Universal Mind™

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# Beyond the App:

## Creating Digital Solutions for the Anytime, Anywhere Customer

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More than 142.8 million smartphone users worldwide are forecast by 2011. Mobile users are expected to completely surpass desktop or browser-based clients by 2014. Already 24% of Americans use smartphone apps, and several sources predict smartphone penetration exceeding 50% by end of 2012.

With these numbers and the rate of growth, it's easy to see why customers have come to expect anytime, anywhere access to your business, whether they interact with your company from their computer, mobile device, tablet or kiosk. And as businesses increasingly adapt to the expectations of this "Customer 2.0," they've realized that it's no longer sufficient to simply optimize their websites or customer service channels for mobile devices to meet customer demands.

Savvy business leaders understand that in order to serve the needs of their mobile customer, they need to create a powerful, elegant and consistent user experience that spans multiple devices and touch points. They also know that their applications must be fully integrated into the back-end systems that support the company's operations. But while most companies may be on solid footing when it comes to developing a one-off smartphone app, many are struggling to develop a cohesive strategy across multiple platforms that tie into their existing business infrastructure—what we call **multichannel digital solutions**.

## From One-Off Apps to Digital Solutions

Developing a successful multichannel solution first requires a shift in thinking, one that goes beyond the idea of developing a one-off app.

Take for example Bank of America. With over 3.5 million customers, the company serves more than a third of all U.S. mobile banking customers and is on the forefront of customer self-service across multiple touch points. In addition to their web banking and ATM applications, they support more than 850 handsets via mobile web applications and offer native apps for the iPhone, RIM, and Android platforms as well as SMS banking.

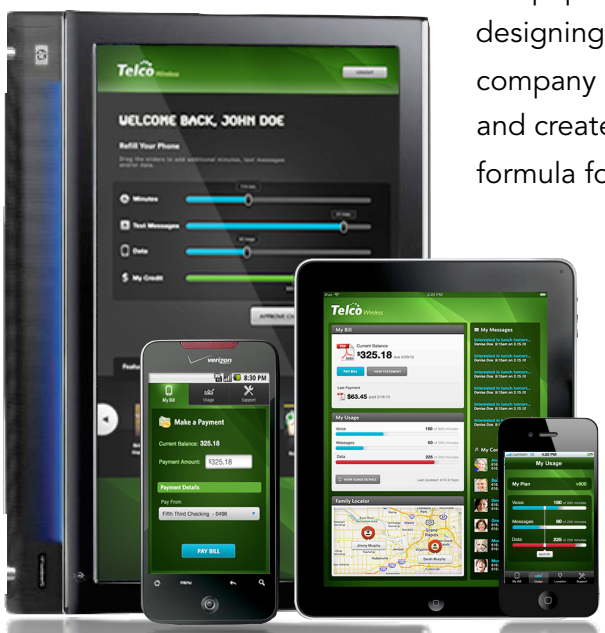
Bank of America's success in building its mobile market share is due in large part to its approach. They didn't develop an "app" strategy; they developed a complete, multichannel digital solution strategy. These applications were all carefully designed to

meet customer needs that are different depending on when and how the customer interacts with the business. They connect deeply into the bank's business processes and systems and likely leverage existing technology investments.

Similarly, as Juniper Research forecast that nearly 15 billion travel tickets will be delivered to mobile devices worldwide by 2014, Southwest Airlines has built mobile apps across iOS devices, with versions for Android and Blackberry in the works. As part of their company charter to differentiate itself from other low fare carriers with exemplary customer service, Southwest's mobile apps enable customers to book a flight, check in for their flight, check on flight status, book a car reservation, and look for time-sensitive, low-cost fares. These are powerful front-end apps that tie in to the airline's core business systems and various customer touch points—customers who check in for a flight from their mobile device can, within seconds, print their boarding pass from the airport kiosk, lowering wait times at the counter and allowing customers to move quickly along to their flight.

These applications aren't independent, one-off projects. They are **digital solutions**.

With thousands of new devices, platforms, and technologies with which to deploy applications, the technical landscape is complex and time is not a luxury. Real leaders will be defined by innovative, first to market solutions that focus primarily on the customer experience.




This paper looks at some of the key considerations for planning, designing and deploying robust digital solutions that can put your company a step ahead of the competition, build customer loyalty and create new revenue streams. We'll also examine the critical formula for success that includes **strategy**, **user experience design**, **technology** and **measurement**.

To illustrate how this formula can be applied in the real world, we'll reference a "Telco" digital solution throughout the paper that was designed for a fictional telecommunications company, based on work we've done for our clients.

