

Creating Specialized Digital Assistants: The Process and Resources



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Digital Assistants

- Applications that interact with users through human “natural” language
 - Text or speech

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 - Text or speech
- By any other name...
 - “Bots”: Conversation as a platform
 - “Chatbots” (text)
 - Microsoft CEO: “Bots are the next applications”
 - Virtual assistants
 - Personal assistants
 - Natural language interaction

A fundamental shift in user interfaces

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- General digital assistants will be the gateway to specialized digital assistants
 - Like a web browser is the gateway to web sites

Degrees of complexity

➤ Specialization

Degrees of complexity

- Specialization
- Personalization

Degrees of complexity

- Specialization
- Personalization
- Interaction
 - Prompting to limit responses
 - Open-ended “How can I help you?”
 - Question-response versus dialog/conversation

Join the revolution!

- Develop skills in using lower-level tools
- Use higher-level tools
- Use a service/vendor

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 - Machine learning (data required)
 - Keyword approach

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- Text-to-speech (e.g., Cepstral)

Higher-level tools for building digital assistants

- Similar in concept to website builder tools
- Templates, Software Development Kits (SDKs), Application Programming Interfaces (APIs)
- Specialization

Typical verticals where there is a base of speech recognition and NL understanding

- Communications service providers
- Finance and banking
- Healthcare
- Insurance
- Retail
- Travel and hospitality
- Utilities

Nuance's Nina

➤ Version for mobile and web

➤ Mobile version:

Nina Virtual Assistant Persona™

Nina is a pre-made, reusable virtual assistant persona, which developers can leverage for their app, or use the available source code to quickly create a custom persona.

Reference Designs

Nuance-hosted technology that provides the power and intelligence to Nina. Innovative algorithms developed by Nuance capture the intent of the conversations to provide rapid and relevant answers to customers' queries.

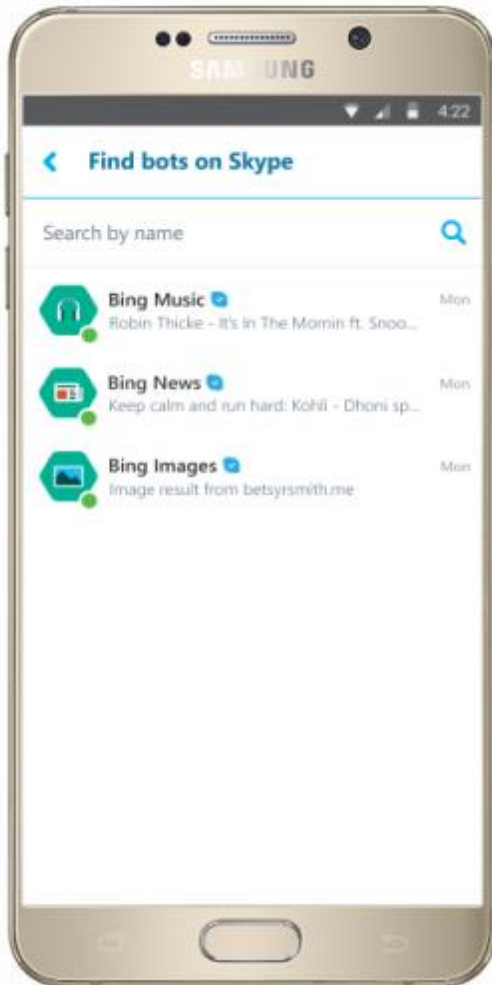
Nina Virtual Assistant SDK™

Mobile app developers can quickly develop their own virtual assistant by leveraging, adding or modifying pre-built reference designs and tasks addressing common use cases for travel and banking.

Nina Virtual Assistant Cloud™

A Nuance hosted service that provides the power and intelligence to Nina. The cloud offers scalable, redundant, and PCI compliant servers with guaranteed SLAs of 99.95% uptime. Hosting allows customers to focus on building a better mobile experience for their users, without the additional overhead needed to install, deploy, and manage hardware, software, and network updates.

Microsoft Skype Video Bots



- Conversational avatars for Microsoft's Skype communications service
 - Cortana already available in Skype
- **Can be customized for businesses**
 - The Skype Bot Platform
 - Developers Program:
www.skype.com/en/developer/
- Currently available in Australia, Canada, England, Ireland, India, New Zealand, Singapore, and US

Microsoft Bot Framework

- Bots available in text/SMS, Skype, Slack, Office 365 email, and more
- CEO Satya Nadella: **Bots are the new applications**

Multichannel: Retaining context as customers move from web to call

➔ 24/7:

Connecting channels and data for real omnichannel journeys



Self Service

Digitizing customer service and sales channels for customers to help themselves



Assisted Service

Delivering integrated channels and empowered live agents to manage the omnichannel journey



