

Cool Vendors in Application Design and Development

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Creating engaging digital user experiences requires a multiexperience perspective across mobile, conversational and immersive technologies. We profile three emerging innovative vendors that application leaders should watch with a view to future-proofing their mobile and application strategies.

Key Findings

- The market for bots and chatbots has gained tremendous traction in the past few years. The hundreds of bot-related startups that have entered the market offer, among other things, high-productivity development tools for building chatbots and voice skills, such as those offered by Conversation.one.
- Current development tools and back-end approaches to support multiexperience requirements can be hard to scale and receive lower satisfaction ratings from business stakeholders. Umajin's game-engine-driven platform helps facilitate multiple experiences for apps, augmented reality (AR), virtual reality (VR) and 3D.
- Almost all business applications are inefficient pull-request-driven applications. Switching to an event-driven programming model, like that offered by VANTIQ, enables enterprises to deliver information proactively to employees when that information becomes actionable.

Recommendations

To modernize and develop for multiple digital apps and experiences, application leaders responsible for development strategies should:

- Plan for conversational interfaces to be integrated into commercial software by 2019. They should scrutinize vendors' product development plans and prepare for the arrival of conversational interfaces in their organization by determining a development and user support strategy.
- Re-evaluate their current mobile and web development strategy to ensure they build fit-for-purpose apps by taking a multiexperience approach to app development.

- Use event-driven, serverless computing capabilities to run server-side code that watches for changes in enterprise data repositories, Internet of Things (IoT) event stream data and applications, and then launches microservices or bots in response to predetermined conditions.

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Strategic Planning Assumptions

By 2021, over 50% of enterprises will be spending more per annum on bots and chatbot creation than on traditional mobile app development.

By 2020, augmented-reality applications on mobile devices will be adopted in 30% of large enterprises as part of a digital transformation strategy.

By 2020, more than 70% of mobile app development platforms will be cloud-native, leading to convergence with the high-productivity application platform as a service (hpaPaaS) market.

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.

