

Task-based assistants

Als largest impact on society will be from virtual assistants!

- * Alexa (Amazon)
- * Siri (Apple)
- * Google Assistant (Google)
- * Eno (Capital One)
- * Erica (Bank of America)

Why? For the same reason that search became so profitable: **Advertising**. But also, it's a **universal interface for commerce** (e.g., Alexa, order me a).

Task based systems actually encompass all three interaction modes:

- * Answer general questions (limited domain)
- * Complete tasks (e.g., dinner reservations, book flights, weather forecast etc.)
- * Engage in chitchat when prompted



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Domain-Intent-Slot model for task-based dialogue

A **domain** refers to what topic or subcategory of tasks the user is referring to.

An **intent** represents some discrete goal that a user is trying to accomplish.

Intents require varying amounts of information in order for a particular action to be taken. These pieces of information are referred to as **slots**.

It is the job of the natural language understanding engine to extract the relevant **entities** from the utterance in order to fill each of the slots necessary to complete the task. This is referred to as **slot filling**.

```
{  
  "fetchBalance": {  
    "accountType": "credit",  
    "accountNumber": "0000-0000-0000-0000"  
  }  
}
```

Example of the intent **fetchBalance** and slots {**accountType**, **accountNumber**}