Building Chatbots with Google Dialogflow

INTRODUCING CHATBOTS IN DIALOGFLOW

Janani Ravi
CO-FOUNDER, LOONYCORN

www.loonycorn.com

Overview

Machine learning has made possible bots which can conduct intelligent conversations

Technologies underlying bots are complex but platforms make building these bots simple

Google's Dialogflow (formerly api.ai) offers an easy way to build sophisticated chatbots

Where Would You Use Chatbots?

A chatbot is a program that can conduct an **intelligent** conversation

Convincingly simulate human behavior and pass the **Turing** test
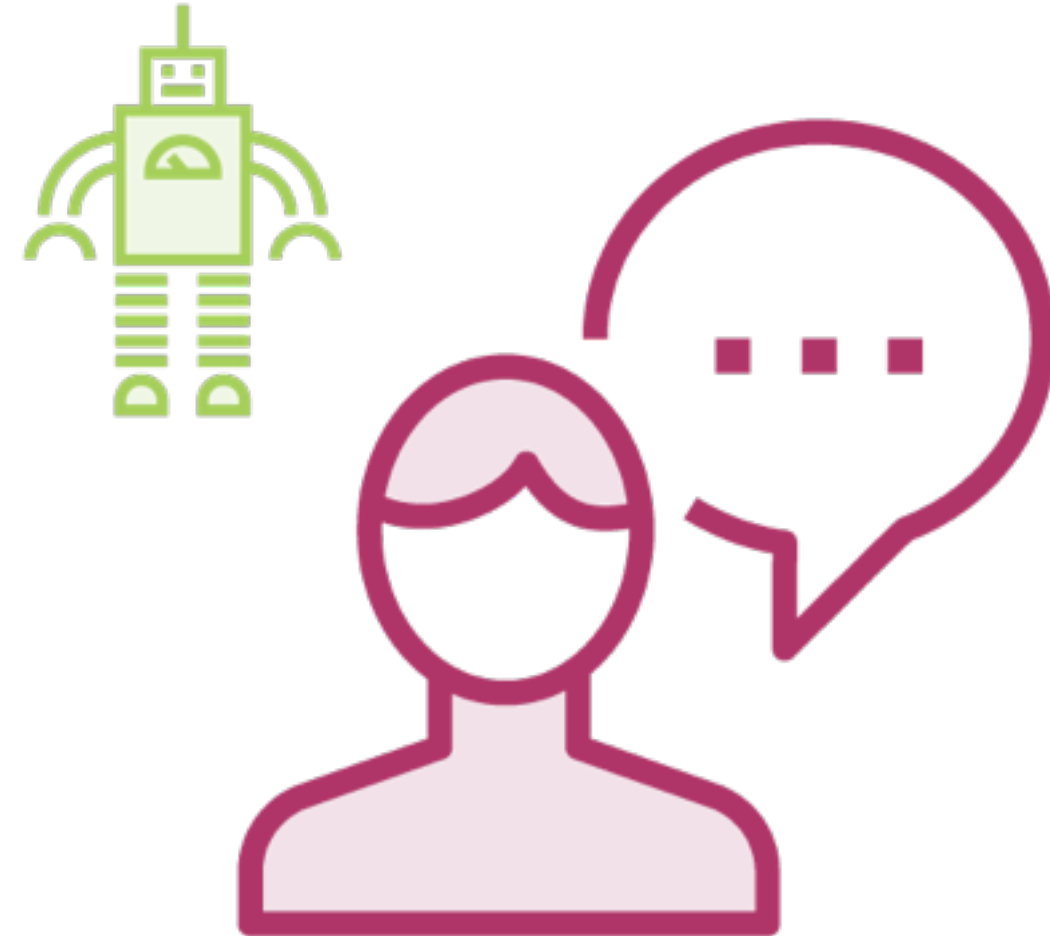
Help Navigating a Site

**Can't find what
you're looking for?**

**Chat window pops up
- just ask questions!**

Help Navigating a Site

Chat is usually
powered by a bot

Customer Support for Your Order

Order not received from your favorite e-commerce site?

Call customer support on the phone

Customer Support for Your Order

Order not received from your favorite e-commerce site?

Chat on the site, track your order using an intelligent bot

Weather bot

Grocery bot

News bot

Personal finance bot

Shopping bot

Chatbots for Business

Chatbots make interacting with sites and apps natural and accessible

Prerequisites and Course Outline

Course Outline

Introduction to chatbots

Building blocks
- Agents, expressions, entities, parameters, actions, responses
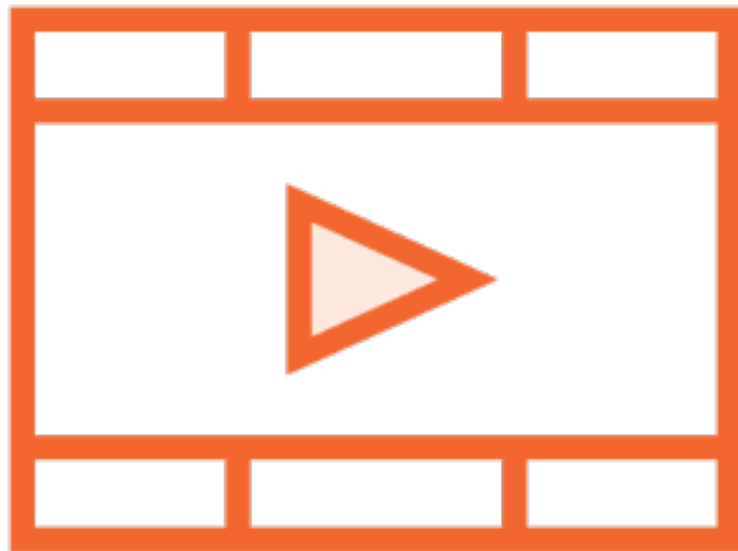
Dialogs for conversations
- Maintaining context, linear and non-linear dialogs

Fulfillment using external APIs
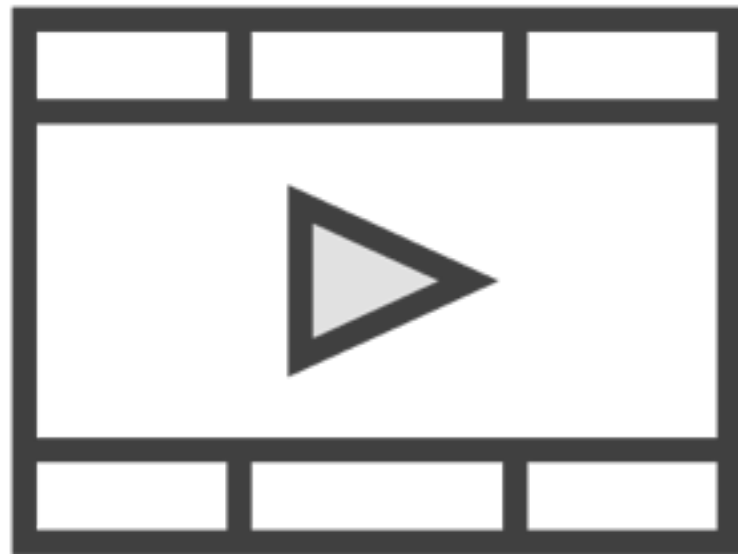- Cloud Functions in Firebase, Webhooks using AWS Lambdas

Integrations with 3rd party apps

Prerequisite Courses

Basics of Programming with Javascript

Related Courses

Creating Voice and Chatbots That Work Everywhere

Getting Started with Building Bots with Microsoft's Bot Framework

Software and Skills

Understand how to work with RESTful APIs

Be comfortable with Javascript programming

Introducing Dialogflow

Types of Chatbots

Rule Based

Basic, know only about rules that have been pre-programmed

AI Based

Intelligent, learns from conversations using ML techniques

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A Little History

2011: Speaktoit developed an intelligent personal assistant for mobile phones

2014: Speaktoit released api.ai to third party developers

2016: Google buys Speaktoit to to power Google Assistant

2017: api.ai is renamed to Dialogflow

Dialogflow is Sophisticated

Build natural, rich conversations with an intuitive UI

Uses machine learning to understand what users are saying

Each ML model is unique to an individual user's bot

Dialogflow is Cutting Edge

Supports 14+ languages

Develop in 16 programming languages

SDKs to work with web apps, mobile apps and wearables

Integrates with 14 major chat platforms such as Slack, Cortana, Alexa, Facebook etc

