

Cool Vendors in Consumer Mobile Applications and Bots

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Analyst(s): Jessica Ekholm, Tracy Tsai, Anshul Gupta, Adrian Lee, Tuong Huy Nguyen

This year's Cool Vendors focus on improving the user experience of their apps. We identify five emerging vendors with engaging and immersive UXs that technology product marketing leaders at app providers should learn from to create their own engaging user experiences.

Key Findings

- As per the Gartner Mobile App survey in 2017, 47% of consumer smartphone respondents are very concerned about how data from the apps they use could be sold to external parties without their permission. This is a number that is likely to rise as a result of the Facebook/Cambridge Analytica debacle and the impending GDPR regulations.
- As the media is awash with "click bait" and counterfeit reality or "fake news," sometimes created by inferior robo-writers, carefully curated content by humans from providers could be the cure over the next five years.
- The number of independent personal digital assistants, such as China's Laiye, is on the rise, allowing users to create personalized experiences. But it is still questionable if they can put enough pressure on the Big Four and the BAT in China.
- Virtual reality can be applied to a wide variety of scenarios to immerse and engage users using experiential learning.

Recommendations

Technology product marketing leaders in charge of maximizing the user experience in mobile apps should:

- Increase user trust and loyalty through being transparent about the use of customer data by using Anonymome Labs' app, as an example.
- Start planning for implementing robo-writers using natural-language-generation techniques in the next five years as the technology matures.

- Evaluate the cost-benefit of integrating personal digital assistants, such as Laiye, if you operate in China, in order to actively initiate customer conversations to accomplish tasks such as registration and activation or to make smarter product recommendations and promotions.
- Identify synergies between emerging technologies such as speech and NLP and VR, VPAs and chatbots, such as Mondly's offerings, to create engaging and immersive user experiences.

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Analysis

This research does not constitute an exhaustive list of vendors in any given technology area, but rather is designed to highlight interesting, new and innovative vendors, products and services. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

What You Need to Know

The theme of this Cool Vendors report is to identify five emerging vendors with innovative, engaging and immersive user experiences (UXs) that technology product marketing leaders at app providers should watch. This will help them to create engaging user experiences in line with market needs and trends.

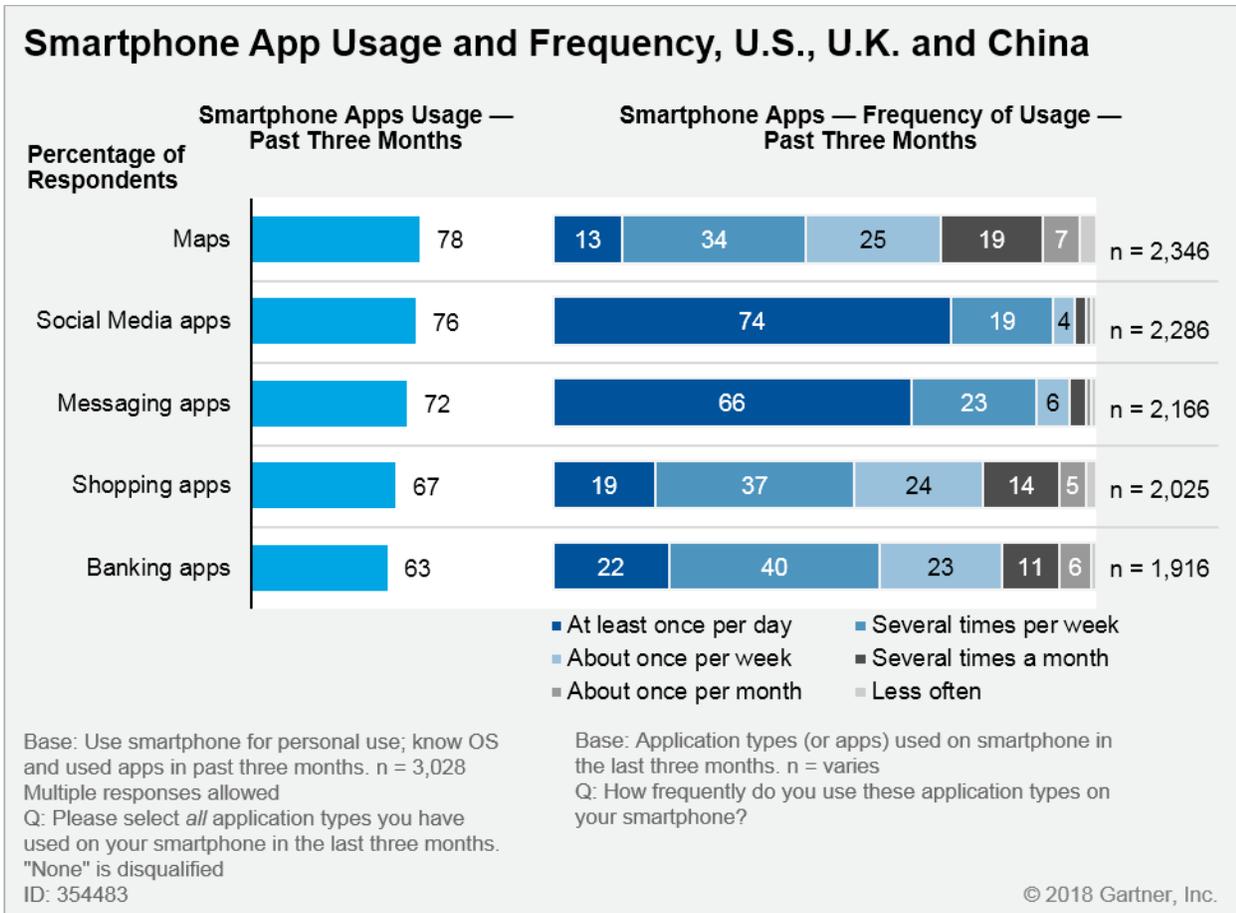
\$110 billion, the same size as Morocco's GDP, or roughly the 60th-largest country in the world in terms of GDP (see Note 1), is how much will be spent on mobile apps in 2018. This is according to App Annie (see Note 2). Mobile apps are squarely in the Plateau of Productivity, if we talk Gartner Hype Cycle terms. Despite its maturity, we found in our latest consumer Mobile App survey in 2017 that 27% of respondents say that they have *increased* the number of apps they download as

