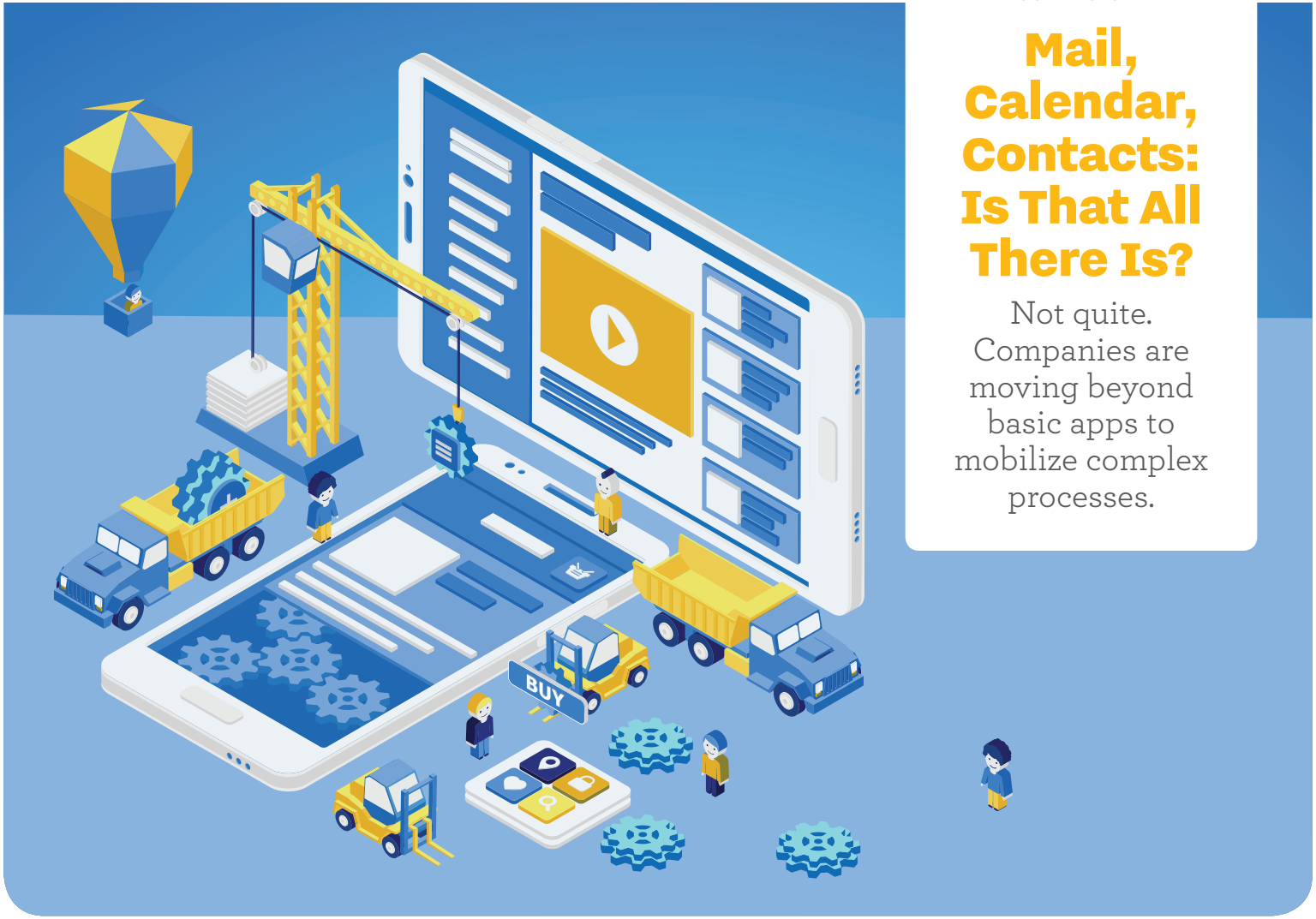
Modern Mobility

Enabling a mobile workforce



COVER STORY

Mail, Calendar, Contacts: Is That All There Is?

