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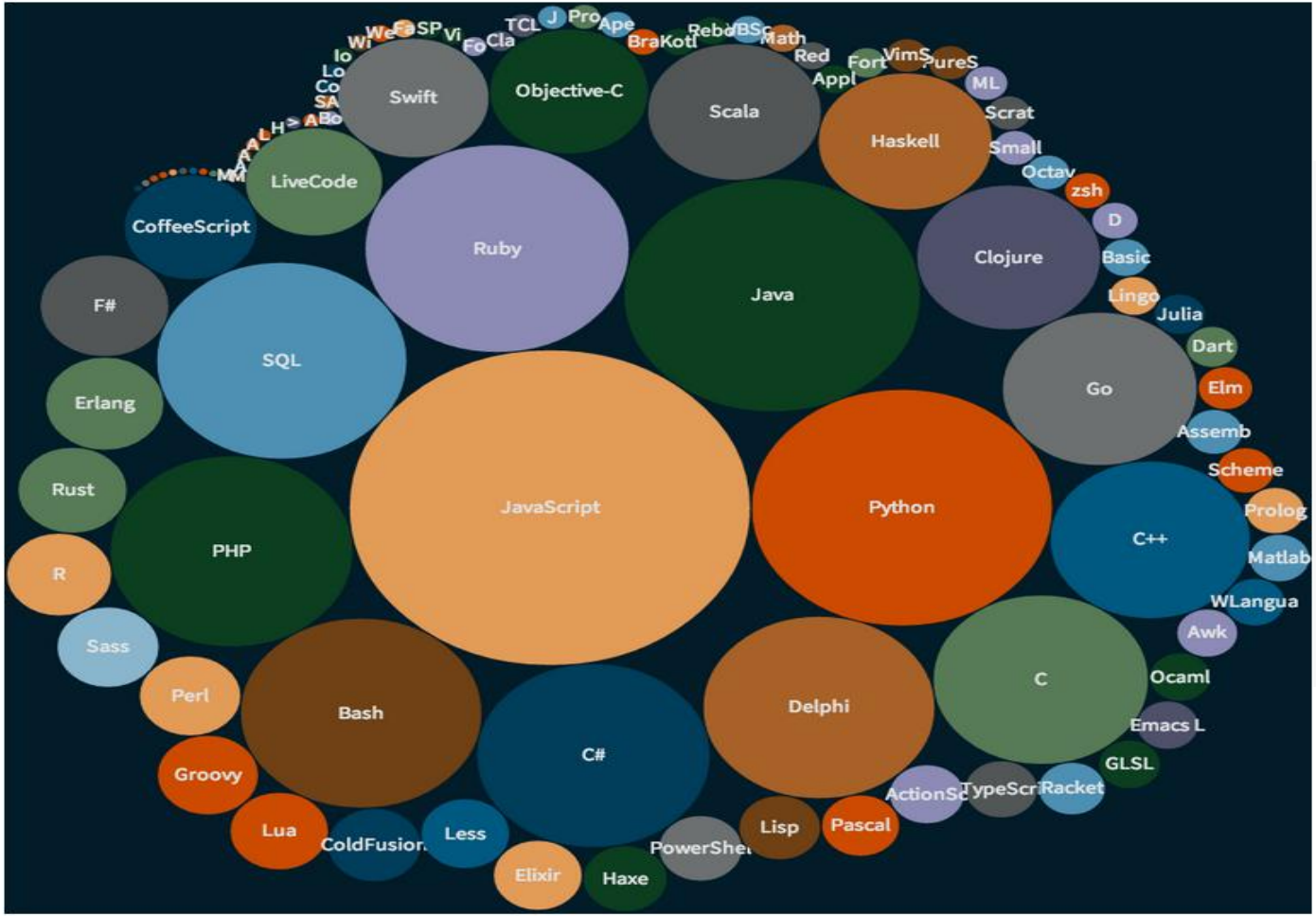
C++Builder/Delphi 2015開發路線及新技術發展趨勢

Agenda

- 歡迎和簡介
- 新技術趨勢和討論
- C++Builder/Delphi 發展回顧
- C++Builder/Delphi 發展路線
- Q&A



Delphi finished 9th in the #Code2014 rankings on Twitter

#	Language	Count
1	javascript	2414
2	python	1355
3	java	1317
4	ruby	1044
5	sql	936
6	php	882
7	bash	871
8	c#	814
9	**delphi**	**803**
10	c	692
11	c++	598