The Big Picture

Flow of Conversation

User Expressions
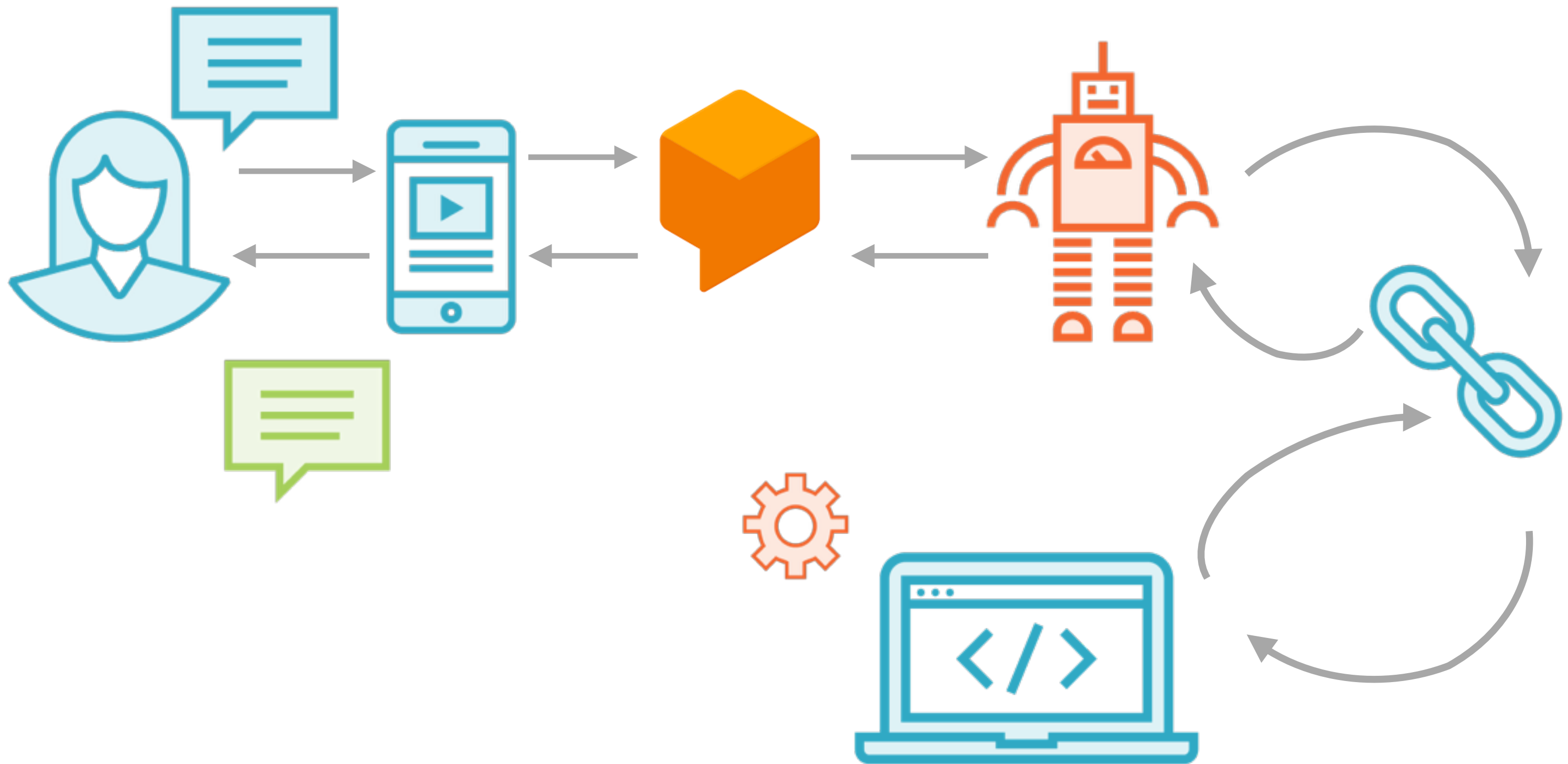
Conversations snippets that a user might use to ask the bot questions
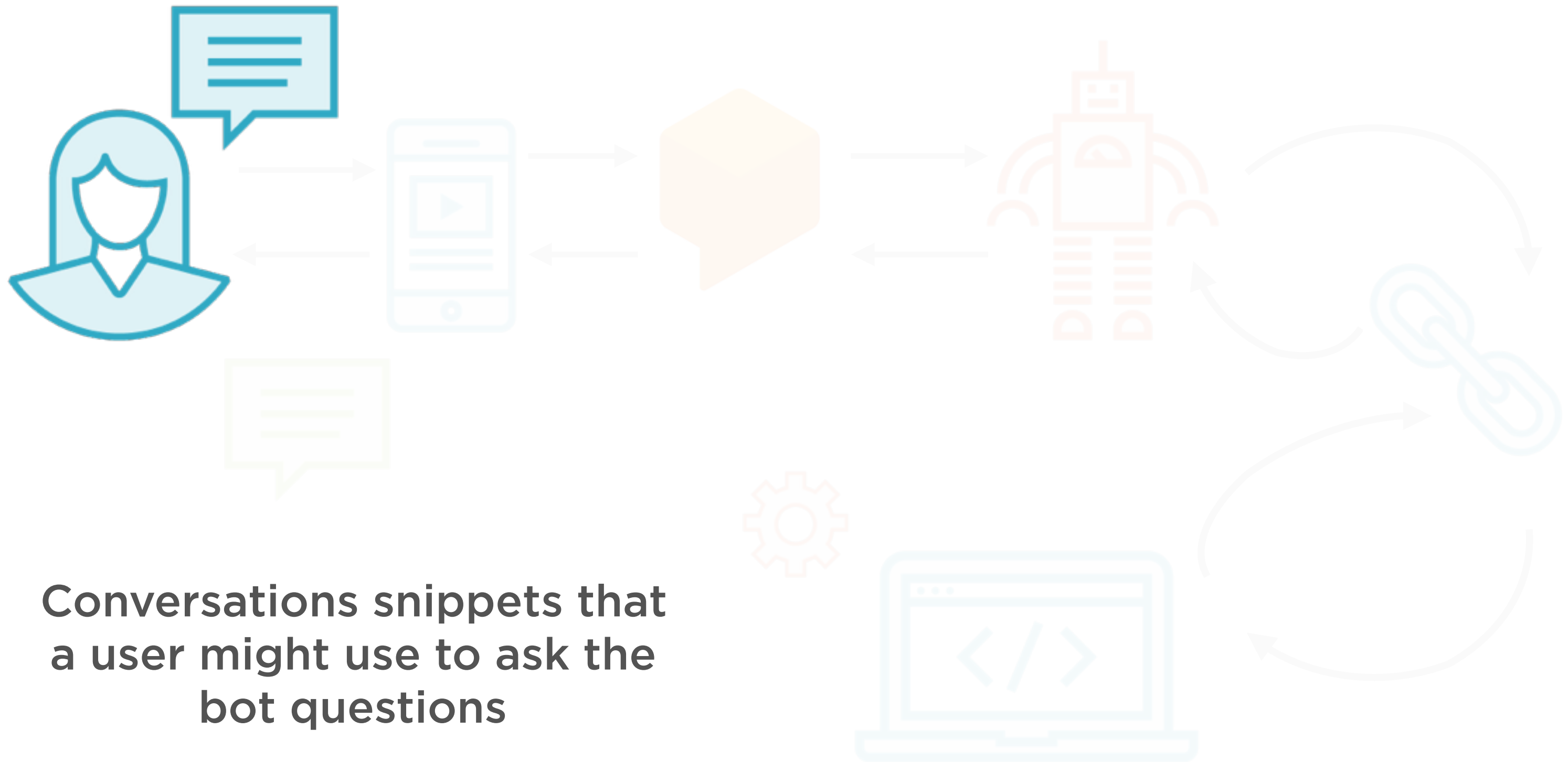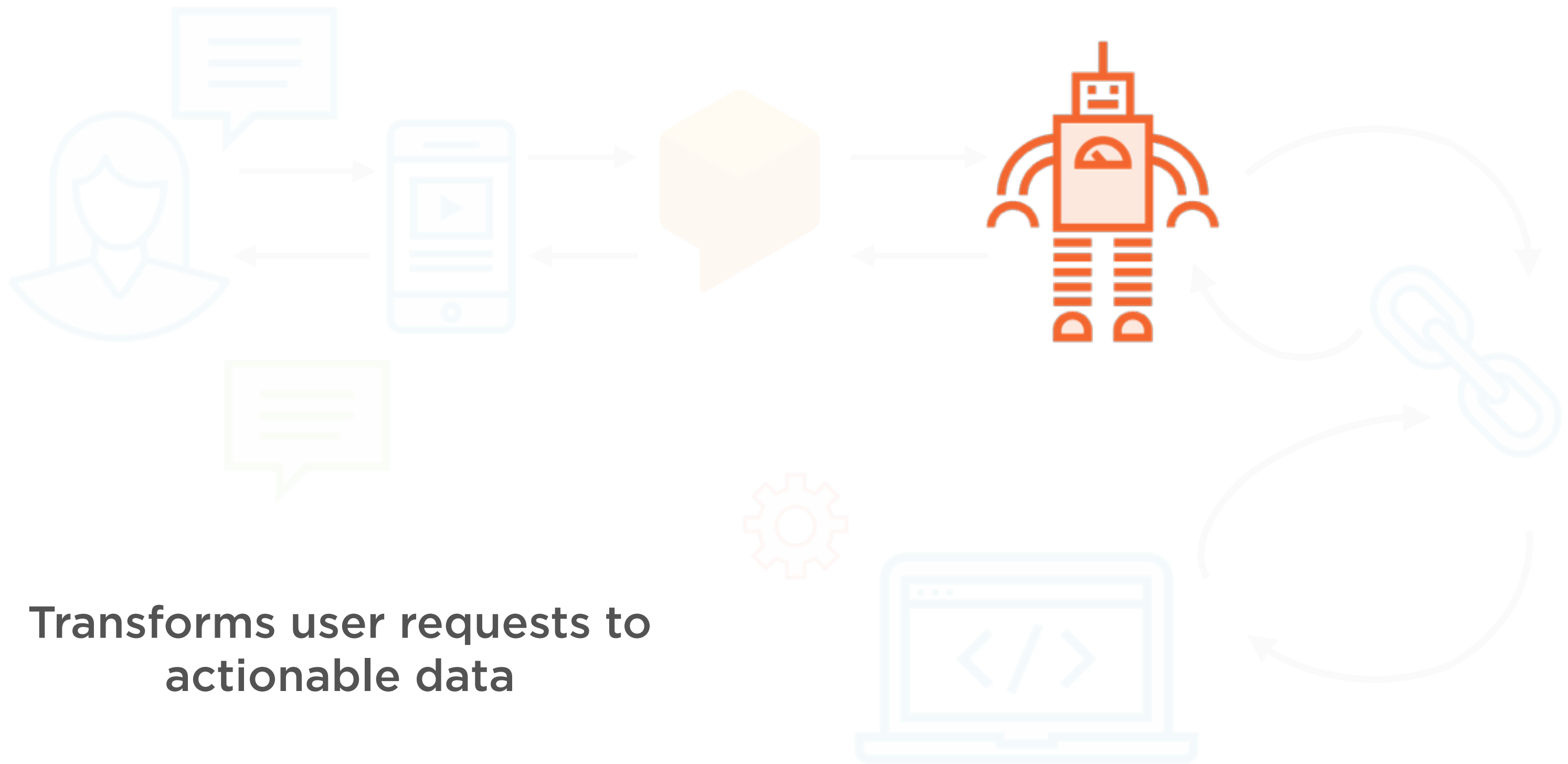
Dialogflow Integrated with Apps