Not quite. Companies are moving beyond basic apps to mobilize complex processes.

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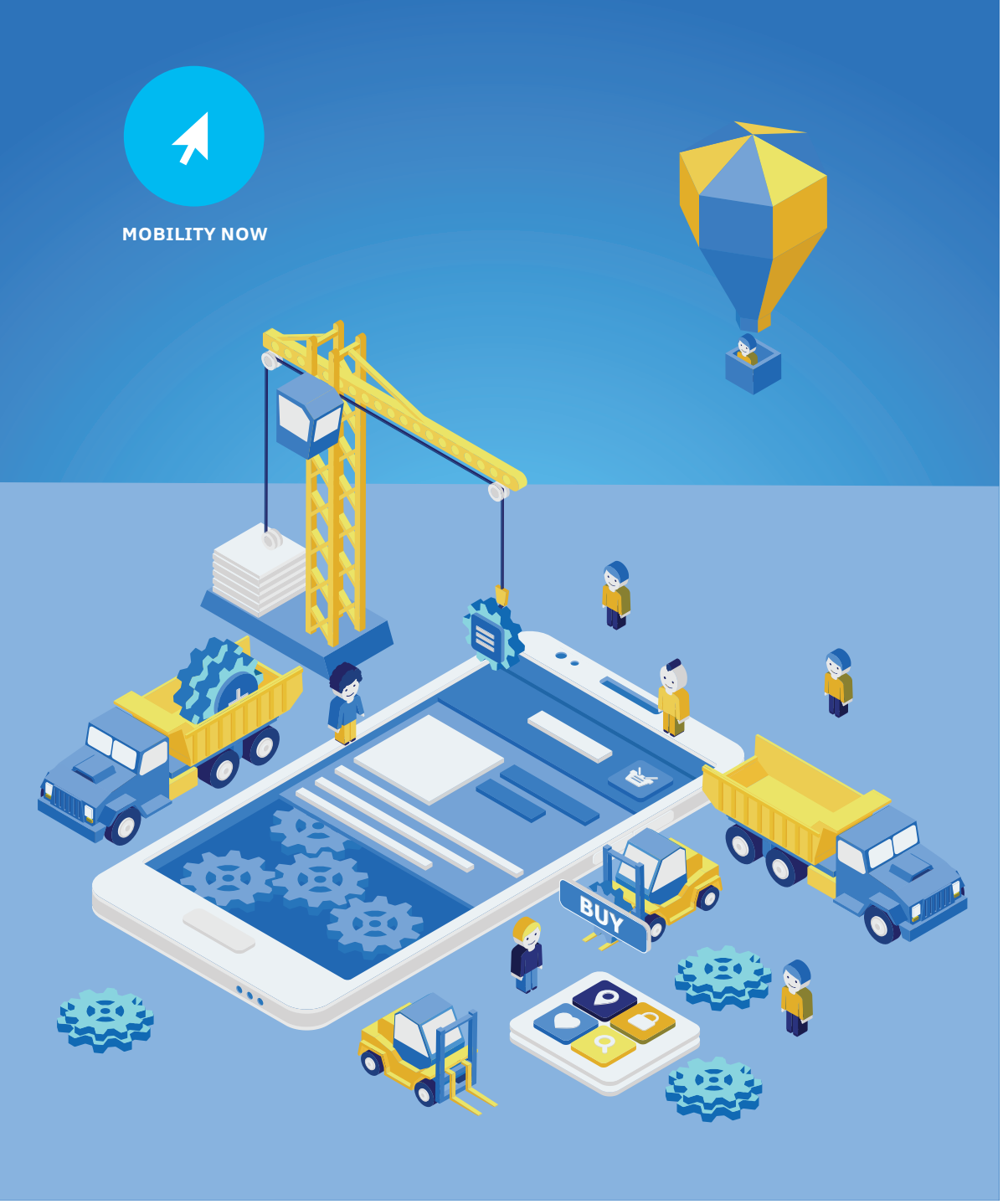

