What It *Really* Takes to Build a Gold Standard Banking App.

Online banking apps have changed customers' behaviors—and significantly raised their expectations. But banks' understandable response— build better apps NOW!—conflicts with longer-term plans to build, integrate, and anticipate better technology and interfaces for the future. What's over the horizon is on everyone's mind, but the urgent demands of the present cloud the way forward.

Carbon Five works closely with banks developing web and mobile technology, and we've learned six important lessons about building online banking apps to gain and retain customers—and set their business up for success now and in the future.

Relationships Are Key

Relationships are always important. But in banking, they're essential. A relationship customers trust enough to safeguard their money is the very essence of the service banking provides.

Few projects have as many constraints and stakeholder dependencies as banking projects. To move your forward, you need to establish trusting relationships across the organization, and with your customers. This takes time and effort. But getting to know your stakeholders—and their incentives and fears—at the beginning of a project gives you the best chance of finding a win-win scenario when it's time to negotiate over a potential project blocker.

Dreams Move at Silicon Valley Speed

When Carbon Five starts working with a new client, their developers are usually thrilled to begin applying the best practices they've been reading about. They're hoping to crank out features and rapidly see results in green builds and happy customer smiles. But in reality, the build-measure-learn loop is just longer in a regulated industry.

So setting expectations and building a project road map are essential. They provide a measuring stick and give team members opportunities to scratch their feedback itch and celebrate wins along the way. On past projects, we've conducted live user testing in branches and released the results to internal teams or subsidiaries, which not only de-risks the larger release, but also boosts client team morale and retention.

It's all about perspective. "On one project, we were able to reduce the number of team meetings by fifty percent, which dramatically improved development from time saving alone," says Carbon Five Principal Product Manager Matt Sullivan.

Feature Parity is a Paradox
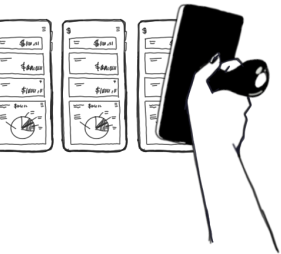
Most clients want to run lean, at high velocity, and to retain feature parity. But to rebuild an app with the same functionality as the existing app is not only an expensive missed opportunity, it's the polar opposite of lean.

Requests to rebuild an app with the same features as before have come to us in two different forms. For some stakeholders, feature parity means the same user experience but with a new look and feel. This is the equivalent to kicking the can down the road and provides no real value to the users or the business.

For other stakeholders, parity means ensuring all users can do the same things they can do in the current app, and an initial release can't happen until this is possible. But if you're replacing an app that's been in the market for a long time, as most banking apps have, a feature-complete app can take a year or more to reconstruct. A better approach is to start with the user scenarios and rethink the experience from there. Then, issue early releases to a subset of the overall user base to mitigate risk and get the app in customer hands sooner.

It's easy to understand why people think they want feature parity. Retail banks' products are interconnected in complex ways, which means group incentives could be at odds. And stakeholders often fear their customers will respond poorly if a new app is missing a familiar feature from the old one.

But that's why it's so important to engage stakeholders in deep discussion about priorities and mitigation strategies at the start of a project. Is there an opportunity to align your release strategy with incentives? Can data help you understand whether a feature is worth maintaining ? The goal is to build the best app for your stakeholders and customers, and if your current app isn't that, do you really want to reproduce all of its features?

An Agile Core Can't Survive in a Waterfall Shell

Enterprise clients usually want to become more agile. Most of them already have some version of "capital A" Agile tooling but they're not deriving real value from agile development.

Carbon Five Engineering Director Marc Love says we help strengthen that agile core by supporting team members in questioning the value of ceremonies and refining processes to have better outcomes.

But even the strongest agile core can be torn apart by an incompatible shell. Attempting to wrap traditional project management and quality assurance around an agile workflow can be disastrous. PM and QA are necessary, of course, but they need to be adapted to work with an agile team. So before bringing those team members onboard, figure out how their work processes can be altered to meet agile goals, then find the people who are most willing to embrace, engage with, and drive that change.

Feedback Loops Can Uncover Constraints

No conversation about banking technology exists without constraints. Banking is a highly regulated industry for good reason—people's life savings are at stake. But the complex meld of regulations, security and deep legacy systems makes scoping your project considerably more demanding.