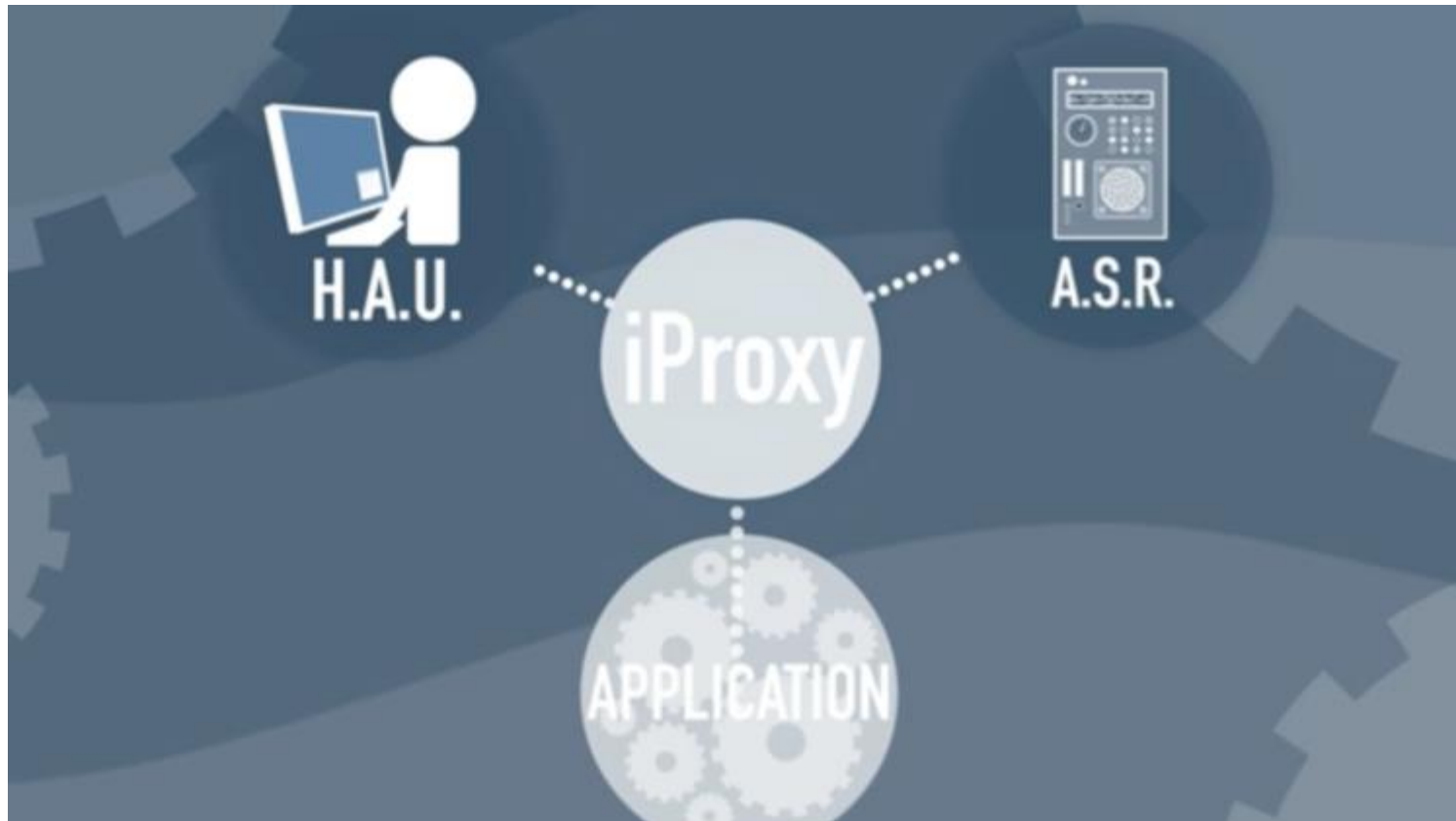
Omnichannel Journeys

Orchestrating channels to maintain context and deliver data-driven experiences

Professional services

- Can work with tools for you
- Deliver and tune a product
- E.g., 24/7, Cobalt, Interactions, Nuance

Interactions' Human-Assisted Understanding



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 - Tools for testing (e.g., Cyara)
 - Agent backup can generate data for improvement



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- Iteration a requirement in any natural language application
 - Tools for testing (e.g., Cyara)
 - Agent backup can generate data for improvement
- Cost currently an issue



SmartAction natural-language voice self-service

- “Intelligent Voice Automation” (IVA)
- Recently announced versions for **Small-to-Medium Businesses**



PAYMENTS



APPOINTMENT
CONFIRMATION



SURVEYS



WISMO



Collections

Where is My Order?

We charge on a per-call basis for the Appointment Confirmations solution.

\$1.00
PER
CALL

\$250
MONTHLY
MIN.

\$250
SETUP
FEE

For a list of vendors providing digital assistant technology

- Over 100 vendors providing different levels of resource supporting developing a digital assistant
 - And to be informed when a report on the digital assistant market and vendors is available
- TMA Associates: info@tmaa.com