DEVELOPMENT

Technology that Lasts

JOURNEY DRIVEN DEVELOPMENT

Creating a culture of collaboration means breaking down silos among development, operations and quality teams.

In this section we will address:

ENGINEERING WORKFLOW

Constant communication and collaboration with surrounding workflows from Ops to Design to Testing

API FORWARD

Build when it makes sense and integrate often to allow for growth and fresh data.

APPLICATION ARCHITECTURE

Precision development requires a strong plan. Architecting that factors all the idiosyncrasies of a project plan.

HOW TO BUILD

Consistent development leads to the ability to reflect and reuse both talent and elements of code.

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ENGINEERING WORKFLOW

Working together, our DevOps team produces code that automates the building, testing and deploying of application code.

We develop the automation necessary to rapidly change systems with quality gates delivering stability and speed.

DevOps is the collaborative work of teams charged with developing and operating software from design, to development, to testing and support.
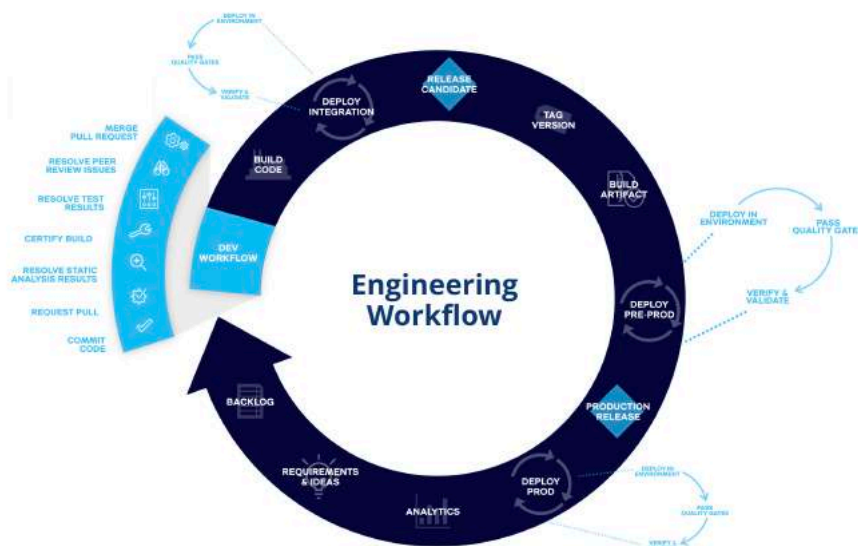

API FORWARD

API Forward's reference for Platforms of Engagement is comprised of four (4) main components including a network traffic proxy, a content management platform, a services platform, and identity management. Each of these components may consist of one or many implementations in practice but are generalized as singular components for the purpose of this reference architecture.

API Forward is VMLY&R's reference architecture for delivering experiences supported by a content platform and transactional/ data services.

- **Content Management Platform**: Manages the creation and modification of digital content for consumption across Systems of Engagement

- **Services Platform**: Manages the orchestration of services across Systems of Record, presenting API services for the consumption by Systems of Engagement

- **Proxy**: Manages the routing of traffic from a single point of entry to various Platforms of Engagement

- **Identity Management**: Provides security authentication and authorization of traffic through the services platform

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APPLICATION ARCHITECTURE

View and presenter objects work as part of a typical model-view-presenter pattern. Models are simple isolated data structures. Views establish an app-specific interface to UI events and presenters orchestrate the interaction of these events with our application core.