The art of developing within constraints is all about being flexible enough to stay productive against inherent inertia. Sometimes it will make more sense to write a library from scratch than wait weeks for an approval. Other times it will be necessary to make dollars-and-cents tradeoffs to fast-track your process. But across the board, best practice is always to front-load conversations with DevOps and InfoSecurity so they know what level of partner you are—and you can win them as allies to get the access requirements ball rolling early.

On one of our projects with an innovation lab for an ancillary product, for instance, we determined with the product owner that it would be best to deploy to a separate system and keep an eye toward back-porting to their stack. Innovation can't happen in vacuum, but only in engaged, communicative teams.

User Experience is the New Brand Anchor
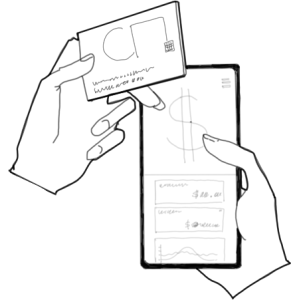
Smartphones have infiltrated almost every household. Consumers' expectations for smartphone functionality are high, and will only grow higher. There's no turning back. Established banks that have long relied on vendors for white-label tech now suddenly find themselves rethinking that strategy. You can't stand out and differentiate your brand in a competitive landscape with a white-label interface. The whole world is wired now. If you're not in the driver seat of your front- and back-end, you risk not arriving at the next finish line intact. (And the current global COVID-19 pandemic is making the need for contactless banking all the more acute.)

For the baking industry, it's clear the gold is within their deep technological systems. The trick is turning them into products that can thrive in the digital world.

Carbon Five Partner Courtney Hemphill says the really savvy players are moving toward becoming a product organization and figuring out which layers have the opportunity to provide a best-of-breed solution for the market.

This is hard work, but it is possible! There are change agents in every bank who can see through the clouds to the other side, where your bank wants to be. Working with partners who are willing to roll up their sleeves and collaborate with us is what drives us to pour our hearts and souls into the work and see the results in real value added to their business.

Read on to see the details of how we worked with Commerce Bank to develop their new, highly-rated mobile app. ┄┄┄➤

Commerce Bank

Commerce Bank started out by making loans to Midwest entrepreneurs over 150 years ago. A focus on bringing communities together has always been central to Commerce Bank's brand, through infrastructure, new business and an emphasis on in-person experiences.

When Commerce Bank reached out to us, they had some existing mobile apps they had created using a white-label vendor platform. This approach had worked for many years, but they suddenly found themselves competing with national banks on the local level, which had better customer experience on digital products.

Fortunately, the leadership team at Commerce Bank understood delivering a suite of mobile apps was a far-reaching endeavour. They knew they would need help, not only with planning and executing a new product strategy, but with building mobile capabilities, a continuous release infrastructure, and a best in class customer experience within the bank's larger, traditional infrastructure.

Commerce Bank was talking to all the right firms but ultimately chose Carbon Five because they saw huge value in our tailored approach to client collaboration and our commitment to train client teams to become self-sufficient in best practices around software development, design and product strategy. Our engagement lasted seven months and resulted in a wildly successful market release and effusive adoption of the new mobile apps.

The next pages showcase a few highlights of the product we designed and built together.

## We leveraged user research to prioritize features

We worked with Commerce Bank's in-house research team to do usability and exploratory testing. Sign in was a clear pain point. Users struggled to locate their password and id information, but were both comfortable and familiar with Touch ID. This feature, as well as the newly available Face ID, were implemented to meet the need for a secure, one-step authentication process.