## Building a Winning Digital Solution Strategy

When developing your strategy for digital solutions, the first area to examine is your organization's **goals** for the program. Are you looking to be seen as innovator, or fend off competition by showing progress in the space? Simply showing initial momentum and previewing the future roadmap can often place you ahead of the competition. Do you want your digital solutions to help you build customer loyalty and enable greater customer self-service, or is your highest priority to create new revenue streams? Once you've agreed on the goals, prioritize them so you'll know where to start first.

The next step is to understand who your **target users** are, what *their* goals and requirements are, and which technologies they use for which purposes. This will help define how to utilize each platform and take advantage of what each has to offer. This process includes researching the platforms your users are most likely utilizing and getting an understanding of the user experience. Every device is different, and every user has multiple needs. For example, a person might typically use an online banking application to pay a bill, while they're more likely to use the bank's mobile application to find the closest ATM.

You should also make sure to **validate your assumptions** with real users throughout the development process. Once you know how your target user relates to different technology platforms, you can make smart decisions about which devices to release on and when, and also plan for lowest common denominator ubiquity.

### Strategy Considerations for Universal Mind's "Telco" Solution

The strategic goals for our sample "Telco" solution were to increase overall customer touch points, boosting satisfaction and loyalty, while enabling more opportunities for up-sell and increased revenue. It was crucial, however, that customers not feel oversold. So interactions had to be relevant to each device and to customer usage scenarios.

We recommend that most companies not try to tackle the whole problem at once. Instead, they should **identify a minimally viable solution set** and start there. This strategy means releasing a basic but functional app as a foundation, then taking advantage of the efficient upgrade paths most devices offer to provide regular updates. This enables you to enter the market more quickly and refine as needed, as well as giving your users access to new developments as soon as they're available and keeping your organization top-of-mind. Many devices make it easy for companies to update applications; this affords iterative (early

and often) product release cycles, allowing the application to stay fresh. Just make sure these updates offer real value so users will adopt them.

Finally, make sure that your organization has agreed on a **common set of expectations** for every stage of the project, including all phases of design, development, delivery and deployment, as well as what constitutes a successful outcome.

## Designing the Optimal User Experience

It's important to remember that people have come to rely heavily on their personal smart devices to manage nearly everything—from checking email and tracking appointments, to listening to music and getting driving directions, even extending to much more personal applications like helping athletes track their pace and progress or helping diabetics calculate their carbohydrate intake. Consumers expect more out of these devices every day, and the **user experience** that your application delivers will directly correlate to its effectiveness. This is why we discourage the ideology of "design once, deploy to many"—it simply does not respect the customer and is likely to fail.

## User Experience Design Considerations for Universal Mind's "Telco" Solution

It is critical to concentrate on both user and device. On our mobile app, users are presented relevant interactions such as plan usage statistics and the location of their friends and contacts, and up-sell consists of media such as ring tones and music. On the desktop/kiosk, opportunities for up-sell center around the device itself: allowing users to tell us how they use their devices, we can then make relevant suggestions for upgrading their phone or data plan. Both device apps tie back into the same customer database.

"Telco" Screen: Mobile


"Telco" Screen: Kiosk

The most common mistake when designing for multiple platforms is to simply port an existing desktop application to a smaller device. Devices have some capabilities that browsers cannot provide, while other functions simply don't make sense in the context of a 3.5-inch screen. And although by strict technical definition the iPhone, Motorola Droid, and Palm Pre are similar, their individual interaction models differ greatly.

That being said, balancing business drivers with real user needs can be difficult. In many cases, the two are at odds with one another. This is why it's critical to arm yourself with the right information to make smart trade-offs, beginning with **research** such as user studies, subject matter expert research, and business viability and technical feasibility studies. This body of data can then be weighed to achieve the best balance between user-centric solutions and business-value gains.

Other UX considerations for successful deployments involve rapid prototyping and user testing, supporting early and frequent feedback cycles with real users. You can then create, test, and adjust assumptions quickly.

## Making Technology Decisions

By listening to users, you have an opportunity to create apps that are relevant. An app can be fun, it can bring efficiency, it can bridge the gap between work-life balance, but in the end it has to add value and enhance the way people live their lives.

Thus, the technology evaluation process doesn't stop with device capabilities. Before you choose a platform, you must first understand the **user-device relationship**. Users ultimately expect similar functions across applications on the same device. If the "arrow key" brings a user to the previous screen on 95% of the applications they use, they will expect the same from your application. Similarly, if your design requires a "native" look and feel, then you should build it with the native platform technologies. If the design calls for a "consistent" look and feel, then HTML5 may be a viable option. Your final development technology decisions will ultimately be made for you as a result of successfully evaluating devices, technologies, and user experience against your critical success factors.

In this technology landscape, there are endless decisions to be made with regards to development technologies, services, and content. Decisions need to be made about Native SDKs, HTML5, and service types. Having **practical experience** in this arena is critical. It is

one thing to write a simple, one-off Android or iPhone application; it's far more complex to develop an integrated set of solutions that need to service an enterprise or potentially millions of consumers… and also tie into existing enterprise systems on the back end to enable real-time transactions and customer service.