Slack, Kik, Viber, Twilio, Skype, Google Assistant

Agent
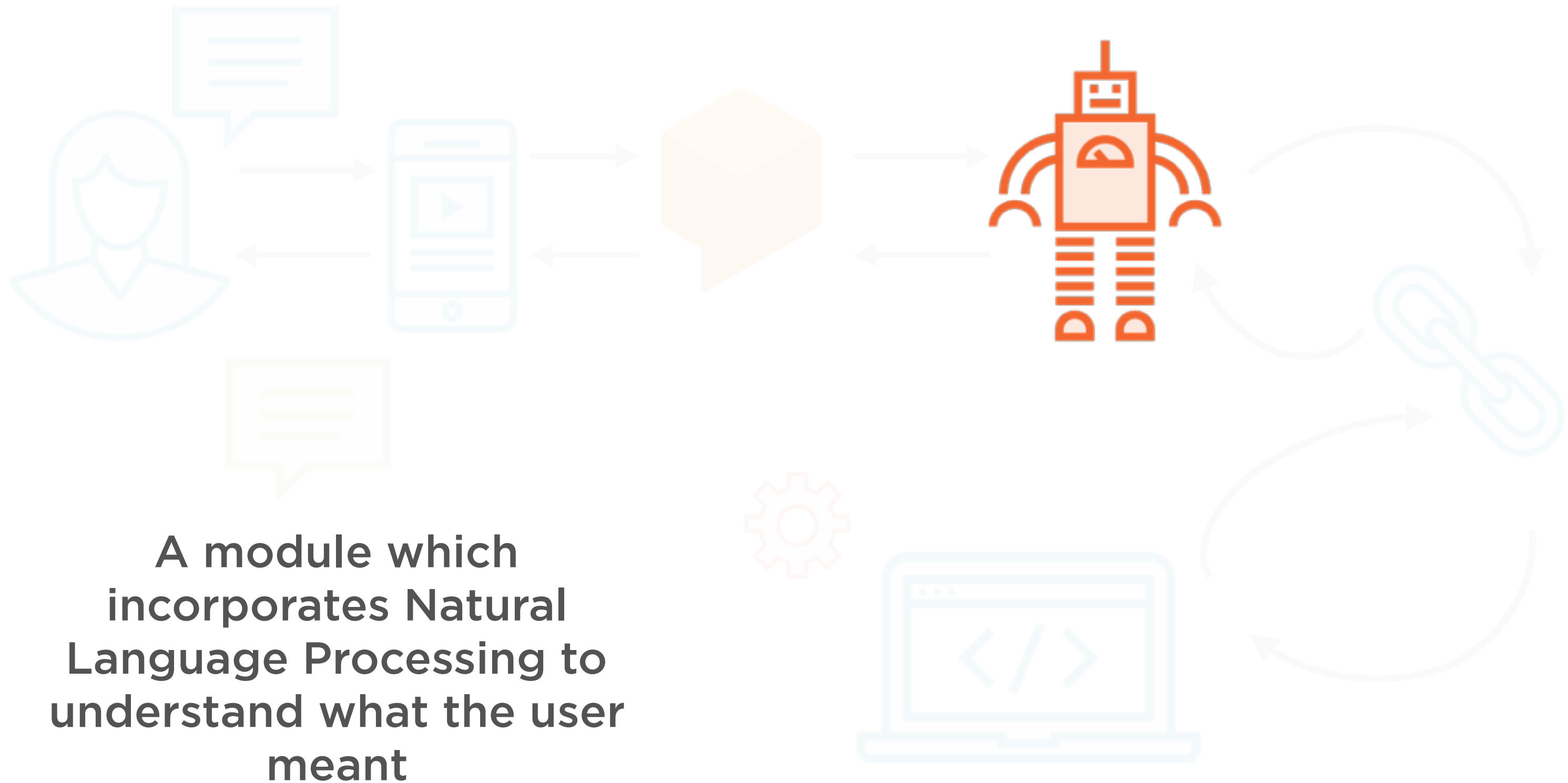
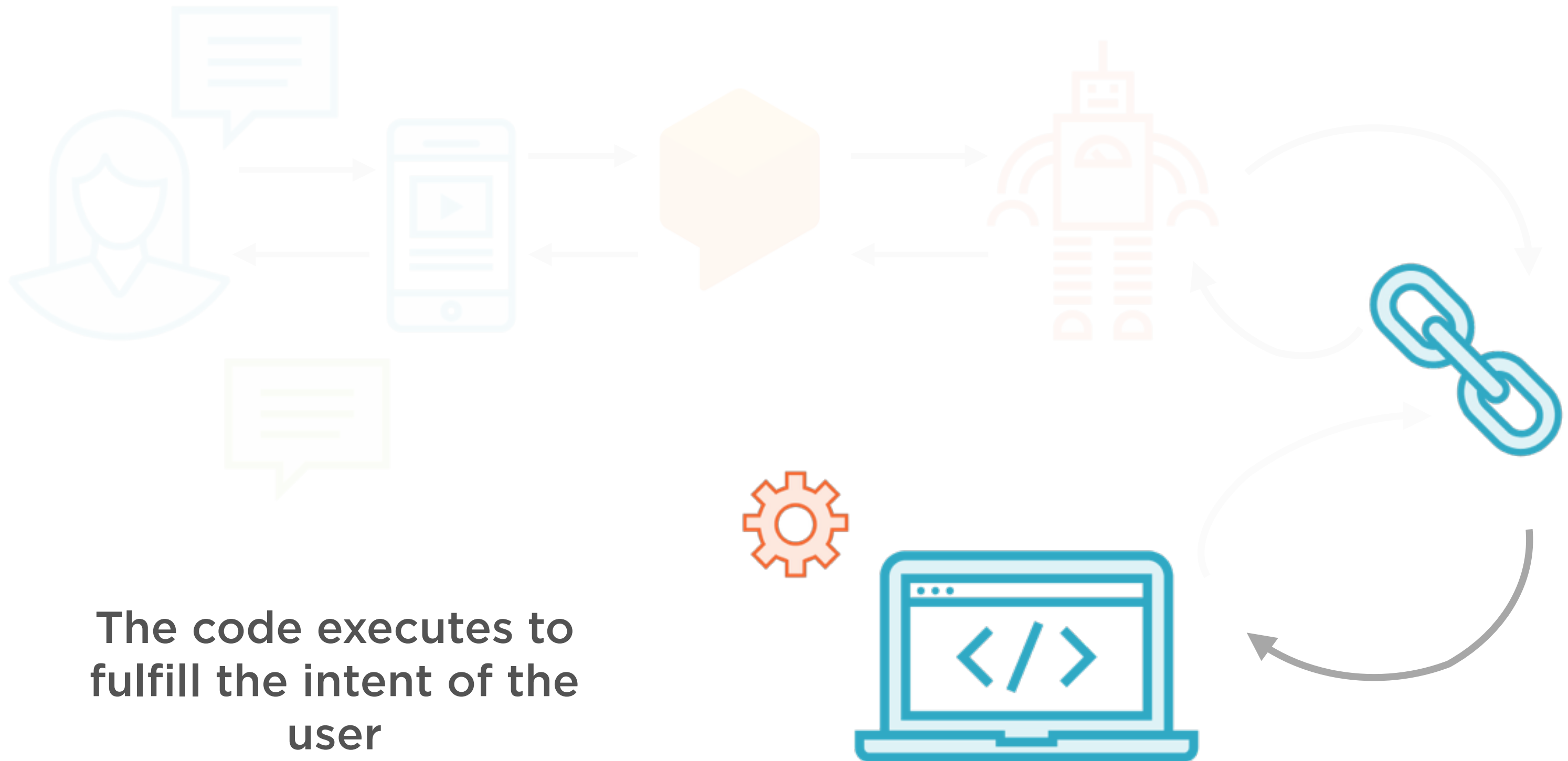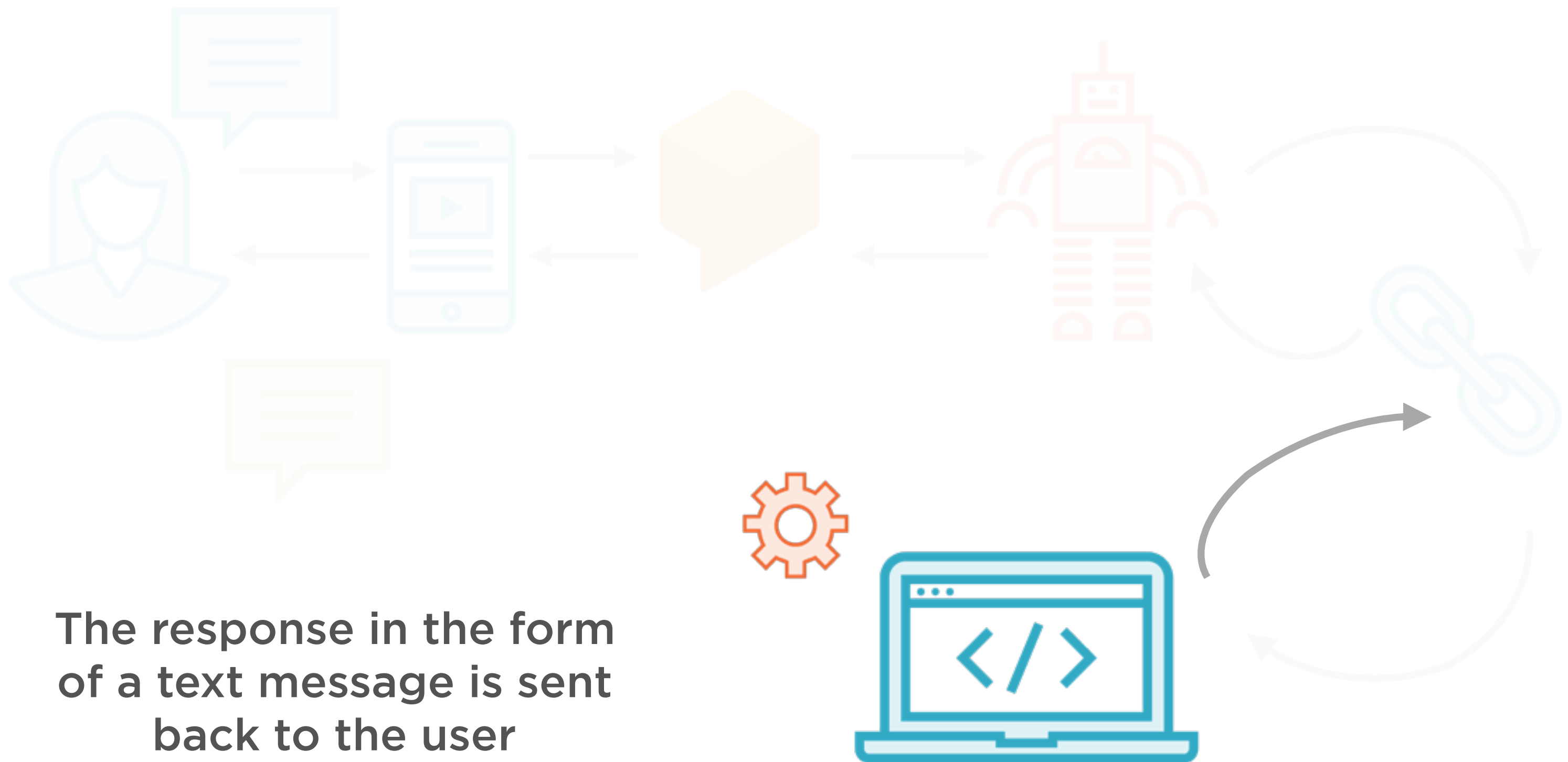A