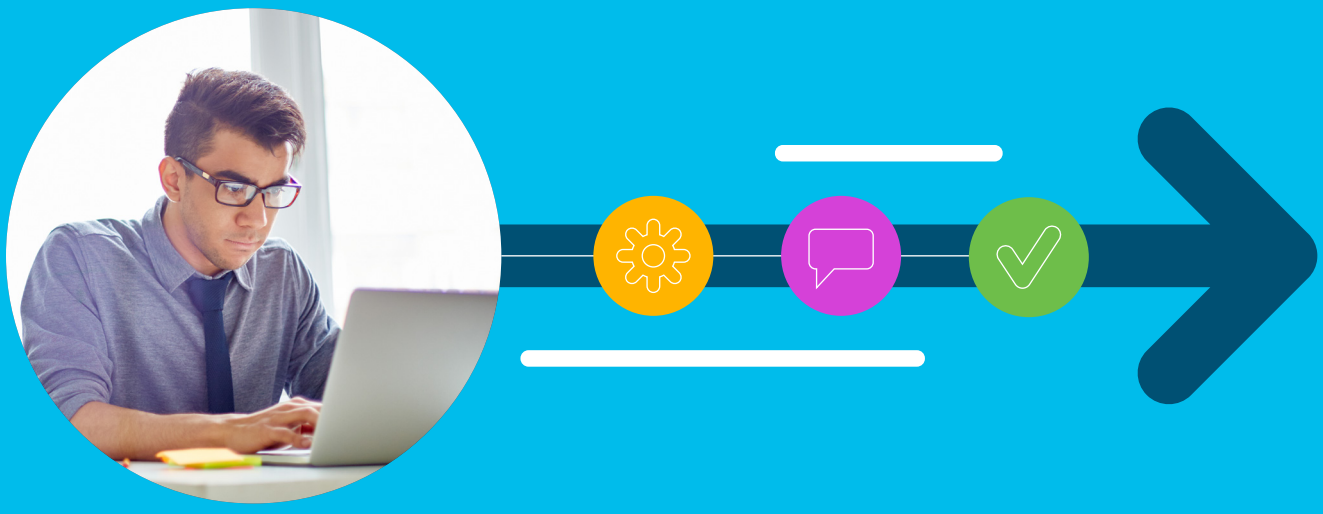
Cisco Spark

# Best Practices for Bots

Building a bot can be tricky business. Building good bots can be even harder. In this new age of bots everywhere we want your Cisco Spark bots to sparkle. That is what this guide is all about. Thankfully we have the experience and tools to distill what makes a bot not only successful for your users, but also exciting to use. Read on, to immerse yourself in the world of automation, AI, user experiences, natural language and more. If you need a break, just engage in the classic fiction based game with the Zork bot or create custom memes with the MemeBot or use the Weather bot to check the weather. Possibilities await.





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# Before we dig into best practices, let's first understand what is a bot in the Cisco Spark platform and how to build a bot for the Spark Depot.

## What are bots in Cisco Spark?

Users can add bots in Cisco Spark via the Spark Depot or in Cisco Spark using the bot's e-mail ID (e.g. ToChineseSimplified@sparkbot.io). Users can create a private conversation to talk with a bot (identified by a gray "bot badge" overlaid on the bot's thumbnail) directly or can add it to an existing space with others. In the latter, for security reasons, bots can only see messages in which they are @mentioned.

## How can I create a bot for Cisco Spark?

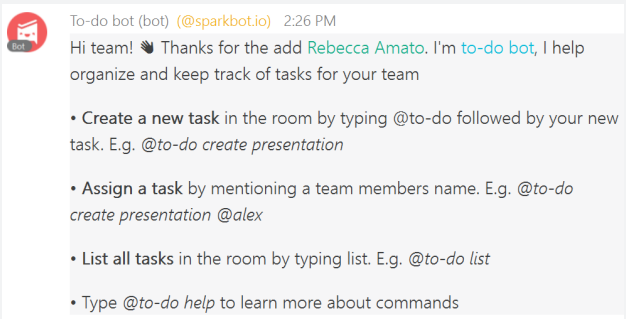
You (a Cisco Spark user) can login to Spark for Developers (S4D) and create a bot. Then, if you would like to promote your bot to all Cisco Spark users, you can submit your bot to the Spark Depot. Have more questions? You can read more about bots on the Cisco Spark platform.

Below is a list of best practices on bots related to user interaction, naming conventions and some suggestions on edge cases to test.

## 1. Interaction with Users

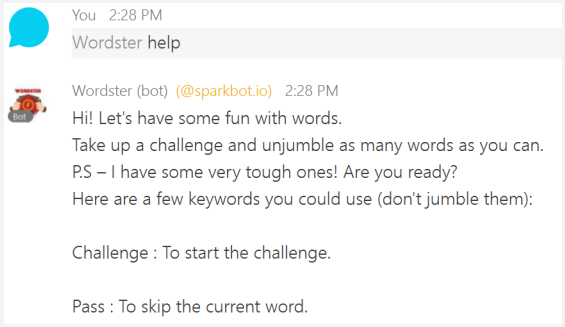
- **Set a great first impressions with your users**
  Whenever your bot is added to a space, include a welcome message. The welcome message should include a brief description of what the bot does and how to use it (some users will add the bot directly in the client, thus you cannot assume users have seen the description, screenshots, etc. in the Spark Depot). If available, link to additional information or videos on your website or in the Spark Depot.

Sample Welcome Message:




- **Make an easy help guide for your users**
  Display help text or a modified welcome message in response to "help;" without an easily accessed help guide, the bot is unlikely to be used very often (or at least not to its fullest potential).

