



UCIRVINE

# Data Analytics

Conversation chatbot design

# What is a Chatbot?

- What is a chatbot like?
  - Try: <http://conversation-simple.ng.bluemix.net/>
  - A car chat bot, where you can try:
    - turn\_on turn\_off turn\_up turn\_down traffic\_update
    - locate\_amenity weather phone capabilities greetings goodbyes
- Type a request, such as music on or I want to turn on the windshield wipers.

## A Query Example



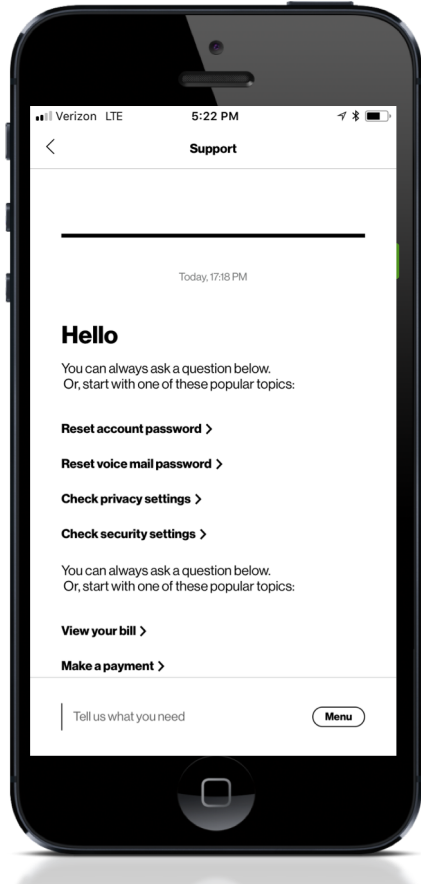
**Scenario: Busy Verizon customer who wants to self serve**

Am I eligible for online payment?

Can I use a bank account?

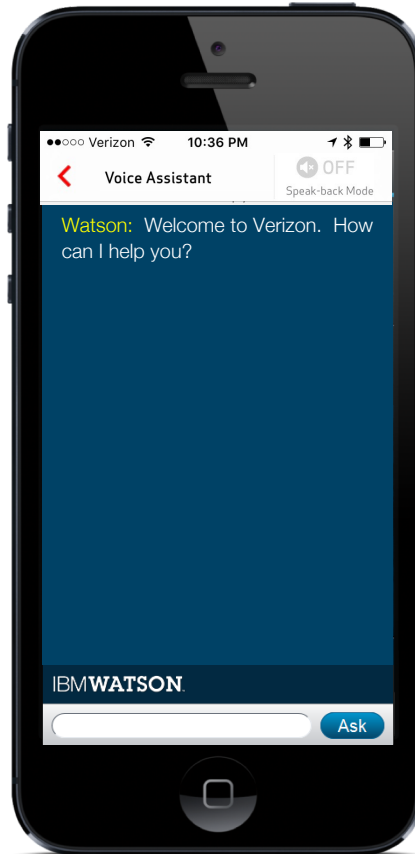
Will there be a fee?

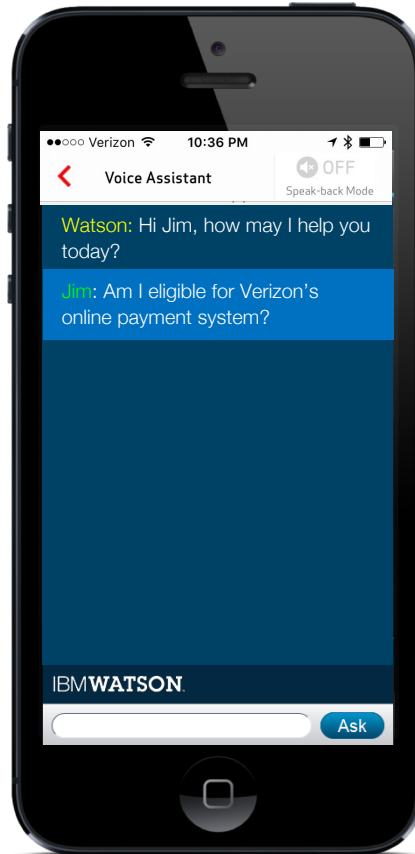
When will the payment take effect?