module which incorporates Natural Language Processing to understand what the user meant
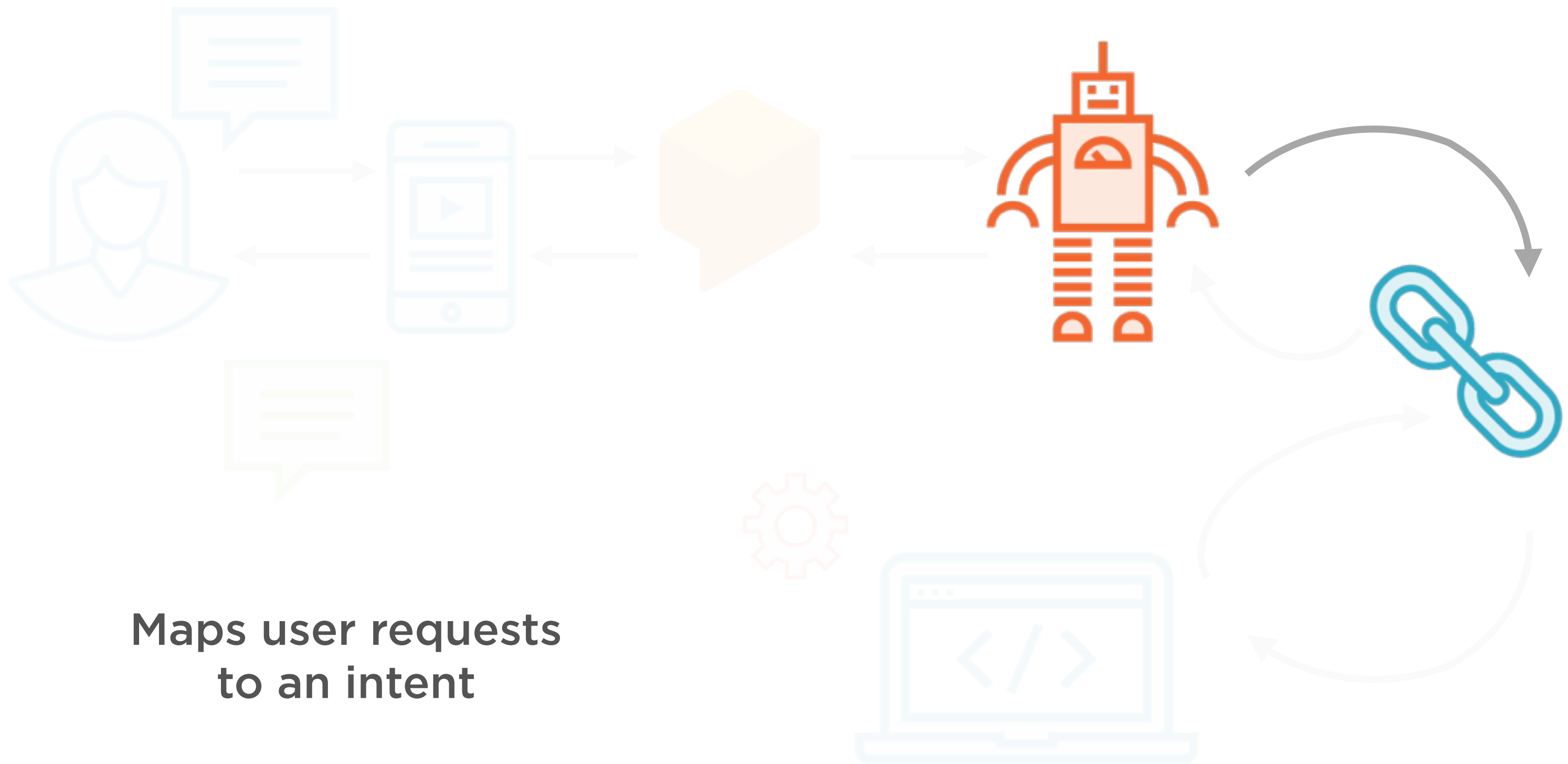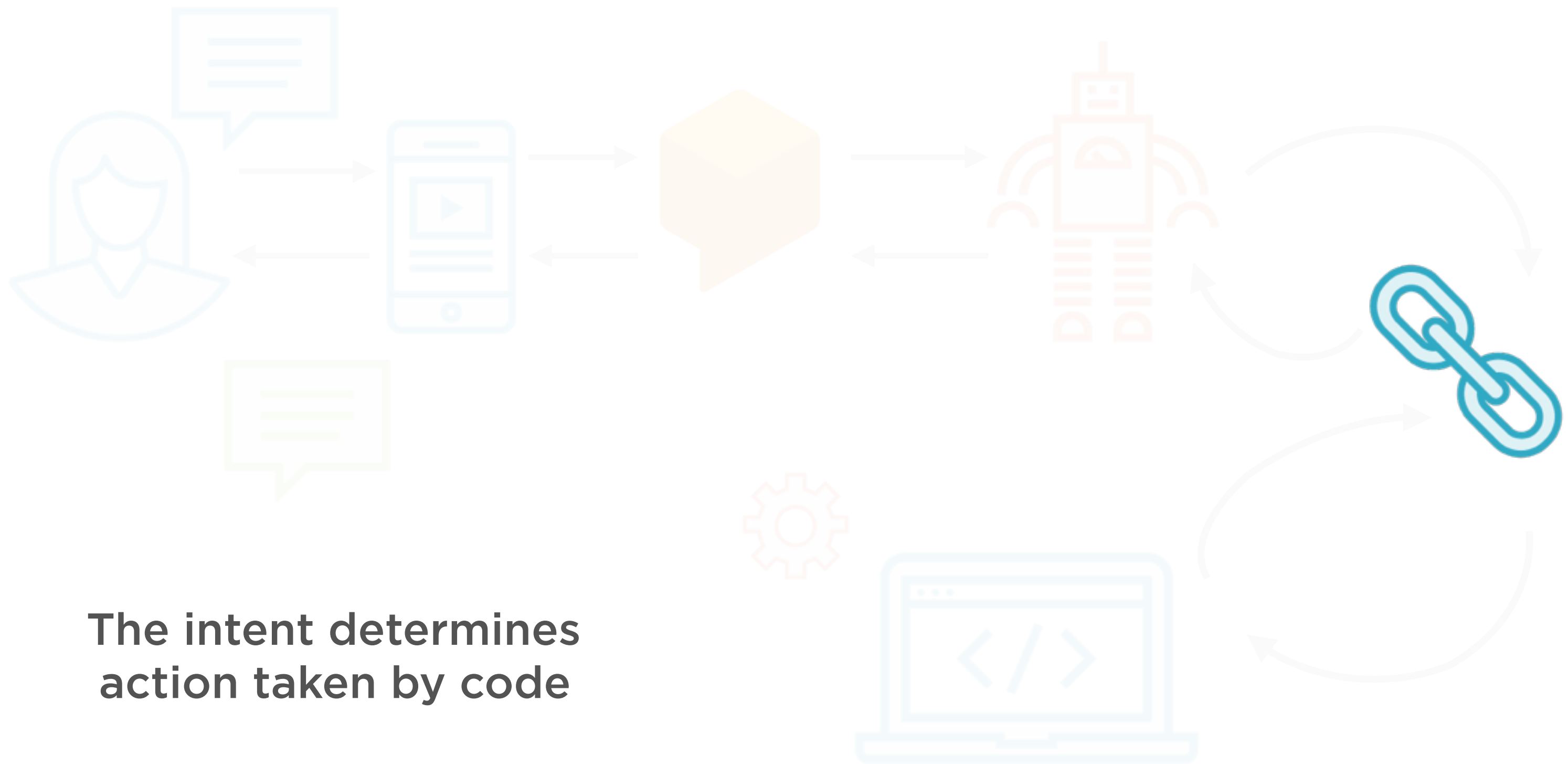
Agent

