

A New Paradigm in the Mobile World

# Text-to-Speech

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**NEOSPEECH**

# Overview

## Mapping the Personal Assistant

- Speech Recognition/ NLP
- Text-to-Speech/ NLP
- Case Studies and Key Players

## Text-to-Speech Deployment Models

- Cloud
- Embedded – HQ and HTS

## Future of Personal Assistant, Mobile and Text-to-Speech

# Mapping the Personal Assistant

## Common Uses

- Voice
- A.I. (Artificial Intelligence)
- Search/Information

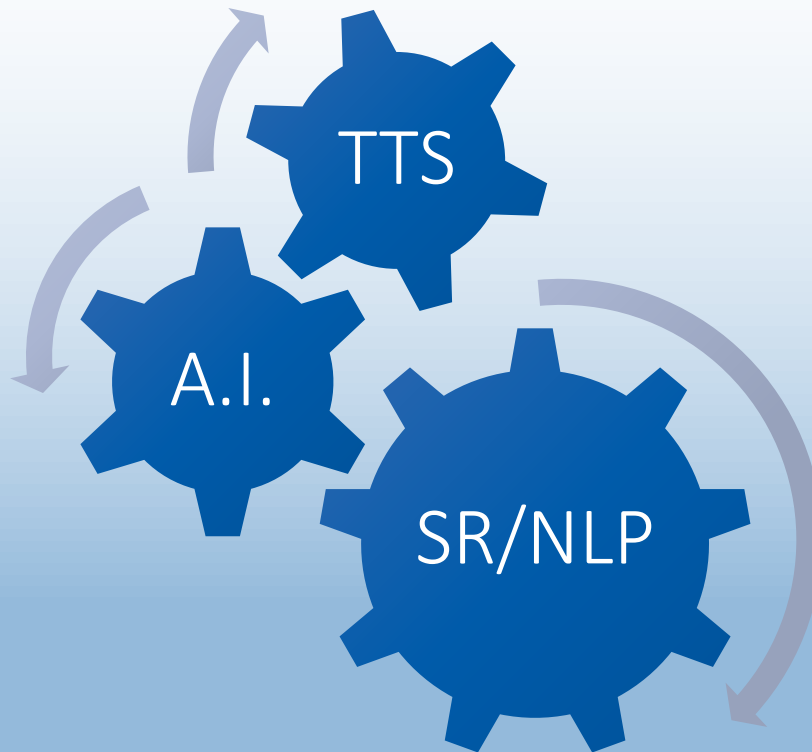
## Emergent

- Avatar/Character
- Entertainment
- Voice/A.I.
- Organizer
- Search/Information

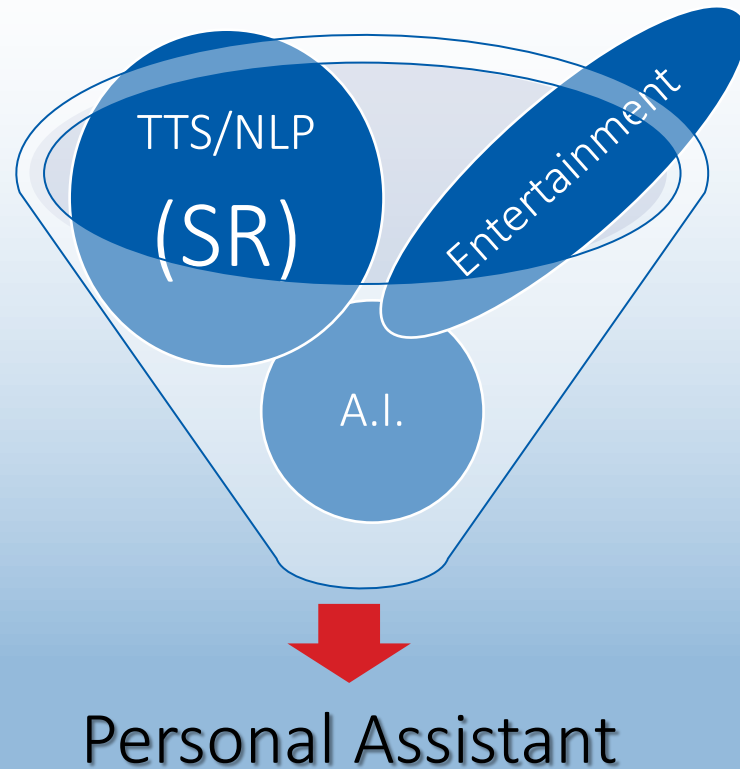
## Future

- Common Uses
- Entertainment
- Wearable
- Companionship
- Additional features

# Common Use Elements



# Emergent PA “Components”



# Common Use Case Studies: Voice and A.I.

Siri™ (iPhone/ SR, Samantha TTS)