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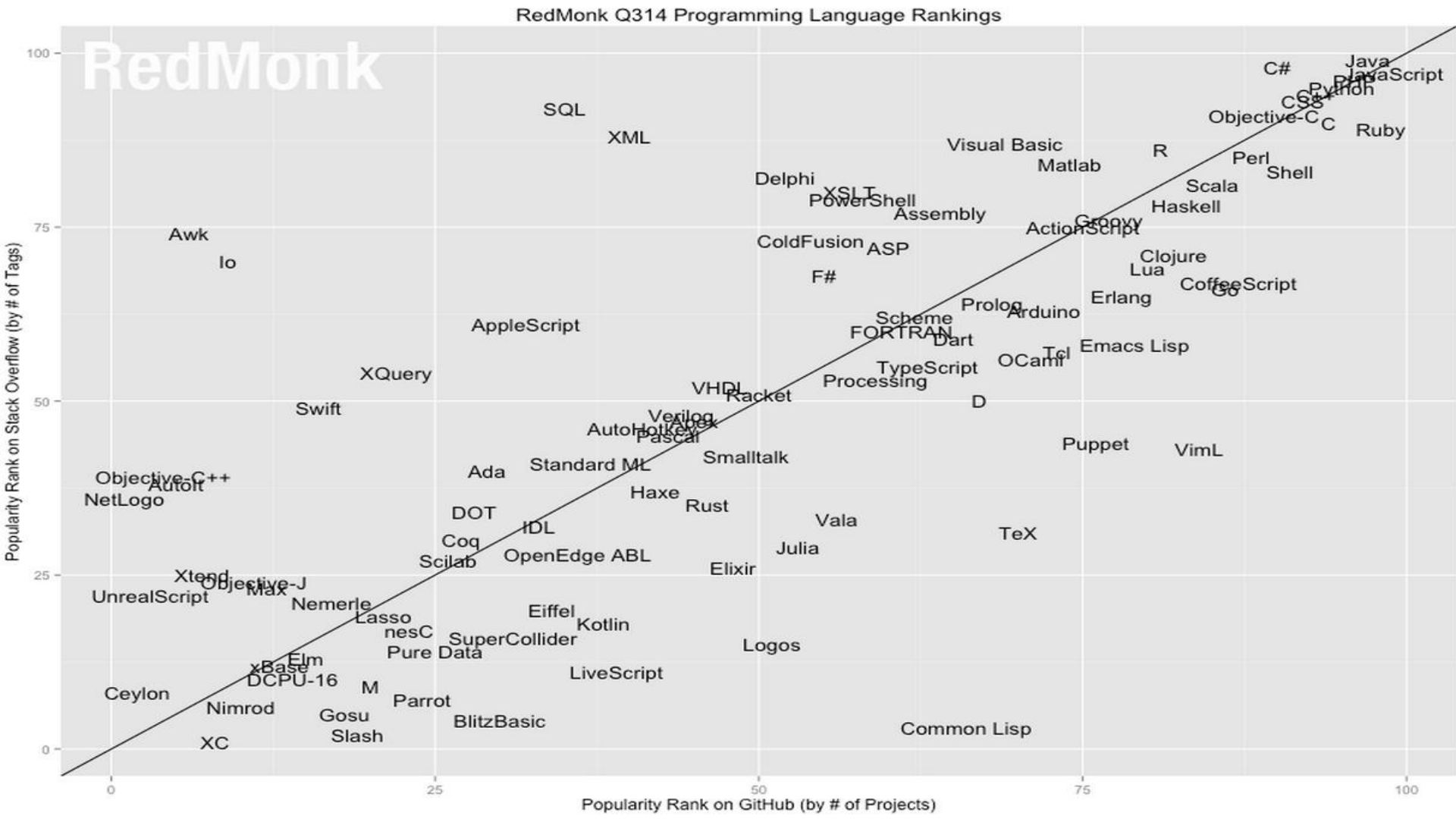
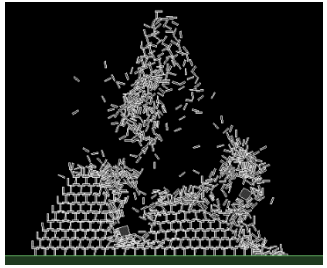
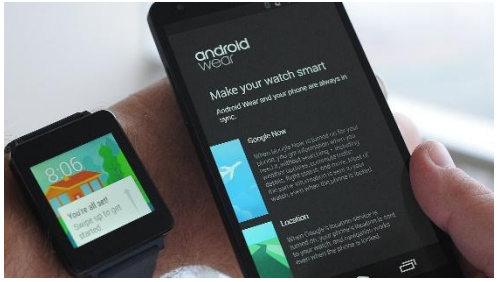