Transforms user requests to actionable data

Intent

**Maps user requests
to an intent**

Intent

The intent determines
action taken by code
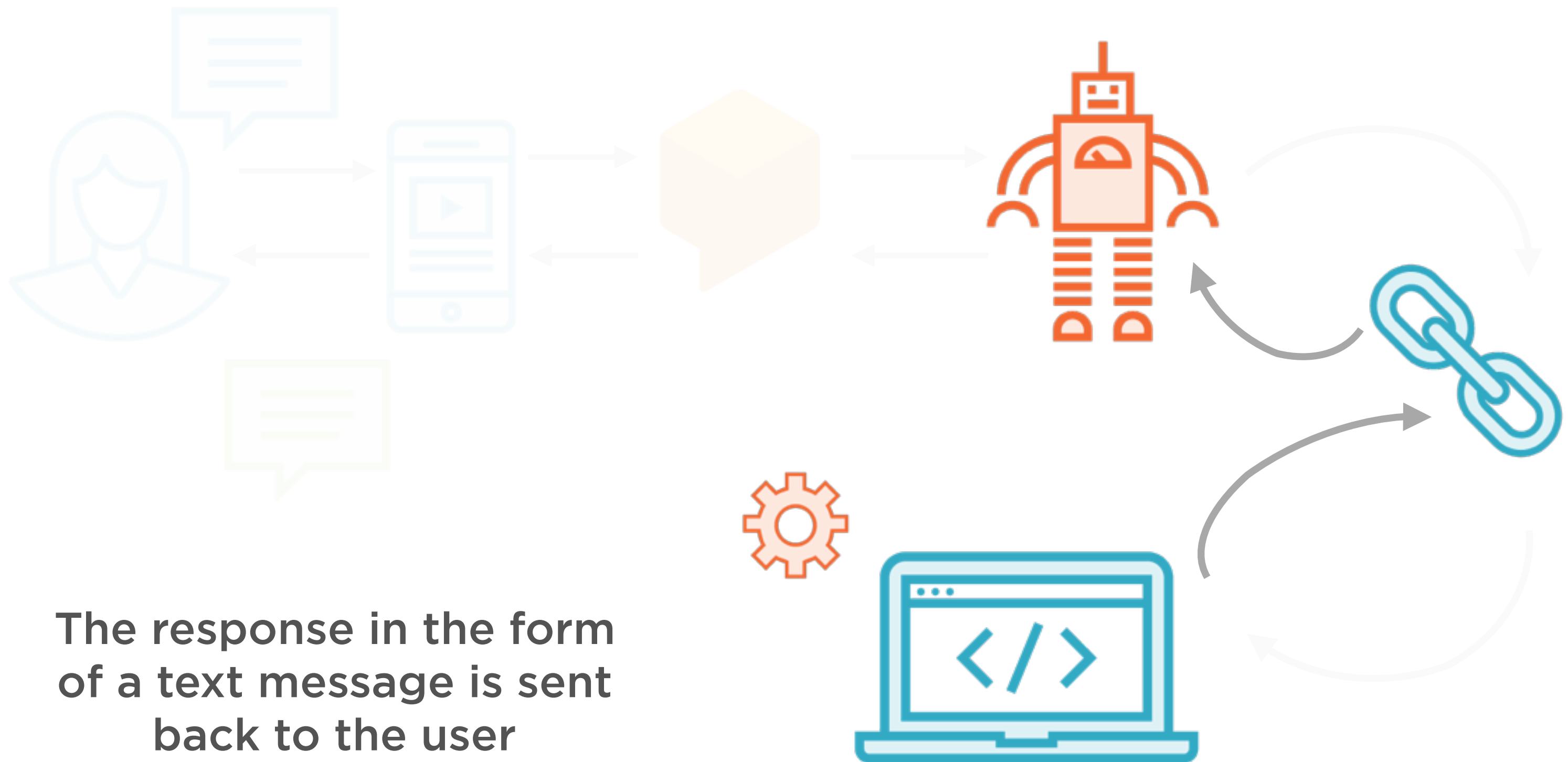
Fulfillment