Vokul™ (iOS/ SR, Julie, Paul TTS)

iris (Android/ SR, Optional TTS)

Skyvi (Android/ SR, Optional TTS)

Cluzee (Android/ SR, Optional TTS)

# Case Study: Vokul™

With Vokul, you can perform many useful tasks without pressing any buttons! Use Vokul to:

Dictate text messages.

Dictate emails.

Post to Twitter and Facebook.

DJ music, podcasts, audiobooks, & iTunes.

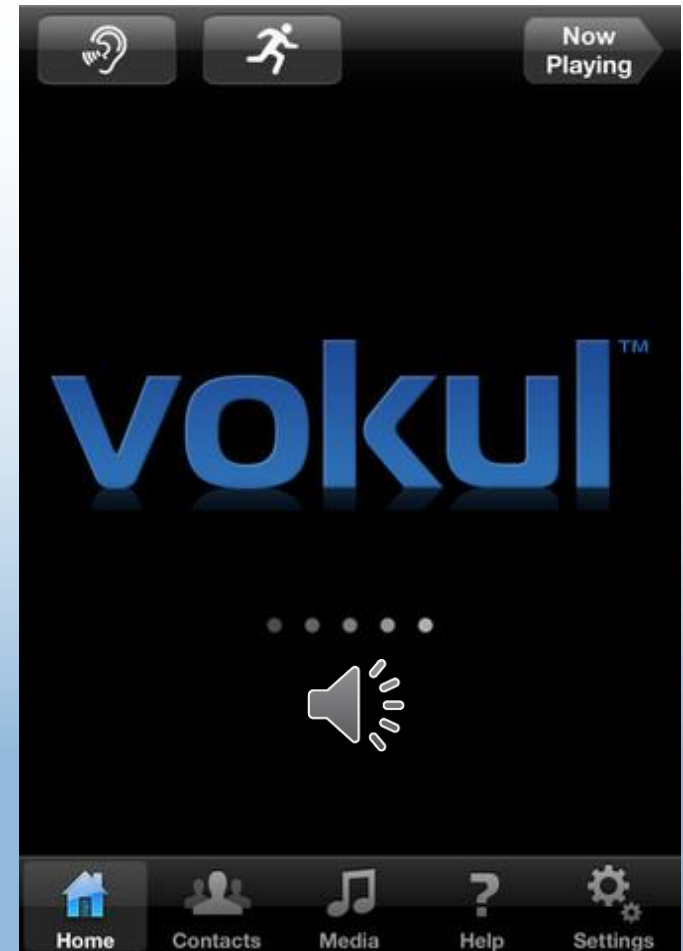
U lectures.

Control the audio player with your voice.

Call contacts in your address book.

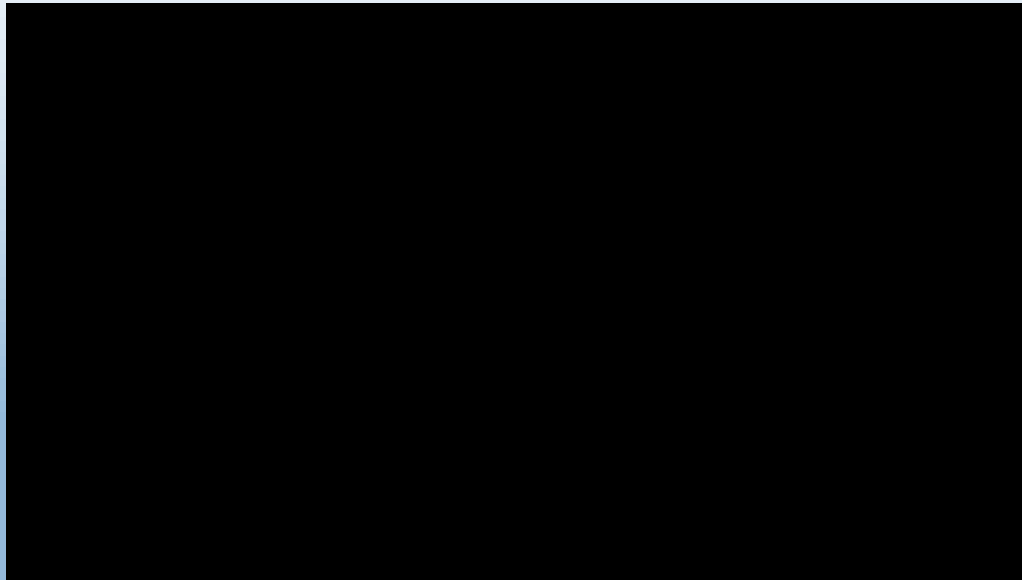
Listen to your Twitter and Facebook feeds.