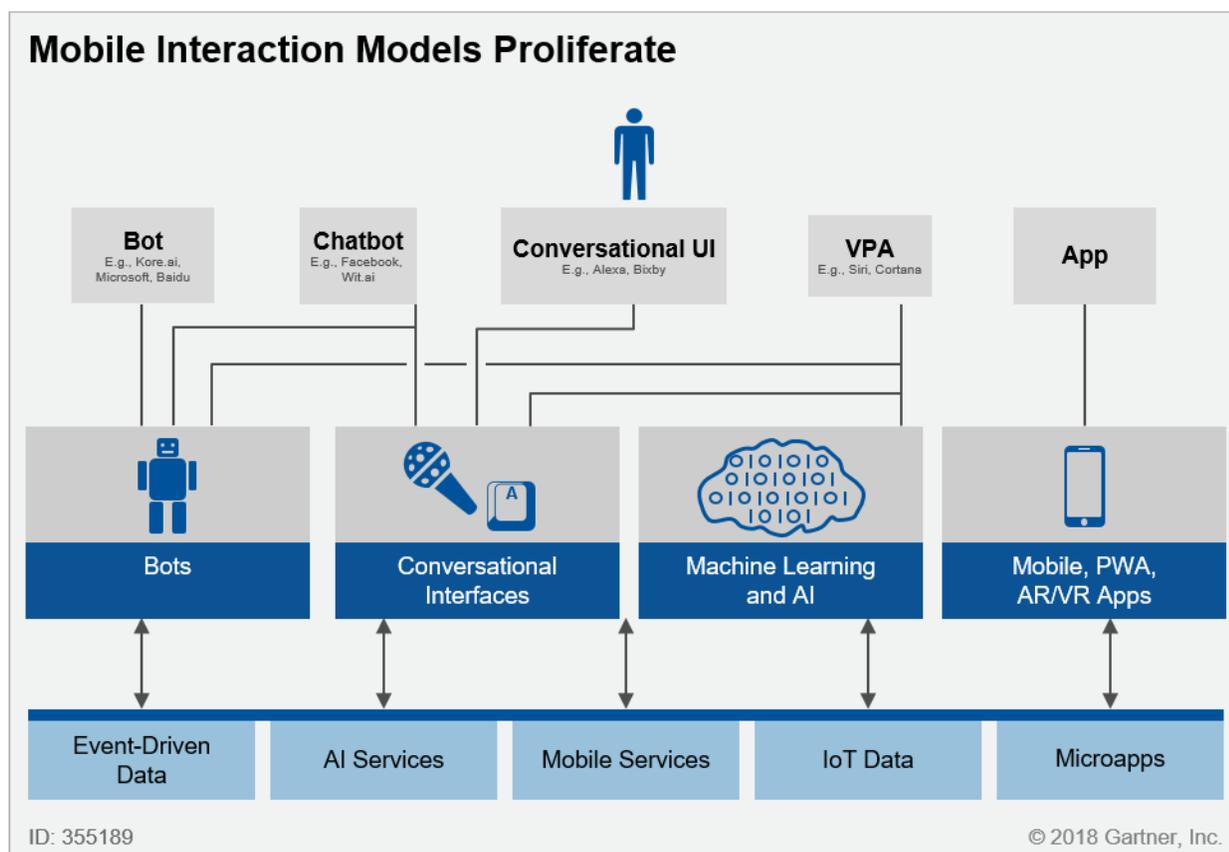
What You Need to Know

Gartner has observed during client inquiry sessions that many organizations have requirements for developing experiences that go beyond mobile or web apps. At the same time, we are observing technological changes in mobile app development platforms (MADPs) and adjacent technology markets that enable development platform vendors to expand their value proposition beyond mobile app and web development.

The demand for large numbers of mobile apps delivered to very short timelines has also driven demand for high-productivity app development tools and the implementation of microservices architecture. The no-code/low-code tools provided by rapid mobile app development (RMAD) tools enable people who are typically not programmers to build mobile apps quickly and easily in visual development environments. The adoption and use of these tools, and of microservices, relieves the pressure on development teams to build large numbers of simple mobile apps for organizations.

As a result, mobile app development is evolving to cater for multiexperience development tools for mobile apps, conversational UIs, immersive technologies and IoT/event-driven interactions. Vendors are responding to this multiexperience evolution by adding new and innovative tools to their portfolios. This is the theme of our selection of vendors for this report, which focuses on high-productivity development tools encompassing chat, voice, AR and wearable experiences — as well as mobile and web app experiences — in support of digital business (for further details, see "Technology Insight for Multiexperience Development Platforms"). Each of the profiled vendors offers a new way to handle complex problems in user-experience-optimized ways.

Figure 1. Mobile Interaction Models Proliferate



AI = artificial intelligence; AR = augmented reality; IoT = Internet of Things; PWA = progressive web app; VPA = virtual personal assistant; VR = virtual reality

Source: Gartner (May 2018)

Conversation.one

Sunnyvale, California, U.S. (www.conversation.one)

Analysis by Jason Wong

Why Cool: Chatbots and voice apps are hot technology topics that many organizations are exploring and investing in. However, the skills and resources to develop and deploy conversational apps easily and quickly are lacking in most IT organizations. Conversation.one aims to "level the playing field" by providing a high-productivity development platform to help organizations build chatbots and voice skills without coding, and to deploy them across multiple touchpoints (including Amazon Alexa, Google Home, Facebook Messenger and individual companies' chat or voice bots). Its platform enables mobile marketers and business users with no programming skills, across companies of all sizes, to build chatbots at scale. There is also an advanced mode to help developers create more complex use cases and interactions.

