UNLEASH THE POWER OF LIMITLESS CONNECTIVITY
Operational Transformation

The Dennis Botman Story: A Tale of Next Level ChatOps

Michael Scott Winslow
Senior Director, Software Development & Engineering
Comcast
Some Background

"Robot Joe" by FlySi is licensed under CC BY-NC-SA 2.0
Some Background

VinylDNS

Comcast's DNS management tool

• Allows millions of DNS entries to be controlled by hundreds of individual groups
• Widely used throughout Comcast
• Open-sourced and is used by the public
• Simplifies DNS administration, but requires some jargon
• We created a Slack channel for real-time support

Source: https://www.vinyldns.io
Some Background

Reading the Documentation

• Users generally don't read the documentation
• Our learning curve is not their problem
• We should provide a service without imposing an undue burden
• Reading tens or hundreds of pages of documentation is unrealistic
• With real-time support, we can shortcut the learning curve
Some Background

Slack Support

• We saw a **pattern** in support
• We spent a lot of time **copying and pasting**
• Engineers spent **30%+** of their time searching the FAQs (That’s called **TOIL**)
• As engineers, we thought **LET’S AUTOMATE**!
• It was **Dennis Botman** time!
Is Automation Worth It?

\[
ROI_{year} = \frac{(Automation \ Savings_{week} \times 52 \ weeks) - Automation \ Cost_{total}}{Automation \ Cost_{total}} \times 100\%
\]

\[
ROI_{year} = \frac{(9 \ hours \times 52 \ weeks) - 160 \ hours}{160 \ hours} \times 100\%
\]

\[
ROI_{year} = \frac{468 \ hours - 160 \ hours}{160 \ hours} \times 100\%
\]

\[
ROI_{year} = \frac{308 \ hours}{160 \ hours} \times 100\%
\]

\[
ROI_{year} \approx 192\%
\]
Overcoming Inertia

inertia /ɪˈnərSIə/
noun
a tendency to do nothing or to remain unchanged
Overcoming Inertia

Get Started Getting Started

“How do we create a Slack bot that can answer questions?”

• Surely, there is no easy solution
• This is clearly the realm of AI and machine learning!
• We’ll need to train an NLP/NLU model!
• We’ll need months of research! Cross-team collaboration!

Not Necessarily!
Overcoming Inertia

The Final Product

© 2021 SCTE®, CableLabs & NCTA. All rights reserved. | expo.scte.org
Overcoming Inertia

Perfect is the Enemy of Good

• We DID NOT need to create an AI in order to hold a conversation

• We DID need to reduce real-time human support

• Even if our solution is only 30% effective that can equate to hours per week saved, per person

• We did not need more than simple search (at least to start)
Getting People to Use It

"Robot Joe" by FlySi is licensed under CC BY-NC-SA 2.0
Getting People to Use It

The Road Show

Our Conversational Chatbot: Dennis Botman

- Michael Winslow
  - Director / SST

- Ryan Emerle
  - Senior Principal Engineer / SST

@michaelswinslow
michaelswinslow
@remerle
remerle

© 2021 SCTE®, CableLabs & NCTA. All rights reserved. | expo.scte.org
Getting People to Use It

We’re Here to Help

Introduced Dennis Botman using “hints”

• Set the channel topic directing users to the bot
• Added a “message of the day” reminder
• Added an “on enter” channel notification
Getting People to Use It

The White Glove Treatment

How else can we promote usage of the bot?

• We added support for our engineers to issue commands on behalf of another user
• We added direct message support (a private session with Dennis)
Getting People to Use It

Changing the User’s Behaviors

We talked to product managers and stakeholders

• They disliked PAT (ping-after-ticket)
• We introduced “unsolicited responses”
• This mostly eliminated human interaction
Getting People to Use It

Having Fun! (The Developer Kind)

• Have fun with Easter Eggs!
• Great work for new and young team members
• Make an immediate impact for the team
• We Inner-sourced the project
By the Numbers

"Robot Joe" by FlySi is licensed under CC BY-NC-SA 2.0
By the Numbers

Remember: our goal is to help users get to answers more quickly.

If only a few people were helped by the bot, that’s time saved!

In the past 90 days:
- 711 total interactions
- 347 interactions with the bot
- 260 of those were direct messages
- 7 of those were unsolicited
What Did We Learn?
What Did We Learn?

• Start Small and Evolve
• Automation Changes Behavior
• We Are Not Alone
What Did We Learn?

• Start Small and Evolve
• Automation Changes Behavior
• We Are Not Alone
What Did We Learn?

- Start Small and Evolve
- Automation Changes Behavior
- We Are Not Alone
We Are Not Alone

After building the bot and showcasing it, several other groups expressed interest. We had interest from:

- Internal teams
- NBCU
- Sky

This led us to look at open-sourcing the bot framework:

https://github.com/vinyldns/vinyldns-bot
Thank You!

Michael Scott Winslow
Senior Director, Software Development & Engineering
Comcast
LinkedIn: michaelswinslow