ASTOUND
Service Management. Reimagined.

How to Select
the Right
Virtual Agent
for Your Employees.

Soon, all customer service interactions will start with virtual agents.

- In 2019, **65%** of employees prefer using virtual agents instead of calling the help desk.

- By 2020, **80%** of business operations will be conducted via virtual agents.

- By 2023, **67%** of mobile apps will be replaced by automated, conversational, natural language-based experiences.

Source: Chatbots Magazine

There are four major kinds of virtual agents.

A. Task

B. Lurking

C. Scripted

D. AI-Driven

Your decision about which is best should be based on your business priorities.

Cost vs. Coverage

COST TO IMPLEMENT

COVERAGE

ONLY ANSWERS TO
SPECIFIC PROMPTS

MUST REPLY SENSIBLY
TO ANYTHING

The right virtual agent strategy solves three business problems:

1. **Repetitive tasks:** your support team receives a high volume of similar questions and issues. These generate a high volume of repetitive tasks.

2. **Inconsistent answers:** different support agents answer the same questions and resolve the same issue in different ways. This leads to employee confusion and excessive downtime.

3. **Poor self-service adoption:** you'd like to shift support all the way to tier zero (self-service) but you either lack adequate content in your self-service portal or it's hard to find the best answer.

These can be solved using technology that ranges from simple and predictable to interactive and "intelligent."

TASK

A. Task

Task bots are ideal for taking simple actions: scheduling a meeting, or getting the status of something.

If you've used Slack, you might have seen someone use a "slash" command. For example, you can type this into a Slack session:

/remind me this afternoon at 6pm buy some milk

The Slackbot replies with "I will remind you "*buy some milk*" at 6pm today", and then you'll get a message later in the evening.
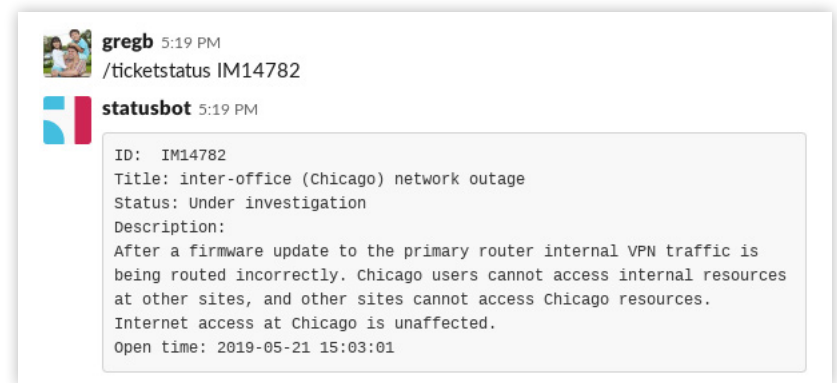
These are the simplest chatbots: there is no pretense of trying to be human, nor even an attempt to understand natural language. Projects to create new slash command bots tend to be very short (a day or two) and are usually very successful because the scope is well-defined and nobody has unrealistic expectations.

How to know if it's right for you:

Can you finish this sentence? All we need is a way for users to _____ .

For example, if you run a help desk, you'll know that you get a lot of queries about tickets that are already open.

All you need is a way for users to check the status of a ticket.

```
gregb 5:19 PM
/ticketstatus IM14782

statusbot 5:19 PM

ID:  IM14782
Title: inter-office (Chicago) network outage
Status: Under investigation
Description:
After a firmware update to the primary router internal VPN traffic is
being routed incorrectly. Chicago users cannot access internal resources
at other sites, and other sites cannot access Chicago resources.
Internet access at Chicago is unaffected.
Open time: 2019-05-21 15:03:01
```

Did that interaction feel right? Great, then you're good to go—this is the right starting place on your journey.

You'll see a return on investment in a week or two.
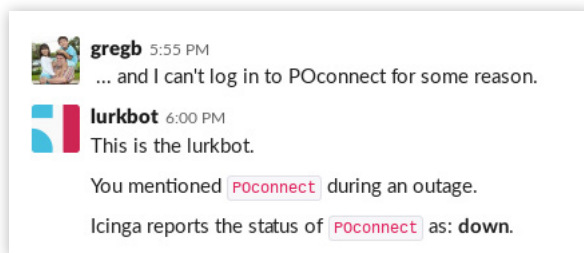
LURKING

B. Lurking

If you tweet to Taylor Swift or some other famous celebrity about when their next concert is, you'll sometimes get some kind of response from them. Now the truth is that Taylor Swift isn't really responding — it's an automated robot of some kind that looks for a fixed pattern like "when will you come to New York?" "Taylor" listens for a pattern and responds with a predetermined script.

Your service desk can behave similarly. For example, you can connect a scripted bot (see below) to your outage management system. If anyone asks a question in any chat channel that mentions an application that is currently down or in maintenance, your scripted bot can reply with the app's status.

