To compete today, organizations must give users the data they need, when and where they need it. That often means creating mobile apps, and surveys show enterprise mobile development budgets increasing by double digits.¹

The most successful enterprise mobile apps – for internal customers and the general public alike – enhance data with embedded analytics, which Gartner defines as “the use of reporting and analytic capabilities in transactional business applications.”²

A mobile app with embedded analytics should tap into data from multiple sources and securely deliver tailored data to individual users. It should display data in the right format for a user’s device, location and task. Most important, an app should motivate people to interact with data, make decisions and take action.

The OpenText™ Analytics and Reporting product stack, with OpenText™ Actuate™ Information Hub (iHub) and OpenText™ Actuate™ Analytics Designer, make these mobile apps possible – and help you develop them faster, better and at lower cost – in many ways:

• **Built for embedding and white label³ distribution:** iHub ships with more than a dozen documented integration APIs and connectors to enable embedded analytics in mobile apps. These include a REST API, JSAPI, Web Services API, and URL link. iHub leverages mobile-friendly web standards like HTML5 (HTML, JavaScript, and CSS3).

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³ “White label” means a developer can customize the finished product’s look-and-feel, branding, logo and identity to seamlessly match corporate style. Read about the value of white label software at http://www.forbes.com/sites/theyec/2014/06/03/why-a-white-label-solution-is-easier-than-building-your-own/
**Solution Overview**

**Embedded Analytics in Mobile Applications**

**Enterprize Information Management**

- **Centralizes data-centric chores:** iHub aggregates data and generates charts, tables, and graphs centrally. Only selected data is delivered to, and processed by, the mobile device, improving performance and responsiveness.

- **Uses a single toolset:** OpenText Actuate Analytics Designer supports development for all apps and environments, not just mobile. The OpenText Analytics platform is optimized for building native/hybrid mobile apps that support enterprise requirements for data security, flexibility, and control. (See “Four Mobile App Development Models.”)

- **Simplifies maintenance:** Mobile apps designed and deployed using the OpenText Analytics platform centralize mission-critical app components, making updates and upgrades easier and faster. Developers can improve many aspects of apps on the back end, without relying on mobile users to download and install new software.

**Mobile Development with OpenText Analytics**

The OpenText Analytics design and deployment platform enables the critical tasks and processes that a successful mobile app requires:

- **Combine data:** Data designs created with OpenText Actuate Analytics Designer connect to data from multiple, disparate sources, including legacy systems. Data is integrated and optimized for rapid analysis and visualization.

- **Manage access:** iHub supports single sign-on with complete logging. User authentication integrates with any Mobile Backend as a Service (MBaaS) to manage and control what users see and do.

- **Deliver personalized data:** Role- and task-specific data designs are created in OpenText Actuate Analytics Designer and deployed using iHub. Results can be displayed in any mobile browser or WebView.
• **Enable user self-service:** The OpenText Analytics platform supports fully interactive reports, data visualizations and tables. Adding interactivity to existing reports and apps is easy using low-code tools from OpenText Analytics.

• **Support broad usage:** With iHub handling analytics and visualizations, organizations get enterprise-class scalability, flexibility, availability, security and reliability.

**What It Means For Developers and Solution Architects**

The OpenText Analytics platform boosts developer efficiency by centralizing design, deployment, and display of embedded analytics and data visualizations. Mobile developers can continue to use specialized mobile app development tools (such as XCode, ADT and Visual Studio) and focus on functionality, while leaving presentation of data and the complexities of building and maintaining an underlying analytics engine to OpenText Analytics.

With OpenText Analytics, personalized content is delivered to mobile apps using compact, efficient queries and responses, and can be added as a WebView to any application with just two lines of code. Organizations that already use OpenText Analytics can easily add a mobile delivery channel to their existing environments. Organizations creating new mobile apps may find that adding iHub to an environment is more efficient and cost-effective than building data visualization components themselves.

In addition to the REST API, iHub includes two sample applications – a mobile web application called Avatio and an iOS hybrid application called Gazetteer – to inspire developers and showcase mobile development concepts and best practices. Source code for Avatio and Gazetteer is freely available on GitHub.

By using the flexible foundation of OpenText Analytics, enterprises future-proof their projects with support for any platform that can be addressed by an API. Mobile app creation becomes faster, better and less expensive with OpenText Analytics.
Four Mobile App Development Models

Mobile app development today follows one of four models, all supported by OpenText Analytics and Reporting.

- **Native/Hybrid:** Some application components developed in native, platform-specific language (typically Java for Android, Objective-C for iOS). Other application components reside on a server, are not platform-specific, and are displayed in a frameless browser (WebView) in the mobile app using HTML5.

- **Hybrid:** All application components reside on server and are developed in non-platform-specific language. A native-language wrapper is used for distribution.

- **Mobile Web:** Entire application resides on server and is accessed via mobile browser.

- **Native:** Entire application developed exclusively in native language specific for each device.

The native/hybrid model is popular with enterprises because it contains costs; enables centralized, server-side generation of embedded analytics content; and manages security at the mobile client, which is a must in corporate BYOD environments. The native/hybrid model also lets developers access GPS, camera, and other mobile device features more easily.

Aviatio: This HTML and JavaScript example shows how to integrate iHub into a responsive, mobile web application. The application uses REST API and JSAPI to retrieve data and visualizations from iHub, and the Angular JavaScript frameworks to display HTML content and build navigation links.