Sample Help Menu:




- **Ensure users have control over the bot**
  If it is a broadcast or notification bot, be sure to have a command like "edit notifications" that can easily allow the user to edit or delete bot activity. Be sure to list this command in your help menu. Here's an article explaining how to implement the unsubscribe feature.



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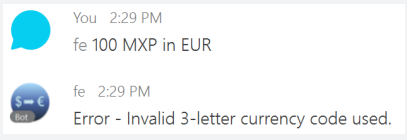
- **Ensure users have an easy way to reach out to you**
  It is useful to support a “feedback” command and accept feedback directly from the users. A “support” command to receive bugs would also be beneficial.

- **Don’t give users an impression of a bug when there isn’t one**
  Even if your bot is used primarily for inbound notifications, i.e. posting TO a space, it should still be set up to respond to basic and common commands, such as “@BotName help” and “@BotName hi,” as we’ve noticed that it’s a common, intuitive way users start an interaction with a bot.

- **Solid error handling**
  Include error handling for any commands to the bot that the bot doesn’t recognize, so the bot still responds, but with a message like “I’m sorry, I don’t recognize that command,” followed by a list of sample commands.

Sample Error Message:

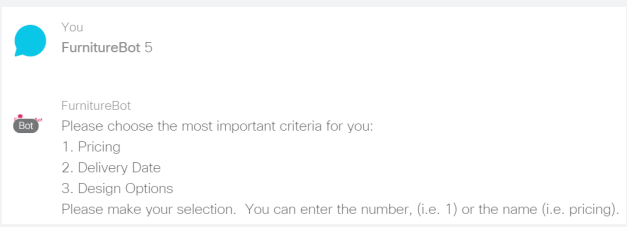



- **Use NLP to converse**
  An alternative to a command driven bot is a bot driven by natural language processing (NLP). Services like API.ai and Zenbot have integrations with Cisco Spark to facilitate bringing NLP to your bot. Another option is Botkit, which has plugins including IBM Watson, API.ai, WIT.ai, and Luis.ai to both leverage the plug-ins and easily develop for platforms in addition to Cisco Spark, such as Facebook Messenger, Slack, and more.

- **Keep your users in the know about new features**
  If new functionality/commands are available, the bot could make them known via a special command or a sensible broadcast without being considered as a spam.

- **Allow number selection from lists**
  If your bot provides a list of options, number them so the user can act on an item without typing out a full word or phrase.

Sample Selection by Number:



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## 2. Posting Messages to Spaces

- Ensure all links are formatted as hyperlinks—while the clients will typically format them for you, best practice is to use Markdown to ensure they're clickable (and so you can alias the link).

Sample use of Markdown:


- In the same vein, you can also use Markdown to format your messages with spacing, line breaks, and bullets for easy readability—mashed up walls of text are never a great experience.

- Avoid hammering spaces with many successive messages, as a bot that takes over a space (even briefly) will often be quickly kicked out. Either group them together in larger, formatted messages or insert intentional delay so they're delivered slowly.

- Keep in mind that Spark users are global. You may want to give the user customization options for things that are vital to your bot but may vary globally (such as metric versus imperial measurements). The wrong terminology could lead a user to not understand what the bot is posting, thereby eliminating the usefulness of the bot.

- Send helpful messages when the app encounters an error message (e.g. whenever Spark API calls (GET, POST on /X resource) are down/throwing specifically 5xx error codes excluding /messages, so the users are aware.



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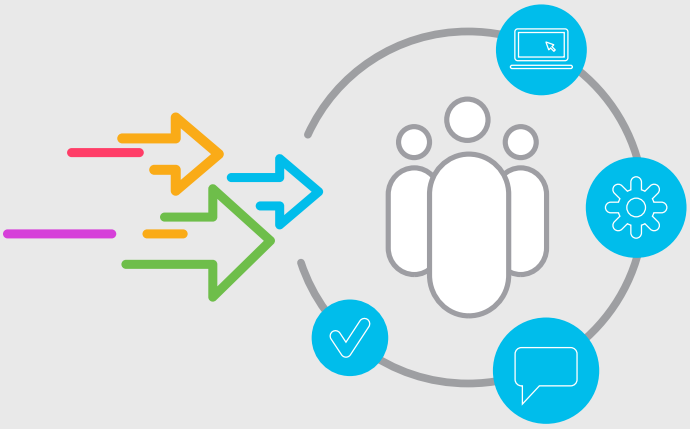
## 3. Naming Conventions

- For bots, it's often helpful to name the bot related to what the bot does, e.g. "Catbot" and "SparkHelp." If you name the bot something personal instead, avoid using actual names (like "John Smith") to avoid a bot being confused with an individual.
- Be aware of abbreviated names when your bot is mentioned, e.g. "The Best Bot" might be tagged as "The" when mentioned in a group space, which isn't particularly clear.
- We recommend that bot names contain at least three letters in the first word, so that they display for "quick tagging."

## 4. Bot Edge Cases to Test

- In a space with many people (20+ people), what happens if multiple users @mention the bot simultaneously?
- What happens if a bot is added to a space from which it was previously removed?
- What happens if a user talks to your bot using similar words as your commands, but not the exact matches?
- What happens if a user sends an inhuman amount of requests (e.g. 1000 messages/minute) to your bot?
- If your app has an auto-reply feature, does it prevent looping between other apps with a similar feature?

We all know that communication with people is hard. Communication with people via bots is even harder. Negative experiences could lead users to stop using your bot, or worse, stop supporting your brand. Best of luck implementing these best practices with your bot and keeping that communication channel strong.



To learn more, please visit: https://developer.ciscospark.com/bots.html