Get the current date and time.



# Case Study: Vokul™

How to call someone using Vokul...





# Case Study: Cluzee

Cluzee Brain - Intelligence based algorithms (patent pending), runs in the cloud



# iOS Text-to-Speech



NeoPaul,  
NeoKate, NeoJulie



SpeakText  
TTS Apps



Future Apps TTS Voices



Voice Brief - TTS  
Voice Assistant for news,  
email and more.



Voice Dream  
Reader

# Android Text-to-Speech



Classic  
TTS Engine



IVONA  
TTS HQ



Acapela TTS Voices

# Emergent Uses: Entertainment

EverFriends

(SR, SVOX/ NeoSpeech TTS)

Tom Loves Angela

Talking Angela (Optional SR, Julie TTS)

# Case Study: EverFriends



**Everfriends**

Android upcoming Update: **February 2013**  
iOS Release: **April 2013**  
Category: **Virtual 3D Assistant**

Not only smart but truly emotional! Voice-driven assistant app backed up with award winning AI technology, voice recognition, and speech synthesis. Interactive 3D characters let you talk to them, play with them, and even perform various tasks. Chat with them, buy them presents and choose their wardrobe. If they are in a good mood, they might even dance for you!

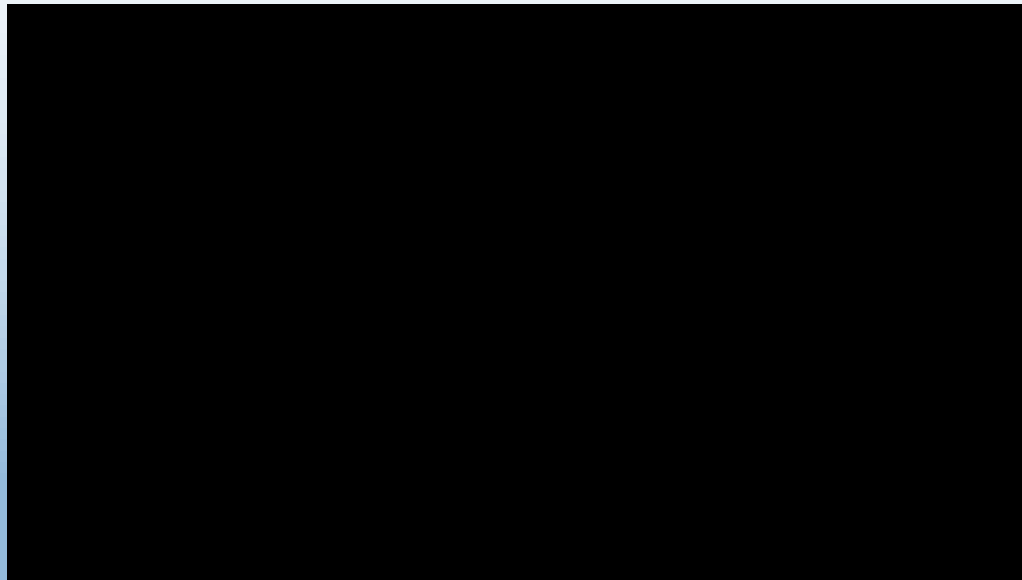
- Excellent 3D graphics and a bunch of interactive animations
- 5 different 3D characters: male, alien, and 3 gorgeous girls
- Smart AI allowing users to hold a meaningful conversation with the characters
- Helpful and entertaining features, such as: making calls, SMS, alarm clock, radio, games, notes, maps, news and more

**i-FREE**

Android icon

# Case Study: EverFriends

Voice-driven Virtual Assistant



# Case Study: Talking Angela

Outfit7 (over 500M downloads)

