



# RAD Studio XE4

## Multi-Device Webinar

Diego Navarro  
R&D Software Engineer

# About Your Presenter

- Diego Navarro
- R&D Software Engineer
- (Quick Bio)

# Agenda

- Welcome and Introduction
- Multi-Device, True Native App Development
- Building Mobile and Desktop Apps from One Codebase
- Break (10 minutes)
- Creating Apps that Work with Data and Services
- Summary and Q&A

# Welcome and Introduction



# Embarcadero Technologies

Founded 1993

3.2 Million Customers

500+ Employees in 29 Countries

5 R&D Centers of Excellence

World Wide Sales & Support

# Embarcadero Products

## Application Development

-  RAD Studio
-  C++Builder
-  Delphi
-  HTML5 Builder

## Data Architecture and Modeling

-  ER/Studio Data Architect
-  ER/Studio Portal
-  ER/Studio Business Architect
-  ER/Studio Software Architect

## Database Development, Administration and Performance Optimization

-  DB Power Studio
-  DBArtisan
-  Rapid SQL
-  DB Optimizer
-  DB Change Manager

## Embedded and Workgroup Databases

-  InterBase

# Product and Industry Awards

- Embarcadero products have received numerous awards for product innovation – *here are just a few*



AWARDED TO  
Embarcadero  
Technologies  
RAD Studio



DeveloperWeek 2013 Top Innovator  
for Developer Tools – RAD Studio



SD Times 100 2012  
Database & Data Tools



SQL Server Magazine's 2011 Editors' Best Awards  
DBArtisan XE2 - Silver in Database Management  
Rapid SQL XE - Bronze in Database Development



2011 Members  
Choice Winner  
DELPHI Programming  
Languages



2011 Jolt Productivity Award  
DB Change Manager XE  
Change and Configuration  
Management Tools



Software 500  
Embarcadero  
Technologies  
2002-2007



JBuilder 2004



Delphi VCL  
Best Library or  
Framework 2008



**embarcadero**

# Multi-Device, True Native App Development



# Announcing...

The first  
**Multi-Device,  
True Native App  
Development  
solution**

# What is RAD Studio?

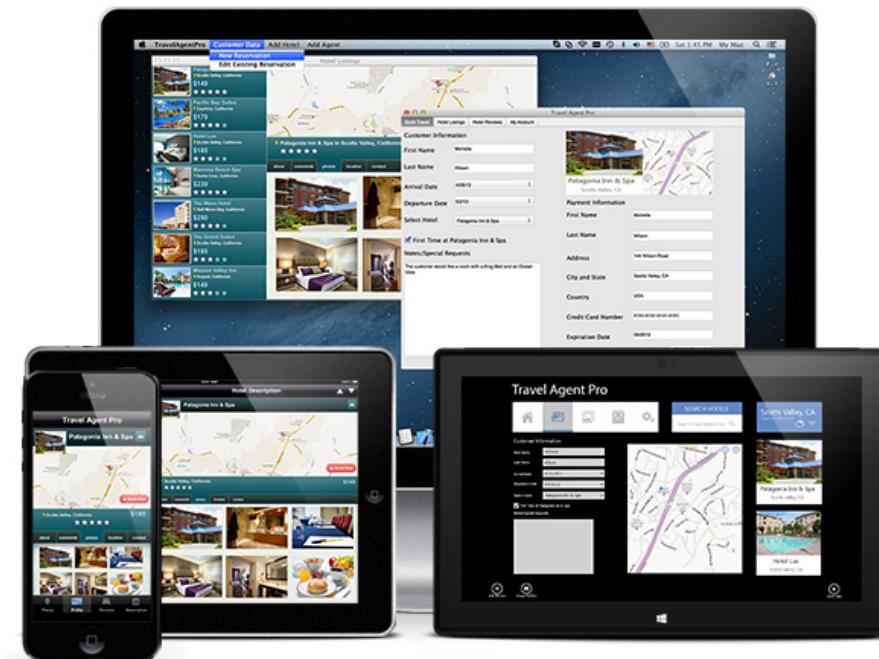


- **RAD Studio** is the app development platform for companies who need to create true native apps for desktops, tablets, and smartphones and get them to market fast



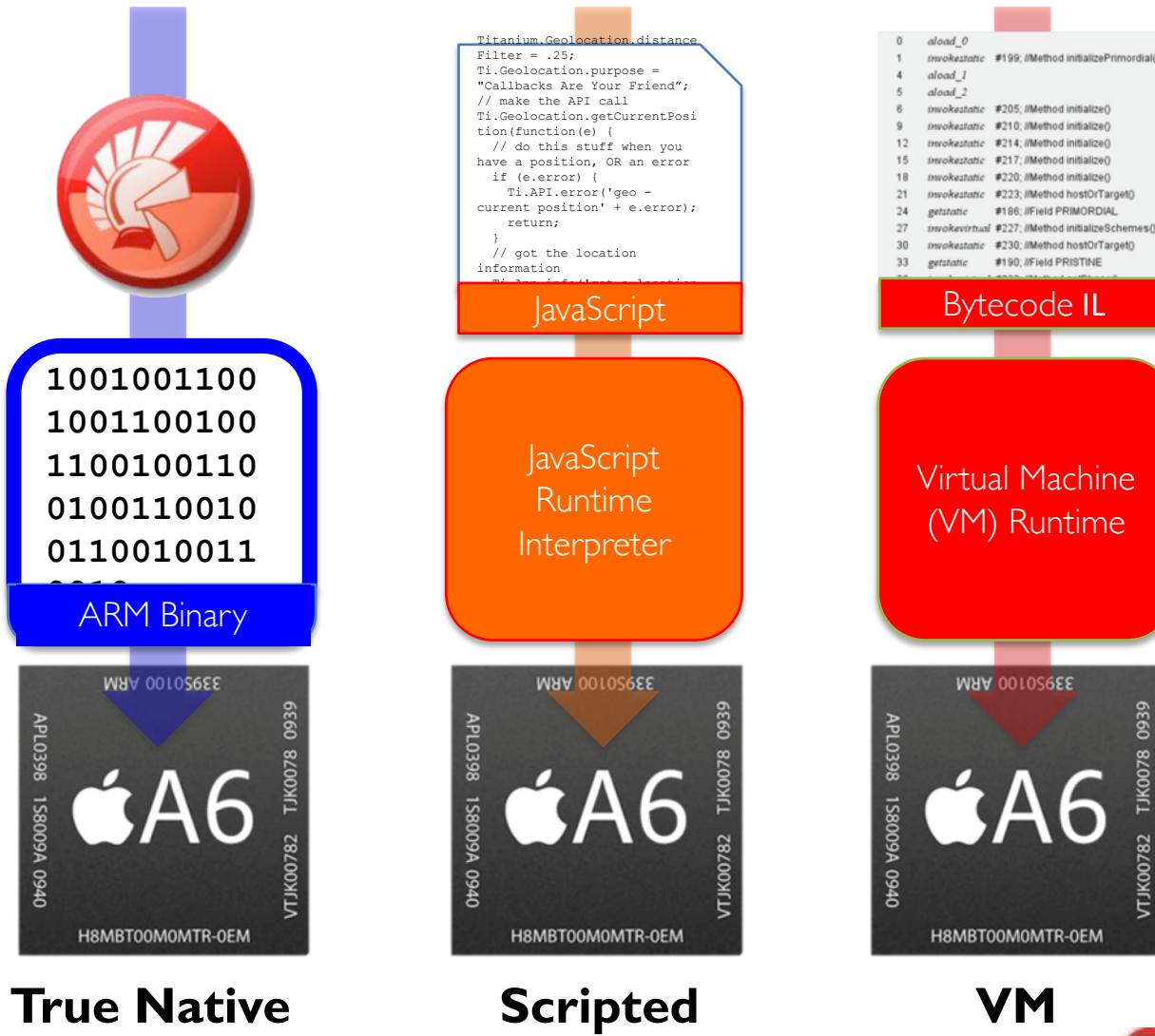
# Multi Device, True Native

- Automatically optimized for multiple target platforms
- 100% native and script-free development for the best app performance and tighter security
- Take advantage of the full range of capabilities available on each device to build a better user experience

