

# Mobile Responsive Application

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UPM 25.x

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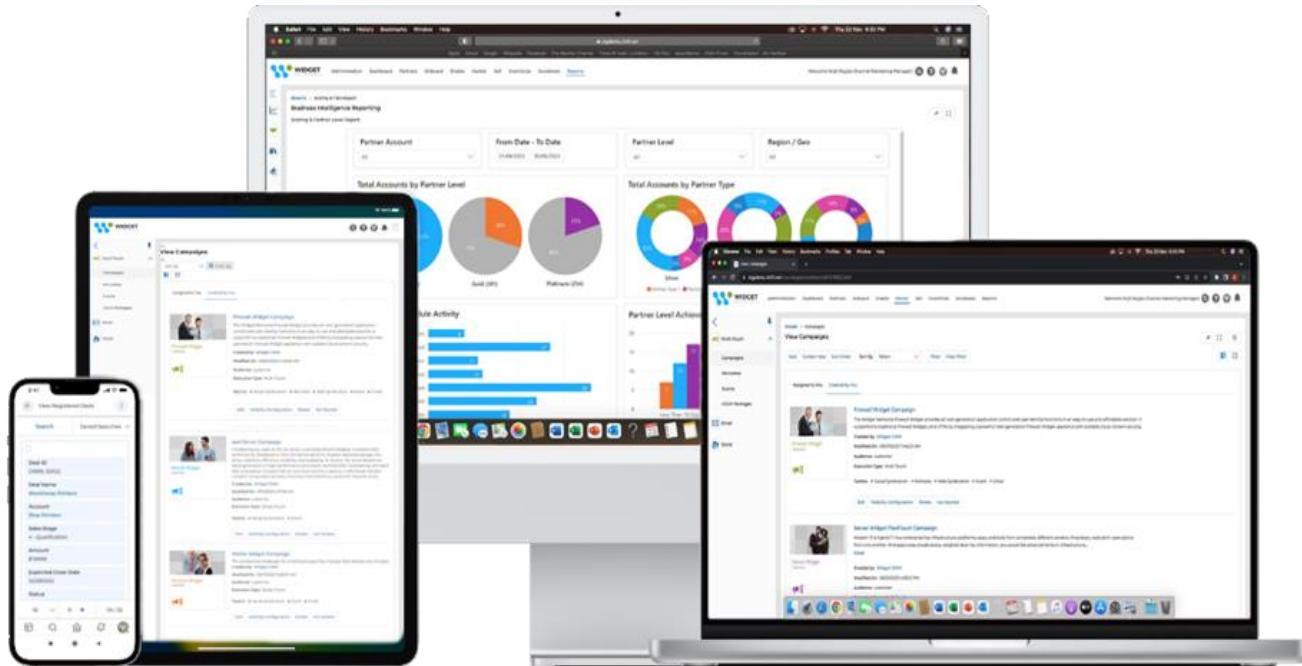
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# The Imperative of Mobility

Extending ZINFI UPM's adaptive software-as-a-service (aSaaS) to smartphones and other mobile devices gives your organization a strong competitive advantage that can help drive revenue and enhance the partner and customer experience. Whether they're viewing up-to-the-minute account or contact information, updating an opportunity, scheduling an activity, or logging a call or email to history, with Mobile aSaaS your on-the-go professionals will have the secure, instant access to vital customer and partner information and the productivity tools they need to succeed. Take a new approach towards business—go mobile with ZINFI UPM aSaaS and get closer to the real action.

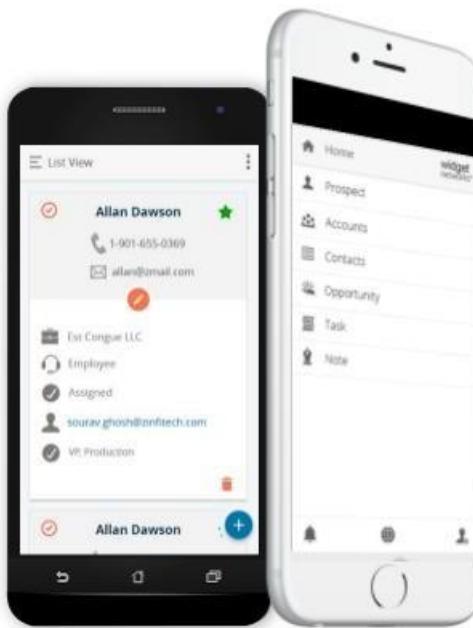
Currently supported mobile platforms: iOS, Android (all versions)

ZINFI UPM's Mobile aSaaS platform is a mobile client with intuitive and user-friendly design and a rich feature set. You can use it to access and manage accounts, leads, opportunities, calendar, activities and other features and entities within your organization and across your entire partner network—wherever you happen to be.