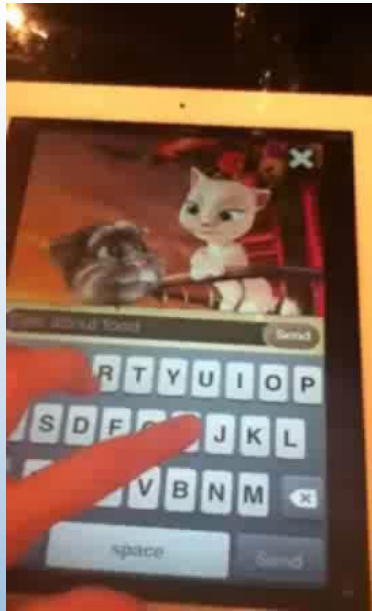
Julie TTS voice + Optional SR (Android)

Two ways to communicate:

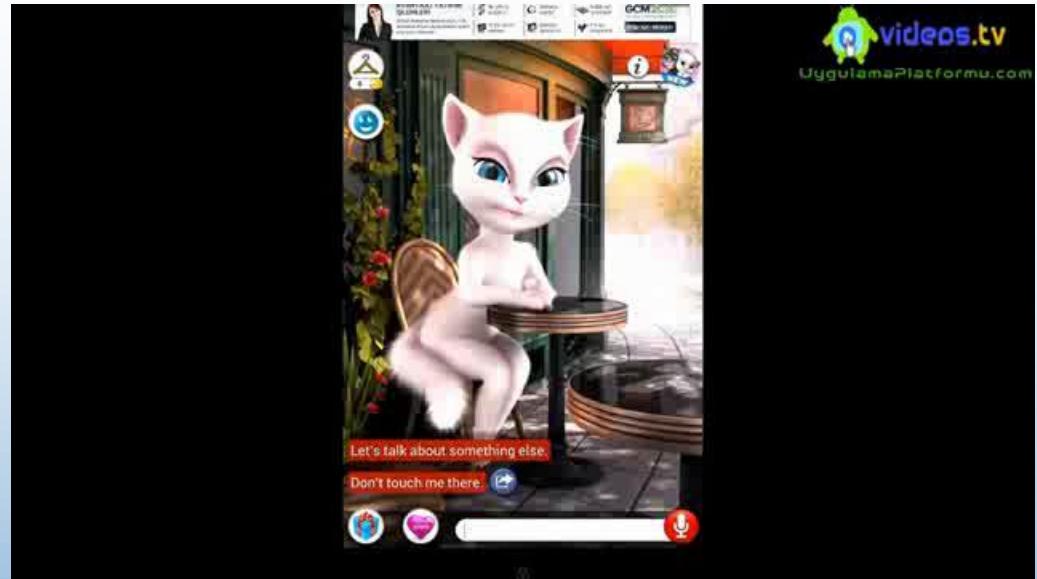
Type text to “talk” with Angela.

Speak to Angela using Google Speech engine.

# Case Study: Talking Angela



Type to Angela  
(NeoSpeech Engine)



Speak to Angela  
(Android Google + NeoSpeech Speech Engine)

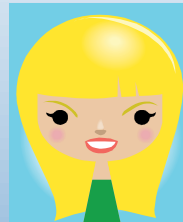
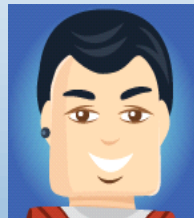