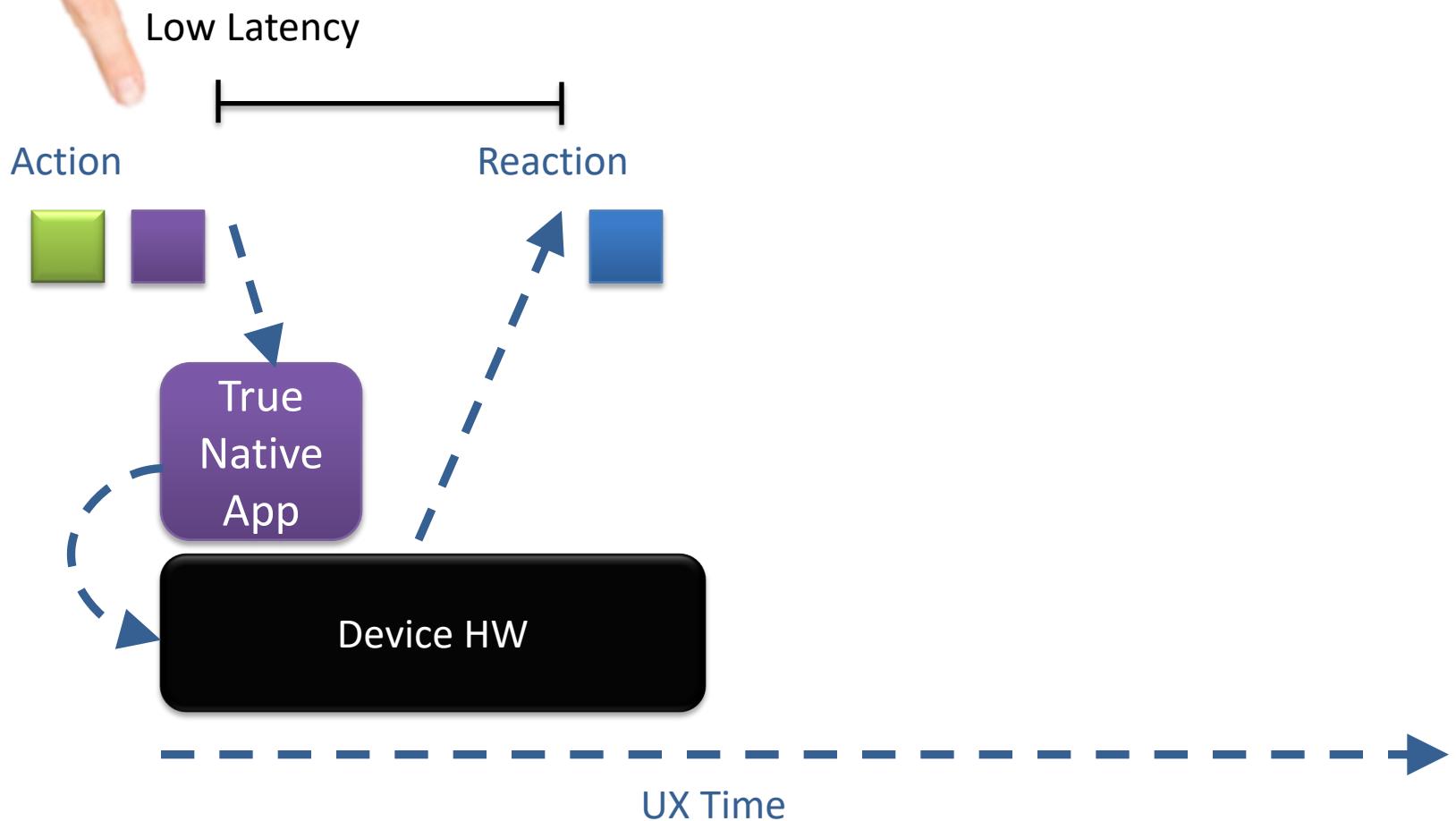


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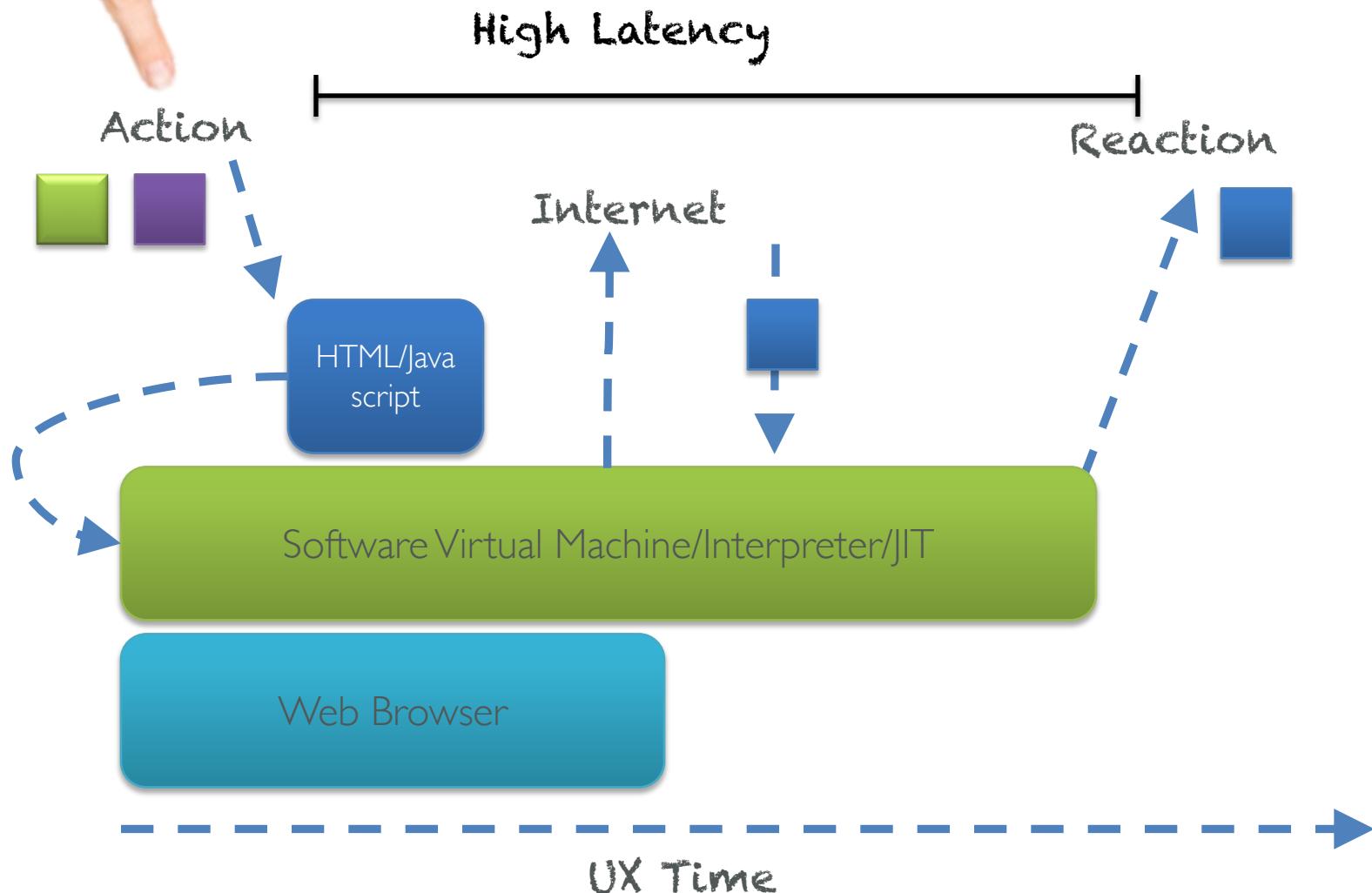
# Delphi builds True Native iOS Apps



