Care and Feeding Your Virtual Assistants
Making Sense of Non-Sentence

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Safe Harbor Statement

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What is Oracle Virtual Assistant?

A conversational experience: VA supports real-time, natural interactions via its powerful natural language capabilities.

An integrated application: VA augments existing Oracle investments, working closely with current interaction channels and knowledge.

Low Maintenance: VA comes with relevant language assets and human-manageable administration tools, delivering immediate value and lower TCO.
Virtual Assistants are Different

• Natural Language Understanding (NLU) is different
• Getting started with dictionary-based bots is easy
• Getting started with Machine Learning (ML) bots requires a lot of up-front work, manual training, ML is only part of the heavy lifting...
• With either one, it is hard to get right

• Why????? And then HOW to fix it...

Primer Explaining the Different Approaches
The Process Doesn’t Look That Different...

Authoring

Improving

Adding

20

+10

30

Monitoring
Authoring Intents *Seems* Easy Enough

- What the customer wants
  - Q&A: “asked and answered”
    - Keynote Details, Lunch Menu
    - Complex (dialogs) require data and have a “flow” to them
    - Scheduling a Delivery
- Writing intents is easy; even *high school kids* can build bots
- Then you run out of ideas….
- Now you are 10%-30% done….
Authoring: Who is Best Suited to Guide Your VA

• Your VA starts as a Baby

Coach Up!
Improving and Adding Intents: Getting to 80% Takes Time

# Interactions

% Effective

# of Intents

Alternative Questions
Are there people from Salesforce here? (5)
Last year attendees were from over 141 countries; 70% from North America, 3% from Latin America, 20% from Europe, Middle East and Africa, and 7% from...

who can I talk to about it? (5)
I'm good for you. I like helping people.

Are there any social events? (5)
Nice to meet you too!

when is lunch? (7)
For a taste of Chicago's best, check out Lou Malnati's Pizzeria. Or, the food court has many great options! Lunch will also be provided during the confer...
* New version Craft | Dec 19, 2017 7:50 AM

what time will the conference end? (4)
The doors open at 8:00 am until 6:30 pm from April 10-12; be sure to check out the after-conference events as well! Here's the agenda.

Where can I find recycling bins? (3)
McCormick Place is committed to initiatives designed to conserve energy, protect vital resources and promote ecologically-efficient policies and procedu...

where can I get water? (6)
There are water fountains and purified water dispensers to fill your water bottles on every floor. If you're looking for something else, visit the coffee and ju...

is there a map of the conference center? (2)
Here's a general map of the conference center - if you're looking for a more detailed map, go here.

Where can I connect further after the conference to know more about a product? (4)
Monitoring: ”Care and Feeding” is Necessary

• Customer Team is best suited to monitor usage to constantly improve
• You cannot “upgrade” or patch quarterly, you would be dead
• Daily monitoring can take a year, be honest about expectations
  – Authoring New Content
  – Extending Existing Intents or ML
  – Pulling in More Data Sources
• Know your goals
  – SR avoidance might be thrilled with 10% deflection with knowledge
  – OCR needs well north of 99% accuracy to be effective
  – Consumer Bots seem like 80-90% is a win, with agent escalation to fill in the gap
Great place for cluster analysis and machine learning!
Monitoring: Address Global Errors, Second Step

Plus: Other “mismatches”, aka areas for “improving” monitoring: low scoring matches, incomplete or interrupted dialogs (funnel analysis) and disambiguation
Address Issues Directly: Add, If Needed

- **when is lunch**
  - 18 instances
  - 15 matches
  - 3 issues

- **tuesday**
  - 16 instances
  - 15 matches
  - 1 issue

- **who are the keynote speakers**
  - 13 instances
  - 12 matches
  - 1 issue

- **duck #3**
  - 7 instances
  - 6 matches
  - 1 issue

- **yes**
  - 5 instances
  - 3 matches
  - 2 issues

**Issue Detected**

- No Answer
  - The user was not given an answer.

**Current Match in Staging Environment**

- No Answer
  - The Virtual Assistant has no answer for this question.

**Recommended Solutions**
- Create an intent
- Ignore this issue
What is for lunch?

User Asks

What is for lunch?
What is being served to eat today?

Add a question...

Virtual Assistant Responds

Today, there are turkey, roast beef, ham, or portobello mushroom sandwiches. For vegan options, contact the registration desk.
Care and Feeding in the Enterprise: Other Considerations

- Monitoring and Managing based on
  - Categories
  - Site References
- Knowledge Reuse
- Languages
- Test Your NLU

Where can I check my cash?

Has my check been cashed?

Will the bank cash my check?
Win-Win for Customers

• Our goal is to provide world-class intent sets for our products, but we always expect customers to roll their own

• Care and Feed Model
  – Cost born by customer, so costs can be contained
  – Dedicate resources to monitor, train and grow
  – Content is different than KB Content – punch out!
  – Once comfortable with authoring, start to grow scope based on customer intents
  – Bail out to agents as you get settled

• Channels
  – Don’t forget all channels deserve help: Chat, Web, Mobile, SMS, Social Channels, In-App Help/Search
  – Agents offline? Create a ticket and follow up
Recommendations

• Invest in Training and “Educating” your Bot

• Monitor Daily

• Don’t Underestimate
  – It takes time to get it right, since we won’t know what we don’t know...
  – Customer beta or limited release and real-time updates to mature your “child” quickly
  – “Quickly” depends on your content and business
  – Don’t “ship it” – expect and demand continuous delivery, deal with major upgrades in-line, you should not need down-time to add an intent or answer!
  – Set Goals

• Remember your agent is a child, treat it as such
A Little Extra
(Backup Slides)
Existing Oracle Virtual Assistant Industry Coverage
Priority segments at the intersection of Service Cloud + OVA

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<th>Consumer Goods &amp; Retail</th>
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Different Approaches to Intent Matching for “ChatBots”

**Prescriptive Dialogs + ML**

- Application
- Strong for rich conversations (large # of intents, complex dialogs)
- Easier to package for a “cold-start”
- Reduced burden on customer
- Years of experience in market
- Can be improved with complimentary machine learning

**Pure Machine Learning**

- Platform
- Can demo well for simple cases
- Requires large, domain relevant data sets to “learn” – “cold-start” problem
- Annotation + training is expensive
- Lots of burden on the customer
- Unproven in market even among companies with years of experience