# TTS Deployment Model: Cloud

**Players:** Acapela, CereProc, NeoSpeech, Nuance, and non-OEM service (licensing) providers.

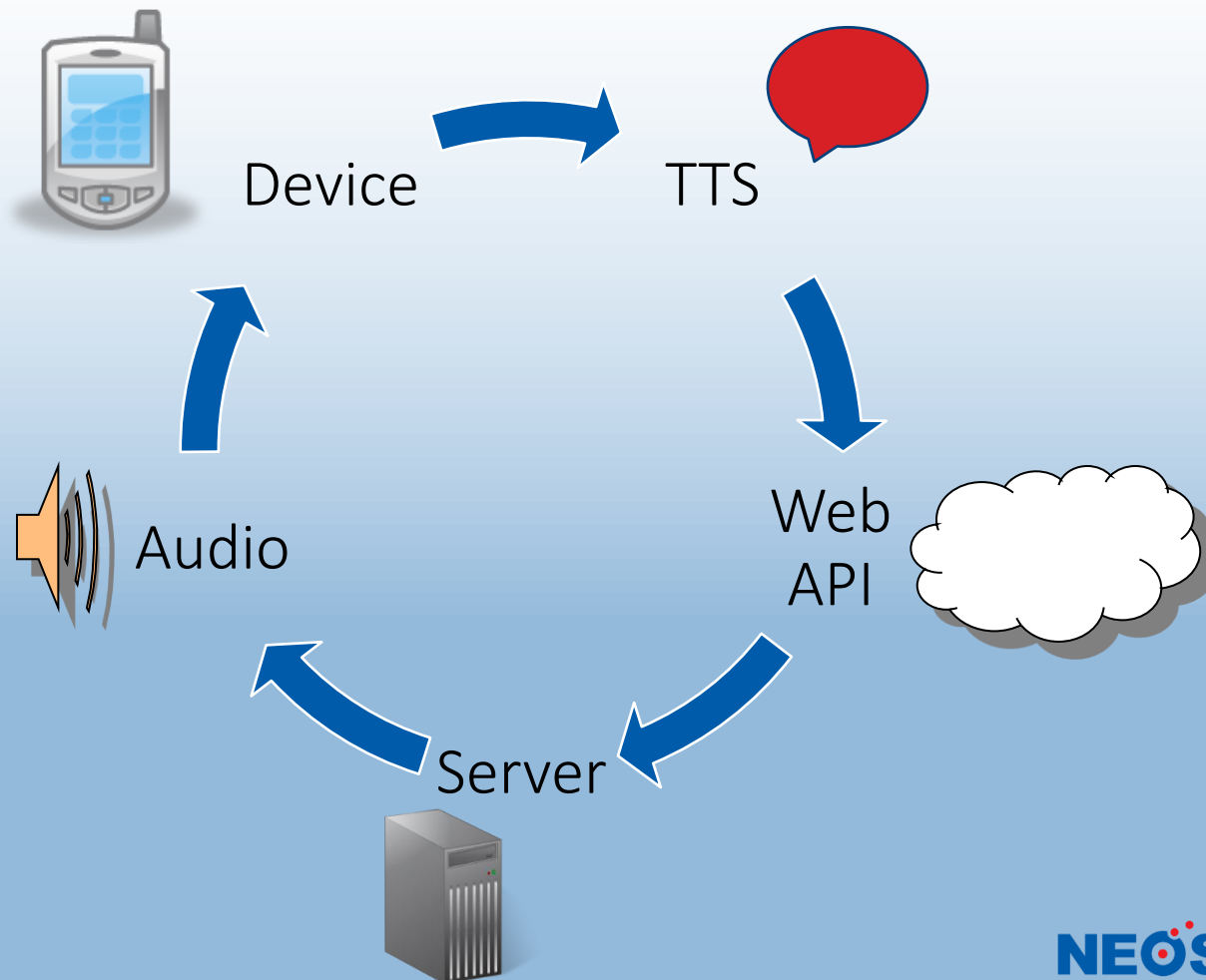
**Pros:** High-quality, small-size app.

Audio sample:



**Cons:** Internet required, no high-capacity deployments.

# Cloud Model



# TTS Deployment Model: Embedded

## Concatenative Speech Synthesis

**Players:** Acapela, Cepstral, CereProc, Ivona (Amazon), NeoSpeech, Nuance (SVOX).

**Pros:** High-quality.

**Cons:** Large Footprints (32-128MB).

# HTS Embedded Model

The HMM-Based Speech Synthesis System (HTS) is developed by Nagoya Institute of Technology and other working groups.