## Bring in the Features and Capabilities You Want

Easy to learn and use, ZINFI's Mobile aSaaS platform has an attractive, task-oriented user interface that's been designed to put detailed customer information at your fingertips and enable you to perform key actions quickly. Interaction with native device functions such as mapping, dialing and email further streamlines the user experience. Mobile aSaaS is optimized for use on today's smartphones and tablets, and can be easily customized and configured.



You can deploy Mobile aSaaS quickly and easily, implement multi-layer security, deploy RESTful web services and enjoy broad device support, further enhancing the ownership experience.

Our native apps for iOS and Android have binary executable files that are downloaded directly to the device and stored locally. The installation process can be initiated by the user or, in some cases, by the IT department of the organization. The most popular way to download a native app is by visiting an app store, such as Apple's App Store or Android Market. Once the app has been installed on the device, the user launches it like any other service the device offers. Upon initialization, the native app interfaces directly with the mobile operating system, without any intermediary or container. The native app is free to access all of the APIs that are made available by the OS vendor and, in many cases, has unique features and functions that are typical of that specific mobile OS.

## Enterprise Security

Boost the security of Mobile aSaaS with a wide selection of enterprise-class safety measures:

- Remotely lock the app
- Restrict users to work within a given sandbox
- Deploy multi-layered security via device passwords, application passwords and SSL encryption

## Usage Audit

Admins can track when and where their mobile users or partners:

- Create, delete or edit entities
- Synchronize the application
- Launch, pause and exit the app

## Quick and Direct Access

Mobile aSaaS connects to the ZINFI UPM server directly, with no middleware involved.

- Fast and easy deployment
- Direct access to your data

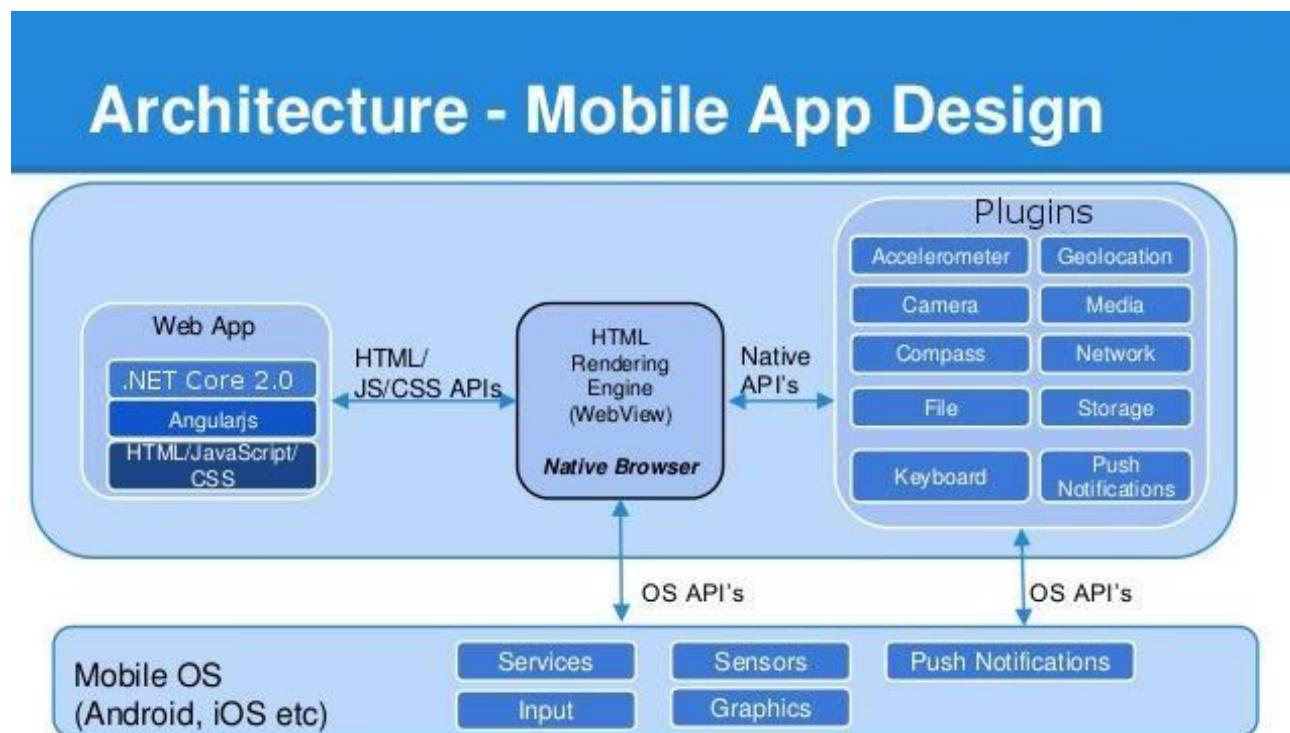
## Customize, Online and Sync

Easily switch between desktop and mobile/tab mode according to your preferences or current needs, and resume from where you left off:

- Deploy, manage and customize centrally in the familiar ZINFI UPM environment, and push updates automatically to the user device
- Work online with real-time data syncing
- Update once, and watch as updates are reflected everywhere

## Architectural Renaissance

### Native App System Overview



The native UPM app is developed by deploying the source code and creating additional resources, such as images, and various OS-specific declaration files. Using tools provided by the OS vendor, the source code is compiled (and sometimes also linked) in order to create an executable in binary form that can be packaged along with the rest of the resources and made ready for OS-specific distributions.

Once the native application is installed on the mobile device and launched by the user, it interacts with the mobile operating system through proprietary API calls that the operating system exposes. These can be divided into two groups: low-level APIs and high-level APIs.

#### Low-level APIs

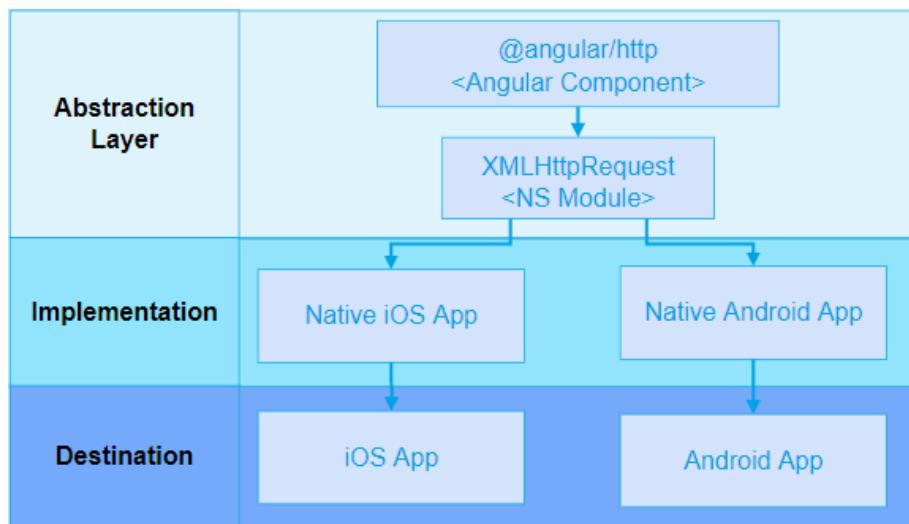
It is through these low-level API calls that the UPM app can interact directly with the touch screen or keyboard, render graphics, connect to networks, process audio received from the microphone, play sounds through the speaker or headphones, or receive images and videos from the camera. It can also access the Global Positioning System (GPS), receive orientation information and, of course, read and write files on the solid-state disk or access any other hardware element available today or in the future.

#### High-level APIs

In addition to providing the low-level hardware-access services we just mentioned, mobile operating systems also provide higher-level services that are important to the personal mobile experience. Such services include web browsing, calendar, contacts, photo album and the ability to make phone calls or send and

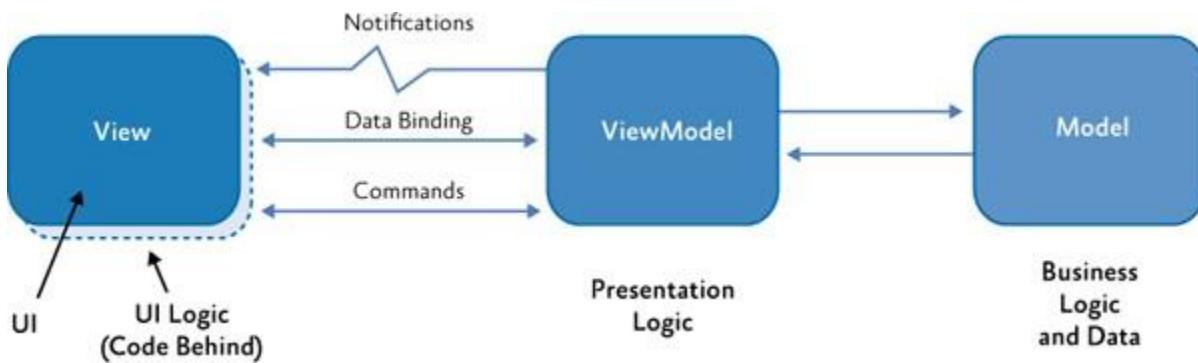
receive text messages. Other APIs enable downloadable apps to access various cloud-based services that are provided by the OS vendor, such as push notifications.

