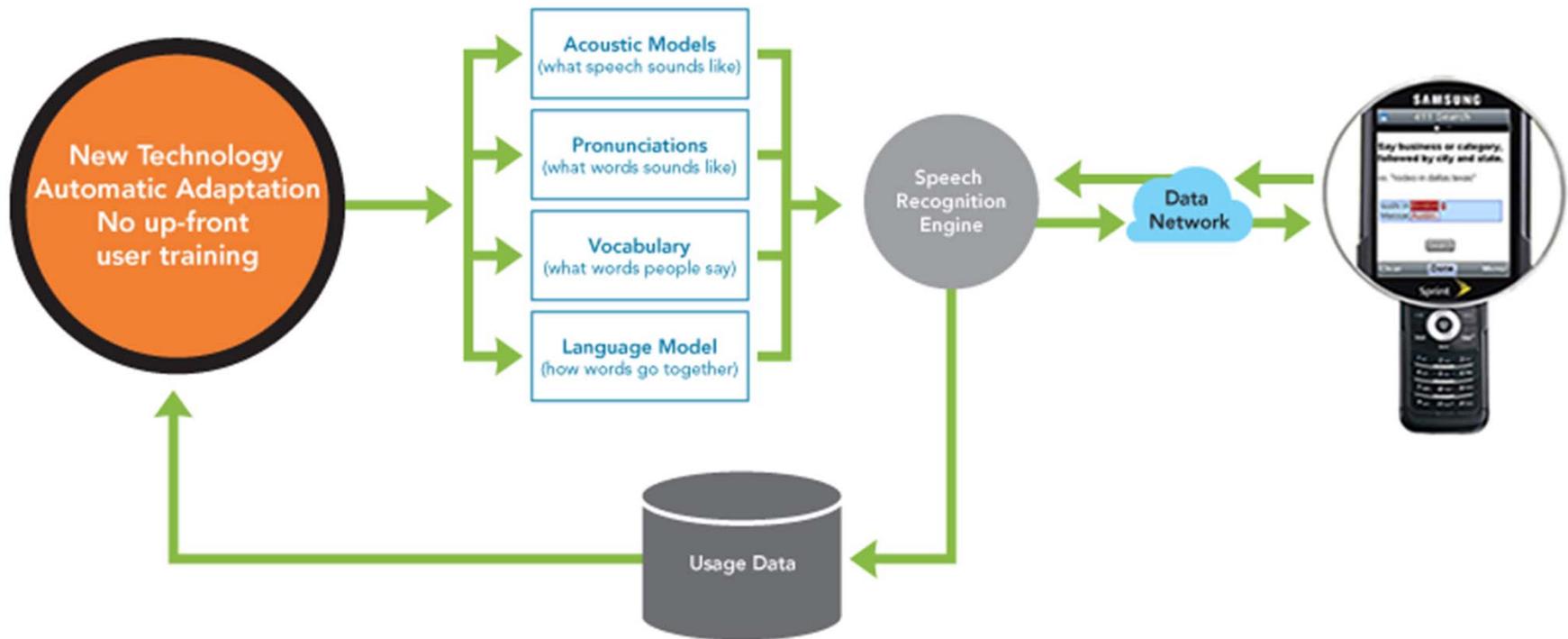
Adaptive HLMs

- HLMs = Hierarchical Language Models
- Based on Statistical Language Models
- 10 Patents filed
- New approach which efficiently scales to millions of words
  - General Web Search
  - Directory Assistance / Yellow pages / Local Search
  - Navigation Destination Entry
  - Messaging
  - Social networking
- Adaptation
  - Per user
  - Across users

Better User Interface—
Allows for Adaptive Loop

- Drop down list for possible mis-recognitions for easy corrections
- Speak type over words to correct them
- Freely mix talking and typing

- Corrections captured at vlingo server to improve recognition for individual users and across users
- Network effect– the more users the better the system, creating barrier to entry

411 Search

Say business or category, followed by city and state.