RedMonk Q314 Programming Language Rankings
RedMonk
Popularity Rank on Stack Overflow (by # of Tags)
Popularity Rank on GitHub (by # of Projects)
0
25
50
75
100
SQL
XML
Visual Basic
Delphi
XSLT
PowerShell
Assembly
Matlab
R
Perl
Shell
Scala
Haskell
Groovy
ActionScript
Objective-C
C
C#
Java
JavaScript
Python
Ruby
Awk
Io
ColdFusion
ASP
F#
Clojure
Lua
CoffeeScript
Go
Erlang
Prolog
Arduino
Scheme
FORTRAN
Dart
Tcl
Emacs Lisp
OCaml
TypeScript
Processing
AppleScript
XQuery
VHDL
Racket
D
Swift
Verilog
AutoHotkey
Pascal
Smalltalk
Puppet
VimL
Ada
Standard ML
Objective-C++
AutoIt
NetLogo
Haxe
Rust
DOT
IDL
Vala
TeX
Coq
Julia
Scilab
OpenEdge ABL
Elixir
Xtend
Objective-J
Max
UnrealScript
Nemerle
Lasso
Eiffel
Kotlin
nesC
SuperCollider
Logos
Pure Data
Elm
xBase
DCPU-16
LiveScript
Ceylon
M
Parrot
Nimrod
Gosu
BlitzBasic
Slash
XC
Common Lisp

新技術趨勢和討論

- 大爆炸的一年：從客戶端, 桌面到後端. 從軟體, 硬體到服務
- 10根手指可能也不夠用來算
  - 穿戴式設備
  - 物聯網
  - iOS 64/Android 64
  - Windows 10
  - 開放硬體模組
  - UI技術(Box2D, AR, …)
  - …





