A New Paradigm in the Mobile World

Text-to-Speech
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

A.I.  TTS  SR/NLP
Emergent PA “Components”

- TTS/NLP (SR)
- Entertainment
- A.I.

Personal Assistant
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

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
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

Device -> TTS

Audio

Server

Web API
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

Built-in TTS Library (no Internet)
The Future of Personal Assistants

Like Pet?

Wearable like Google Glass

Advanced Speech

Gesture

Touch

Feeling/Sense
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?