ex. "rodeo in dallas texas"

sushi in boston ⇕ massachusetts
austin

Search

Clear   Done   Menu

ASR Models   **Usage Data**

Recognize
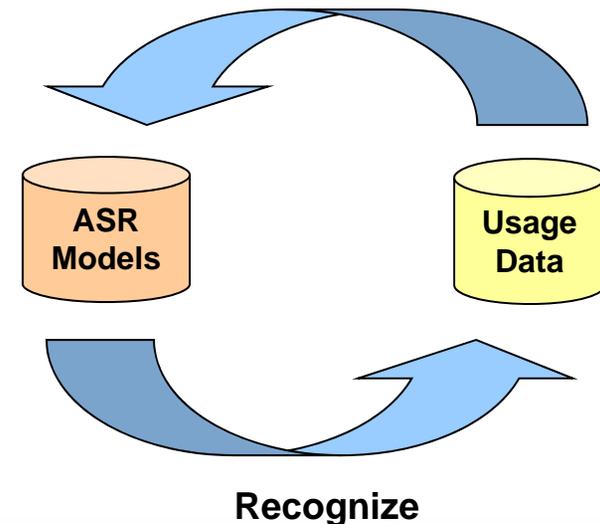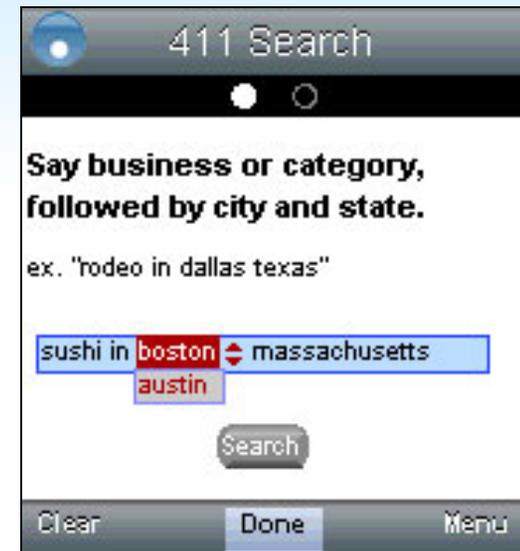
Business Model

- ## ASP model
  - Quickly voice enable mobile apps
  - Developer program

- ## Revenue model
  - Subscription per user per month
  - Usage based-pay per session
  - Revenue share

Go to Market

- Initial targets: mobile app providers
  - Local search
  - Navigation
  - Content
- Future targets: wireless operators
- Per user per month revenue model
- First deployments Q108
  - Local search
  - Navigation

Experience

Executive Management

Dave Grannan, President & CEO
- General Manager, Nokia
- President & CEO, Geoworks
- AVP & General Manager, Sprint PCS

Mike Phillips, Co-founder & CTO
- CTO, ScanSoft (Now Nuance)
- CTO and founder, SpeechWorks
- Research background MIT and CMU

John Nguyen, Co-founder & VP Engineering
- VP of Engineering, Groove Mobile
- Sr. Director, Network ASR, ScanSoft/Speechworks
- Ph.D. Computer Science, MIT

John Elliott, VP Sales
- Director of Service Provider Sales, Nuance
- VP and Founder, Vision Forge Ventures
- National Accounts Manager, AT&T Wireless

Charlie Rutledge, VP Operations & Customer Support
- VP of Professional Services, SpeechWorks/ScanSoft
- Sr. Manager, Accenture
- Systems /Telecomms /Operations, Exxon & USX

Experienced Team

35 Headcount as of February 1, 2007
- 27 engineers 4 PHD's
  - Top MIT and CMU speech scientists
- 8 Sales/Marketing
  - 5 with 12+ years in carrier/software

Investors & Board

Izhar Armony, Charles River Ventures
Bob Davoli, Sigma Partners
Jeff Dunn, Former CEO Nickelodeon Enterprises

CHARLES RIVER VENTURES   SIGMA+PARTNERS