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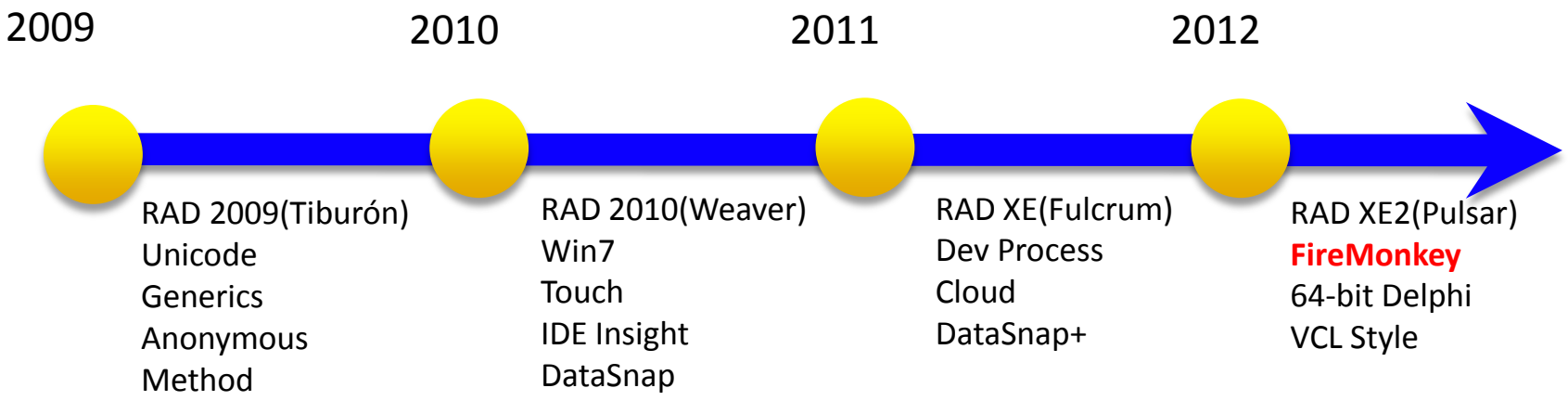
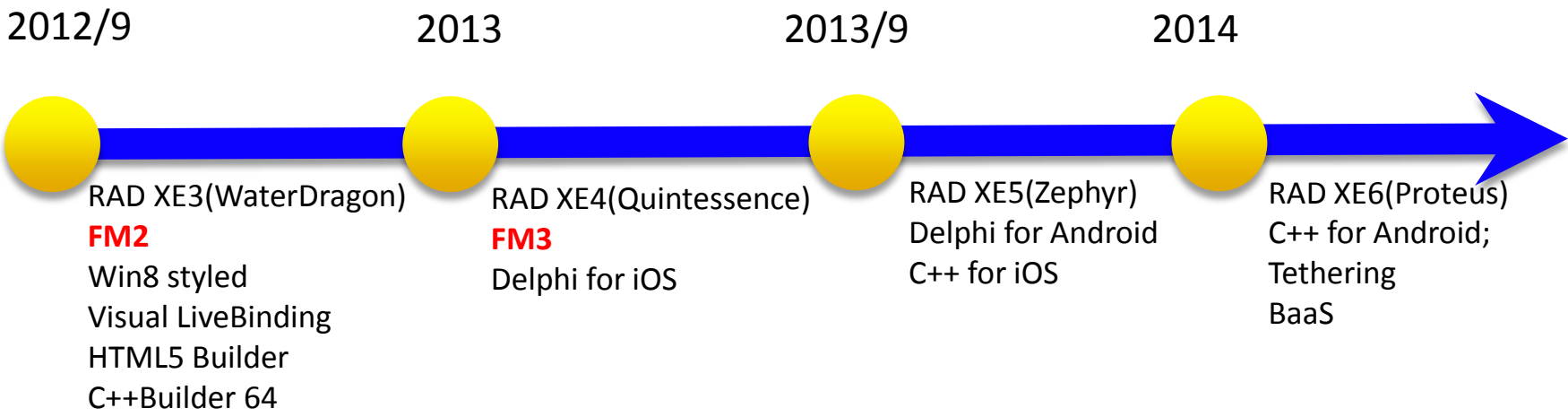
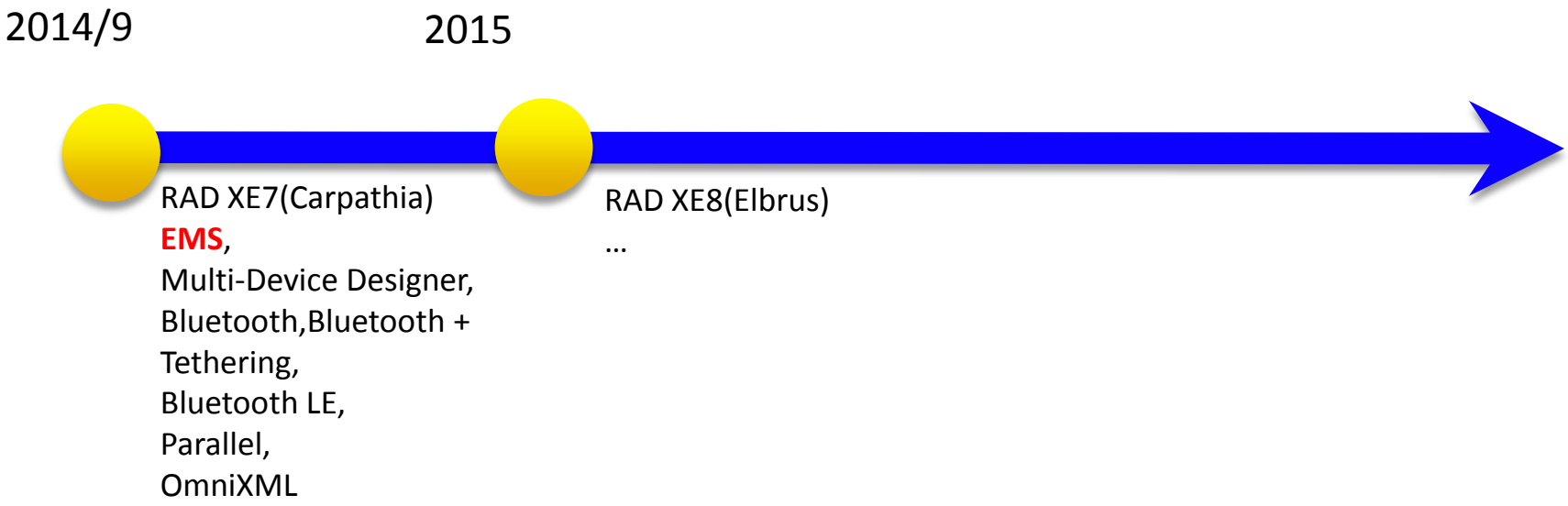
C++Builder/Delphi 發展回顧



C++Builder/Delphi 發展回顧



C++Builder/Delphi 發展回顧



C++Builder/Delphi 發展路線

C++Builder/Delphi 發展路線

- 支援更多的平台
- 再次提昇開發人員的生產力和開發環境
- 物聯網(IoT, Internet of Things)

Roadmap Disclaimer

- This is plan based on what we know *today*
- It is an overview of our focused direction(s)
- Subject to change due to
  - Unexpected issues in the development of the features
  - Unforeseen changes in the market landscape
- Not a promise, or a contract

Review: Main Features Delivered in 2014

- C++ toolchain for Android
- BaaS support and EMS architecture
- FireUI multi-device designer and new FireMonkey components and services to support it
- App Tethering and Bluetooth support
- Parallel programming library

Other Features Delivered in 2014

- Mobile adverting and in-app payment
- VCL styles improvements, TaskBar and JumpList support
- Apache HTTP servers support for WebBroker and DataSnap
- New FireDAC drivers and features
- iOS 8 and Android 5 platforms support
- Platform iOS controls
- Support for wearable devices and Google Glass
- XML and JSON processing improvements
- Object Pascal enhancements for dynamic arrays
- IDE extensions in projects management, version control integration, deployment…