We employed best practices for mobile

Designed for native Android and iOS patterns so each app felt intuitive, which made it easier to adopt, faster to build, and maintain over time. Stylized native Material and Swift UI libraries, provided a cohesive design system across both apps, while at the same time, upholding the natural interaction pattern of each device. Example bill pay date specification on iOS as compared with Android with native hardware navigation.
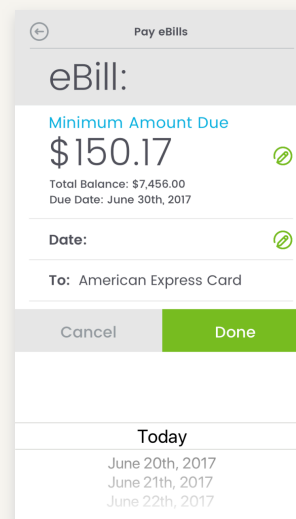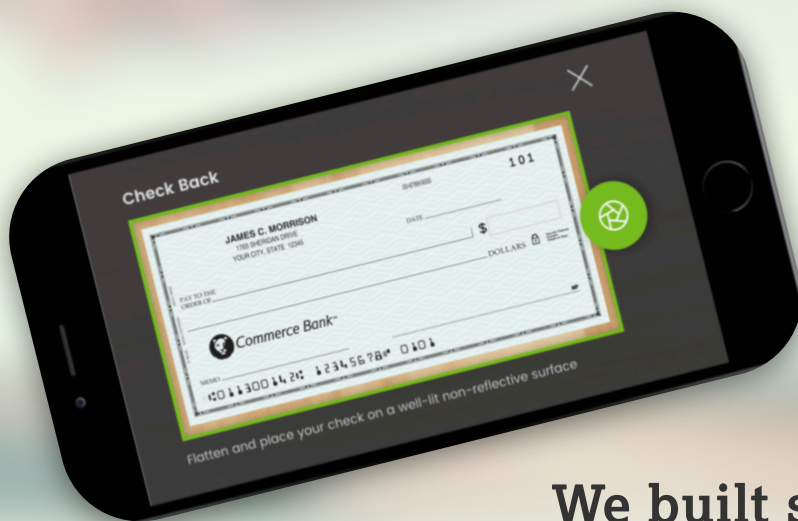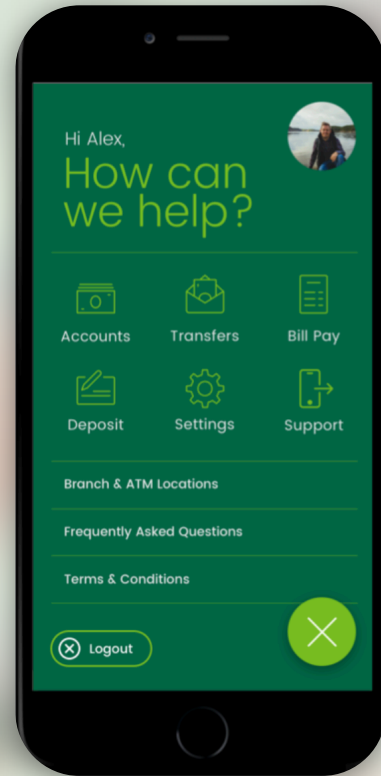

iOS Date selector
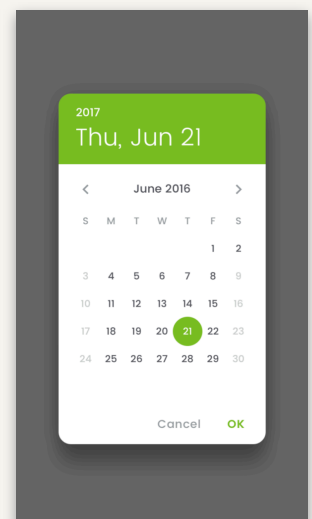
Android Date selector

We crafted a personalized digital experience

The Commerce Bank brand is centered on a unique relationship with customers, so its app needed to be completely customer focused. We designed personalization features for users to build profiles and organize their account information how they prefer to see it.
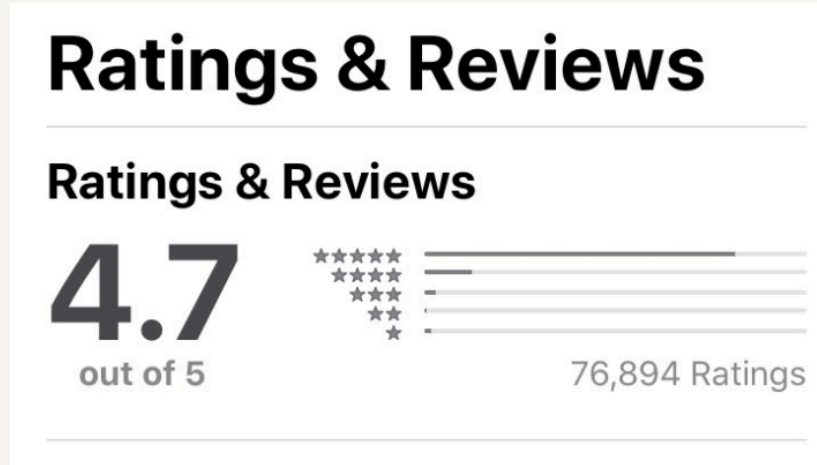
We built smarter with secure tools