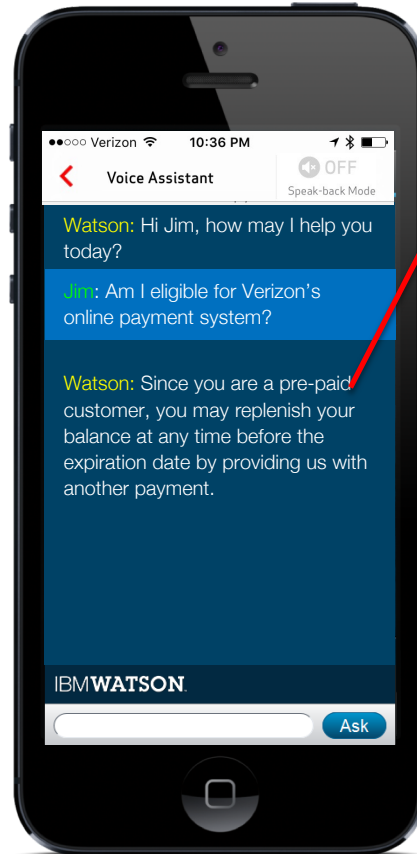
- Have you tried using your mobile providers web site or online chat?
- How was the response?

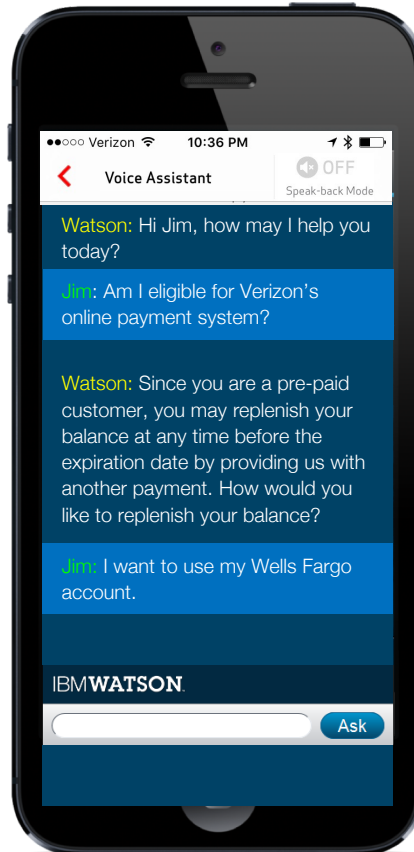


