Mobile Voice Conference

TrulyHandsfree Voice Assistants

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Key Steps of Mobile Voice Assistants

**Key Components of:**

**The Most Natural User Interface: Speech**

1. **Voice Activation**
   - High noise immunity
   - Low power
   - Fast response time

2. **Speech Recognition & Transcription**
   - Moderate noise immunity
   - High accuracy

3. **Intent & Meaning**
   - Accurately understands desires

4. **Data Search & Query**
   - Finds the right information

5. **Speech Response**
   - Sounds like a human
   - Accurately interprets text data

Images and logos are used to illustrate the concepts.
Why Voice Activation?

• **Safety**
  – in car, eyes busy hands busy

• **Legality**
  – No touching handsets while driving

• **Convenience**
  – Voice remote control of everything!

• **Natural**
  – No touch required
Voice Activation Requirements

• High Accuracy
  – No problems with start or endpoint detection
  – Works from a distance
  – Works in noise
  – Minimal false accepts & minimal false rejects

• Ripping Fast Response Time
  – “Hey Trigger, How do I get to Starbucks?”
  – “Hey Trigger, Call Jack Daniels”

• Ultra Low Power Consumption
  – Sometimes vs always on
  – Deeply embedded vs embedded in OS
Where will HandsFree voice assistants go in the future?

• You get to choose your assistant  
  – personality, looks, voice, etc.

• Assistant knows who you are  
  – Speaker verification  
  – Adaptation to your voice/ accent

• Assistant knows your preferences, habits, schedules  
  – “Hey Todd, there’s a good  
    vegetarian restaurant down the  
    street”

• Assistant can “eavesdrop” and help without being asked  
  – Just noticed a low airfare to  
    Barcelona for Mobile World  
    Congress
THANKS!

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