It's an entirely one-directional conversation: if the chatbot sees something mentioned that it recognizes, it interjects.

> **gregb** 5:55 PM
> ... and I can't log in to POconnect for some reason.
>
> **lurkbot** 6:00 PM
> This is the lurkbot.
>
> You mentioned `POconnect` during an outage.
>
> Icinga reports the status of `POconnect` as: **down.**

How to know if it's right for you?

There are two prerequisites:

*   A company culture that uses group chat messaging a lot, so that there's enough chatter for the chatbot to be useful. The younger your staff are, the more likely this is.

*   A strong enough IT culture that you are tracking outages and have a structure in place for communicating them.

If that sounds like your company, then a lurking bot will pay for itself in call volume reduction during outages.

Be aware that your own internal IT teams might struggle to do the integration work for this kind of virtual agent; to do this well, they need to have some software development skills in Natural Language Processing. This is rare for enterprise developers, particularly when they also need to integrate with your system of record (ServiceNow, Remedy, Cherwell, Jira, etc.).

SCRIPTED

C. Scripted

Companies like Apple invest years of research and development working out all the things people ask Siri to do. (Send a message, set a timer, search Google, ask for a joke.) Each different skill is called an intent, and when you talk to chatbot vendors, they will talk about the number of different intents they can support. It means "how many different things can this bot do?"

Scripted bots identify the intent the user wants and perform some action to respond to it.

Creating intents and their associated actions is hard work. Apple has created around one hundred high-quality intents for Siri. That's after approximately a decade of development; Apple's R&D budget is 2.8 billion dollars per year. Even now, it's still not hard to find something Siri doesn't understand.

The challenge with employee service is the breadth and depth of questions any system is expected to answer. Anywhere from 1% to 30% of common support conversations will be about topics that have never come up before, and will never be mentioned again. There is simply no cost-effective way to maintain a complete set of scripts for enterprise bots.

Quite often we find that an enthusiastic developer will have started the process of creating a scripted bot for employee support and shown that they can handle a few common support problems with a bot automation platform. But quickly these scripted bot projects fail when employees start to expect an "intelligent" interaction with a virtual agent that understands what employees need.

Many organizations can work around this problem by adding voice recognition for their scripted bots. The voice recognition part of Siri is now a commodity. Voice recognition technology has been getting better every year, and the tools for creating voice-control bots has been improving as well.

Alexa, Google Assistant, Siri: the list of voice-activated bots is long. It is not difficult to add a voice layer to a scripted bot. We forgive these bots for their mistakes because the convenience of voice is so helpful when we're driving or cooking or doing things that keep our hands occupied.

How to know if it's right for you?

If you have users where speech-to-text and hands-free makes sense, and a very limited number of interactions that they need to do, a voice-first scripted bot can make work life better.

- Do you have field workers who drive a lot? It can be difficult for them to use a laptop to log a ticket, and it can be a bad experience for them to wait on hold for a service desk agent on a phone call.

- Or do you have situations where staff have to log tickets when they are on a customer site?
A quick voice message to a phone can be much less awkward than opening a laptop; typing on a phone is much slower than talking.

This will only work if you can get a pen and paper and write down all the conversations users will have. If that list is more than about a page you're looking at a multi-million dollar project. Maybe you're actually ready for an AI-driven Virtual Agent (see below).
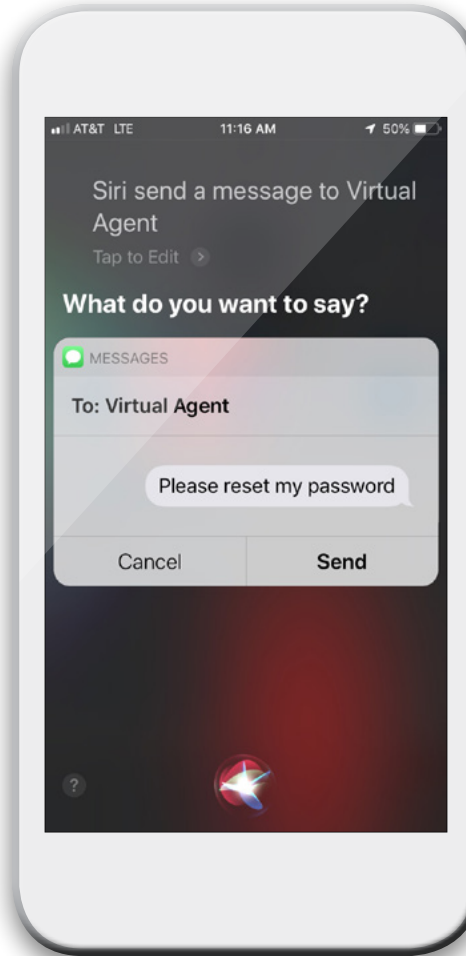
If you did find that you had a short list of conversations that users want to have, review them and see if they would still be convenient to conduct even if they were performed over Slack or Microsoft Teams or through a web interface. If so, then a small, well-scoped project to do this integration will succeed.