This diagram represents the reference architecture we use for mobile application development. It is based on SOLID principles and clean architecture.
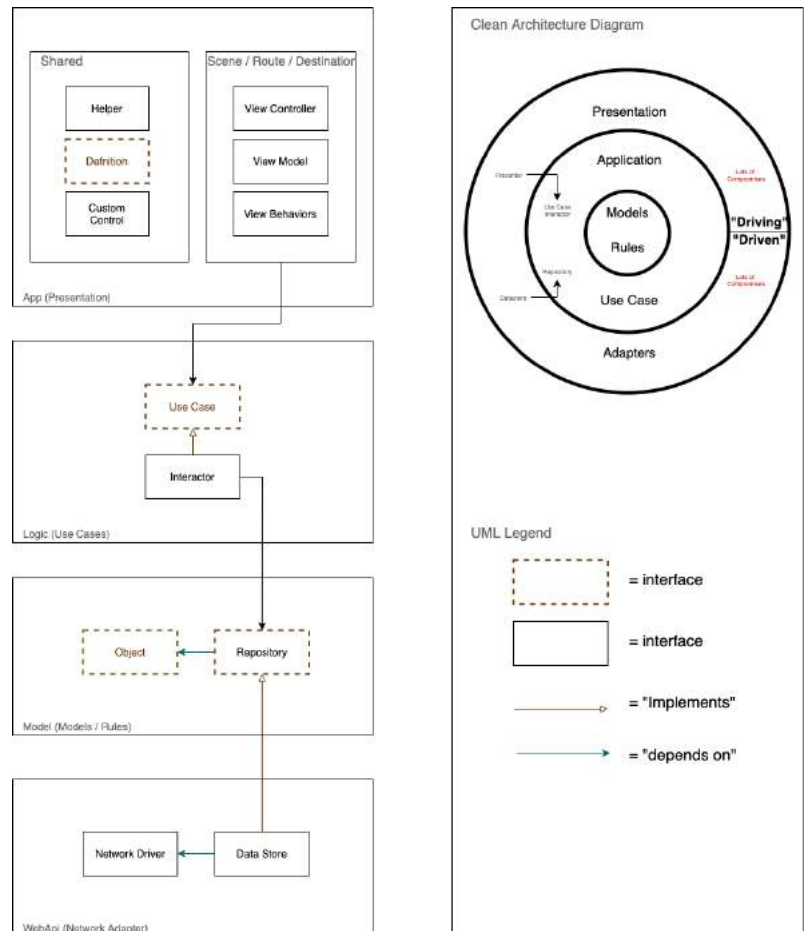
NATIVE-FIRST EXPERIENCES

Historically VMLY&R has focused on a native-first development approach, using the first-class languages provided by Apple and Google.

Today, a native experience is developed with Swift and Kotlin, the first-class languages as outlined by Apple and Google, respectively. First-class languages minimize dependencies and provide a more sustainable, long-term solution for your product.

Native or Hybrid POV

Introduced in 2010, Kotlin was officially recognized as an Android first-class language in 2017

Swift was Introduced at WWDC in 2014. SwiftUI, Apple's declarative language, was introduced in 2018

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HOW WE BUILD

VMLY&R uses the "Manifesto for Software Craftsmanship," which strives for well-crafted software, steadily adding value and productive partnerships.

VMLY&R will apply the following development practices to deliver a well-crafted experience across touch points.

CLEAN CODE

VMLY&R mobility employs a clean code architecture that brings predictability and readability to all projects. This means that the experience is built with extendability and long-term viability as a primary objective.

PEER REVIEWS

Throughout the development cycle, when a piece of code is introduced to the project, it is peer reviewed. This means that while the experience will have dedicated mobile developers, all the VMLY&R mobility team members, from Kansas City to Krakow, are active in reviewing the project.

CONTINUOUS INTEGRATION

We'll continuously build and test the complete product to provide confidence in the initial release. Each project will use an integrated pipeline to run automated tests and linter verification on each branch submitted as a pull request.

STREAMLINED EXECUTION

XP impact for current VMLY&R client includes:

- 10-day-plus gain on design approvals
- 2 times response in points completed per sprint
- 3-5% kickback rate on stories/ sprint
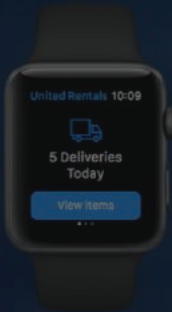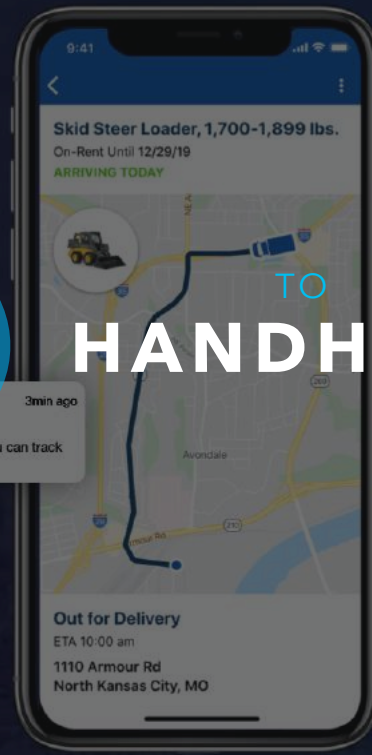- 0% overage impact on burn-down