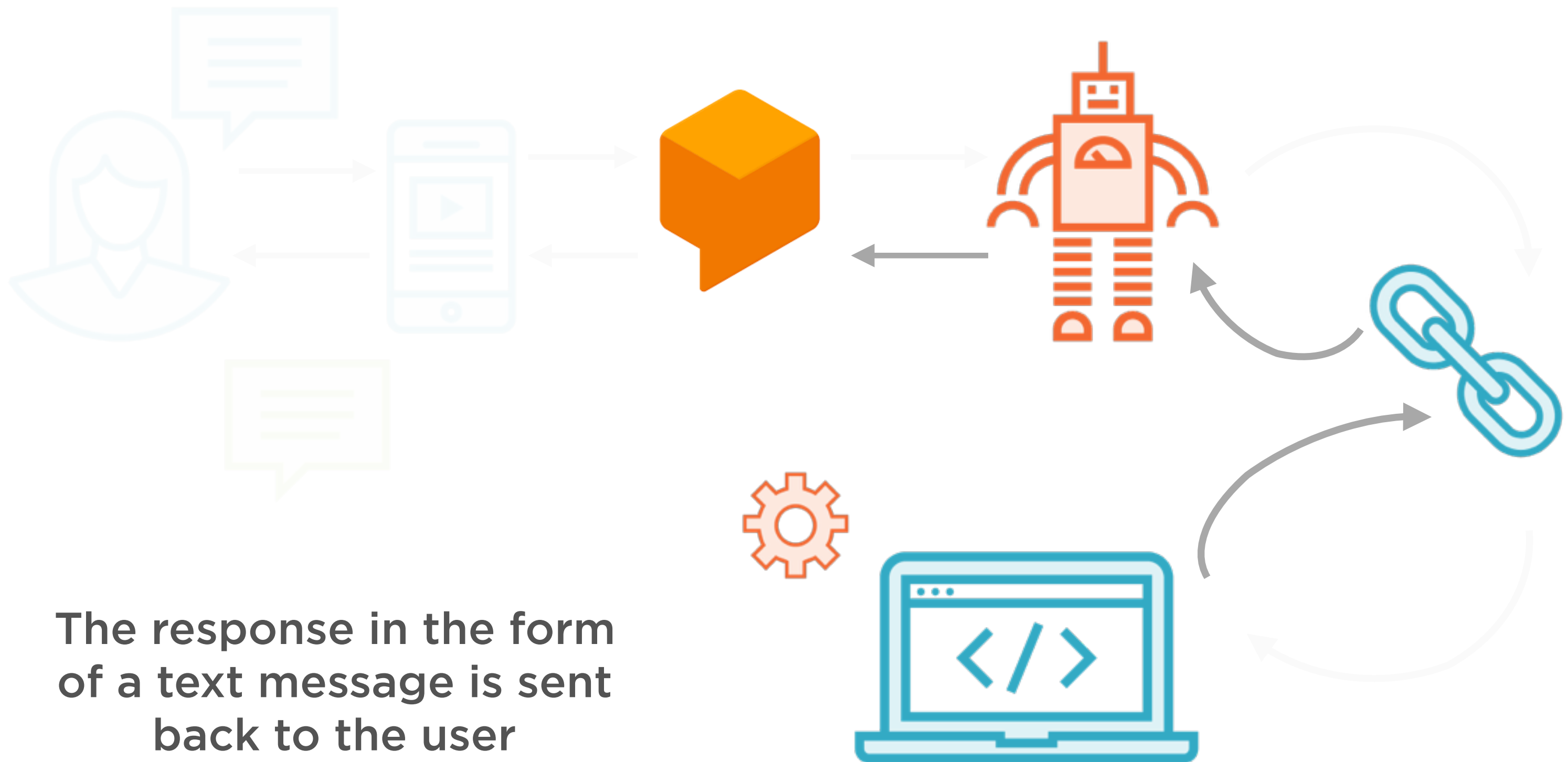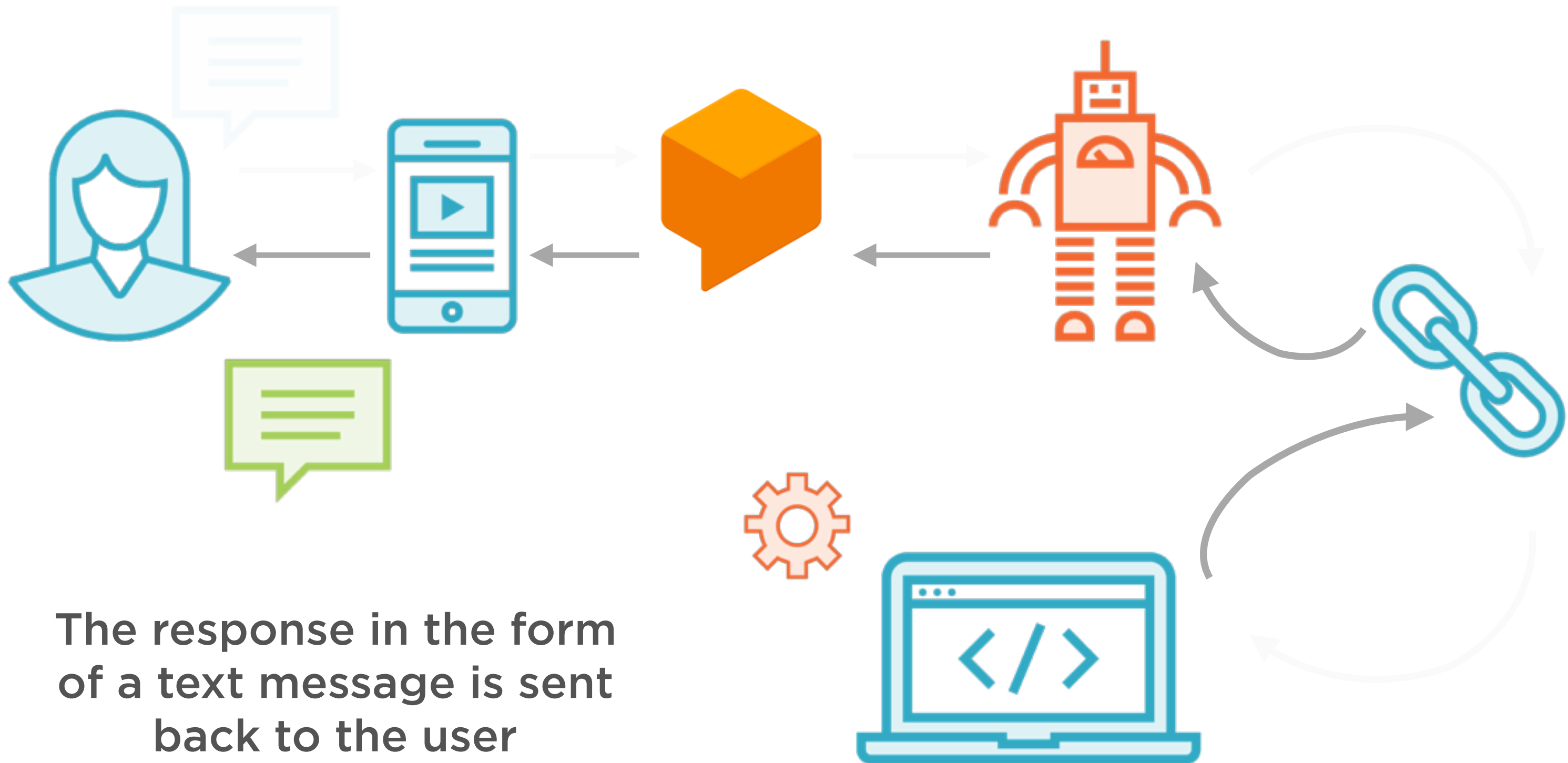**The code executes to fulfill the intent of the user**