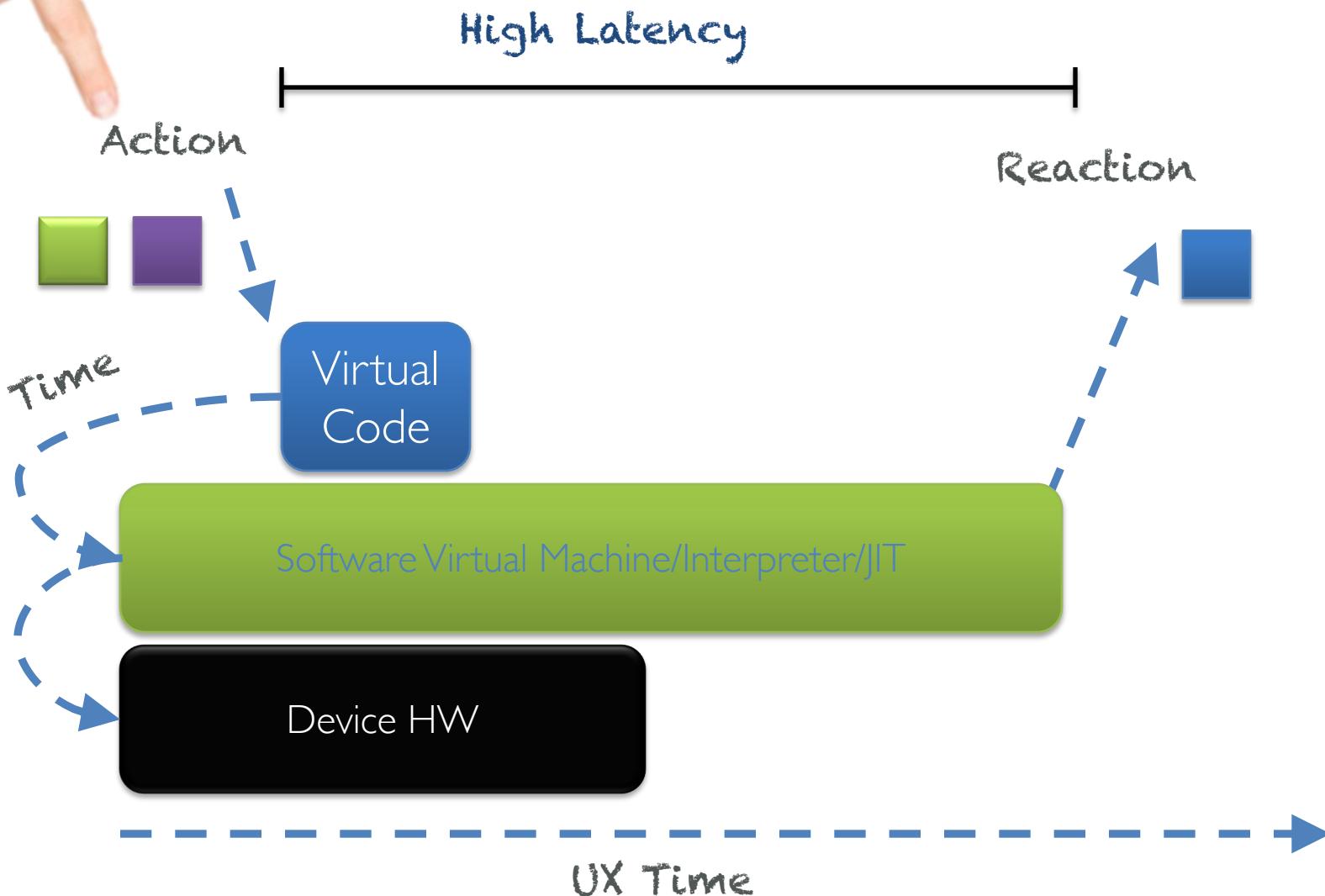
# Low Latency = Great UX



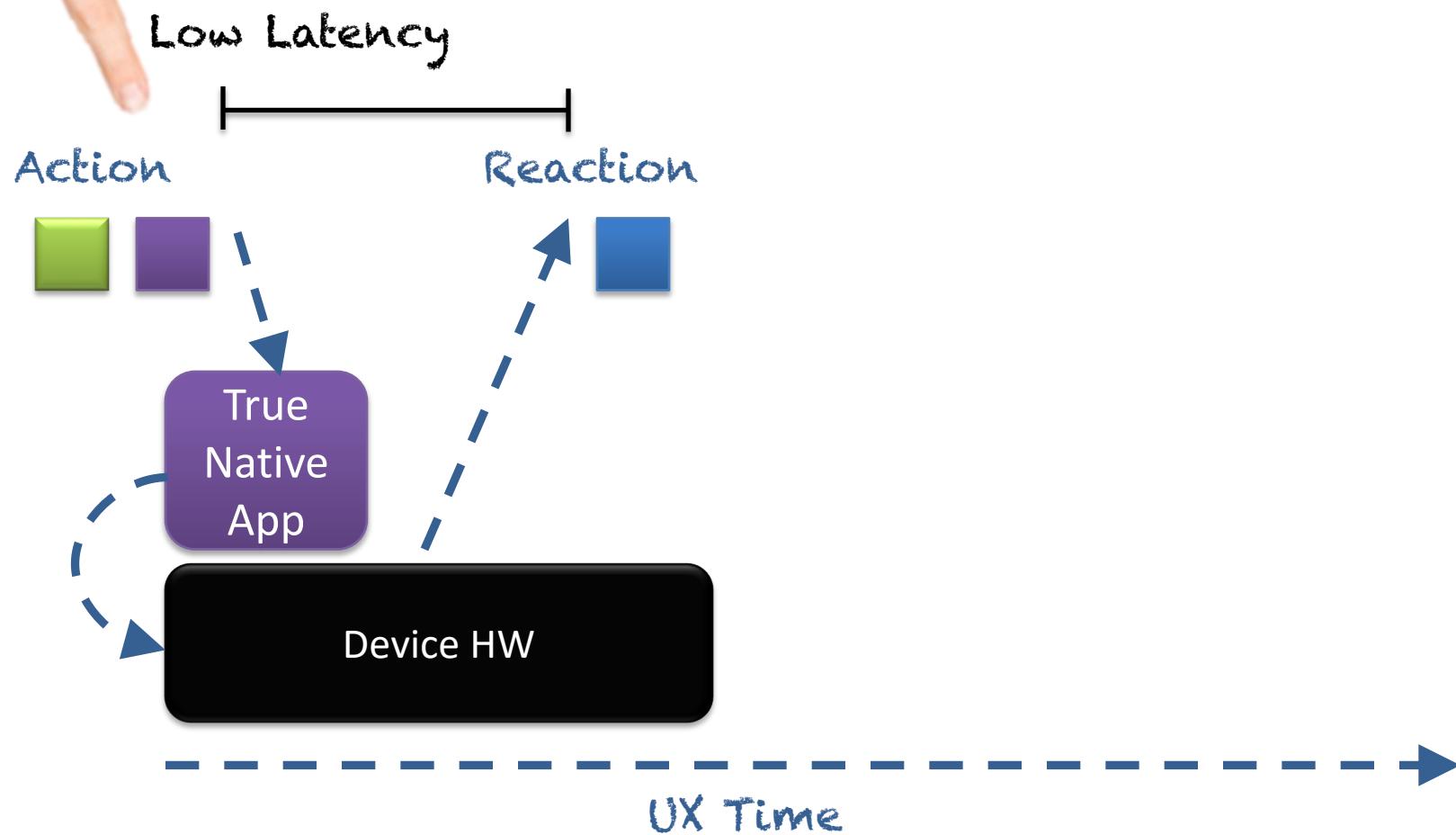
# High Latency UX is accepted in Browser



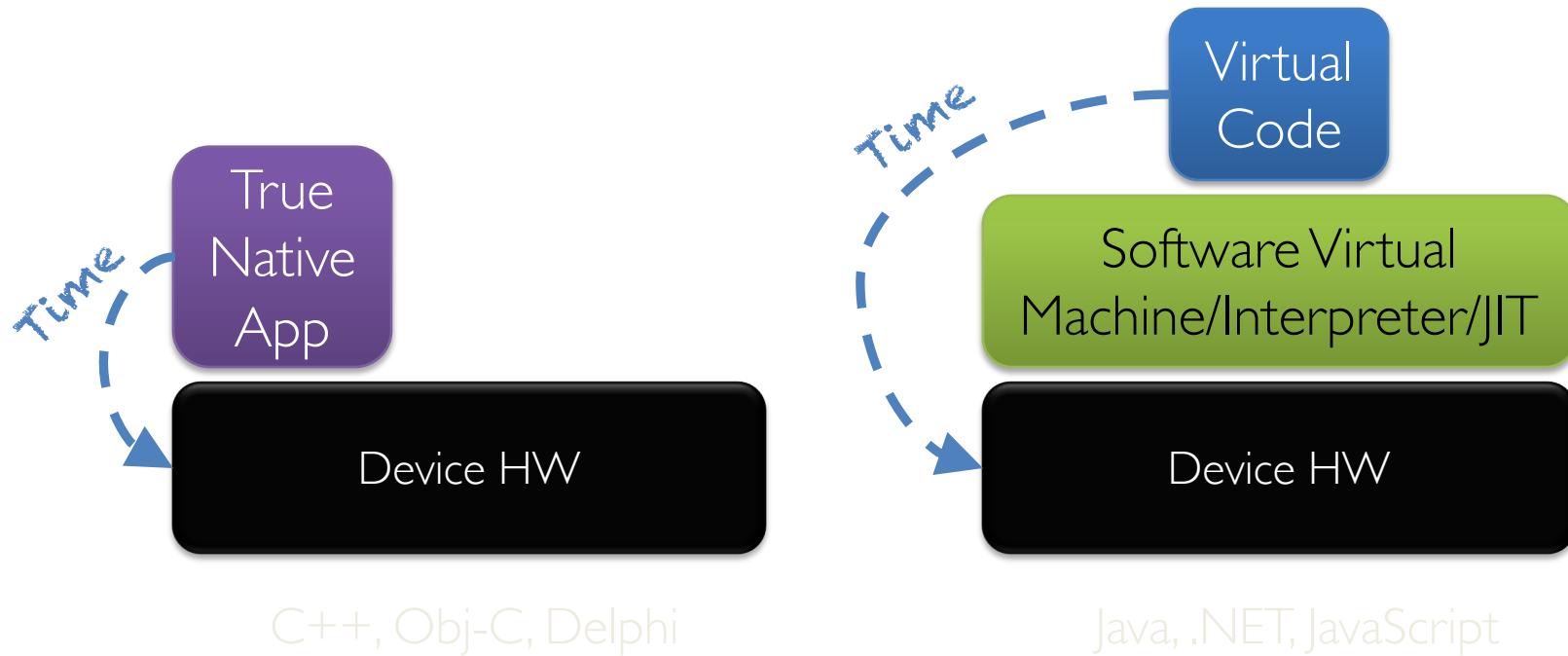
# Unacceptable in Apps



# Low Latency = Great UX



# True Native Code = Great App UX

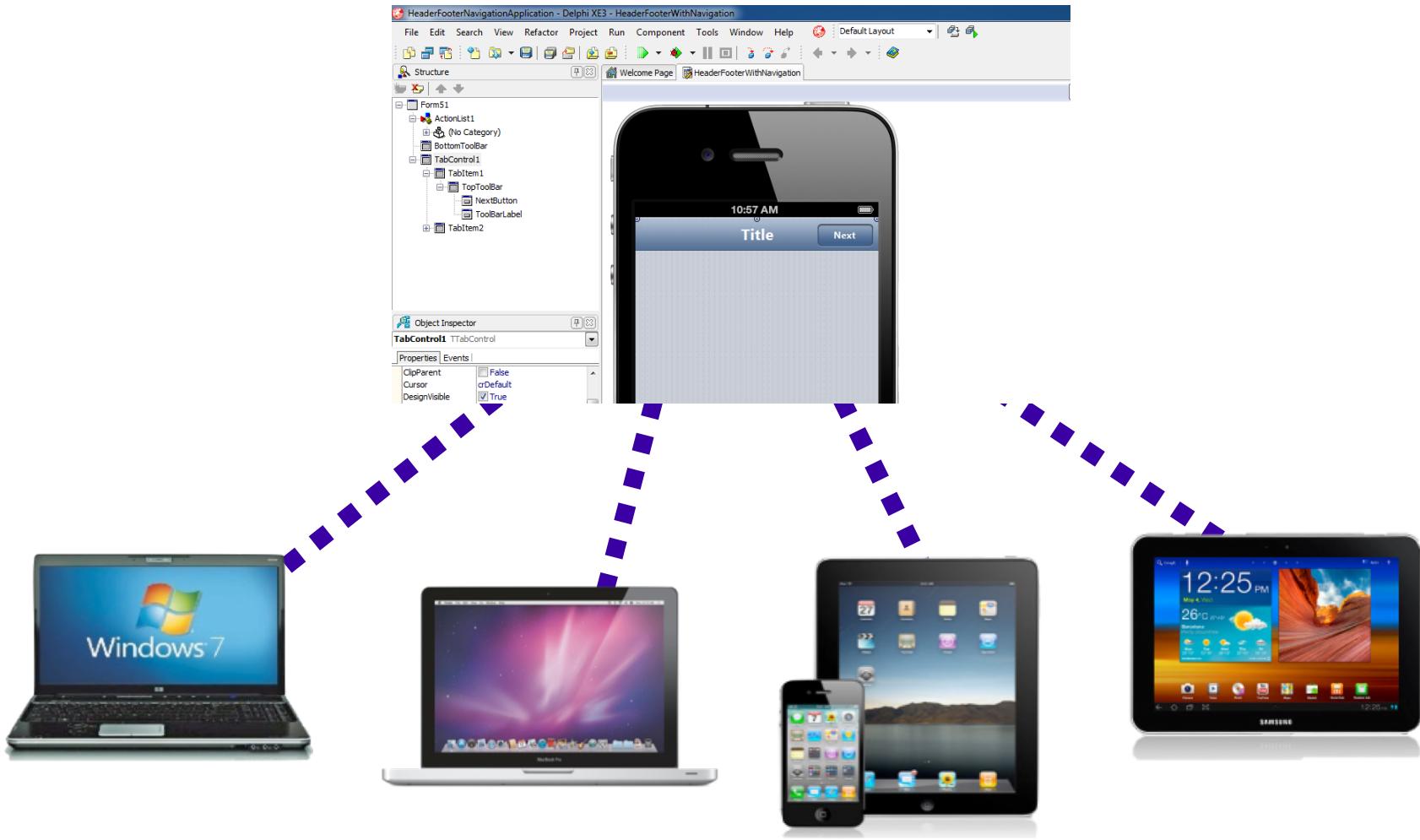


# One Codebase, One Team

- One set of development resources to create apps for multiple platforms
  - one codebase
  - one team
  - one schedule
- Reduced budgets and complexity