Our best trick: if you talk to a lot of chatbot vendors, they will try to sell you on making an Alexa skill, or a SiriKit intent (to extend Siri), or sometimes even a custom mobile app to take voice requests. Those projects fail fast. It isn't necessary.

On both iphone and android you can send SMS messages by voice control. The good chatbot scripting platforms can interact using SMS messages. Put the chatbot's phone number into your corporate contacts, and then your users can say: "Please reset my password."

AI-DRIVEN

D. AI-Driven

When balancing complex processes with employee expectations for an "intelligent" experience, AI-Driven Virtual Agents are the best option.

Machine learning (usually using deep learning) is one approach used by many virtual agent vendors to achieve a simulcra of artificial intelligence. It is useful but only effective when large datasets (typically, millions of records) are available with high volumes of historical sample requests identical to those that will be asked by employees.

This is unusual in itself. But sadly, all enterprises also suffer from a "dirty data" problem and as a result AI-Driven Virtual Agent projects predicated on machine learning alone very rarely succeed.

The only approach that reliably addresses the dirty data problem for enterprise employee service is semantic parsing. This is where the AI-Driven Virtual Agent is pre-configured with a complete corpus of the English language: noun and verb definitions, synonyms and substitutes, negations and contractions.
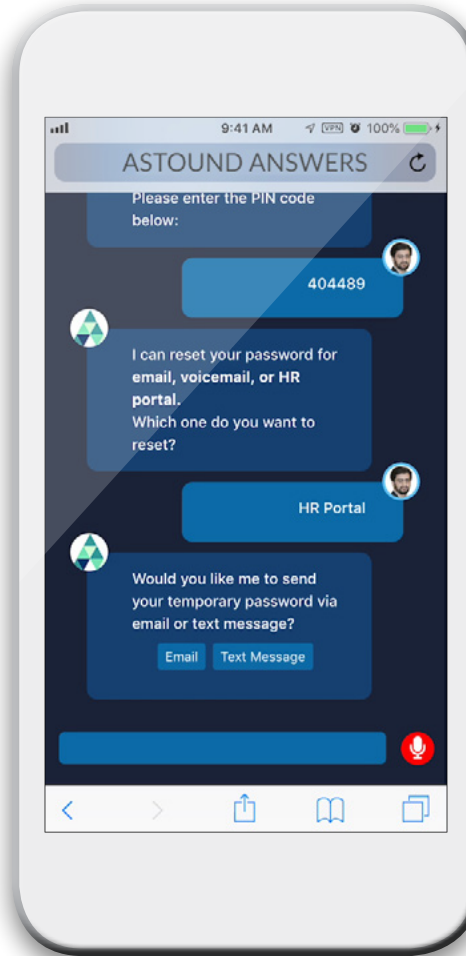
The virtual agent is augmented with an understanding of natural language and domain-aware databases of all common IT/HR/Facilities/etc. service concepts. It combines that with contextual details from ticket histories to understand key employee details like role and geography. Then, when the virtual agent encounters a phrase (such as "install Skype") for the first time, it distinguishes IT from facilities (such as "install shelf") and can proceed appropriately.

How to know if it's right for you:

If your employees expect intelligent interactions with a virtual agent beyond scripted tasks, an AI-Driven Virtual Agent is likely the best solution.

AI-Driven Virtual Agents are most likely to reduce call volumes and improve customer satisfaction scores. To know what your current costs are, you should have an existing system of record (e.g. ServiceNow, Remedy, Jira, or Cherwell) with about a year of data in it so that you have a good sense of how much human time is being spent on different types of issues.

PATTERNS FOR SUCCESS — **5** TIPS

To ensure your virtual agent project is successful, learn from the collected wisdom of hundreds of large enterprises and follow these five tips:

1. **Select the best type of virtual agent:** Identify the level of sophistication your employees expect and your business priorities. If the success of your project will be measured by reduced call volumes, reduced MTTR, or improved self-service adoption, an AI-driven virtual agent is likely the right solution.

2. **Find the right internal team:** Select teams that are overwhelmed with repetitive tasks. Confirm with team leads that automating what's repetitive would lead to better employee experiences.

3. **Select a vendor with domain expertise:** Virtual agent projects related to employee service must be domain-aware. To intelligently diagnose and resolve IT or HR issues, for example, your virtual agent must "speak" those languages. It must be able to distinguish "Airport" as an Apple product from a place with runways and planes.

4. **Launch carefully:** Always-available, intelligent, automated service experiences make work life better. Introduce your virtual agent by showing how to use it and how it will improve work life.

5. **Measure and reward adoption:** Publish a leader board showing who is using the virtual agent and how much time it has saved them. Share how automation leads to better business outcomes: higher profit margins, more new customers, happier employees.

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For more information on Astound's Virtual Agent, schedule a demo at:

astound.ai/demo

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