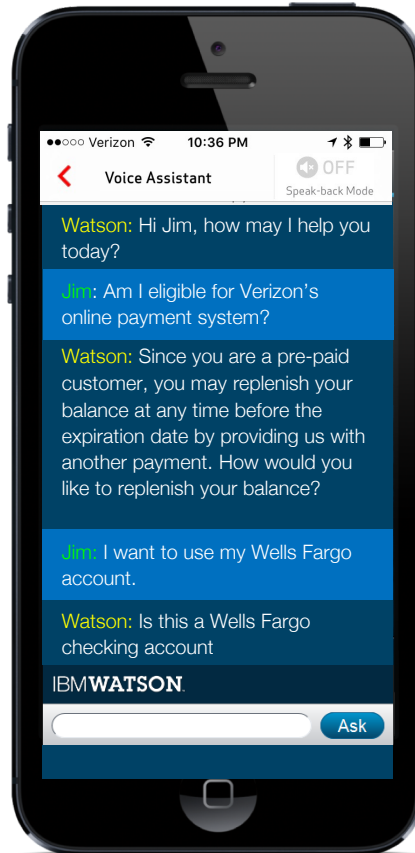


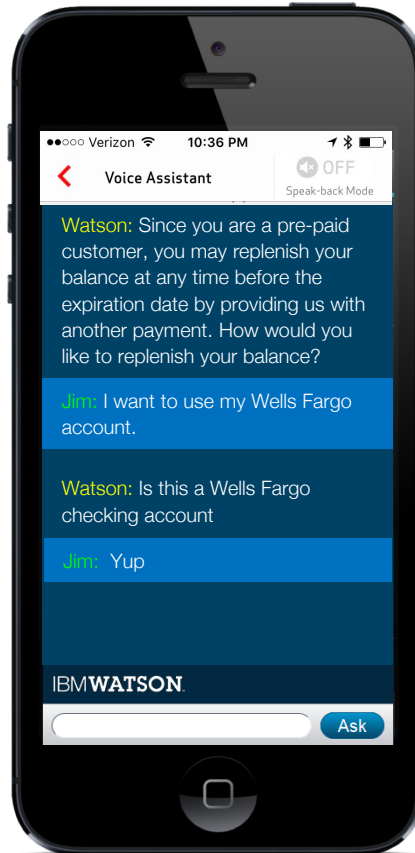


<http://www.verizonwireless.com/support/prepaid-customer-info-legal/>

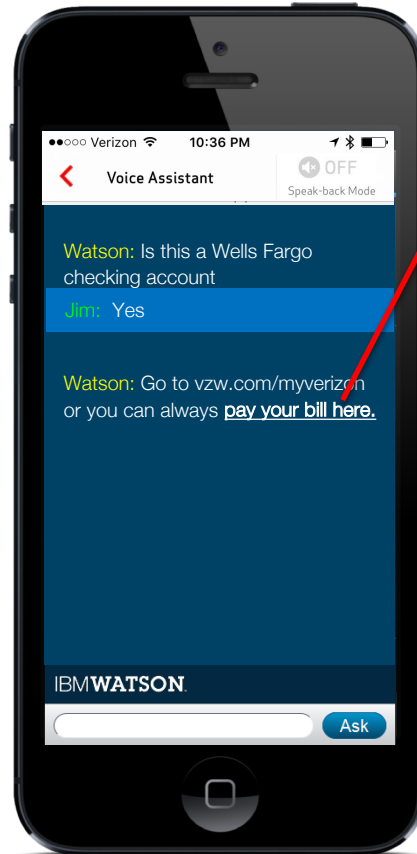


