

Creating Breakthrough MultiValue Applications

Breakthrough applications are solutions that dominate markets, destroying the competition by providing unique functionality. They are the applications that customers clamor for, and that developers dream of creating. This article will examine the characteristics and technology demands of breakthrough applications including why we need them, what defines them, and how MultiValue developers can build them.

The Case for Breakthrough Applications

It's very simple. The major benefit to having breakthrough applications is that they increase revenue. Revenue growth is strategic to any organization. Top line growth enables an organization to solve almost any problem, while lack of growth is likely to create problems. Consumers want the productivity benefits and ease-of-use that breakthrough applications provide. They are willing to pay for these deliverables, so creating a breakthrough application will have a positive effect on your top line.

It is equally simple to identify the major risk associated with not having breakthrough applications — your customers may abandon you. Most consumers of your software are already using smart hand-held connected devices and getting immediate answers to the questions that are on their minds at the time. They use downloaded “apps” on their phones and tablets to find a restaurant within walking distance, check movie times at near-by theatres, com-

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parison shop by scanning bar codes, etc. That being the case, users expect the same kind of experience when using corporate applications, whether in the office or in the field. If your application doesn't deliver the utility, immediacy, and ease-of-use they have become accustomed to, your customers may find a competitor's breakthrough application that does.

The Breakthrough User Experience

The user experience is one of the critical characteristics that define today's breakthrough applications. People have little need, or desire, to be tethered to a desk-top workstation. Users are demanding “what I want, when I want it, and how I want it.” A breakthrough application should be able to meet that demand even when users are out of the office or in the field. (The “field”, of course, can be a showroom floor, convention exhibit hall, customer waiting area, or even Main Street.)

The user experience isn't all about look and feel, though. A breakthrough application can have significant productivity benefits. Imagine a doctor attending a conference and receiving notification that something significant has

happened to one of his patients. On his tablet computer he can call up the patient's complete medical history, view important new information, and make a timely decision about treatment. Or perhaps a real estate agent can access just-posted listings and show them to prospective buyers without going back to the office computer.

Unlocking All of Your Data

Many applications do a good job of capturing structured, transactional business data. However, it is estimated that structured data only represents 5% to 15% of an organization's information. There is a wealth of business-critical unstructured data stored in documents, as well as in notes fields of transactional systems. This critical knowledge is often lost because it isn't easy to access or analyze. In addition, information from on-line sources or found within other applications and systems could also be vital to the decision-making process.

A characteristic of modern breakthrough applications is that they can tap into all types of data. They provide wide-scale connectivity to take full advantage of diverse sources of data. And they offer rich support for gaining insight from unstructured data.

Driving Intelligent Action

The whole purpose of providing personalized user interfaces and unlocking all the data is to drive intelligent action. A breakthrough application will — in real time — enable users to gain useful insight into what their data means. And

it will provide them the ability to take action based on that insight.

You will gain a competitive advantage by embedding business intelligence capabilities right into your transactional applications. No longer can transactional and analytical systems be separate. Quantitative analytics based on structured data combined with qualitative analytics based on unstructured data will give your users an unprecedented view of their business. But to truly drive intelligent action, this must be delivered at the speed of your transactional systems.

Building Breakthrough Applications

So, what do MultiValue developers need to think about as they work towards delivering the elements of breakthrough applications mentioned above?

How to Give Users the Experience They Expect

Smart phones and tablets are rapidly becoming the preferred user devices and most breakthrough applications will have to run on these platforms. Developing for mobile devices doesn't have to be a nightmare. If your user interface is already browser-based, it will need to be redesigned to look good on a small (perhaps very small screen) and to support "touches" rather than "clicks". However, the underlying data structures and business logic can remain largely unchanged.

Remember, it's very likely that today's new devices will be old 12 months from now. You need to be poised to take advantage of the latest user interface. That's why it's a good idea to develop "from the data outward." Start with a rich data model (something MultiValue technology excels at) and build

the business logic that delivers breakthrough features. Then add the user interface your market wants. If you can, use a service-oriented architecture (SOA) for your breakthrough applications. This will make it easier to adapt your application for the next new device, whatever it may be.

In some cases, it simply may not be practical or sensible to make your breakthrough application available on mobile devices. However, your user interface still needs to offer rich functionality, be easy to use, and be extremely responsive.

How to Unlock Unstructured Data

Information contained in text fields is unstructured data that is hard to access. But now, new technologies that tackle the problem of turning unstructured data into accessible information are emerging, and you should consider how they can help you add breakthrough features and capabilities to your applications. Traditional dictionary-based ontologies used to search unstructured data require domain expertise and are limited to the quality of the dictionary. A modern linguistic analysis of concepts and relations produces more accurate and usable results, leading to far more productive interpretation.

How to Embed Real-Time Analytics

If you are going to empower your users to take action based on data gathered by your breakthrough applications, you must provide them with timely insight into the real meaning of that data. That means embedding real-time analytics, of both structured and unstructured data, right into your applications. Fortunately, MultiValue technology usually provides the kind of performance

you need for real-time analytics. Look for tools that make the development of breakthrough analytic features as easy as possible.

There are several other things to consider as you assemble all the pieces of your breakthrough application. One is the level of complexity you are willing to endure. Juggling and gluing together a variety of software technologies from multiple vendors can be a daunting and delicate task. New releases of third-party tools may not run on your operating system or they may be incompatible with other applications. A specific product could be discontinued, deprecated, or the supplier could no longer be in business. This can make maintaining your own technology platform difficult. You undoubtedly forecast budgets for your IT projects, paying particular attention to how long they will take, how much they will cost, and what resources will be needed. Don't forget to budget for complexity as well. Failure to do so may reduce your ability to provide breakthrough applications.

In Conclusion

A "new style" breakthrough application connects users to their structured and unstructured data in ways that were unimaginable a few years ago. It has the ability to connect to disparate applications and communities, and provide insight through real-time quantitative and qualitative analytics. And it gives users the information they want, when they want it, and how they want it.

The technology to build breakthrough applications exists. With planning, good design, and advanced technology, you can build an application that will significantly add to your revenue growth today, and in the future. **IS**

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