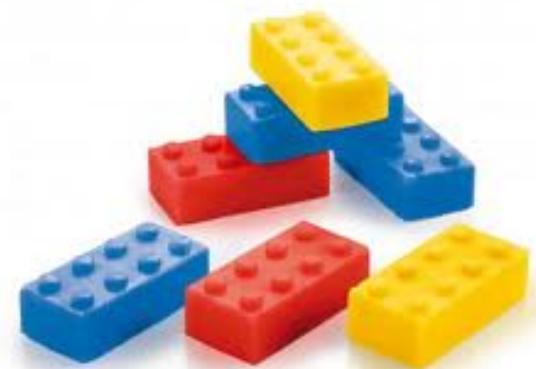


# Rapid Prototyping



# Get To Market Fast!

- Rapid prototyping and project bootstrapping
- Quick, easy connectivity to enterprise databases
- Stay ahead and competitive in the dynamic, multi-device, mobile landscape
- Extendable and reusable visual component building blocks for faster and highly maintainable development



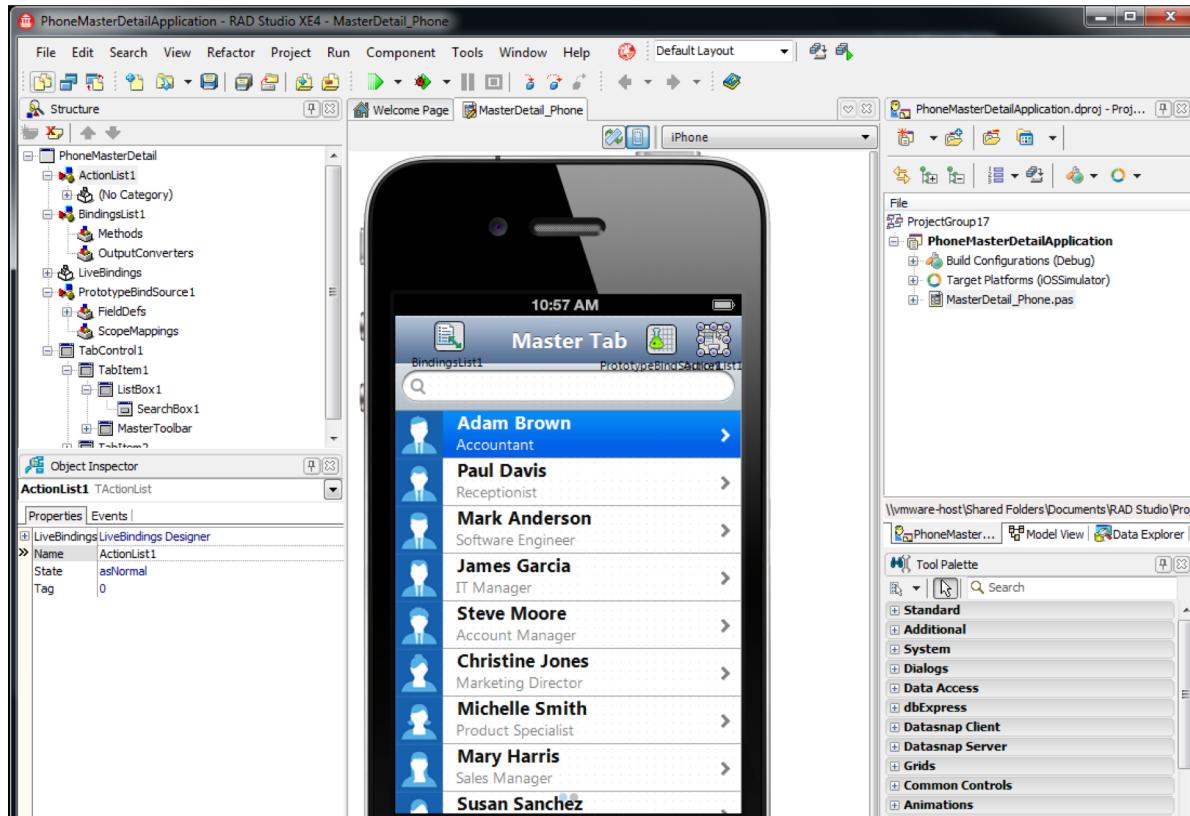
# Building Mobile and Desktop Apps from One Codebase

# FireMonkey Architecture



# Delphi FireMonkey on iOS

- iOS “Native” Style
- True Native Apps
- Delphi-like components and development model



# Delphi Multi-Device

- Replicate Delphi RAD experience in mobile / multi-device space
- “Single experience + one codebase”
  - One easy language across platform
  - Same IDE
  - Same file access, database access, sensors and device capabilities
  - Same user interface library and components

# New Compiler Architecture

LLVM



# Delphi “NextGen” Compiler

- New Compiler Architecture
  - Based on LLVM, <http://llvm.org/>
  - Used also by Apple
- Uses Automatic Reference Counting (ARC)
- New Language and RTL features

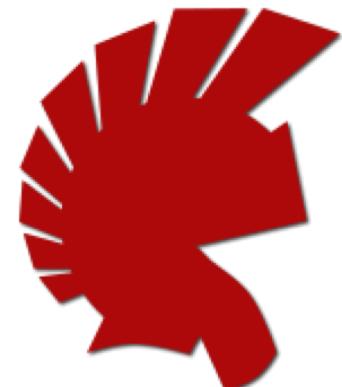


# Delphi Language Evolution

- Automatic Reference Counting (ARC)

```
class procedure TMySimpleClass.CreateOnly;
var
  MyObj: TMySimpleClass;
begin
  MyObj := TMySimpleClass.Create;
  MyObj.DoSomething;
end;
```

- [Weak] References
- Dispose pattern (DisposeOf)

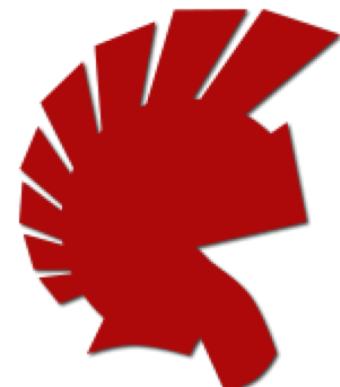


# Delphi Language Evolution

- Class operators overloading

```
type
  TNumber = class (TObject)
  private
    FValue: Integer;
    procedure SetValue(const value: Integer);
  public
    property Value: Integer read FValue write SetValue;
    class operator Add (a, b: TNumber): TNumber;
    class operator Implicit (n: TNumber): Integer;
  end;
```

*Details in “The Delphi Language  
for Mobile Development” paper*



# OS Support for iOS Development

- Mac OS X – “Lion” and “Mountain Lion”
- iOS 5.1 and 6.x



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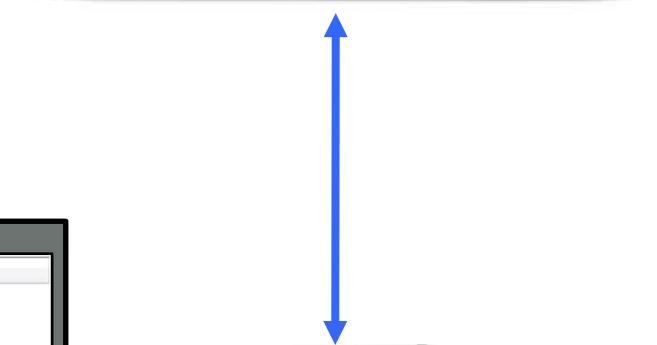
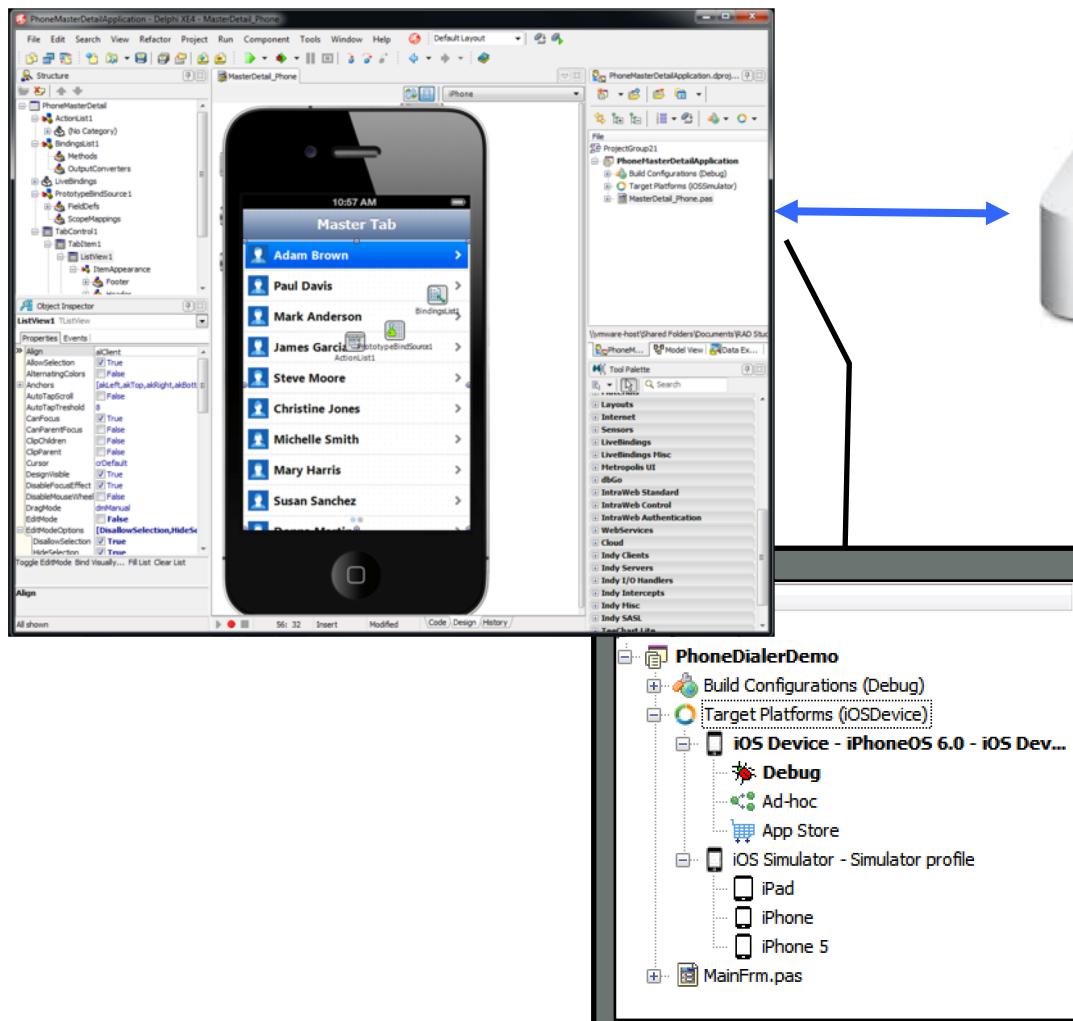
iOS 5.1   iOS 6