Response

The response in the form of a text message is sent back to the user

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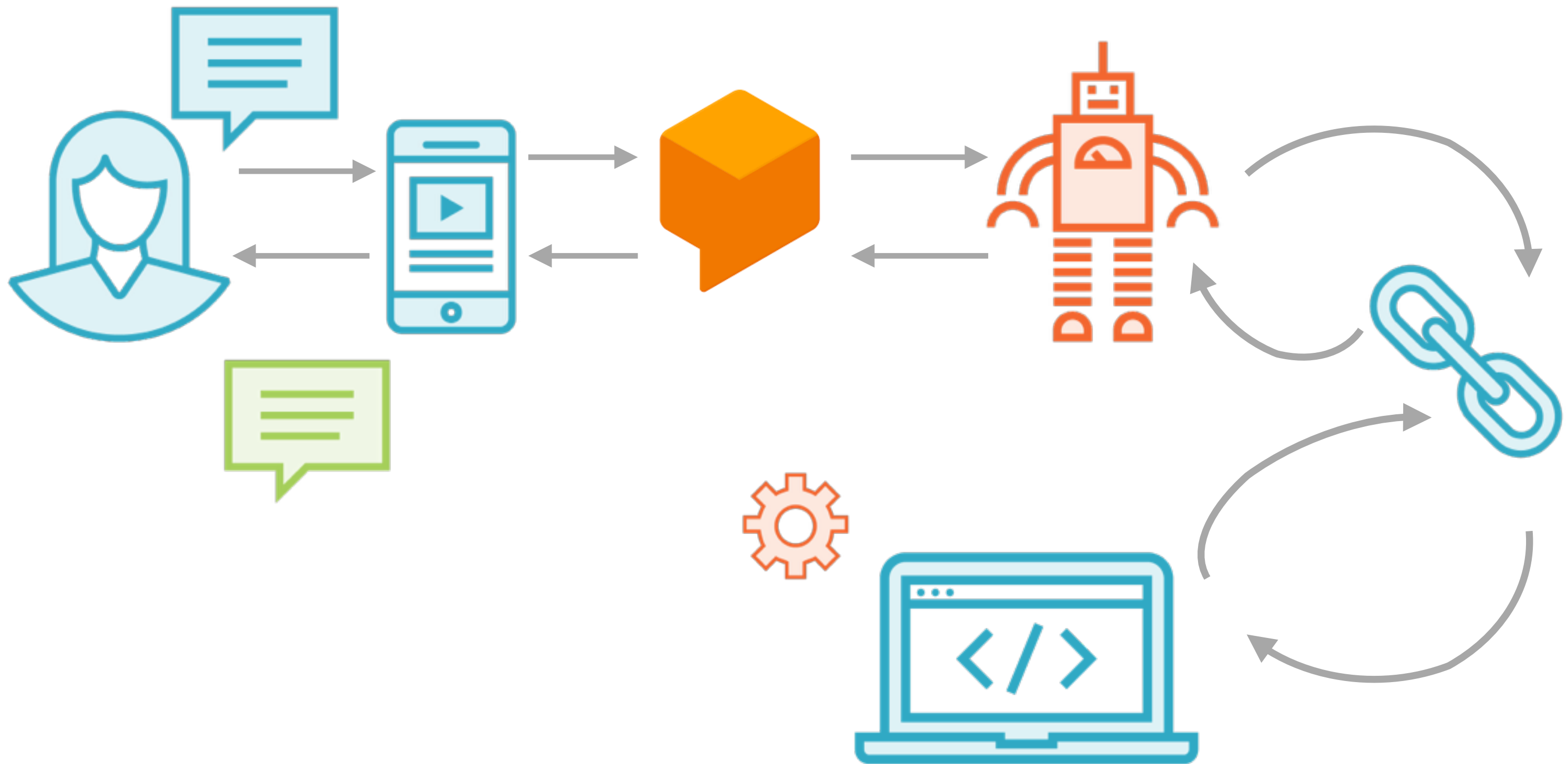