compared with last year. From the same survey, conducted in the U.S., the U.K. and China, we also found that:

- Twenty-nine percent of respondents claim to have increased the amount of time spent on apps compared with last year.
- The average smartphone user uses 10 apps actively each month and more than 60% do have a good estimate of the number of apps installed on their smartphone, which averages 27 apps. This is higher for knowledge workers (as compared with nonknowledge workers), higher-income groups (as compared with medium- and lower-income groups) and iOS/Apple users (as compared with other OS users) (on a primary personal-use smartphone).
- Respondents state paying an average of \$6.9 on "premium or paid-for" apps and \$9.21 on app-related transactions in the last three months. (This average calculation includes those who don't pay anything).

See Figure 1 for the average smartphone app usage and frequency in the U.S., the U.K. and China.

Figure 1. Smartphone App Usage and Frequency, U.S., U.K. and China (Average)



Source: Gartner (May 2018)

Technology product marketing leaders in charge of maximizing the user experience in mobile apps are challenged to create compelling experiences in a turbulent market. This is a market where new innovative providers appear quickly, end-user demands change fast and new innovative technologies are shaping new experiences.

Anonyome Labs

Salt Lake City, Utah, U.S. (www.anonyome.com)

Analysis by: Jessica Ekholm

Why Cool: Anonyome Labs' MySudo app (www.mysudo.com) is cool because it allows users to create custom personal identities and communicate (via phone, text and email) and interact with people and brands. They can do this without having to share any or as few personal details as they want to. This is particularly useful since at the moment the data trail that all users leave in their digital world is being stored, tracked, analyzed and sometimes sold to the highest bidder. Examples of this are online behavior, social graphs, location trails, shopping behavior and other personally identifiable information.

They are in the right place and the right time in the wake of the Facebook-Cambridge Analytica debacle and the impending General Data Protection Regulation (GDPR) EU law coming into force in May 2018. The coming GDPR will effect both highlighting and educating more and more people about the importance of data protection, privacy and control.

In addition, the rise in identity theft, number of hackers, stalkers and cyberbullying is sadly a "modern life" curse. Thus, it is not surprising that some people are starting to worry about their digital ID and the data trail they leave behind. In Gartner's Consumer Mobile App Survey from December 2017, we found that the biggest worry for respondents (smartphone users) in the U.S., the U.K. and China is around "data from the apps they use could be sold to external parties without their permission."