Remote deposit, once a novelty and now a fact of life, was a requirement for the app. We implemented a complex integration with a closed source library so customers could have a seamless check deposit experience on their device.
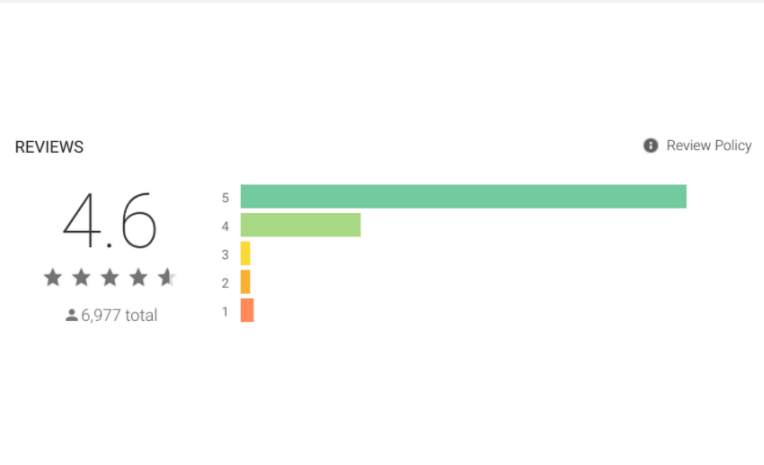
Android Play Store

iOS App Store

We helped Commerce earn stellar app ratings

As a customer-obsessed bank, the goal of this product launch was to achieve a customer rating of 4 stars or higher in the app store. Commerce Bank wanted to create an experience for their customers that was as good as or better than the custom apps offered by national financial institutions.

Banks operate on a higher bar of trust and reputation, so good ratings are essential. We helped Commerce Bank create a strategy for requesting reviews that allowed them to get not only the most authentic reviews, but also highly coveted ones.

We designed and implemented a data strategy

You can't measure what you don't track. In a world where there are always more feature ideas than time to build them, having access to insights from real data is critical. We advised Commerce Bank on best practices to instrument and evaluate mobile analytics. A well-established practice for capturing analytics and user engagement is critical to monitor and evolve a product, and to mine the value of the investment into custom software. The analytics stack we recommended was Firebase GA for baseline mobile metrics and Mixpanel for more in-depth behavioral analytics.
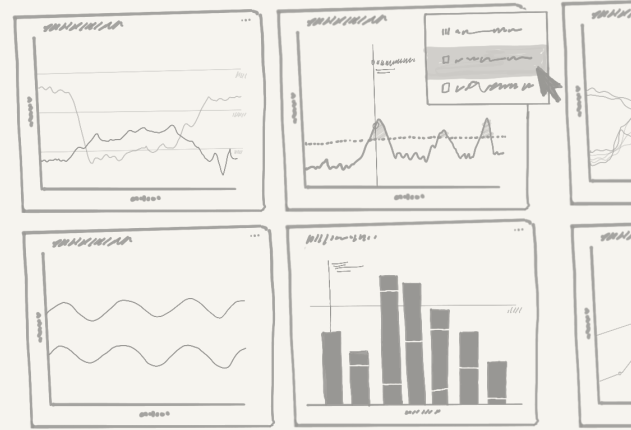
We helped build a lasting product team

From the start of our engagement with Commerce Bank, teams were organized as a balanced team – design, development, and product working together to align on vision and priorities and iteratively improve the product. The integrated team enabled better communication and collaboration between contributors allowing for faster releases. Increasing the release cycle provided a means for Commerce Bank to show customers that they understood their needs, saw them as individuals with unique needs, and cared about their business with the bank.

Commerce Bank now stands in a better position to respond to change.

With integrated, in-house teams now leveraging modern methodologies and technologies, Commerce Bank can quickly respond to the needs of their business and deliver exceptional customer experiences. A partnership with Carbon Five ensured that their team is ready to innovate for years to come.

Expert Insights for Creating Successful Online Banking Products

How we've navigated complexity to build highly rated apps and improve internal team processes.

Friday, June 12, 2020
3:00pm ET / 12:00pm PT

Watch our webcast focused on building gold standard digital banking experiences

Download the Recording

About Carbon Five

Carbon Five is a digital product development consultancy. We partner with our clients to create exceptional products and grow effective teams. Founded in 2000 by five developers, we share the belief that sitting on the same side of the table to solve problems and work on shared goals with clients, is not only the most enjoyable way to practice the craft but also the most effective.

We work in an agile environment with a wide variety of clients and industries. Our teams each include senior level tech talent (with 20+ yrs experience) involved in every project.

Banking clients include Capital One, Charles Schwab, Chime, Citibank, Commerce Bank, FNBO, Wells Fargo.

Want to collaborate with us?

Visit Carbon Five