



Mobile Personal Assistants: Today and Tomorrow

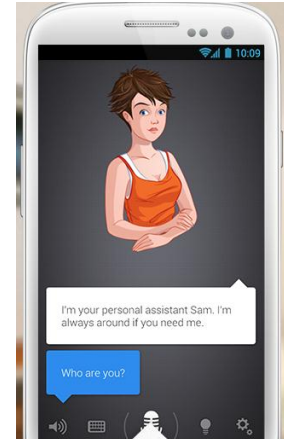
By Sensory

Personal Assistants Today

- **There are MANY**
 - Siri and Siri like
 - Diet
 - Finance
 - Automotive
 - Travel
 - Malls
 - Cleaning
 - Fitness
 - Etc. etc. etc. etc....



Siri. Beta
Your wish is
its command.



Jeannie (like Siri)

PANNOUS

Get your own Personal Assistant.
Get Jeannie, one of the best Siri like
voice...



INSTALL

Eyes-free. On Android. Nationwide.



PA's Today

- **Most are Very Similar**

- Similar uses:

- Navigation
- Weather
- General information



- **Nearly ALL Require a Button Press, Why?**

Question:

**If it has speech recognition,
why do we have to use our
fingers?**



For VERY GOOD REASONS there has been a commonly held perception...

- **“Voice triggers always false fire”**
- **“They are unreliable”**
- **“Don’t work in noise”**
- **“Require close talking microphones”**



Technology Breakthrough

**In 2010 Sensory had a BREAKTHROUGH
which resulted in:**

**Very Low
Equal Error
Rate**

**Ultra Small
Footprint
-Less MIPS
- Less
Memory**

**100%
Embedded

No Cloud
Connection
Required**

**MOST
Noise
Robust
Solution
Available**

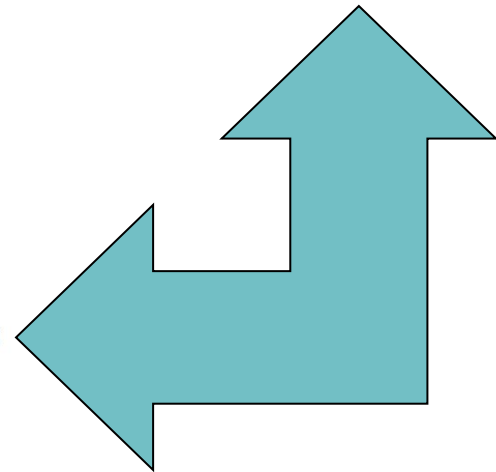
We think this technology is by far the best in its class!

Q: Where's the Recognizer?



Truly
HandsfreeTM
VOICE CONTROL

Cloud Based SR
Microsoft, Google
Nuance, ATT, Etc..



•A: The recognizer should be in both local device and the cloud

Phone vs The Cloud

- **Cloud provides more MIPS & Memory**
 - Great for navigation, internet searches, dictation
- **Phone provides access regardless of connection or connection strength**
 - Great for name dialing, calendaring, POI's, music selection, etc.

Lowest Power is Key

- **Users Don't Want to Manage**
 - Must be always on, always listening
- **Running at the DSP/Codec provides an AWALYS on, ALWAYS listening feature**
 - Sensory has ported to several DSP/Codecs
 - Running less than 2mA's
 - If the phone was not used at all, this translates into a 20 minute reduction in battery life.
 - With normal phone usage, the user would not see a difference!



Key Technologies Tomorrow's PA

- **Bye Bye Button!**

- TrulyHandsfree™ Voice Control

- Allow customers the feature and power of hands free control that actually works.
 - Ideal for in use in car, home, office, etc.
 - Ideal for areas where customers wear gloves
 - Better access to apps
 - Calendar, texting, navigation, contacts, etc.



Key Technologies Tomorrow's PA

- **Trigger to Search**

- We have already removed the need to press a button or touch the phone
- Next is to remove the need for the user to look at the phone and wait for responses
- Trigger to search provides the MOST natural user interface available
- Sensory runs a circular buffer between the trigger and what we pass to the cloud recognizer – result:
 - "Hello smart phone navigate to the home depot in Tigard Oregon"

Key Technologies Tomorrow's PA



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- **User Defined Passphrase**

- More than 50% of users DON'T lock their smart phones....why?
 - Hassle!
 - Unsafe while driving
- Most natural means of security
 - Fast and accurate
 - Hands Free
 - Ease of use
- Quick enrolment
- Accurate: 1% EER in quiet and 8% EER in noise

Key Technologies Tomorrow's PA

- **Speaker Identification**

- Ideal for smartphone/tablets/TV's that are shared in the home
- One simple step (trigger and ID) with one phrase
 - Most natural
 - GREAT for home screen settings
 - Show only those applications that I want to see, not that the kids use
 - GREAT for favorite URL's, etc.



Key Technologies Tomorrow's PA

- **Smart Triggers**

- Based on TrulyHandsfree™ Voice Control and running on the app processor
- Smart use of voice triggers at specific times to get around issue of battery life
 - “Call that number/person” - when user receives an email/SMS with a phone number
 - “Book that appointment/meeting”- when someone receives a calendar invite or date “Take me there” follows link in text message
 - “I want that song” – when listening to Pandora or similar the phone could listen for this phrase and allow the user to easily and safely purchase songs



What is the Ultimate PA?

- **The PA of the future will learn about the user and not only know them by name as is the case today, but also:**
 - Voice – voice password, user define triggers, etc.
 - By sight
 - By description
 - Their likes/dislikes
 - Habits
 - Kind of like a mom!





Sensory Customers



19 years experience, more that 200M products

Thanks!



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