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Three Mobile App Success Stories

What do a vineyard manager, a college student and a truck driver have in common? Each uses task-specific mobile apps to make their job more efficient. **ALYSSA WOOD**

WHEN YOU BITE into an apple or sip a glass of wine, you probably don't think about the fruit-growing activity behind that mouthful. But it's an arduous process that involves a ton of data. Allan Bros. Inc., a fruit growing, packing and shipping company based in Naches, Wash., streamlined its business with several unique mobile apps.

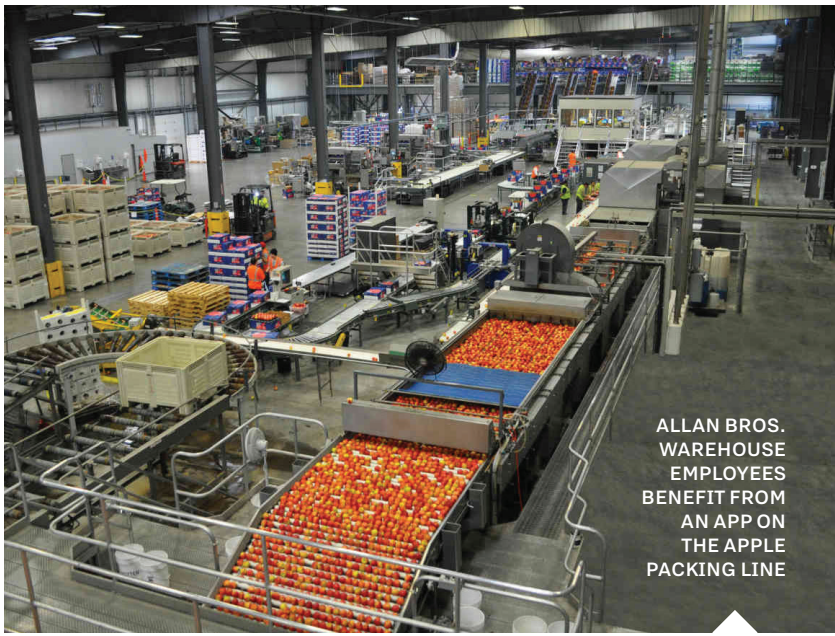
In the last few years, Allan Bros.' management team realized just how much data the company collects and how beneficial it would be to make its field and warehouse processes more efficient—so they decided to go mobile, CIO Autumn Bernier said.

IT developed a mobile app that helps vineyard employees track the quality of grapevine buds, which informs how they should prune the vines and what the quality and volume of the upcoming crop of grapes will be. It can even calculate an estimate of how many tons will grow per acre—important data for production planning and determining how many wineries the vineyard can serve with one harvest.

"We have to be mobile because only a portion of our employees work here at the corporate headquarters," Bernier said. "We start out by taking a system that they're already doing and make it more modern."

Plenty of organizations deliver basic productivity apps such as email and file sharing to employees on mobile devices, but more, like Allan Bros., are starting to mobilize complex applications that really fuel business.

Mobile devices can support more than just mail, calendar and contacts. Display and



ALLAN BROS. WAREHOUSE EMPLOYEES BENEFIT FROM AN APP ON THE APPLE PACKING LINE

processing technologies are reaching new heights: Apple's iPad Pro boasts 5.6 million pixels, and Qualcomm's latest Snapdragon 830 processor for Android devices is set to arrive next year with a whopping 8 GB of RAM. Device features like multi-touch and even biometric authentication are becoming the norm.

For those reasons and many more, it's easier than ever to interact with mobile apps. And as mobile app development tools mature as well, it's becoming more viable to mobilize complex business apps.