Forty-seven percent of respondents were very worried about this. And another external survey from Anonyome Labs showed that 91% of adults strongly agree that they have lost the control of how their personal information is collected and used by companies.

The company was formed in 2014, and by the beginning of March 2018 there were 1.4 million Sudo users and Sudo identities globally. The company has more than 100 patents in cryptography, encryption, identity management, network security and behavioral analytics. The key components of the solution are: Anonyome Labs does not know the user, per se (there is no phone, email, login or passwords required to use MySudo). The company also uses RSA-2048 and AES-256 bit keys to protect users with end-to-end encryption. They do not collect, store, mine or sell any personal data, and they do not advertise to users.

Each personal MySudo identity comes with a phone number, email address and private browser, and users can have up to three different MySudo identities to use at any one time. Virtual payments through SudoPay will be added this year.

Challenges: Anonymome Labs faces competition on several fronts. First, we have seen growth in providing secure mobile apps, and particularly messaging apps, over the past few years. Privacy-conscious users can now opt for several secure messaging apps, such as Wire, Wickr, Signal, Telegram, Threema, Silence, Dust and, of course, the giant in this world — WhatsApp.

With Facebook acquiring WhatsApp in 2014, some users have been worried about the data protection aspect. However, these providers are focusing solely on the messaging aspect and they don't cover the same spectrum of services as Anonymome Labs' apps do.

Anonymome Labs faces competition to providers such as Yoti, which also helps users protect their ID on their mobile phone and where users can create their own secure Yoti ID on their phone. Thus, this mitigates having to share real data with providers and people.

Another perhaps not urgent challenge is coming from governments. The U.K.'s former Home Secretary, Amber Rudd, and its Prime Minister, Theresa May, have both discussed the potential need to build backdoors into encrypted messaging apps in the fight against terrorists, which could undermine apps such as the ones above.

Who Should Care: Technology product marketing leaders should take notice of apps such as these for several reasons. Among the reasons are acknowledging that users are in fact wary of how their data is being used and sold to third-party providers. That is not to say that data usage is a no-go area. Data is needed to create personalized interactions with your clients and help you stand out in a crowded marketing space. But what it means is that users want transparency. For ease of mind, tell your users openly how their data is used and shared.

Curiosity

Chicago, U.S. (<https://curiosity.com/>)

Analysis by Adrian Lee

Why Cool: Curiosity, which reports more than 50 million users across multiple platforms, is a cool and unique app that piques human interest by delivering positive and educational content with an actionable take-away. Noting that consumption of digital media is at an all-time global peak, the founding team wanted to create a resource for habitual learning. By offering an eclectic mix of engaging, factual content — spanning science, technology, psychology and amazing places — Curiosity aims to stimulate the "curiosity" of digital users and help them get smarter every day.

The initial concept was an experimental project by Discovery Communications to introduce new, interesting topics to pique their users' curiosity. In November 2014, Curiosity received Series A funding and was spun off into an independent company. The app provides compact, short-form text articles, podcasts and videos in a well-designed and responsive format. Users can personalize their experience by following subjects, saving articles (by "liking" them), toggling notifications on or off and receiving a daily digest at a time the user specifies.

As a media offering, Curiosity distinguishes itself from "clickbait," fake news and the oftentimes negative news feed, as it backs up every content item with factual research. It is set up for

consumption in three to five minutes. As the main goal is to stimulate learning, the content is delivered randomly to drive consumption and discovery of new information.

Challenges: The velocity of content production has increased through the deployment of robowriters in content automation platforms by marketers and agencies. Following this, a degradation of editorial quality can be felt, even through the rise of clickbait and fake news articles available. As conversational artificial intelligence (AI) improves, the evolution of robowriters (such as Wordsmith or Arria NLG), with more progressive machine learning techniques that can vary syntax, vocabularies and writing styles, will challenge existing user perceptions about content produced by machines.

Curiosity relies on digital advertising revenue for its business and will release a paid, ad-free version by 2Q18. This, in turn, funds the human editorial team that creates the compelling text, video and podcast content. Curiosity faces challenges in sustaining and growing its business if it does not seek, in the future, to combine a hybrid model of robowriter and human content production.

Who Should Care: Technology product marketing leaders in content services platforms seeking to differentiate their automated content production through "human-like" conversational AI.