2015 New Platforms and Compilers

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- iOS 64 bit
  - Working on new compilers and toolchains for both C++ and Object Pascal for iOS 64bit platform, alongside with 32bit ARMv7 platform
  - Support for Apple universal binary
- Windows 32 bit C++ compiler
  - LLVM based toolchain similar to the 64-bit Windows compiler language features, including C++11

Development Environment (IDE)

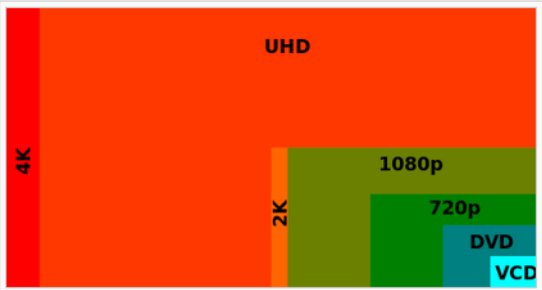
The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- Developer productivity enhancements for both Object Pascal and C++
- Improved IDE stability, with a large memory model for the IDE
- Library manager technology integrated in the IDE
- Major enhancements to the FireUI multi-device designer, including multiple device previews

VCL and RTL

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- VCL improvements for styling, full 4K monitors support, large fonts, and other enhancements
- Application analytics for VCL (and FireMonkey)
- Native HTTP(S) client libraries on all platforms



16:9 resolutions in comparison

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FireMonkey

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- FireMonkey controls extensions with
  - New mobile components, like Maps
  - Missing desktop components, like the WebBrowser
  - More iOS platform controls and better z-order management (for iOS)
- FireMonkey performance optimizations

Internet of Things

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- Mobile proximity integration, with expected support for Beacon technologies
- Component-based model for connecting to different devices and gadgets based on heterogeneous APIs
- Remote endpoints for data collection and analysis

Other Platforms Under Technical Investigation

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

- 2015 versions of Android and iOS (still not announced by the Google and Apple, as of today)
- Linux server side support for web service applications like WebBroker, DataSnap, EMS
- Options to support Android Intel platform
- 64 bit toolchain for Mac OS X

Windows 10

The following features are planned for development or are currently under development. Any or all of these features may not actually be included in a future release and their disclosure should not be considered a commitment.

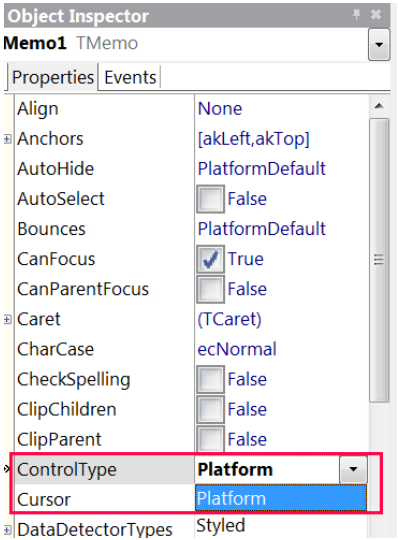
- Windows 10 specific support
  - Both VCL and FireMonkey
  - New components and libraries
  - Broad API coverage
  - Integration with new Windows 10 platform technologies