**Players:** NeoSpeech, Nuance, Festival

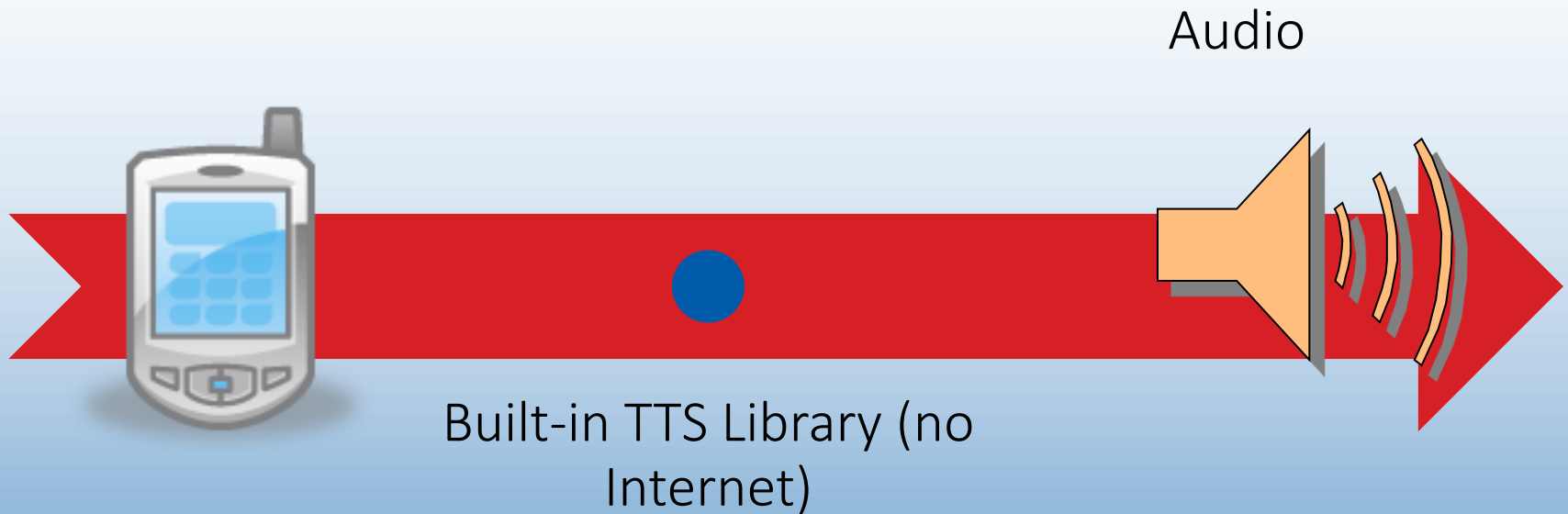
**Pros:** Small Footprint (~10MB)

**Cons:** Low-quality

Audio sample:



# Embedded Model

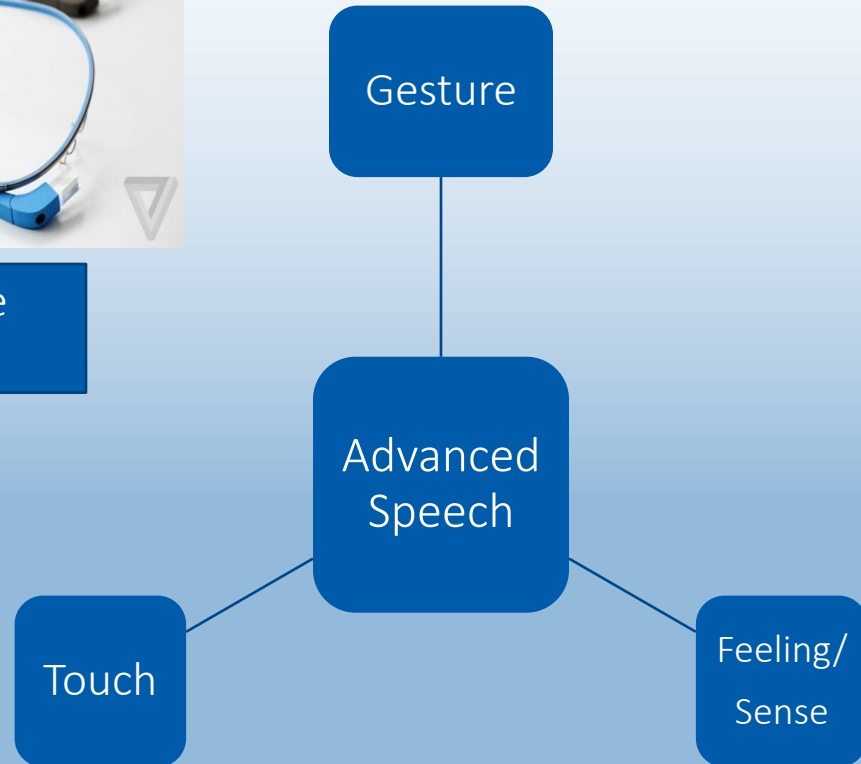


# The Future of Personal Assistants



Like Pet?

Wearable like Google Glass



# The Future of Text-to-Speech

High voice quality with smaller footprint (under 10MB).

Optimized Embedded: built-in TTS with cloud resources (SR, A.I.).

More players in Android: TTS providers (OEM, Resellers), Google, Amazon, Android smartphone manufacturers – Core TTS engine.

Monopoly in iOS: built-in voiceovers by Nuance (Core engine); TTS as Application... Value added by App developers.



Questions?