Conversation.one's platform offers a web-based console with a wizard-like approach to creating a conversational app, while using an API aggregator, or custom APIs, to access data for training the model. Conversation.one uses the natural-language understanding (NLU) of the chatbot or voice channel, but can also provide a custom NLU engine based on open-source technology, or enable customers to choose their own. In addition, its platform includes a conversational data management system that uses deep-learning capabilities (built on TensorFlow), combined with a crowdsourcing technique that improves the understanding level of the interaction. The data management system listens to conversations and reclassifies utterances automatically, and pushes them back into the system to improve the intent matching.

Conversation.one's offering is a cloud service that runs on Amazon Web Services. Its platform is certified for Amazon Alexa, along with its templates, which helps to decrease time to market.

Conversation.one has found success with banking and financial services use cases, as well as internal enterprise use cases.

Challenges: The capabilities of, and technologies used in, chatbots and voice apps are evolving very quickly. Conversation.one must keep up with this pace of change. Otherwise, its platform will become ineffective, and possibly even obsolete, just as quickly. Keeping up may be a challenge, given the company's small size (fewer than 50 employees) and need to find funding to support research and development. Other vendors, including much larger ones like Google, Microsoft and Oracle also offer conversational app development tools. Additionally, although there are benefits to taking a no-code and multitouchpoint approach, the ability to create highly customized experiences for a specific touchpoint may be more limited than with other tools and frameworks.

Who Should Care:

- Application leaders looking to develop either pilot or production chatbots and voice apps should evaluate Conversation.one's platform as a means to build them quickly without having to acquire extensive new resources or skills. The company offers a free edition that lets you trial the technology and use the platform's prebuilt templates and back-end connectors to bring conversational apps to market.

Umajin

Boston, Massachusetts, U.S. (www.umajin.com)

Analysis by Marty Resnick

Why Cool: Umajin provides a high-productivity app development platform that, uniquely, has a game engine at its core. Umajin's architecture helps facilitate multiple experiences through the availability of cross-platform native deployment, cloud services, prototyping and a game engine that powers its capabilities. Its platform can be applied to 3D, AR, VR and computer-aided design. Umajin's rendering system features strong animation and 3D modeling capabilities.

The platform features the Umajin App Creator. This offers a collaborative, design-led visual editor with built-in components for use cases across multiple experiences, including mobile, web, VR and AR. It provides design, prototyping and deployment capabilities in one place for developers and nondevelopers. Umajin then utilizes cloud services for app dashboards, content management and synchronization of app files. Umajin's offering is one of the few high-productivity tools that supports immersive technologies (VR, AR and mixed reality) and mobile and web apps with one tool, and in one environment focused on visual editing.

Challenges: As more vendors enter the market for high-productivity app development platforms, it may be difficult for Umajin to convince the market of the advantages of its differentiation. Specifically, it may prove hard to persuade potential customers of the benefits of having a game engine core, as this is not a technology commonly known to or used by enterprises. Application leaders may therefore look to a more holistic platform, such as a multiexperience development platform (MXDP), that also offers professional development tools and strong API mediation and connectors. Additionally, Umajin is a very new company and lacks the footprint of larger development platforms. Therefore, enterprises may hesitate to adopt its development tool, due to concerns about its long-term viability.

Who Should Care:

- Development teams looking to start implementing immersive experiences through AR and VR initiatives. They should consider Umajin as a potential way to get started easily without the investment required for, and the complexity of, multiple tools.
- Application leaders looking to build a good user experience across multiple form factors by using a high-productivity development environment that helps promote citizen development.
- Vendors in the MADP and back-end service markets that need to enhance their high-productivity tools to enable end users to create multiexperience apps. They should review the benefits of partnering with Umajin.

VANTIQ

Walnut Creek, California, U.S. (www.vantiq.com)

Analysis by Rob Dunie

Why Cool: VANTIQ combines real-time event stream data from IoT and human interactions with further contextual data from legacy systems and external services using a high-productivity development platform for event-driven, real-time collaborative enterprise applications. This reduces the build time and complexity of deploying event-driven, real-time applications.