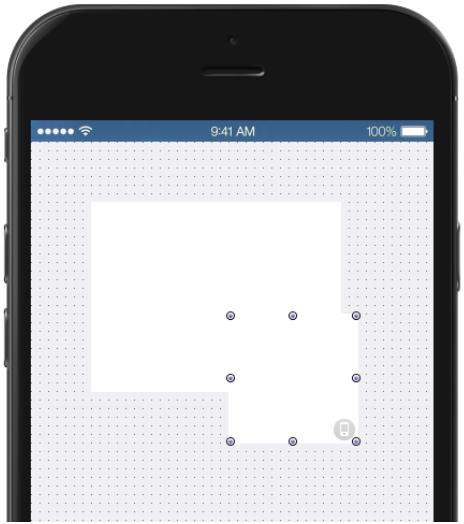
Final 2015 Considerations

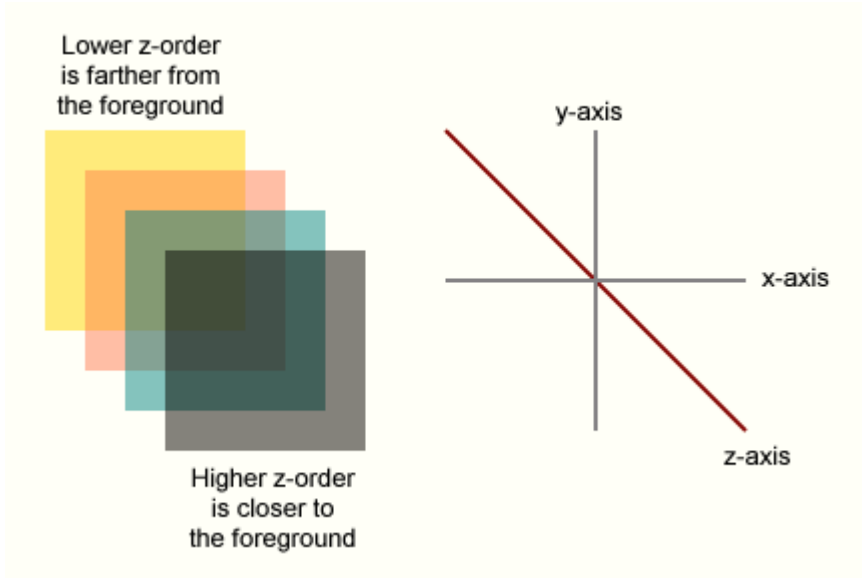
- Planning 2 product releases in 2015
  - Roadmap update after 1st release is out
- Embrace Update Subscription
  - Continuous updates, also to previous releases
  - Exclusive content and features
- Features for you to tackle new challenges and opportunities

UI技術

```
TiOSZOrderManager = class
 private
   FLinks: TDictionary<TControl, UIView>;
```







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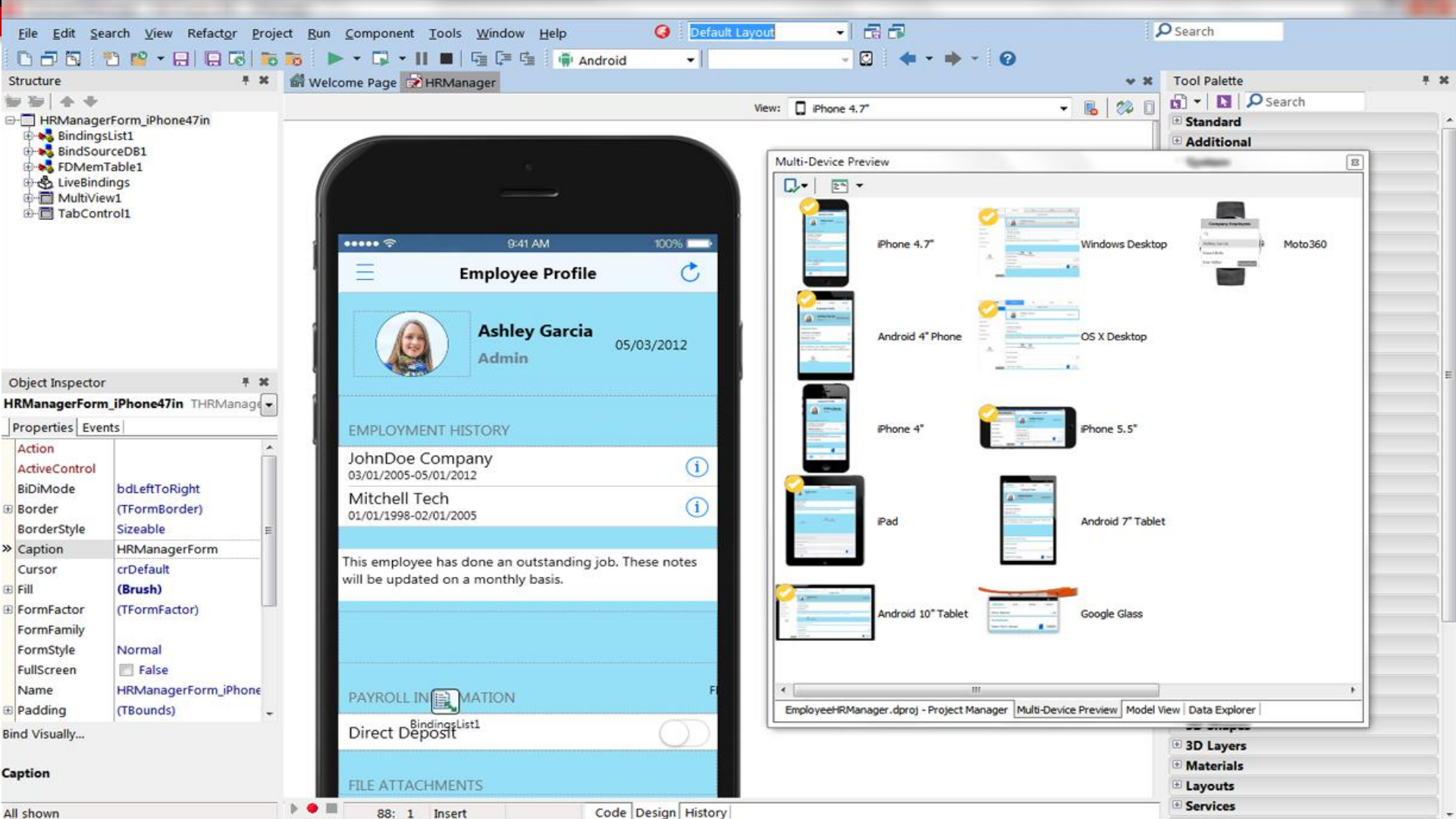