# Delphi Workflow

- Use Delphi or RAD Studio IDE on Windows
- Requires a Mac OS X
  - PA Server installed
  - XCode installed
    - Command line tools installed
    - iOS SDKs installed
  - ADC account (\*)
  - Provisioned devices (\*)

(\*) to deploy to an physical device or Apple Store

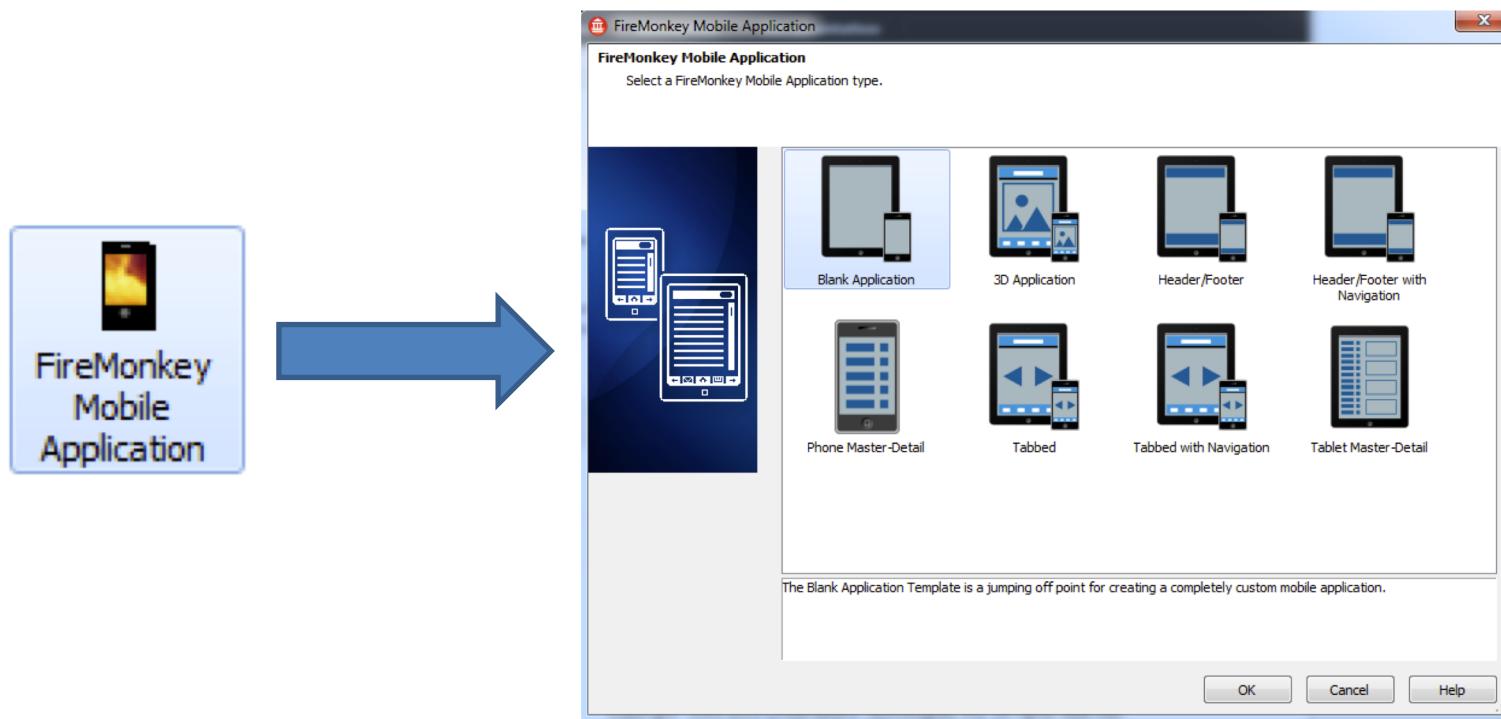
# Development Workflow



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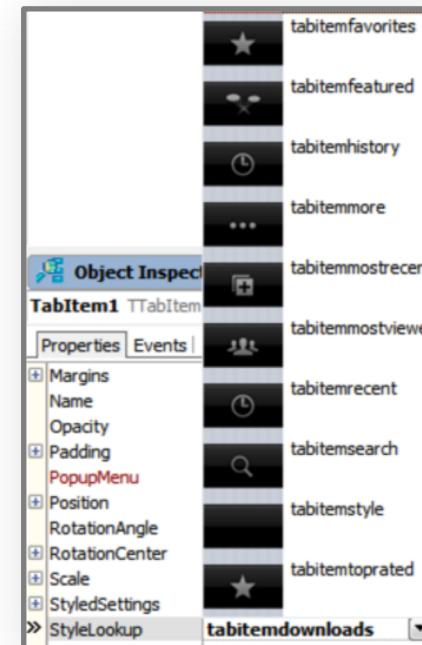
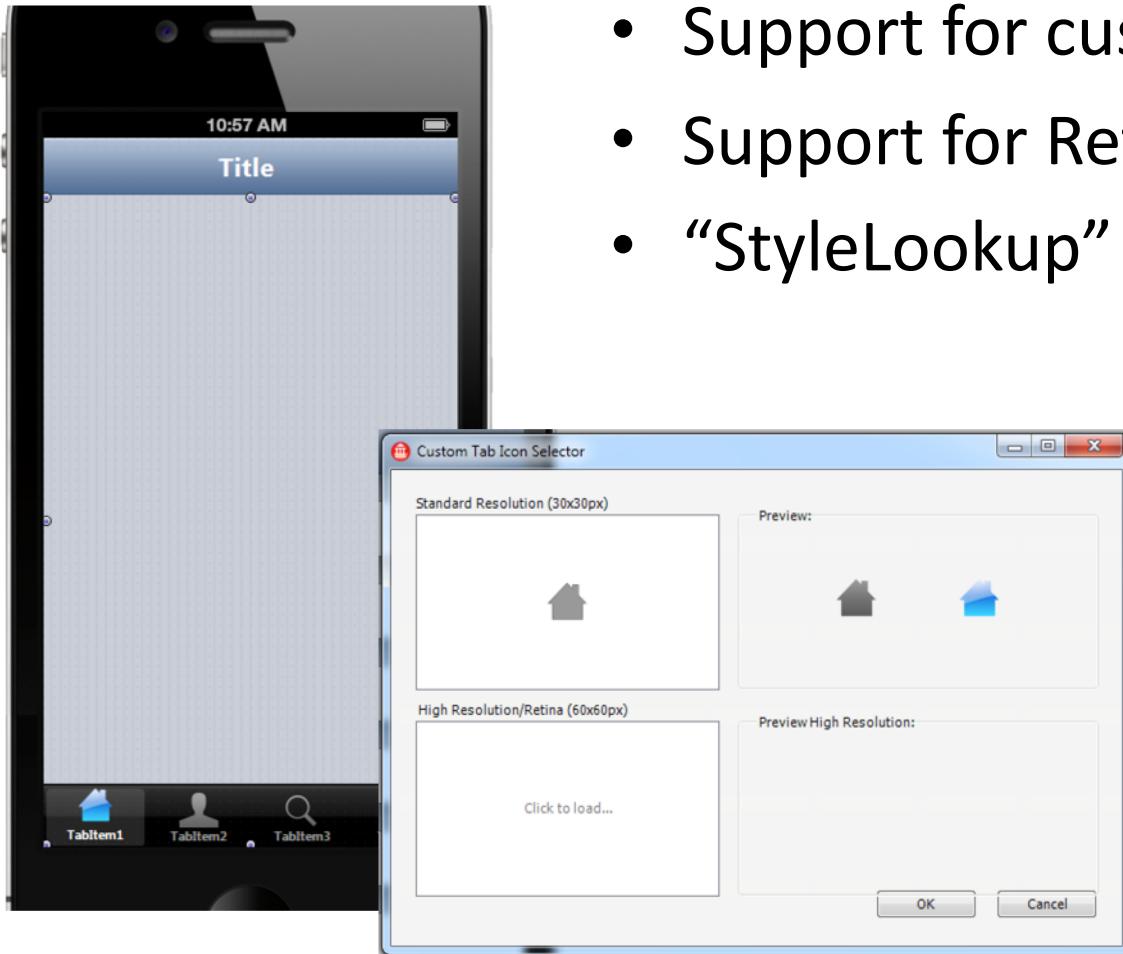
# My First iOS Application