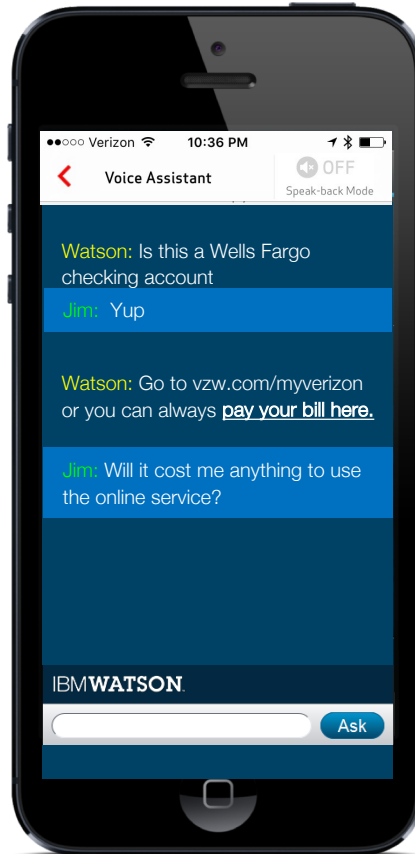




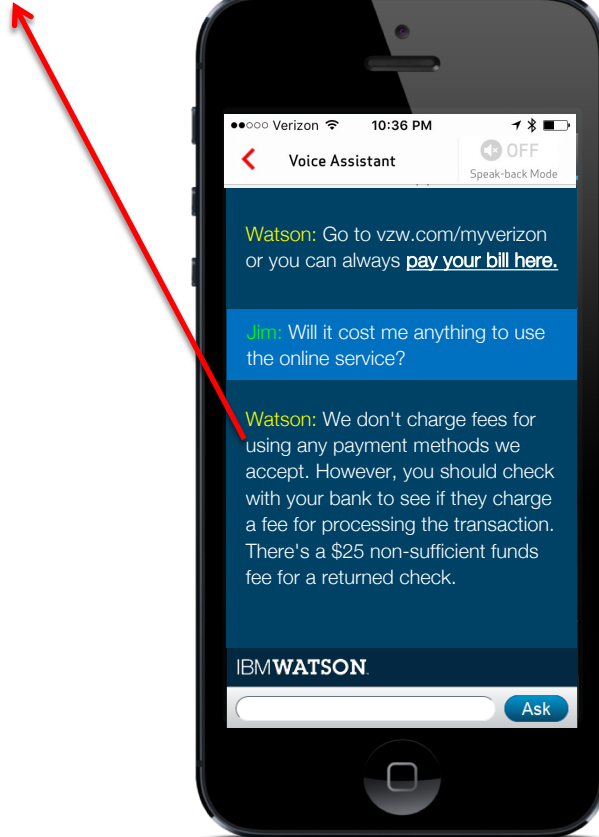


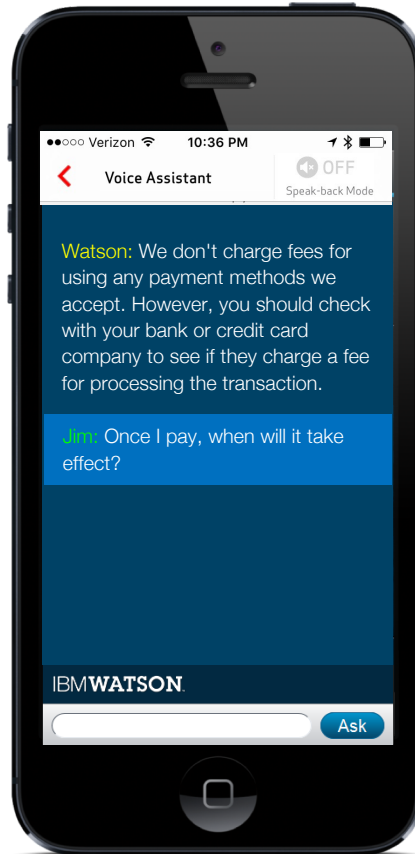
From "How to Pay Your Bill Online" screen