File Edit Search View Refactor Project Run Component Tools Window Help
Default Layout
Search
Android
Structure
HRManagerForm_iPhone47in
BindingsList1
BindSourceDB1
FDMemTable1
LiveBindings
MultiView1
TabControl1
Welcome Page
HRManager
View: iPhone 4.7"
Tool Palette
Standard
Additional
3D Layers
Materials
Layouts
Services
Object Inspector
HRManagerForm_iPhone47in THRManage
Properties Events
Action
ActiveControl
BiDiMode bdLeftToRight
Border (TFormBorder)
BorderStyle Sizeable
Caption HRManagerForm
Cursor crDefault
Fill (Brush)
FormFactor (TFormFactor)
FormFamily
FormStyle Normal
FullScreen False
Name HRManagerForm_iPhone
Padding (TBounds)
Bind Visually...
Caption
All shown
9:41 AM
100%
Employee Profile
Ashley Garcia
Admin
05/03/2012
EMPLOYMENT HISTORY
JohnDoe Company
03/01/2005-05/01/2012
Mitchell Tech
01/01/1998-02/01/2005
This employee has done an outstanding job. These notes will be updated on a monthly basis.
PAYROLL INFORMATION
BindingsList1
Direct Deposit
FILE ATTACHMENTS
Multi-Device Preview
iPhone 4.7"
Windows Desktop
Moto360
Android 4" Phone
OS X Desktop
iPhone 4"
iPhone 5.5"
iPad
Android 7" Tablet
Android 10" Tablet
Google Glass
EmployeeHRManager.dproj - Project Manager
Multi-Device Preview
Model View
Data Explorer
88: 1 Insert
Code Design History

物聯網開發

Internet of Things

- IoT Tethering Framework w/Device catalog
- VCL/FMX component generation
- ThingPoint - EMS IoT Wifi/Bluetooth Repeater
- iBeacon/Proximity
- EMS Device Authentication and Wifi-Bridging
- More EMS analytics/Reports and Apache modules
- EMS Delta Synching (IB XE7 ChangeViews)
- Module Tethering (Galileo, Arduino, Beagleboard, Raspberry Pi, etc)