- Delphi “FireMonkey Mobile Application” wizard

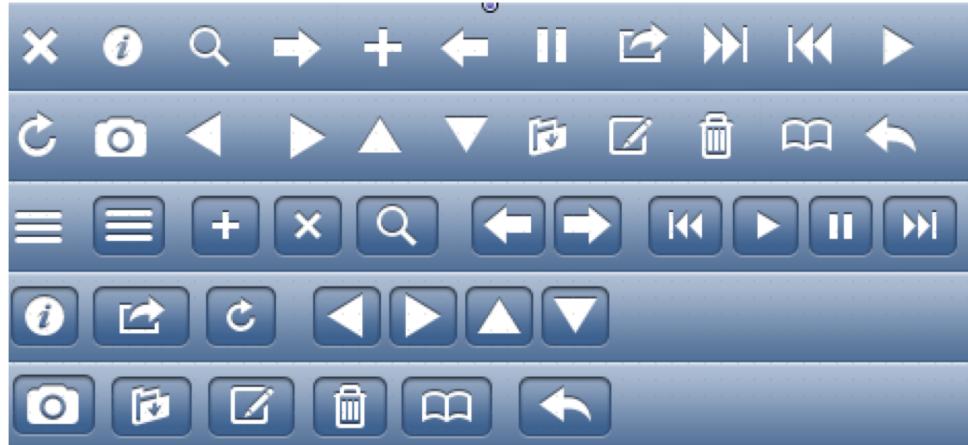
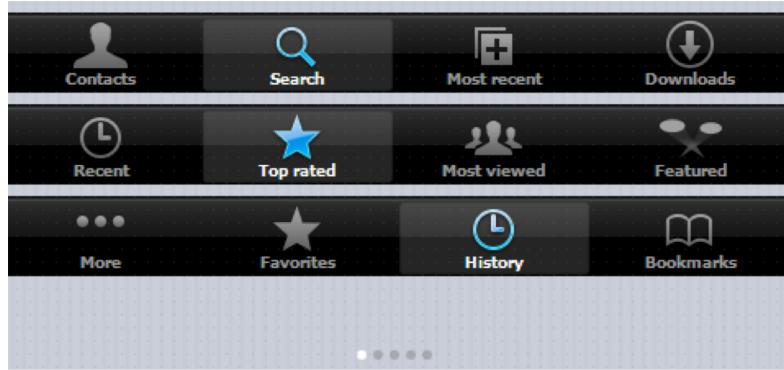


# Native and Custom Styling

- Support for custom tab icons
- Support for Retina images
- “StyleLookup” property



# Native iOS Look-and-Feel



# Native iOS controls and support

- Message alerts
- Custom Pickers
- Date Picker
- Text Editing – Cut/Copy/Paste
- Virtual keyboard types



October	11	2009
November	12	2010
December	13	2011
January	14	2012
February	15	2013

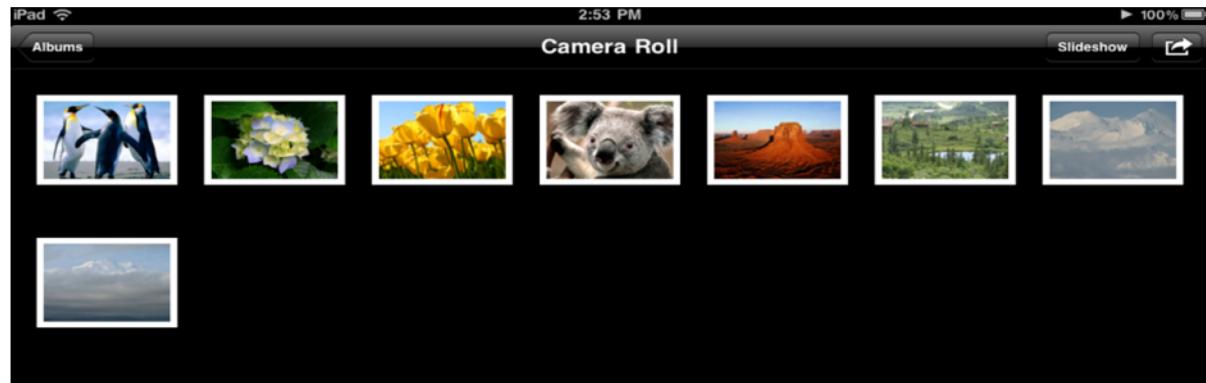
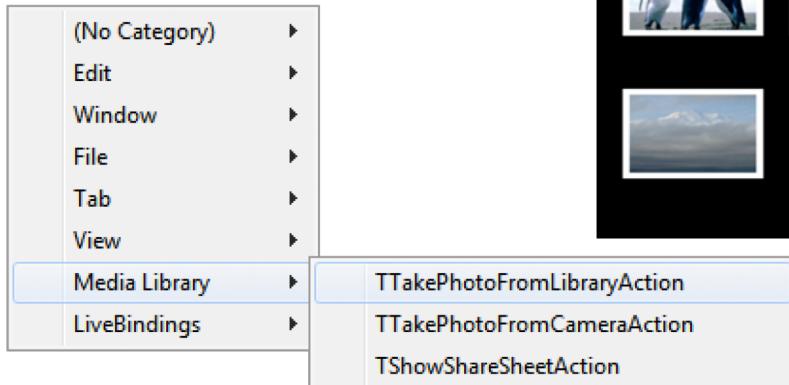
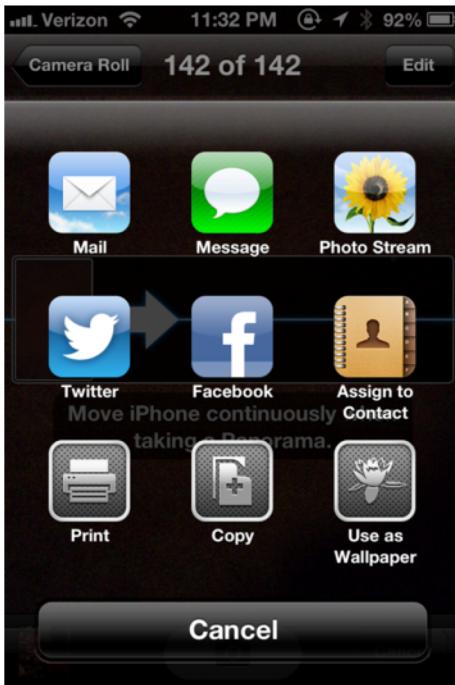
Mountain View
Sunnyvale
Cupertino
Santa Clara
San Jose

# More iOS Components

- **TWebBrowser** for embedded web browsing
- **TMagnifier** used with text editing, but can be used with other components as well
- **TCamera** - access front/back camera, flash etc.
- **TListBox** for short lists with no or minimal scrolling, header/footer/group/search styling
- **TListView** for long, scrollable, data-bound lists
- **TSwitch** for on/off selections
- **TProgressBar** for flexible progress control visualization
- **TSpeedButton** with variety of iOS-like icon options
- ... and more!

# Extended Actions Support

- Accessing the Camera App
- Accessing the Camera Roll
- Sharing content i.e. photos via Message (SMS), Mail, Facebook, Twitter etc.
- Slide Transitions for Tabs



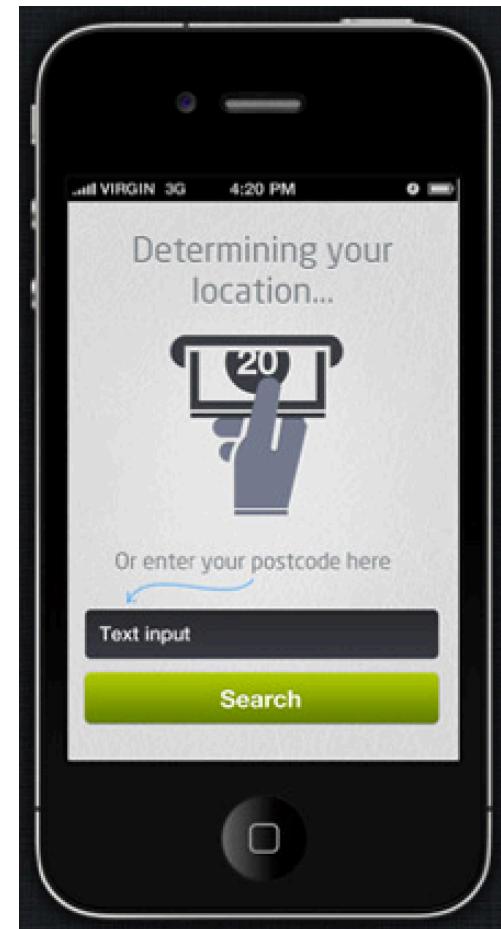
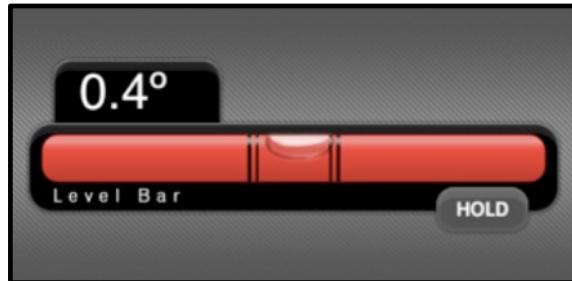
# Gestures

- Swipe
- Tap
- Pinch & Zoom
- Tap & Hold



# Sensor Components

- Location Sensor (GPS)
- Motion Sensor (Accelerometer)
- Orientation Sensor (Gyroscope)