That being said, there are some basic considerations for when to develop applications natively, as opposed to using browser-based technologies such as HTML5.

Native Apps offer substantial benefits, such as:

- Better performance
- Greater access to device APIs like camera and address book
- Consistent, immersive, device-specific user experience
- Low learning curve as users already know the device
- Less dependence on the lowest common denominator

Browser-based apps are beneficial to:

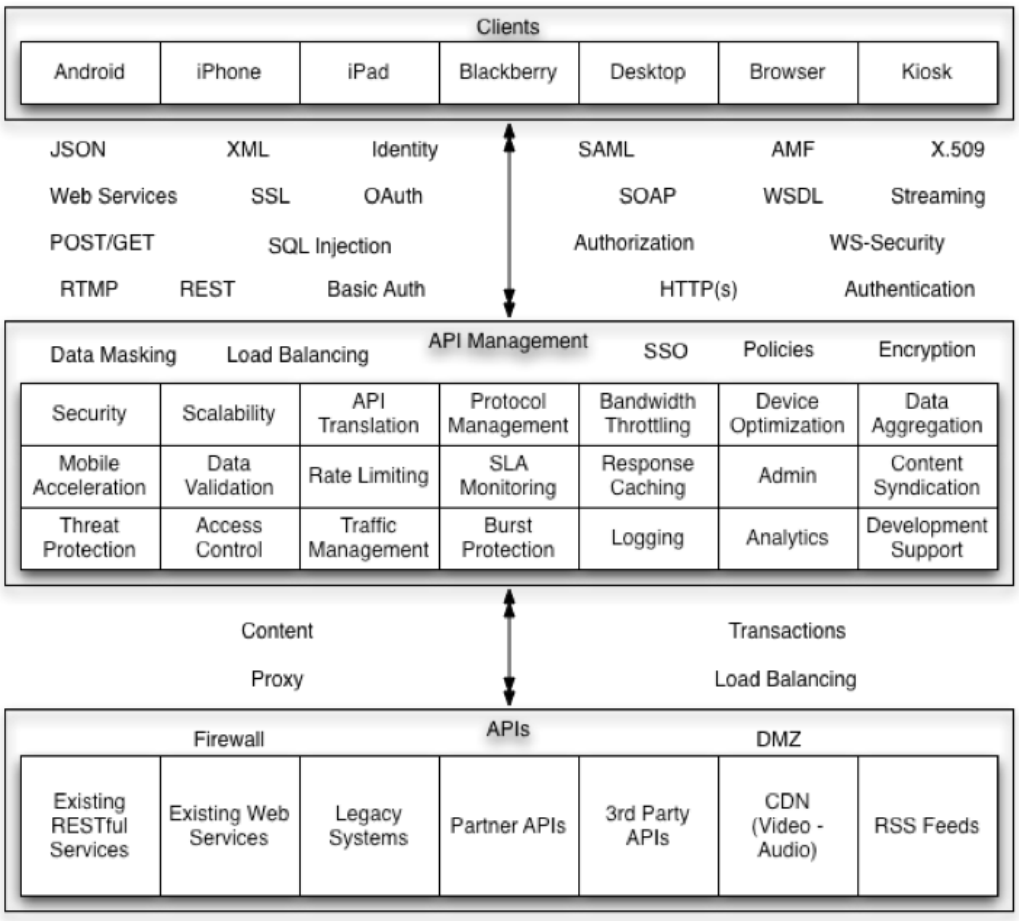
- Ensure your presence on older devices
- Act as an intermediary solution for newer devices until it makes sense to create a native application
- Take advantage of the more advanced capabilities in HTML 5, such as native media support, geolocation API, and offline support

As a rule of thumb, we generally recommend developing native applications for mainstream devices and browser-based applications as a stopgap for older or newer devices; however, each digital solution is different and will have its own unique set of considerations and trade-offs.

The far greater technical challenge is tying your backend business systems and processes to a digital solution that encompasses various customer touch points like smartphones and kiosks. The technology infrastructure for a multichannel solution goes well beyond the platform you choose for front-end development. In order to be successful, enterprises must consider how to architect data delivery and API Management as well as security, scalability, content aggregation, device optimization, API translation and many other factors as outlined in the Architecture diagram below. And the performance of your multichannel solution depends directly on how well you execute across every item in this complex arena.

## Technology Considerations for Universal Mind's "Telco" Solution

Multichannel Digital Solution Architecture




## Measuring Success

The final step in the process is agreeing on how to measure success. With a morass of potential features, devices, platforms, and technologies, success can be challenging to define. However determining your critical success factors in advance will affect your ultimate strategy. Consider the following questions:

- Will this increase our transaction volume and therefore revenue?
- Will this increase customer adoption and/or retention?
- Will this increase our brand recognition and/or loyalty?
- Will this decrease our costs?
- How many people do we want using our app?
- How do we want to integrate the solution with our social media program?