## Stack Overview



AngularJS, the JavaScript framework that is the best source of development code for mobile app developers, features efficient and reliable code for developing scalable projects. Just like JavaScript MVC, AngularJS is self-contained and considered to be a complete solution for front-end development. With AngularJS, a developer doesn't require any other plug-ins or frameworks to support the data-driven web or mobile application development process. AngularJS mobile development revolves around the implementation of MVVM design pattern.

## Angular JS – MVVM Approach



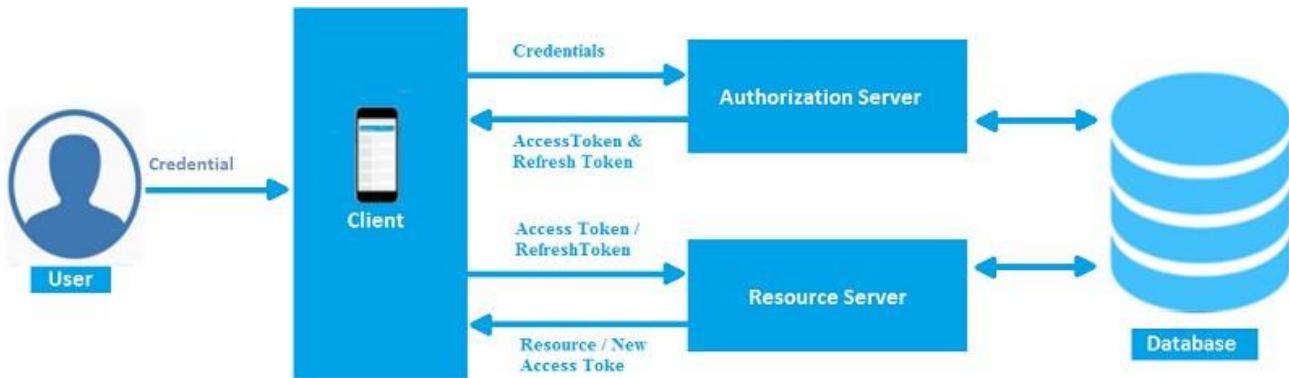
## Features

- Integration with Existing UPM web app – Since Angular only starts evaluating the page at the end of the loading process (i.e. once HTML is in the DOM), it is very easy to sprinkle small bits of Angular “magic” on top of existing applications.
- Simplicity – We can work with Angular in a basic HTML document from the local file system. HTML documents can be efficiently opened in browsers and no web server or template build processes are needed.
- Extensibility – Using directives, Angular allows us to create custom elements and attributes that extend the standard HTML vocabulary.

## UPM Mobile's Token-Based Authentication

A token is a piece of data that has no meaning or use on its own, but when combined with the UPM's tokenization system, it becomes a vital player in securing the UPM application. Token-based authentication works by ensuring that each request to a server is accompanied by a signed token which the server verifies for authenticity, and only then responds to the request.

JSON Web Token (JWT) defines a compact and self-contained method for securely transmitting information between parties, encoded as a JSON object.



## Anatomy of a JSON Web Token

JSON Web Token consists of three parts: header, payload and signature. The header and payload are Base64 encoded, then concatenated by a period. Then the result is algorithmically signed, producing a token in the form of **header.claims.signature**. The header consists of metadata including the type of token and the hashing algorithm used to sign the token. The payload contains the claims data that the token is encoding.

The final result looks something like this:

eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZXNzYWdIjoIStdUIFJ1bGVzISIslmIhdCI6MTQ1OTQ0ODExOSwiZXhwIjoxNDU5NDU0NTEx5fQ.-yIVBD5b73C75osbmwwshQNRC7frWUYrqaTjTpza2y4

## Unparalleled Flexibility

- Leverage the flexibility of a browser-based application, optimized for use on today's smartphones and tablets.
- Access your ZINFI UPM data on a wide range of popular devices such as the iPhone, the iPad and all Android devices.
- Customize the application easily to accommodate your unique business processes and data requirements in the field.
- Enjoy a rich native UI experience.



## Experience World-Class Usability

- Have all of the information and tools you need at your fingertips to be more effective.
- Log email and phone interactions to customer and partner histories.
- Configure to match user preferences and work.
- Perform key actions quickly and easily with a task-oriented user interface. Perform searches, multi-select items in a list, view related items, access a Quick Action menu and more.
- Experience a clean and simple user interface optimized for today's smartphones, featuring the familiar ZINFI UPM interface and an inviting color palette.
- Interact with native device applications and perform functions—including mapping, dialing and email—with just one click.
- Configure and personalize the application and settings to match your unique requirements and preferences.