BEYOND THE BASICS

Mobile apps are most successful when they're lightweight and purpose-built for a specific use case, said Zeus Kerravala, founder and principal analyst of ZK Research. That's why apps for specific verticals are ripe for mobilization, he said. Industries such as healthcare, for instance, need complex mobile apps that are role-based—for example, a nurse requiring a certain app that feeds information to a doctor.

> "Just because you have an app on a mobile device doesn't make it a mobile application."
>
> —**ZEUS KERRAVALA**, PRINCIPAL, ZK RESEARCH

But when organizations identify which apps or processes are good candidates for mobilization, they shouldn't simply take the existing system and tweak it for mobile, Kerravala said. The user interface isn't uniquely tailored to mobile, and the user experience suffers.

"Just because you have an app on a mobile device doesn't make it a mobile application," Kerravala said. "This is where organizations need to open their minds and start thinking about what's possible: If you could create the app from the ground up to make it uniquely mobile, what would that be?"

What makes a mobile app unique is its ability to take advantage of native device features, such as the camera or GPS, and provide the user with contextual, predictive data based on their location, time of day and more, he said.

More organizations are starting to get that memo, with some exciting results.

APPS IN THE FIELD (LITERALLY)

Allan Bros. works with third-party growers to produce fruit including apples, cherries and wine grapes, then packs them into bins at its warehouse and ships them across the globe. Field and warehouse employees need to collect data, such as the fruits' weight, firmness and acidity, along the way to determine whether Allan Bros. can ship them to certain areas of the world to meet produce safety requirements. Historically, employees did most of that work with pen and paper, and then entered data manually into huge spreadsheets and a traditional data management system.

PHOTOGRAPH: KERRAVALA

Another app Allan Bros. developed called Grape Data, which is internal and customer facing, aggregates grape pH and other attributes. Wineries can follow the progress of certain grapes and let Allan Bros. know the exact moment in the growing process when they want its employees to pick them.

IT also developed an app that gathers data about fruit weight, quality, temperature and more on production lines. Workers track that information using the app on corporate-provided tablets or personal smartphones, and employees can even use it to start and stop fruit-sorting and -dumping machines.

That app has greatly improved the productivity of the more than 80 employees on the apple-packing line, cutting packing times by between 50% and 83%—which in turn means that team can do more work with fewer people, saving the company on staff costs overall, Bernier said.

To build those apps, Allan Bros. adopted the Rapid Application Delivery platform from Atlanta-based software company OutSystems. The platform requires minimal coding and development experience, allowing IT to focus on the user experience rather than back-end technical nuances, Bernier said.

"We can make it look like whatever we want to make it look like," she said. "We give [internal apps] the same look and feel as other systems that employees are using, so they don't feel like they're opening different applications. It's very seamless."

"We take someone who knows the business and teach them how to develop."

—**AUTUMN BERNIER**, CIO, ALLAN BROS.

Using the platform proved so easy that three of the people who develop Allan Bros. mobile apps are actually warehouse employees, including a shipping clerk and a fruit sizing manager.

"We'd much rather take someone who knows the business and has aptitude for development and technology and teach them how to develop, than try to take a developer and teach them the business," Bernier said. "Plus, people who have been out on the production line or out in the field have such a better understanding of what the users go through on a day-to-day basis and what the needs are."

PHOTOGRAPH: BERNIER

MOBILE GOES BACK TO SCHOOL

One of the biggest verticals adopting more complex mobile apps is education.

The University of Massachusetts Lowell recently developed an application called Now that gives students real-time information about everything from class schedules and grades to the daily cafeteria menu and campus events. Students can even add and drop classes using the app.

Before, they had to go to several different websites and use Oracle's "clunky" PeopleSoft application to access much of that information, said Gerry Nelson, executive director of Web at the university.

Nelson's team built Now as a responsive Web app so users could access it from any browser on any device. That meant that developers wouldn't have to build separate versions for every mobile operating system and get approval to distribute them from multiple public app stores, he said.