Laiye

Beijing, China (<http://laiye.com/>)

Analysis by Tracy Tsai

Why Cool: Laiye's personal assistant chatbot is cool for the compelling user experiences of memorizing users' preferences from history. For example, when customers talk to Laiye's personal assistant in natural language, such as "deliver a coffee," it would reply, for example, "latte, no sugar and tall size as before" and "will order the coffee and deliver to office." Users do not need to repeatedly tell the same request every time. Its large number of monthly active users — from 800,000 of Laiye's own consumer customers to 10 million of enterprises' customers (business-to-business-to-consumer [B2B2C]) — help the system to continually learn the users better.

Laiye is a consumer-facing chatbot built as knowledge-based with deep neural networks, reinforcement learning, natural-language processing and understanding, multiturn dialogue management and context-based recommendations. Laiye expands its offerings to enterprise customers, called **Wulai**, through a knowledge graph management and training platform (platform as a service [PaaS]), allowing enterprises to build their own chatbot. The semantic model is used to train the chatbot based on public information and enterprise-owned data such as an internal knowledge base and a history of customers' conversational logs.

Laiye's revenue model is based on the number of its clients' monthly active users (MAUs) after the project goes live, which indicates its determination to achieve long-term value by helping its clients succeed first. Until now, Laiye has received \$20 million as well as support in other forms from top venture capital (VC) firms and tech giants, including Microsoft, Sequoia and Lightspeed.

Challenges: Because of language ambiguity and context dependency, natural-language understanding is one of the most challenging problems in AI, especially for Chinese. Thus, building

a general purpose intelligent assistant that works for all scenarios is unrealistic given today's technology. Laiye's approach to building a domain-specific intelligent assistant is promising, but it still faces the challenge of building the proper language understanding algorithms that can achieve beyond-expectation performance in particular domains.

The market demand for natural-language processing (NLP) is still at a preliminary stage. A lot of effort needs to be spent in evangelizing and nurturing leads before a real opportunity appears. A startup such as Laiye needs to sustain and scale business while keeping profitability, as all technology development and market maturity takes time. In addition, the China giants Baidu, Alibaba and Tencent (BAT) might offer similar personal assistants as they are free to compete and dominate the market. It will be a challenge for Laiye to compete with free services, especially when it is BAT, the well-known and recognized brands in China.

Who Should Care: Technology product marketing leaders who want to provide compelling user experience solutions for specific domain knowledge should care about Laiye. Laiye transforms the business process into a more user-friendly and interactive way by integrating the chatbot with intelligent assistants to enhance the customer experience. When the context becomes more complex, the more advantages an AI-powered chatbot will show over a rule-based system, and the more value Laiye will bring to its clients.

Mondly (ATI Studios)

Brasov, Romania (www.mondly.com/)

Analysis by Tuong Huy Nguyen

Why Cool: Mondly has developed a language-learning application that covers an impressively broad number of languages and is based on a combination of best-in-class speech recognition technologies. It has an internally developed engine to interpret intent and the expertise of professional native speakers. The application covers 33 languages and applies it to four market segments: enterprise (mondlyWORKS), children (mondlyKIDS), virtual reality (mondlyVR) and the augmented reality (mondlyAR).

Its newest offering uses a mix of gamification (points, badges) and immersive (virtual reality [VR]) environments to engage users by making the lessons more fun and engaging. VR potentially brings additional value by adding a contextual and situational element to further reinforce learning.

Challenges: Mondly potentially faces competition on different fronts. The first one is in VR. Designing 3D interfaces and environments is a challenging one for the industry as a whole. There are numerous providers purely focusing on this element of the value chain. Because of these providers' focus, the potential but imminent threat they pose is offering higher-quality, lower-cost and/or more quickly developed VR experiences.

Speech and chatbot technology is another area where Mondly could face stiff competition. Incumbent speech recognition providers such as Amazon, Google, Microsoft and Nuance offer competitive speech recognition engines that can be licensed. Furthermore, the increasing accessibility of deep neural networks, and language and speech frameworks, opens up the

opportunity for more organizations to extend these existing platforms and build special-purpose (such as language-learning) applications.

The combination of these two threats is the disaggregation of the solution into two distinct value propositions — speech and VR. Competing providers can work selectively to make a joint offering greater than the sum of its parts (and greater than a single entity dividing its resources among both).

Who Should Care: Technology strategic planners offering speech recognition and VR products, and looking for market opportunities to expand their technology offerings beyond current markets. Examples of these market opportunities are virtual personal assistants (VPRs), virtual customer assistants, connected speakers, immersive entertainment and immersive enterprise training. Markets such as language learning show the potentially high benefit these technologies can offer.

