



## Smart Interactions: Humanizing Mobile Apps



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**E**verything around us is getting smarter. It isn't just the mobile phones and tablets that are becoming smart; TVs are getting smarter and so are watches, wrist bands and personal assistants. No wonder then that the average user spends more than 3 hours a day with apps on these smart devices. And yet, even though there are over 4 million apps<sup>(i)</sup> available between the Apple App Store and the Google Play

Store, most users typically settle to opening just 4 to 6 apps daily. This isn't great news for businesses pouring in resources behind mobile apps.

How can a business ensure that its app does not become one more digital derelict? How can it ensure the app contributes differentiated value and does not add to wasteful cognitive overload?

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## Humanizing the app

What we do understand with immutable confidence is that humans know how to interact with other humans. If we could “humanize” our apps, by introducing elements of context, emotion, intent and even human biases, they will sound like natural conversations instead of mechanical clicks on buttons. Once the conversations between people and apps become natural, flowing smoothly through a user’s life, adoption is likely to grow. One such app is Avaamo, a mobile messenger that uses contextual information to drive conversations. It dives deep into data, acquiring an almost-human dimension.

In other words, the challenge is to make apps smarter so that they behave intelligently, mimicking human patterns of behavior. Then, mix this with simplicity of usage plus the ability to deliver value and we have a winner!

The good news is that exciting new ways to infuse mobile apps with smart and near-human attributes are becoming available. These fall into three notable areas of interest to developers of smart mobile apps:

### **Creating natural conversations:**

The improvements in Natural Language Processing (NLP) using voice and text are noteworthy<sup>ii</sup>. Google has reported that 20% of Web searches on Android devices are voice based. Amazon says it has sold more than 3 million units of Echo that feature an NLP-driven app

called Alexa. NLP is set to move machine interaction up by several notches. Today, you can ask Google’s Allo a reasonably ambiguous question such as, “How long will it take me to reach San Francisco?” and you will get an answer based on your location, your preferred mode of transport, the weather forecast and the day of the week. That’s smart.

### **Making conversational applications go beyond chatbots:**

Enterprise systems are rich in data. They add immense depth and accuracy to smart app interactions. When conversational applications are allowed to forage through enterprise data, they become the primary interface for business transactions. For example, imagine conversing with a bank application with an ambiguous – but perfectly natural – question like “Is there an investment opportunity?” The app scans your account, notes the available balance, adjusts for your monthly expenses, refers to past investment patterns and risk bearing ability, matches them to the bank’s investment instruments, assesses their recent performance and responds using natural language. These type of smart apps can be built in isolation, using deep learning from external environments such as social media, syndicated data or public surveys, but they will demonstrate limited value. Those that connect to enterprise data will naturally outsmart everything else.

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**Developing contextual intelligence:** Mobile apps are in the best position to leverage context, given the always connected nature and multitude of sensors that they have access to. Context derived from user locations, actions, user data, transaction data and other services and combining them in real-time offers many interesting possibilities of how mobile interactions can be elevated to the next level of intelligence. Avaamo, a popular enterprise-grade messaging application, is dexterous at this. Let's assume a caregiver in a hospital is using Avaamo to chat with a patient. During the interaction, Avaamo presents the doctor with contextual information from the patient's electronic health records (EHR) within the same message

window. This helps the doctor provide more accurate advice.

Another example could be pushing highly contextual accident-related information of a victim, such as the location of an accident, the nearest healthcare facilities, the victim's EHR onto the Avaamo app being used by a paramedic while on the way to the scene of the accident. Smart apps can initiate the conversation by pushing the information to users at the right moments, leveraging the context. An example of such "invisible computing" is to sense the use of blue-tooth connected medication dispenser of an elderly patient being treated at home, and deliver alerts when the patient misses the medication or providing real-time information on the medication dosage.

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## Being proactive for success

The key is to move towards being proactive rather than reactive. That's what humans want - an app so smart it can think for them even though the thought may never have occurred to them. In other words, we want a companion that understands, remains alert and is exceptionally reliable.

Smart mobile apps fit the bill. Business areas across industries present numerous opportunities where smart apps can radically reduce the cognitive overload on users while delivering exceptional value.

Businesses need to re-think their selling process using messaging platforms to drive conversational commerce. They need to re-architect their customer service processes which have traditionally used chat systems but without using natural language or contextual intelligence to make interactions more meaningful. Smart apps that dig into structured and unstructured operational and enterprise data to deliver accuracy to decisions can be used to re-engineer field operations in industries such as Utilities, Healthcare, Insurance, Agriculture, Logistics and Telecom.

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A recent research report shows there will be roughly 11 billion mobile-ready devices or connections across the planet by 2020. An extremely large number of these users will gravitate towards mobile applications that use smart interactions to keep them engaged.

Applications that humanize the way we shop, bank, request for entertainment, control household devices and use enterprise systems will create tomorrow's winning businesses.

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## About the authors

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