VMLY&R
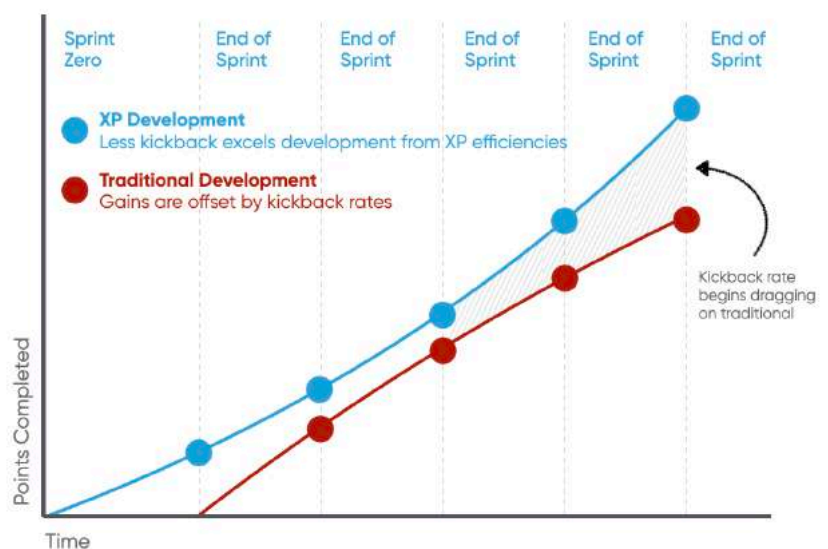
FROM **HANDSHAKE** › TO **HANDHELD**

CONSTRUCTION:UNITED RENTALS

IT'S A BILLION-DOLLAR PROBLEM AND THERE WASN'T A TOOL POWERFUL ENOUGH TO FIX IT

CHALLENGE

Managing a fleet of construction equipment is the single biggest headache for site managers, general contractors and foremen in the industry. Down equipment, unused equipment and poorly managed fleets account for 30% of profit loss in all construction jobs.

SOLUTION

Driven by an active emerging technology work stream generating prototypes from delivery tracking, to on-site safety and augmented reality the United Rentals mobile app made it easy to rent, track, service, and control massive equipment fleets, enabling an industry with razor-thin margins to be more efficient and cost-effective.

We didn't simply create an app; VMLY&R was responsible for the creation of an AWS based, highly performant API to modernize United Rentals future technology efforts In which, the native apps were the first consumers of this new way forward for United Rentals.
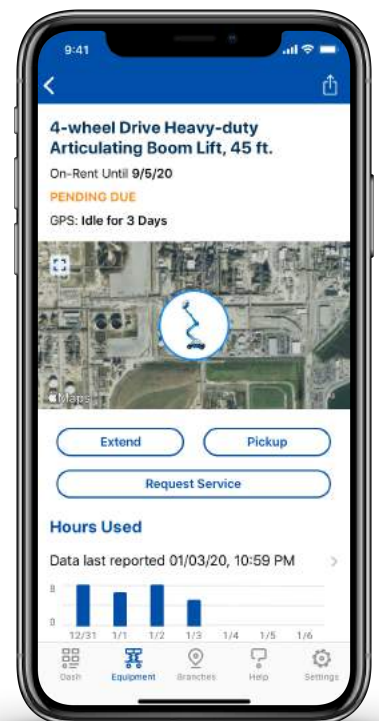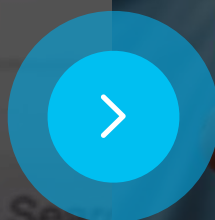
66%
YOY increase in revenue

28%
Increase in new customer acquisition

4.7
App Store rating

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FROM
PARENT REVIEWED

TO
KID REVIEWED

ENTERTAINMENT: TENNESSEE TOURISM

IDENTIFIED AN ENTIRELY NEW TRAVEL REVIEW METRIC – LAUGHTER.

We created a first-of-its-kind wearable device that measures laughter and excitement to determine how much fun kids have in Tennessee.

We put the devices on hundreds of kids across 31 locations in Tennessee. Equipped with a microphone, GPS technology and cloud computing, the device recorded audio samples in 10-second increments and sent them to a neural network, where artificial intelligence (AI) software determines if a sound is laughter.

RECORDING DEVICE   KID-PROOF SHELL

TRANSMITTING DEVICE
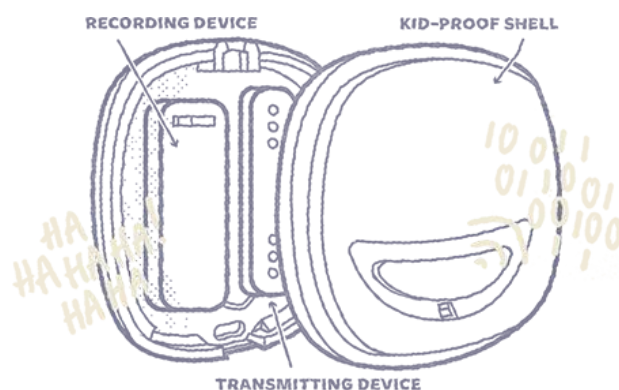
2M+
Data points analyzed

1.6M+
Seconds of laugher

$40M
Direct hotel revenue

235M
Earned impressions

VMLY&R