# iOS Services

- Notification Center
- ... and more

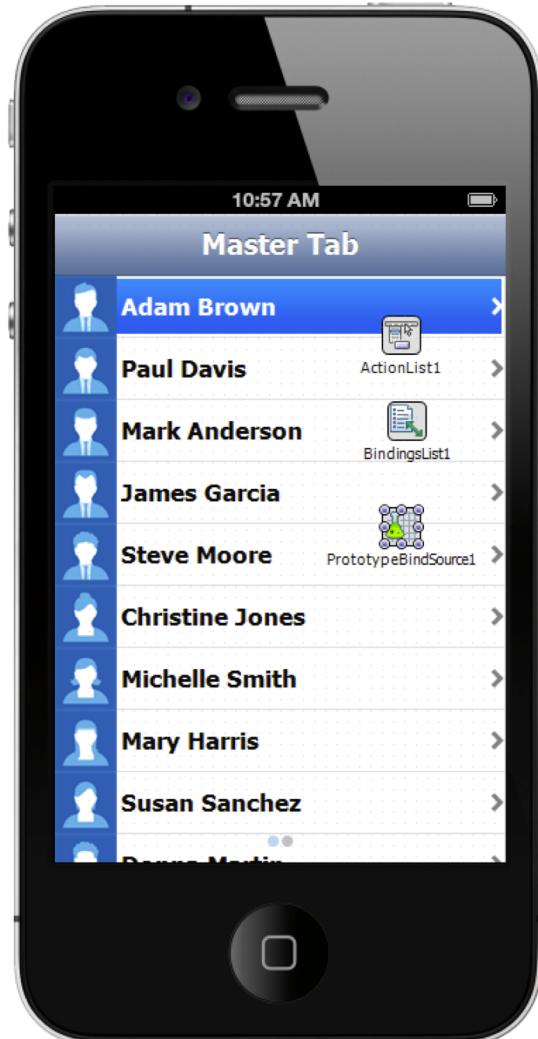


Break  
(10 minutes)

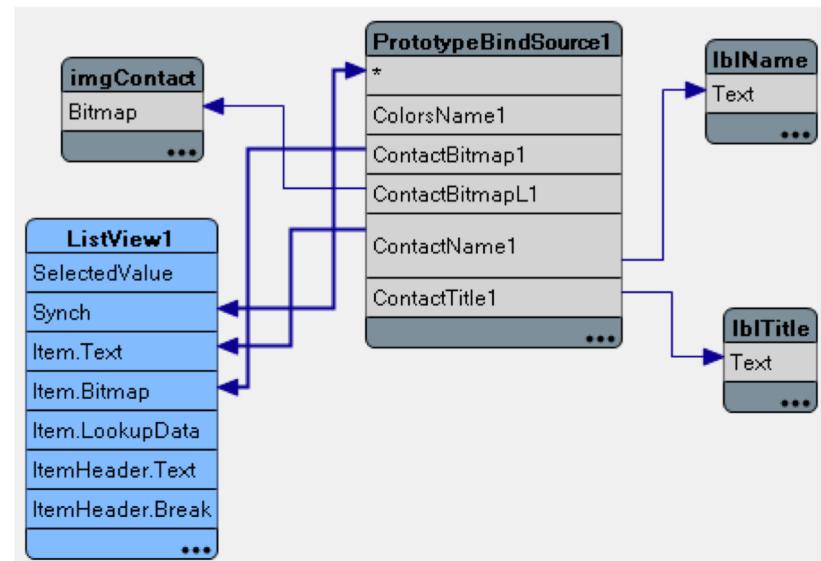
# Creating Apps that Work with Data and Services



# Visual LiveBindings



- Bind controls to data
- Rapid Prototyping



# Enterprise Database Connectivity: FireDAC



Multiple Devices



Multiple Data Sources

# FireDAC multi-device data access library



## FireDAC

FireDAC is a Universal Data Access library for developing applications for multiple devices, connected to enterprise databases.

# Data Access

Delphi  
C++Builder

FireMonkey and VCL

FireDAC

Non Visible Components [*Comp*]

Visible Components and Forms [*GUIx*]

Local Data Storage [*DatS*]

Debug & Performance Monitor  
[*Moni*]

Data Adapter [*DApt*]

Native Drivers [*Phys*]

Oracle

DB2

MS SQL

InterBase  
Firebird

PG SQL

MySQL

Sybase  
ASA

SQLite

MS  
Access

Bridging Drivers [*Phys*]

ODBC

dbExp

DBMS

ODBC  
drivers

dbExpress  
drivers

Oracle

DB2

MS SQL

InterBase  
Firebird

PG SQL

MySQL

Sybase  
ASA

SQLite

MS  
Access

Sybase  
ASE

Informix

...

DBMS Client Software

# FireDAC multi-device data access library



## FireDAC

FireDAC enables native high-speed direct access from RAD Studio, Delphi and C++Builder to InterBase, SQLite, MySQL, SQL Server, Oracle, PostgreSQL, DB2, SQL Anywhere, Advantage DB, Firebird, Access, Informix, DataSnap and more.

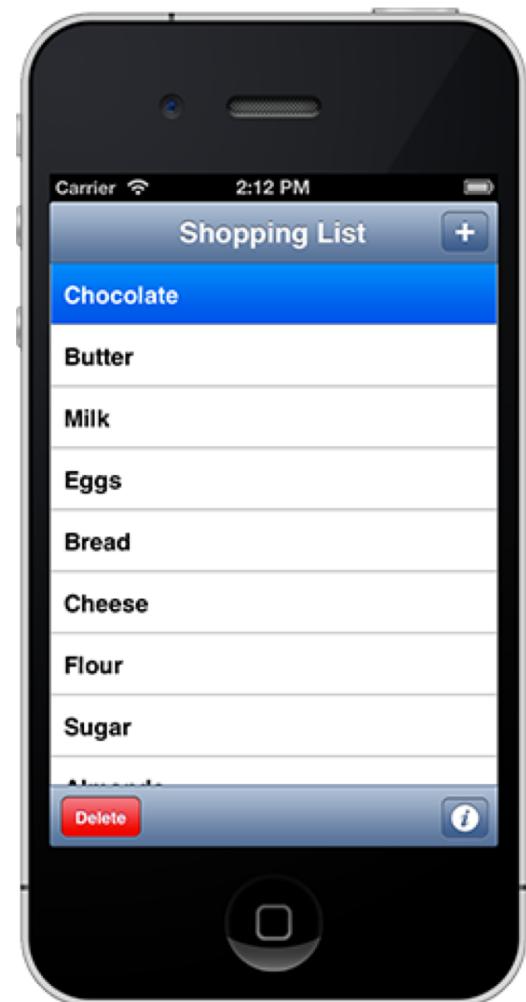
# Local Databases

SQLite	InterBase ToGo
Free	Commercial
Feature light	Fully featured
No security	Secure Encryption
Simple Data Storage	Full SQL-92 RDBMS
Single read/write	Fast multi read/write



# IBLite

- Free feature limited version of InterBase for iOS
- Can be included in free and paid iOS apps
- License for IBLite included with certain editions of RAD Studio and Delphi



# Deploy IBLite free with your iOS apps

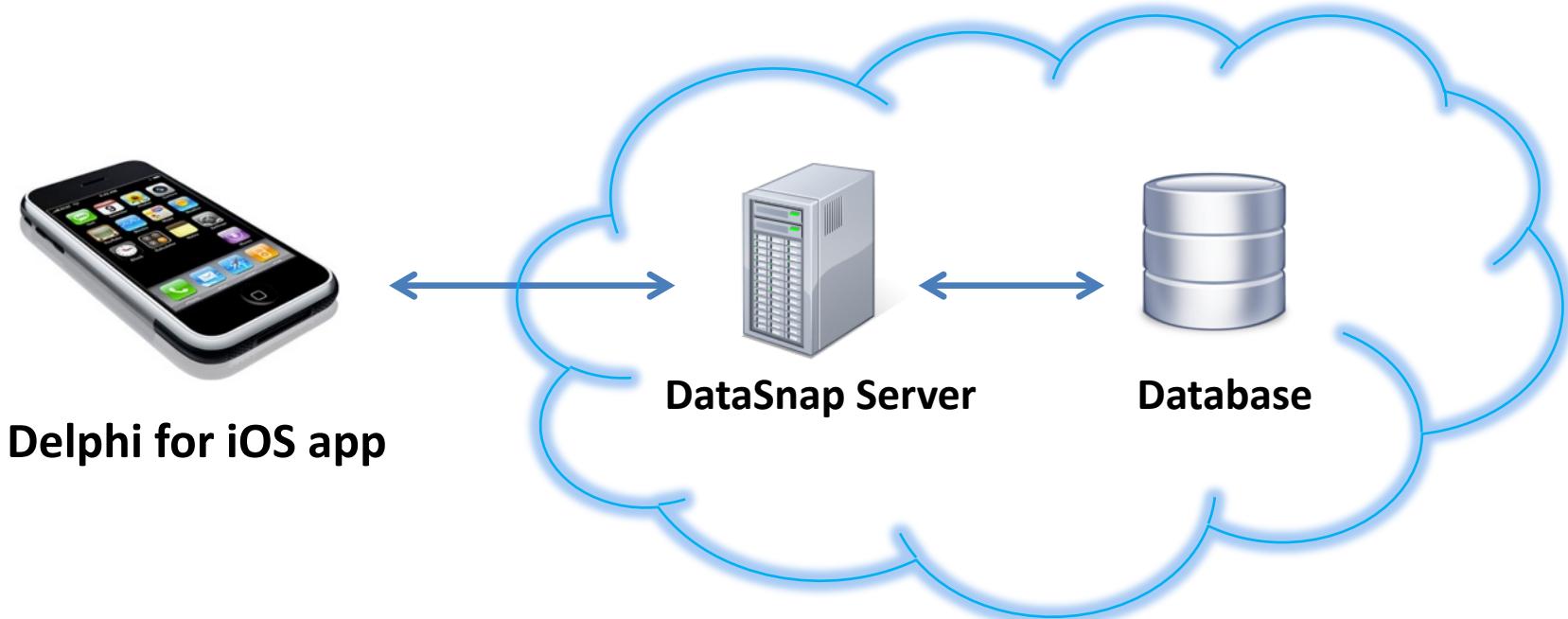
Attribute Description	IBLite	InterBase ToGo	InterBase Server Edition
Licensing of CPU Cores	1	4	8
Licensed simultaneous users	1	2	Unlimited
Number of connections per user	1	4	4
Remote client access	Yes	Yes	Yes
TCP listening server	No	No	Yes
Strong (AES) database and column encryption	No encryption of any kind (weak or strong) allowed	Yes	Yes
Strong network (SSL) encryption	No encryption of any kind (weak or strong) allowed	Yes	Yes
Able to import add-on licenses	No	No	Yes
Database file size limitation	100MB	No limit	No limit



