



Improving Parent Engagement with a Multi-Platform Mobile Solution

Accelerating the delivery of a secure, multi-platform mobile solution for K-12 institutions using a single Java codebase and cloud-native mobile services.

Overview

QBurst designed and developed a cross-platform mobile application using the Oracle Mobile Application Framework (MAF) and Oracle Mobile Cloud Service (MCS). This integrated solution provides a unified communication hub for parents to track student performance and for faculty to manage school-wide updates. By leveraging a single codebase for iOS and Android, we significantly reduced the development lifecycle and provided the client with a scalable framework for rapid institutional deployment.

- **Unified Interoperability:** Delivered a consistent user experience across multiple mobile OSs, enabling the client to support diverse device ecosystems without redundant effort.
- **Enhanced Data Security:** Implemented built-in encryption and OAuth 2.0 authentication to protect sensitive student records and institutional data.



Client Profile

Founded in 2009 and based in Asia, the client is a young, fast-growing company dedicated to developing smart solutions for educational institutions. Their core business focuses on providing robust ERP and CRM systems that streamline administrative and academic workflows for the K-12 sector.

Challenges: High Development Friction and Engagement Gaps

The client sought to move beyond traditional web-based portals to a mobile-first strategy, facing several technical hurdles.

- **Fragmented Development:** Building native applications for iOS and Android separately was projected to be prohibitively expensive and slow.

- **Manual Communication:** Schools lacked an automated way to notify parents about student achievements, upcoming events, and urgent school activities.
- **Security Concerns:** Transitioning enterprise-level student data to mobile devices required a high degree of authentication and offline data encryption.
- **Lack of Analytics:** There was no centralized platform to monitor application usage or engagement levels among the parent community.

QBurst Solution: Integrated Oracle Mobile Suite

We recommended the Oracle Mobile Suite to jumpstart development. By using Oracle MAF, we utilized a single Java codebase to target multiple platforms, while Oracle MCS served as the robust cloud backend for analytics and security management.

- **Accelerated Development:** Leveraged Oracle MAF's rich component library and device services integration to build a feature-rich app in record time.
- **Robust Cloud Backend:** Utilized Oracle MCS to provide admin users with real-time analytics on application usage, notification management, and security monitoring.
- **Encrypted Offline Support:** Integrated an encrypted SQLite database to ensure student data remains accessible and secure even without active internet connectivity.
- **Dynamic Content Delivery:** Implemented push notifications and an automated news sync to ensure parents receive up-to-date performance reports and gallery updates.

Key Features and Technical Highlights

The application serves as a comprehensive digital touchpoint for the entire school community:

- **Responsive Performance Reports:** Utilized enhanced data visualization components to present student progress in a clear, mobile-optimized format.
- **Advanced Student Search:** Empowered faculty to access student details and academic history on-the-go with optimized search queries.

- **Media & Event Integration:** A rich multimedia gallery and Google Maps integration for tracking school event locations.
- **Security Framework:** Implemented OAuth 2.0 for secure login and Oracle MAF's built-in authorization protocols.

Implementation Approach

The project followed an "Enterprise-to-Mobile" extension strategy. By bridging existing school ERP data with the Oracle Mobile Cloud, we created a seamless flow of information. The use of a single-codebase framework allowed our team to focus on the UI/UX and feature set rather than platform-specific troubleshooting.

Impact

- **Cost & Time Efficiency:** Accelerated development led to a 32% reduction in total development costs, facilitating a quicker market entry.
- **Portfolio Expansion:** Successfully established the client's expertise in Oracle-based mobile development, opening new revenue streams for their service offerings.
- **Scalable Deployments:** The client can now independently manage subsequent deployments at various schools with minimal customization effort.
- **Improved Collaboration:** Schools using the app have reported significantly higher parent engagement and more streamlined communication between faculty and families.