The response in the form
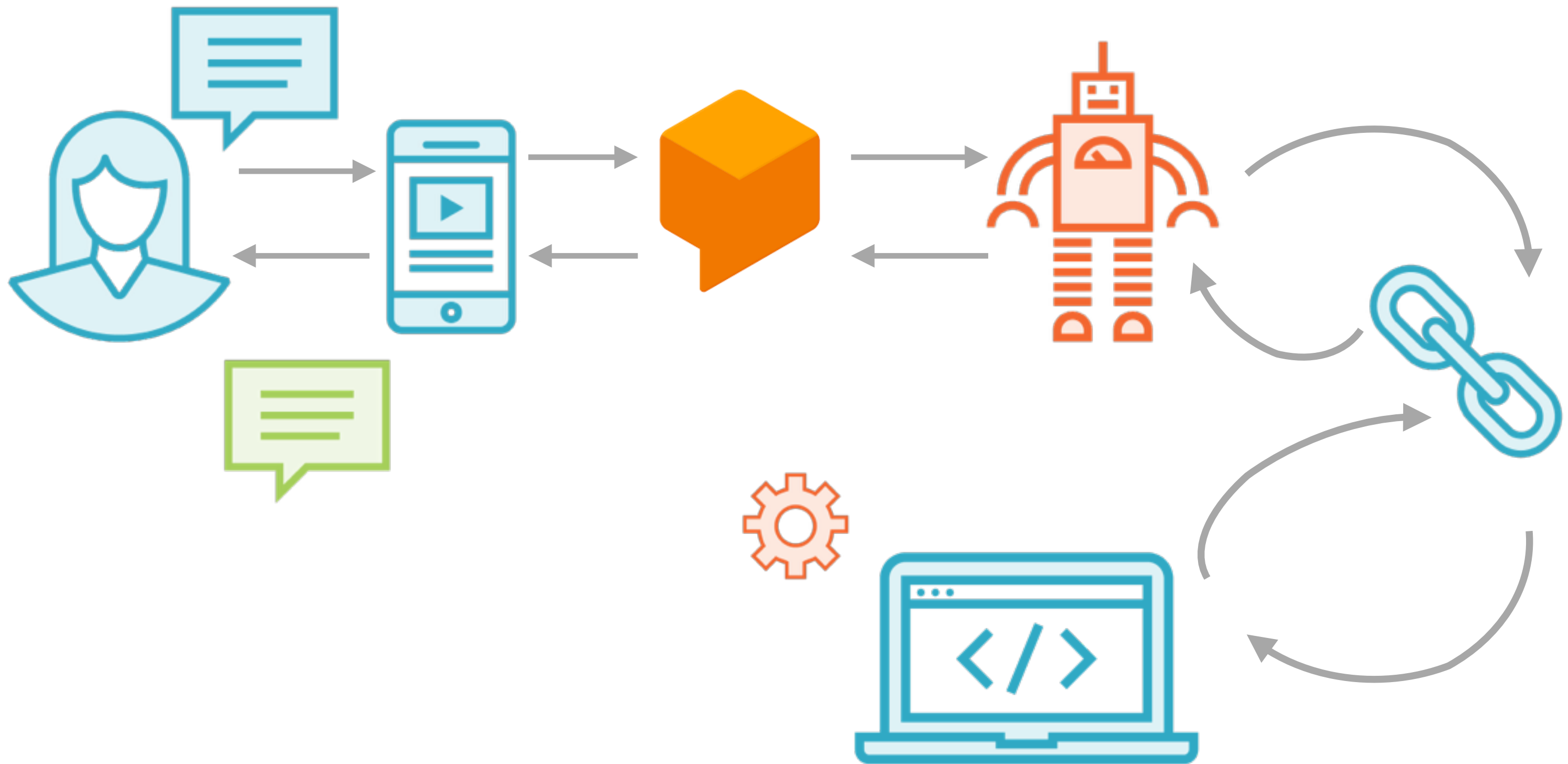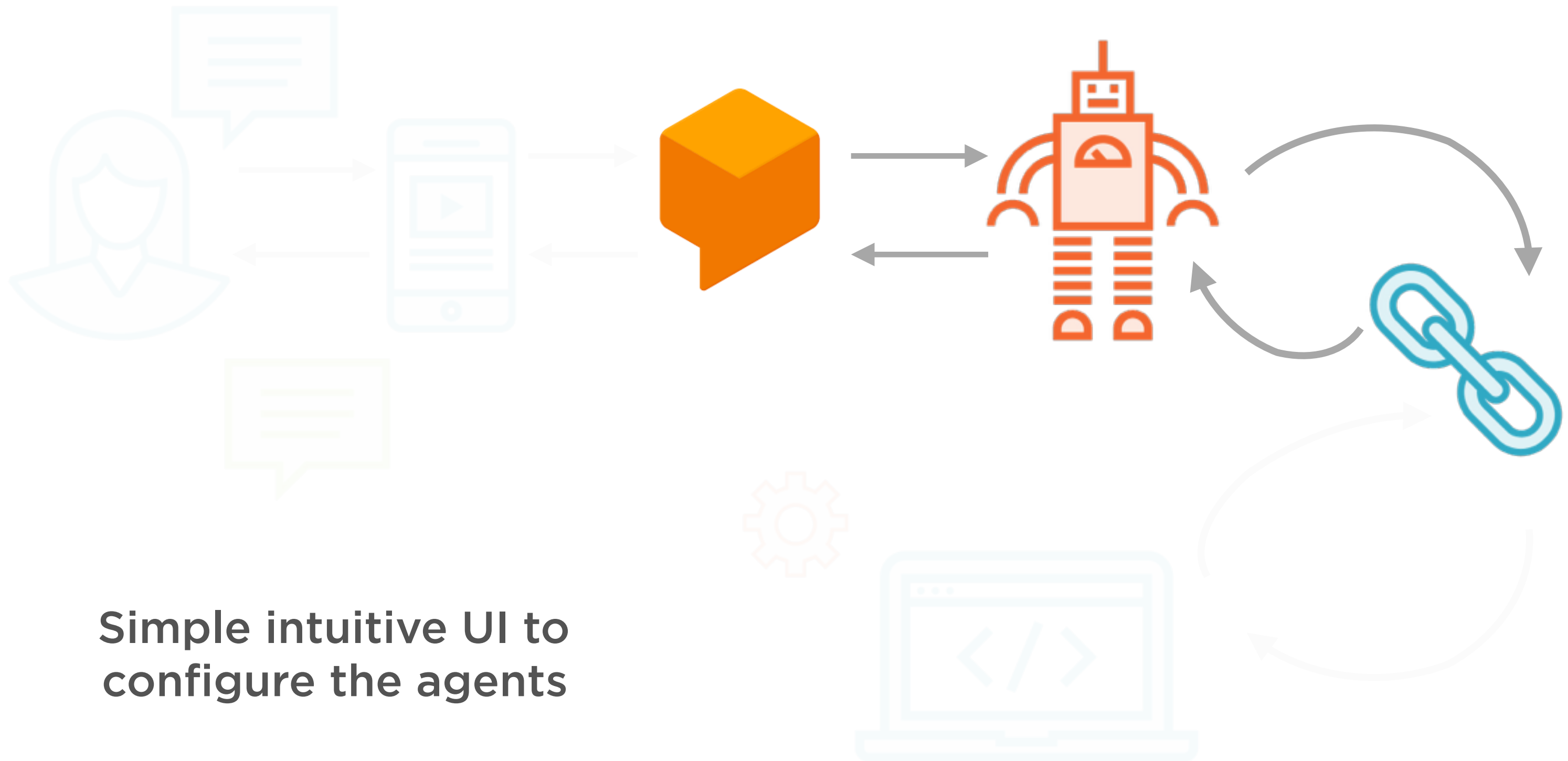of a text message is sent
back to the user

Flow of Conversation

Dialogflow makes this complex interaction very easy to configure and set up
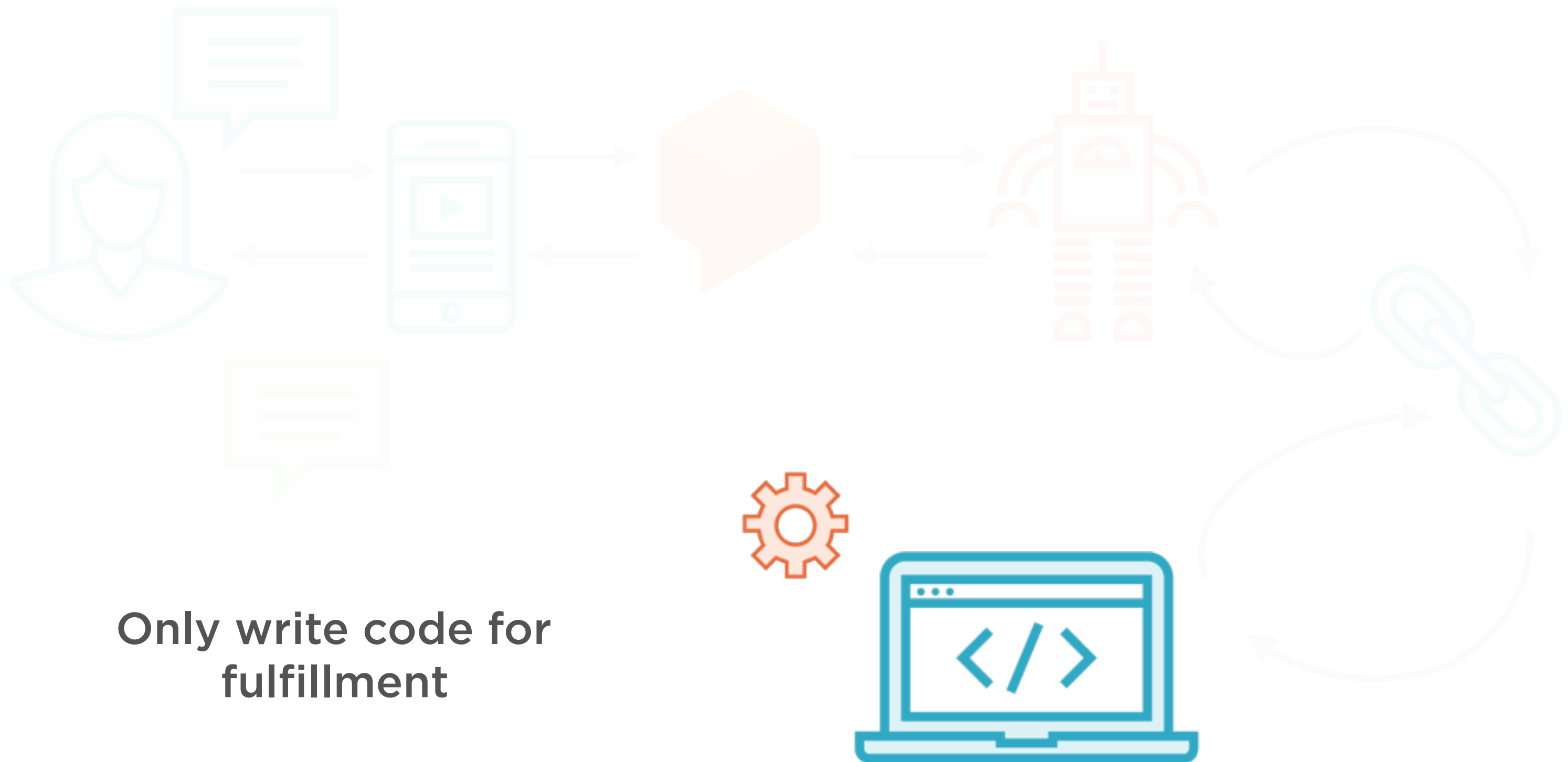
Flow of Conversation

Flow of Conversation

Simple intuitive UI to configure the agents

Flow of Conversation

Only write code for fulfillment

Demo

Set up a new Dialogflow account

Authorize Dialogflow to manage actions on the Google Cloud Platform

Summary

Chatbots built using Dialogflow use sophisticated machine learning techniques

Easy and intuitive to configure and build