Simplify Your Life with Your Own IBM Watson Personal Assistant, Lab 3200

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Introduction – Trending Tech

More powerful than ever before when powered by cognitive:

Emergence of Voice Interfaces

- Typing can be time consuming and frustrating, especially on a tiny keyboard / screen
- A future with less need to learn new interface for every device

Emergence of Conversational Bots

- Dialogue reduces complexity of applications
- Reduces cost

Bot Examples

duolingo | bots

The most advanced way to learn a language.

Ask Watson   All sessions (1311)   My agenda

are some ways to get started.

💬 See what's trending

💬 Show cloud sessions on Monday morning

💬 Have Watson recommend sessions

When is Ginni speaking?

Ginni Rometty

Ginni Rometty will give the Wednesday keynote at World of Watson

WED A World with Watson
➕   Wednesday, 1:00 PM - 2:30 PM | **Recommended**

Session resources: ▶ Video (01:01:17)   🛍 Product details

Building Your Own Personal Assistant

Obviously, everyone has one on their phone already, which can provide weather and news

Point of this lab is to:
- Tap into the limitless potential of leveraging Watson API's and other Bluemix services
  - PA is a fun example everyone understands
- Learn more about rapid prototyping with Node-RED and the Bluemix cloud platform
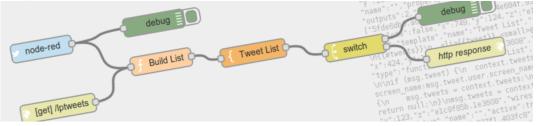
Technology Overview

Under the Hood

- Front-end: Javascript client application
  - Watson Speech-to-Text service

- Backend: NodeJS application called "Node-RED"
  - 3 Bluemix services:
    - Watson Text-to-Speech
    - Weather Company Data
    - Alchemy News API
  - 1 non-Bluemix services:
    - Google maps API

Technology Overview

Node-RED

- An open-source visual tool that allows you to wire together hardware devices, API's and online services to build applications
- Data flows left to right
  - Input nodes trigger flow (twitter stream, IoT device, manual click, REST call, etc).
  - Output nodes persist data, send alerts or trigger some action
  - Middle has your application logic to make decisions, transform your data (msg) and route the flow
  - Great for prototype "POC", education, hackathons

Technology Overview

Node-RED (2)

- Built on NodeJS, fully extensible w/community
- Originated at IBM, now owned by the JS foundation
- Learn more at www.nodered.org
- flows.nodered.org – 678 nodes and 353 flows shared
- Special Bluemix boilerplate version has hooks into Bluemix services and Watson API's – will use this for the lab

Technology Overview

Watson Speech-To-Text

- Uses machine intelligence to analyze the grammar and language structure to generate an accurate transcription in real time.
- Transcription of the incoming audio is sent back continuously via socket interface and corrected as more speech is heard.
- Confidence scores from Watson assigned to each word along with alternative words that it was considering.
- Verizon uses for their call center, 100 million users, billions of transactions

Watson Text-To-Speech

- Produces natural-sounding speech from input text with appropriate cadence and intonation and also supports a variety of languages.

Technology Overview

The Weather Company Data Service

- Lets you integrate weather data from The Weather Company into your IBM Bluemix application for any specified geolocation
- Supports real-time as well we forecasts and historical weather data.
- The Weather Company was acquired by IBM 2015 and is the world's largest private weather enterprise, delivering up to 26 billion forecasts daily.
- TWC powers top weather apps on all major mobile platforms Verizon

Technology Overview

Alchemy News Service

- Indexes hundreds of thousands of articles and blogs every day
- Analyzes the text with machine learning algorithms
- Articles are searchable across a variety of fields, including concept and sentiment.
- API documentation: http://docs.alchemyapi.com/docs

Next Steps

Let's get started!

- Demo
- Instructions: https://github.com/CDSLab/WOW2016
- First steps: Create Bluemix account and Node-RED boilerplate

Extensions

- Watson conversation node / service can create dialogue by training intents, and combining with entities and context to build a flow
- Watson tone analyzer can also direct the conversation
- Example of this at:
  - https://github.com/watson-developer-cloud/node-red-labs/tree/master/starter-kits/ok_watson
- Also, alchemy API can provide entity analysis

Surveys/uGifting

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