The VANTIQ App Builder enables application authors to create complex event-processing algorithms using a model-driven approach. Although it does not eliminate the need for code, it dramatically reduces the required technical skill set and the time to market for automating the processing of complex events, which increases the pool of resources to create complex apps at scale. The VANTIQ Collaboration Builder gives users the ability to model a business process that will be orchestrated upon detection of a relevant event. Business processes can comprise both

human and machine tasks. The platform provides both mobile and web experiences for humans to interact with the business process.

VANTIQ uses a distributed microservices architecture to execute the application, which provides scalability and resiliency. The microservices can be exposed as services and call any other services. The platform's capabilities can be incorporated into other applications via RESTful APIs. In February 2018, VANTIQ introduced version 2.0, which added continuous integration/continuous delivery (CI/CD) capabilities, in addition to a simplified web-based developer studio, VANTIQ Modelo, which makes the design of applications more accessible and shortens the learning curve.

Challenges: Although VANTIQ enables users to automate structured business processes that are initiated by predictable complex events, it is not well suited to orchestrating processes that are ad hoc and knowledge-worker-driven. Its platform has limited analytics capabilities and does not offer any automated capabilities to help optimize the detection of events or orchestration of triggered processes. The lack of such functionality might be a deciding factor for end users, who may choose competing products from intelligent business process management suite (iBPMS) or business process management (BPM) vendors, instead of VANTIQ's event-driven application platform as a service (aPaaS).

Who Should Care:

- Application leaders who need to build complex-event-based applications and services rapidly, but who lack the skills to do so. Such applications include those built for IoT use that sense data from industrial equipment, such as power pole transformers, in order to detect anomalous conditions and then alert field service personnel.
- Solution architects looking to integrate a more robust event-based orchestration capability in other applications.

Where Are They Now?

Insert

Yakum, Israel (www.insert.io)

Analysis by Adrian Leow

Profiled in "Cool Vendors in Mobile App Development, 2017"

Why Cool Then: As a stand-alone vendor, Insert offered an automated in-app marketing platform. It enabled mobile marketers and product managers to independently create, publish, test and analyze the performance of the campaigns produced by their existing mobile apps. This was a revolutionary development in an ecosystem that is heavily dependent on developers and that hinders the creation of timely in-app campaigns. For marketing professionals in the mobile space, Insert's solution meant massive improvements in efficiency as it enabled them to respond quickly to, and keep up with, the fast-moving lives of app users.

Where They Are Now: Insert was acquired by [Pendo](#) in 2017. Pendo offers product analytics with qualitative feedback and guided user engagement tools, but had limited mobile app development resources. Insert complements Pendo's offering as Insert is a ready-made platform that product managers, designers and customer success can use to analyze user engagement across web, mobile web and native mobile apps. The combined platform enables product teams to gain more insight into multiscreen user behavior and mobile app usage. It provides tools to guide users in-app, with guides, walkthroughs, tool tips and in-app messages to increase user engagement and improve onboarding and feature adoption.

Who Should Care:

- Application leaders, product managers and designers who want to understand and guide users in order to improve products, feature adoption, satisfaction and retention.
- Nontechnical app owners who want to take control of the creation, editing and measurement of in-app campaigns without the need for coding.
- Technical professionals who want to accelerate release management processes.

Gartner Recommended Reading

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

"Technology Insight for Multiexperience Development Platforms"

"Hype Cycle for Mobile Applications and Development, 2017"

"Predicts 2018: Mobile Apps and Their Development"

"It's Time for App Leadership to Reframe Mobile App Development Decisions"

"Top Strategic Predictions for 2018 and Beyond: Pace Yourself, for Sanity's Sake"

"Magic Quadrant for Mobile App Development Platforms"

"Four Channels for Conversational Technologies"

"Survey Analysis: High-Productivity Application Platform as a Service Advances in Enterprise IT"

"Magic Quadrant for Intelligent Business Process Management Suites"

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