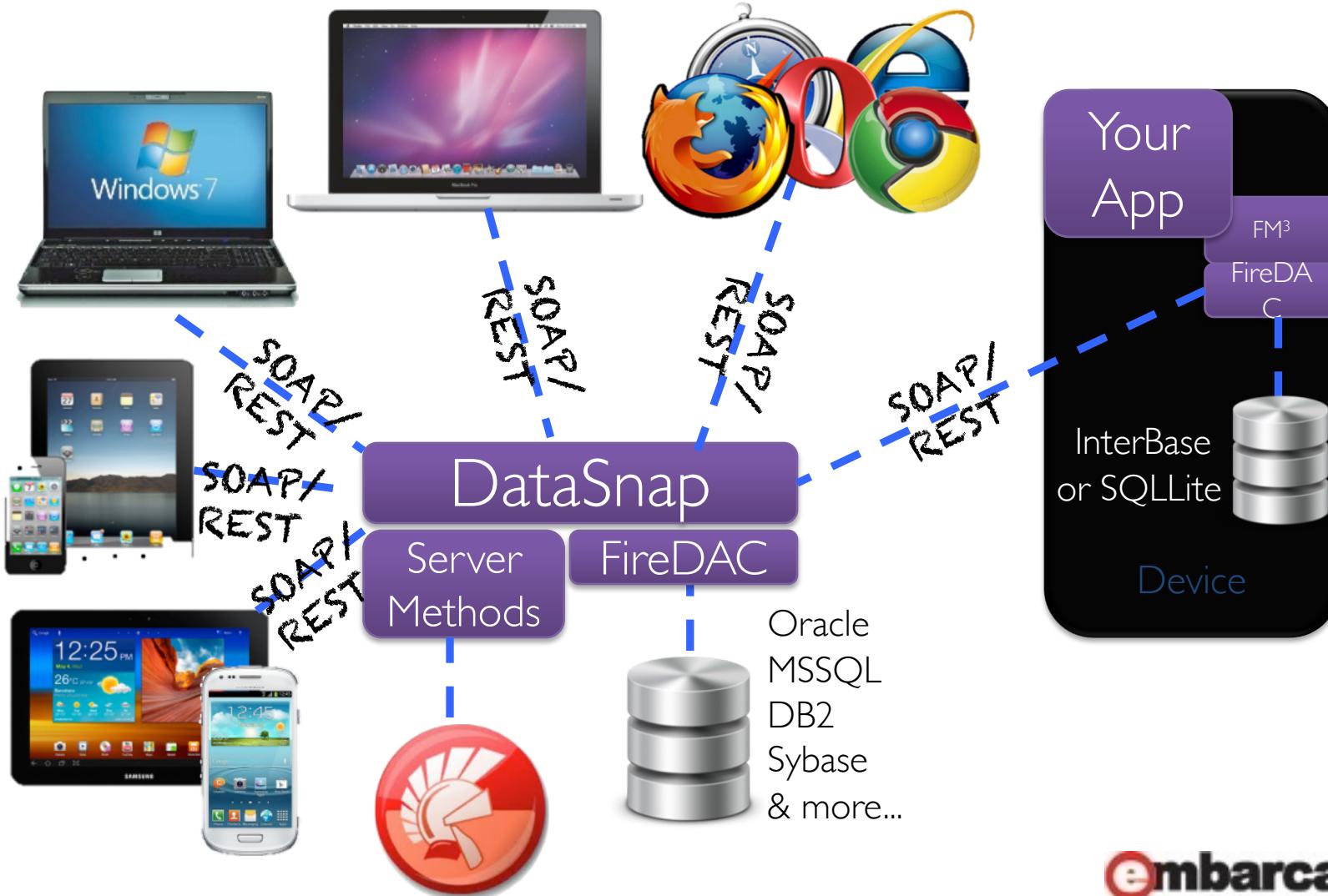
- InterBase IBLite is an embeddable database for iOS
- Included in all RAD Studio editions and in Delphi Professional (with Mobile Add-On) and above.
- Upgrade to InterBase ToGo for additional functionality.

# Multitier Development

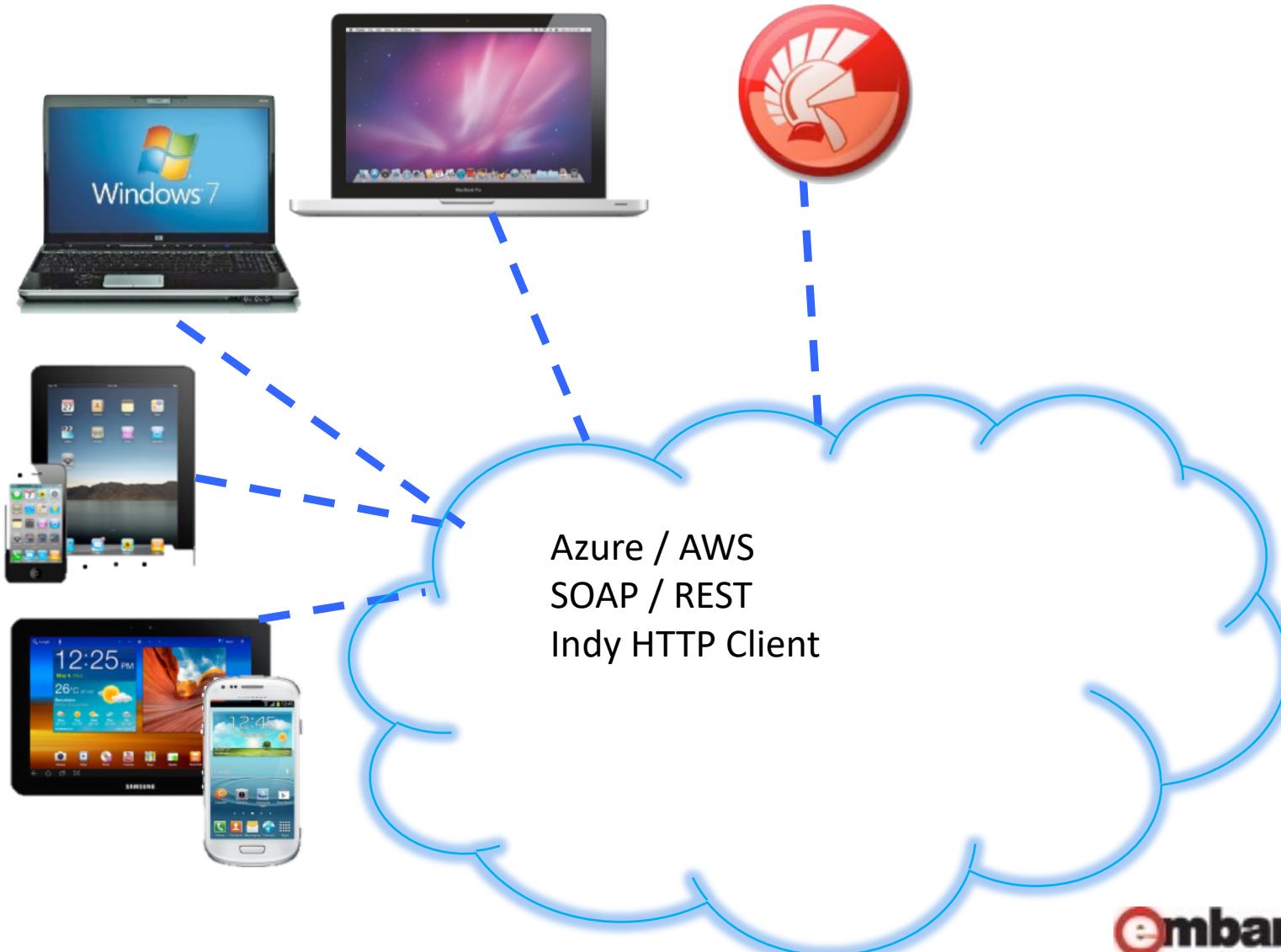
- Accessing remote services
- Connecting to DataSnap servers from an iOS device



# Enterprise Ready



# Cloud Services Ready



# Summary



# Many new features in XE4

- FireMonkey iOS camera component
- FireMonkey magnifier
- FireMonkey phone dialer for iOS
- FireMonkey picker controls
- FireMonkey text editing
- Virtual keyboards
- iOS touch and gesture
- ListView and ListBox components
- Media actions
- Native iOS Styles
- Full screen mode
- Sensor support
- Notification center
- New FireMonkey Units
- Improved action list editor
- Scrolling engine
- Enhanced PA Server
- Desktop and mobile compilers for iOS
- New Delphi compiler conditionals
- New Delphi compiler directives
- New Delphi compiler attributes
- FireMonkey mobile wizard
- Mobile form designer
- Connection profiles
- C++ 64-bit compiler fixes/enhancements
- iOS database support for InterBase ToGo and SQLite
- iOS database connectivity with IBExpress, Midas Client Components, DataSnap Connectors and FireDAC
- DataSnap iOS
- LiveBindings for iOS
- RTL now supports iOS
- Support for optimized 0-based strings
- iOS debugging
- New code samples

# RAD Studio Summary

- Multi-device, true native application development from a single codebase with apps being automatically, natively optimized for multiple target platforms
- Reduce complexity and cost with just one of everything for your app development: one dev team, one code base, one budget, one schedule
- Be fast to market with extendable and reusable visual component building blocks for faster and highly maintainable development

# Promoción Webinario

**Presentando RAD Studio XE4**  
Multi-dispositivos, aplicaciones realmente nativas

Participe en el webinario de presentación del producto  
**4 de junio, 2013**



**Obtén hasta un 20 % de descuento.**

Contacta a tu distribuidor local para obtener el mejor descuento.

No pierdas esta oportunidad !!

Vigencia hasta el 25 de Junio de 2013.  
Aplican Restricciones.

# More Information

- <http://www.embarcadero.com>
- <http://edn.embarcadero.com>



# ¿Preguntas?



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[blogs.embarcadero.com/fernandorizzato](http://blogs.embarcadero.com/fernandorizzato)