The Web app approach allowed developers to aggregate all the data they wanted to provide students in one place, Nelson said. The Now dashboard even pulls in data from two native iOS and Android apps that IT has also built—one that tracks campus bus schedules and another that tells students where there are available parking spaces on campus.

UMass Lowell's software development team used Xamarin's platform to build the native apps, and its Web developers created the Now app from the ground up.

"We did some testing in house with some of the students," Nelson said. "Our design is based on a redesign of the entire [university] website, so we wanted a seamless experience from our current website to the student dashboard."

THE ROAD TO FUEL EFFICIENCY

In 2014, the trucking industry was short 38,000 drivers, and if that trend continues, it is expected to be down 175,000 by 2024, according to an October 2015 report by the American Trucking Associations (ATA). Trucking and logistics companies are doing everything they can to keep existing drivers happy—and supporting mobility is one way to do so.

"Making their life as easy as possible and as connected as possible is one of multiple things that helps recruit and retain drivers," said Bob Costello, chief economist and senior vice president at ATA.

There are plenty of things a truck driver needs to keep track of before, during and after a trip: fuel usage and gas station locations, accidents and maintenance issues, road hours, directions, load information and more. And they need to report much of that data back to their fleet managers or dispatchers.

"To be able to have the data they need at their fingertips is huge right now in the transportation industry," said Bo Heinemeyer, the former director of technology and project management at Veriha Trucking in Marinette, Wisc.

After decades of doing all those tasks on paper, trucking companies can adopt mobile fleet management hardware and software inside trucks from numerous vendors such as PeopleNet, Rand McNally and Omnitracs. For its drivers, Veriha uses PeopleNet devices, which are essentially rugged, dashboard-mounted 7-inch tablets that include tools for vehicle inspections, accident reporting, hours tracking and more. "It's like a Fitbit for a truck," Heinemeyer said.

Another major task for drivers is maintaining fuel efficiency. To keep track of usage, trucking companies can use PedalCoach, a fuel tracking application from Boston-based startup LinkeDrive. Veriha deployed physical PedalCoach devices last year and is looking to adopt the company's new PedalCoach mobile app on its existing PeopleNet devices or on employees' personal mobile devices.

PedalCoach prevents drivers from burning more fuel than is necessary by displaying a basic red-yellow-green gauge throughout the trip. If the driver presses the gas hard or slams on the brakes, the dial goes into the red zone, indicating poor fuel usage. Keeping the gauge in the green zone means the vehicle will see savings on fuel.

Learn how HTML5 development can make mobilizing complex apps easier.

In the six weeks after implementing PedalCoach with 10 test users, Veriha saw an 8% reduction in fuel usage; for a year's worth of driving, that would generate about $35,000 in savings, Heinemeyer said. The fuel tracking also leads to safer driving because drivers are more likely to handle the truck more smoothly, he said.

Another aspect of the app is gamification. Drivers gain points for remaining in the green for certain amounts of time, and there's a leader board that displays the highest-scoring drivers.

"Nobody wants to see themselves on the bottom of the leader board, so obviously there's some incentive there," Heinemeyer said.

On the back end, PedalCoach provides fuel data to managers so they can test and plan more efficient driving routes. Veriha has experimented with sending drivers on toll roads and non-toll roads to determine which has more stop-and-go driving, which means less fuel efficiency.

As trucking technology matures, Heinemeyer said he hopes more drivers will be open to using their personal mobile devices for work. Right now, most don't because it requires a lot of cellular data out on the road, and they would have to pay for that, he said.

"A huge thing for drivers would be to see … all their stuff at home, away from the truck," he added. "Because that's such a powerful tool, they'll want to use their own devices regardless of their data plans. So that's kind of what we're waiting for."

As mobile device technology advances even further, more companies will start mobilizing these kinds of apps and processes. From fruit growing to education to trucking, the key is focusing on the user experience. With role-based tasks that take advantage of contextual data, mobile apps can help meet business goals and improve employee productivity. ●

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