Moovit

Ness Ziona, Israel (<https://moovit.com/>)

Analysis by Anshul Gupta

Why Cool: Moovit has built a solution to help travelers in more than 2,000 cities worldwide. It gets all transit-related information in a single app. It aggregates information from several public transport services into a single app to give a consolidated view and provide routes to go from Point A to Point B in a city. Using various bus and metro services, as well as other forms of transportation, such as bicycles, Moovit crowdsources data from its more than 140 million users to offer real-time information on public transport. Examples of this are buses, subways, ferries, trams and other forms of transport.

Besides providing real-time updates on the status of public transport by automatically tracking the speed and location when a user boards a transport, the app also captures other information. Examples of this are cleanliness, crowds (empty or packed) and the availability of Wi-Fi, to add insight and help users make decisions.

Moovit uses algorithms on all crowdsourced data (from its users) and data from public transport provider authorities to offer the best routing option and insight in real time to choose the best alternative (less crowded, fastest, shortest or most affordable). The app is available for free on iOS and Android devices and the web.

Moovit collects more than one billion data points per day from its users in a totally anonymized format and monetizes this data by building B2B offerings. Moovit has built a platform, Moovit Urban Mobility Analytics (MUMA), to analyze user data to build a dashboard and insights for its business customer. Moovit's business customers include local city planning authorities, municipalities and public transport providers that are looking to improve or augment their offerings.

Moovit's platform is offered as a mobility as a service (MaaS) platform with the front-end web interface and the dashboard fully customized to meet the purpose of the city planner. Moovit also works with enterprises and product or solution offerings targeted at city travelers, looking to get feedback by providing them a feature to conduct a "transit survey" through the Moovit app.

Challenges: Building a sizable, active user base per city with always updated transport schedules, adding more points of interest and mapping all bus/subway stops is a big challenge, and is essential to deliver accurate insights. Moovit needs to build a base offering in each city by partnering with local transport service providers to build an inventory of datasets with bus timing/schedules, and then constantly updating for scheduled/unscheduled changes. This requires a huge resource commitment across 2,000 cities. Having a transnational operation doesn't offer any replication opportunity; instead, it brings further resource commitment.

Scaling the platform adoption among city planners and business users is a big challenge. Moovit needs to identify key needs of each city planner/transport provider, which could vary across cities of different sizes. This would require Moovit to build a marketing and business development team responsible for each city to identify a buying center for their B2B-focused platform across various city planning department or transport service providers.

Who Should Care: City planners, technology product marketing leaders working with local transport providers or consumer-focused companies with product offerings targeted at city commuters should look at the Moovit platform to build insight or conduct surveys to validate the hypothesis.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"How to Use AI to Create the Customer Experience of the Future"

"How Virtual Assistants, Immersive Experiences and Robots Will Impact Your Organization"

"Predicts 2018: Enhance the TSP Customer Experience"

Evidence

Gartner Mobile Apps Survey 2017

- A multicountry consumer study was conducted in three countries from 10 November 2017 through 3 December 2017 to help Gartner understand consumers' behavior and attitudes on the use of mobile apps. The survey also sought to explore how these trends are evolving, and to compare and contrast country, gender and age-group differences.
- The results presented are based on the 2017 Mobile Apps Study conducted online among 3,026 respondents in the U.S. (n = 1,020); U.K. (n = 1,015) and China (n = 991)-(weighted base size).
- Respondents ranged from 18 through 74 years old. In the U.S. and the U.K., respondents were required to have an annual household income of at least \$10,000 or £6,000, respectively.

Respondents were also required to use a smartphone on a regular basis (at least once a week) for personal purposes and have used apps on their smartphone in the last three months.

- Quotas and weighting were applied for age, gender, region and income (\$10,000 or more/ £6,000 or more).
- The survey was developed collaboratively by a team of Gartner analysts who follow the evolution of the personal technologies market, and was reviewed, tested and administered by Gartner's Research Data Analytics (RDA) team.

Note 1 List of Countries by GDP

["List of Countries by GDP \(Nominal\),"](#) Wikipedia.

Note 2 Time Spent in Apps Grew Just 6% Last Year

S. Perez, ["Time Spent in Apps Grew Just 6% Last Year, Down From 11% in 2016,"](#) TechCrunch, 16 January 2018.

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56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Regional Headquarters

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