Intelligent conversational chatbots are the new interfaces for these apps, and they are changing the way businesses and customers interact.

### NOTABLE ARTIFICIAL INTELLIGENCE MILESTONES

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
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<tbody>
<tr>
<td>1950</td>
<td>Alan Turing proposed &quot;intelligent&quot; machines would be indistinguishable from humans in text-only conversations</td>
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<tr>
<td>1997</td>
<td>Deep Blue defeated Garry Kasparov, Chess World Champion</td>
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<td>2011</td>
<td>Watson defeated Ken Jennings &amp; Brad Rutter in Jeopardy, struggled on clues with few words</td>
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<tr>
<td>2016</td>
<td>Libratus defeated four professional poker players in a No-Limit Texas Hold'em tournament; learned how to bluff</td>
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<tr>
<td>2016</td>
<td>AlphaGo defeat Lee Sedol, &quot;Go&quot; World Champion, runner-up for Science's &quot;Breakthrough of the Year&quot;</td>
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### MESSAGING APPS: THE PERFECT CHANNEL FOR CHATBOTS

- **Consumers would make a purchase through a messaging app.**
- **Consumers prefer using a messaging app when contacting a business.**
- 90% of businesses use Facebook to respond to service requests.
- 5X: How much more often customers message a company than posting on its Facebook page.
- The average messaging conversation is 66% longer than the average page conversation.
- 10 Hours: The average time it takes for a company to respond to a message.
- Already 30,000 bots on Facebook & Kik.
- 56% say engagement through messaging is ROI positive; 58% say it reduces costs.
- Chatbots could save $174 Billion across Insurance, Financial Services, Sales, and Customer Service.

### BUSINESSES ARE FOLLOWING CUSTOMERS ONTO MESSAGING PLATFORMS

- Over 50% of customers expect a business to be open 24/7.

### CHATBOTS & AI: TWO TYPES OF ENGAGEMENT

- **Task Oriented (Declarative):**
  - Most common type of chatbot... so far
  - User-initiated queries with automated responses and conversational menus
  - Uses Natural Language Processing, but not much Machine Learning
  - Integrates with backend systems of record
  - Highly specialized & structured interactions
  - Most useful in the Support and Service industries

- **Data-Driven & Predictive (Conversational):**
  - Similar to Amazon's Alexa or to Google Assistant
  - Can monitor data, intent, & even initiate conversation; is contextually aware!
  - Personalized based on user profile and past user behavior
  - Uses Natural Language Processing & Machine Learning
  - Predictive Intelligence and analytics based on collected data across use cases
  - Integrates with Big Data sources

### POSSIBILITIES WITH CHATBOTS IN GOVERNMENT

- When will I get my financial aid?
- What types of jobs are available in my area?
- What energy-saving tax credits are available to me?
- What National Parks are in my state?
- I'd like to apply for social benefits.
- I'd like to pay my parking ticket.
- What time is the next bus?
- What are the symptoms of Zika virus?
- What's the status of my tax refund?
- What events and tours are taking place at the National Archives today?
- Show me any recalls on items I've purchased in the past 90 days.
- Where can I find housing assistance for someone who is HIV positive?