While each digital solution is unique, successful solutions typically extend and improve business models and efficiencies, allow customers to be more self-sufficient and give your company competitive differentiation.

## Conclusion

The strongest approach for meeting the anytime-anywhere needs of "Customer 2.0" is to think strategically beyond a one-off device app and instead invest in creating a powerful and consistent user experience that spans multiple customer touch points, fully integrated into the back-end systems and operations of your business.

The playing field is complex and the possibilities endless. By choosing a partner with knowledge and experience can you produce a successful multichannel digital solution that attracts and retains customers in a constantly changing market—and keeps you poised for wherever technology evolves in the future. Universal Mind understands the relationship between Strategy, User Experience Design, and Technology and practices it every day, bringing the most user-centric solutions to multiple device initiatives. Together we can innovate in a world that is constantly evolving.

## What you should expect from a Digital Solutions Agency

- A deep understanding of user experience (UX) and how customers intuitively interact online, on mobile devices, via embedded systems, and all other devices.
- A systematic discovery process to determine your business needs, understand your IT infrastructure, set program goals, and create a detailed roadmap.
- A strategic application development and delivery program that meets your customer service and business goals.
- The technical and project management skills needed to design, build, and maintain large-scale, enterprise-grade solutions that integrate with back-end legacy systems and work across multiple devices.
- Expertise in all technology platforms and ability to stay on top of rapidly-changing technology infrastructure, development tools, standards and trends.
- Ongoing program recommendations based on analytics and measurable results, to drive long-term ROI growth and deeper customer engagement.

## Universal Mind—a Digital Solutions Agency

Universal Mind is a digital solutions agency—a new breed of agency that bridges the gap between the design capabilities of an interactive agency and the deep technical expertise of a systems integrator.

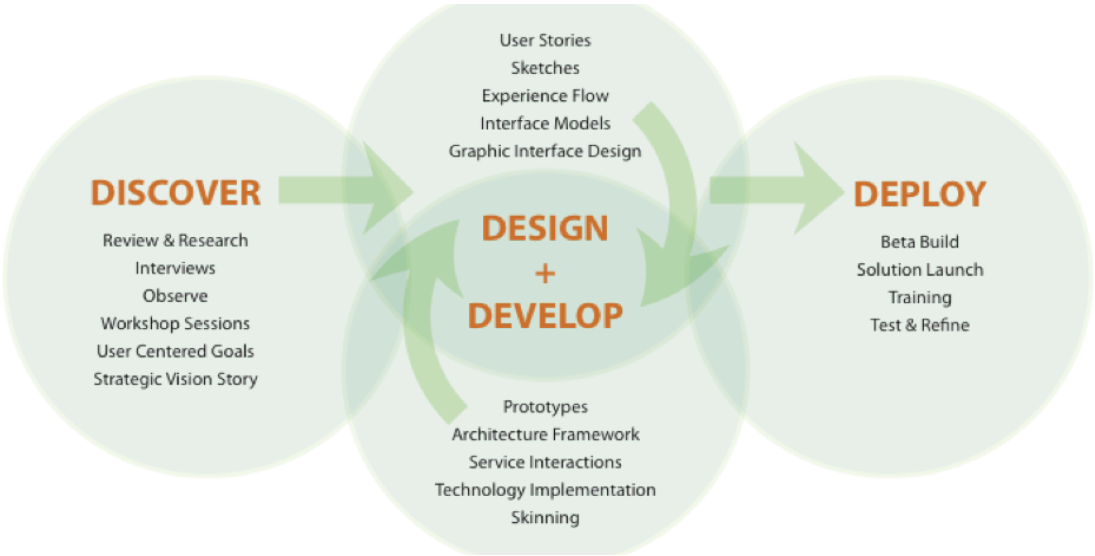
We specialize in delivering enterprise-grade, interactive applications for the web, desktop, kiosks, and mobile and embedded devices—apps for one platform, or multichannel/multi-device apps with a common back end.

Because we have been developing rich Internet applications since 2003, we have a solid, reliable background creating engaging user experiences for your customers, on any device they use. Experiences that run deep through your enterprise, strengthening relationships with customers, reducing operating costs, and opening new revenue streams.

We've done it for many of the world's leading organizations. We can do it for you.

## Universal Mind's Solution Process: Discover/Design/Develop/Deploy

Universal Mind's "Discover-Design-Develop-Deploy" approach defines a proven and highly successful implementation process across multiple devices. We work in small, agile collaborative teams that understand user needs. We research and discover the underlying problems and approach them from both a UX and technical angle.



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