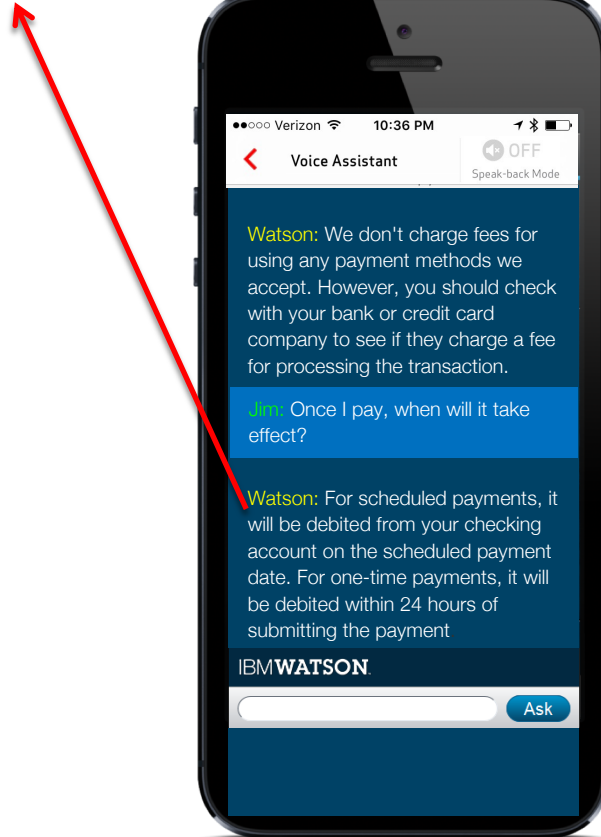


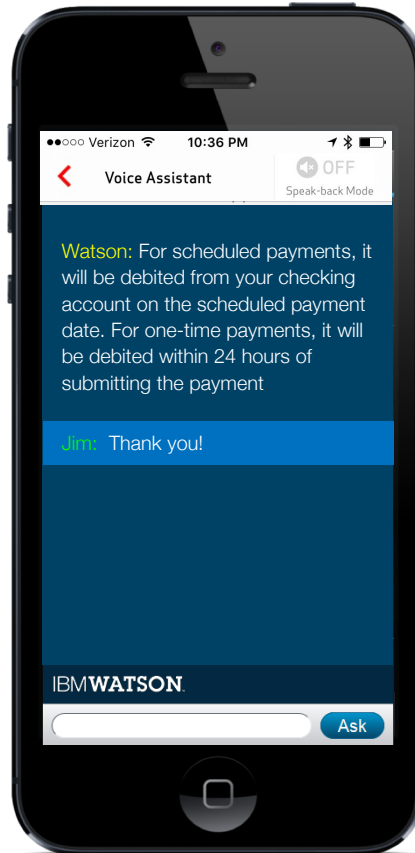
<http://www.verizonwireless.com/support/pay-bill-faqs/>

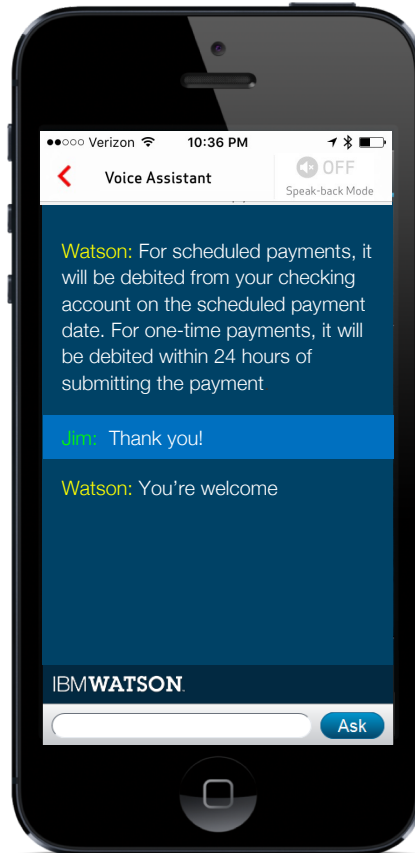




<http://www.verizonwireless.com/support/pay-bill-faqs/>







## And the result is.....

← → ↻ ⓘ Not Secure watson-assistant-simple-as.mybluemix.net ☆ ⌵ ⋮

Apps + Flip it

Welcome to Verizon. How can I help you?

Am I eligible for Verizon's online bill payment?

Since you are a pre-paid customer, you may replenish your balance at any time before the expiration date by providing us with another payment.

Type something

User input

```
1 {
2   "input": {
3     "text": "Am I eligible for Verizon's online bill payment?"
4   },
5   "context": {
6     "conversation_id": "6009e780-8bbd-4fd7-8eb8-53a5a8f0b749",
7     "system": {
8       "dialog_stack": [
9         {
10          "dialog_node": "root"
11        }
12      ],
13      "dialog_turn_counter": 1,
14      "dialog_request_counter": 1,
15      "_node_output_map": {
16        "Welcome": [
17          0
18        ]
19      },
20      "branch_exited": true,
21      "branch_exited_reason": "completed"
22    }
23  }
24 }
```

# Intelligent Query Response vs Chatbot

Identifying chat reasons - Intent classification

Disambiguation

Chit chat

Keeping track of context

Short tail vs. long tail