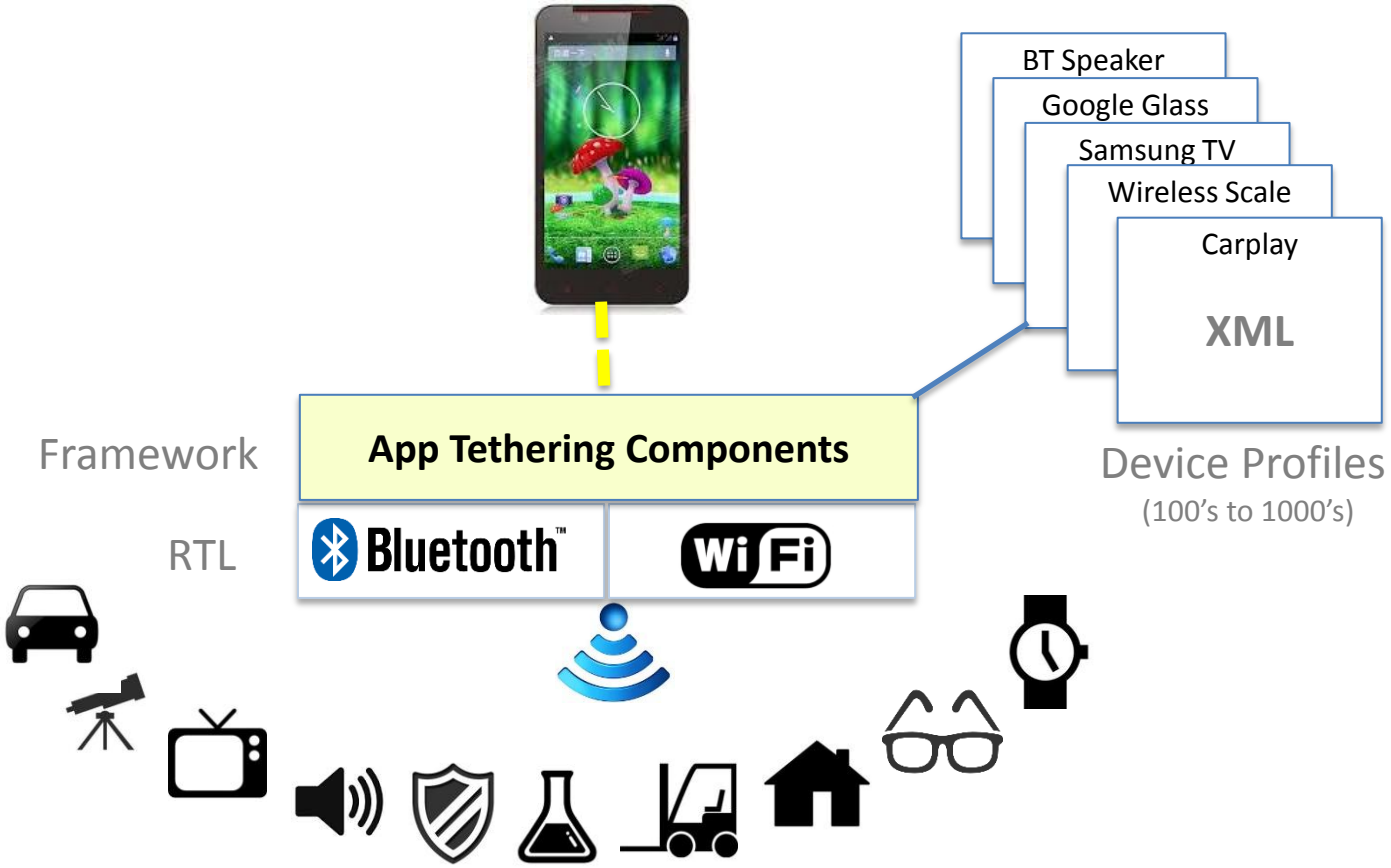
Appmethod – The Tool for IOT App development

- Building connected apps for the internet of things.
  - apps that
    - Connects with any Cloud Service
    - Connects with Any Data. Anywhere
    - And extends the App User Experience to any device, wearable, gadget or sensor

Connected Apps

- Components that connect with and extend apps to any type of gadget, wearable, device, or sensor
  - Bluetooth/Bluetooth LE
  - WiFi
  - JSON
  - Custom
- Thing list of over 1000 readily available consumer and industry devices
- Vertical Industry support
  - Healthcare, Science/Engineering, Automotive, Wearables

Connecting to All Things



- Generic Attribute Profile (GATT)

GATT-Based Specifications (Qualifiable)	Overview Page	Adopted Versions (Download PDF
Alert Notification Profile	ANP	1.0
Alert Notification Service	ANS	1.0
Current Time Service	CTS	1.0
Device Information Service	DIS	1.0
Find Me Profile	FMP	1.0
Health Thermometer Profile	HTP	1.0
Health Thermometer Service	HTS	1.0
Heart Rate Profile	HRP	1.0
Heart Rate Service	HRS	1.0
Immediate Alert Service	IAS	1.0
Link Loss Service	LLS	1.0
Next DST Change Service	NDCS	1.0
Phone Alert Status Profile	PASP	1.0
Phone Alert Status Service	PASS	1.0
Proximity Profile	PXP	1.0
Reference Time Update Service	RTUS	1.0
Time Profile	TIP	1.0
Tx Power Service	TPS	1.0

- Profiles

- Profiles are high level definitions that define how services can be used to enable an application or use case.

SpecificationName	SpecificationType	SpecificationLevel
Alert Notification	org.bluetooth.profile.alert_notification	Adopted
Blood Pressure	org.bluetooth.profile.blood_pressure	Adopted
Cycling Power	org.bluetooth.profile.cycling_power	Adopted
Cycling Speed and Cadence	org.bluetooth.profile.cycling_speed_and_cadence	Adopted
Find Me	org.bluetooth.profile.find_me	Adopted
Glucose	org.bluetooth.profile.glucose	Adopted
Health Thermometer	org.bluetooth.profile.health_thermometer	Adopted
Heart Rate	org.bluetooth.profile.heart_rate	Adopted
HID OVER GATT	org.bluetooth.profile.hid_over_gatt	Adopted
Location and Navigation	org.bluetooth.profile.location_and_navigation	Adopted
Phone Alert Status	org.bluetooth.profile.phone_alert_status	Adopted
Proximity	org.bluetooth.profile.proximity	Adopted
Running Speed and Cadence	org.bluetooth.profile.running_speed_and_cadence	Adopted
Scan Parameters	org.bluetooth.profile.scan_parameters	Adopted
Time	org.bluetooth.profile.time	Adopted

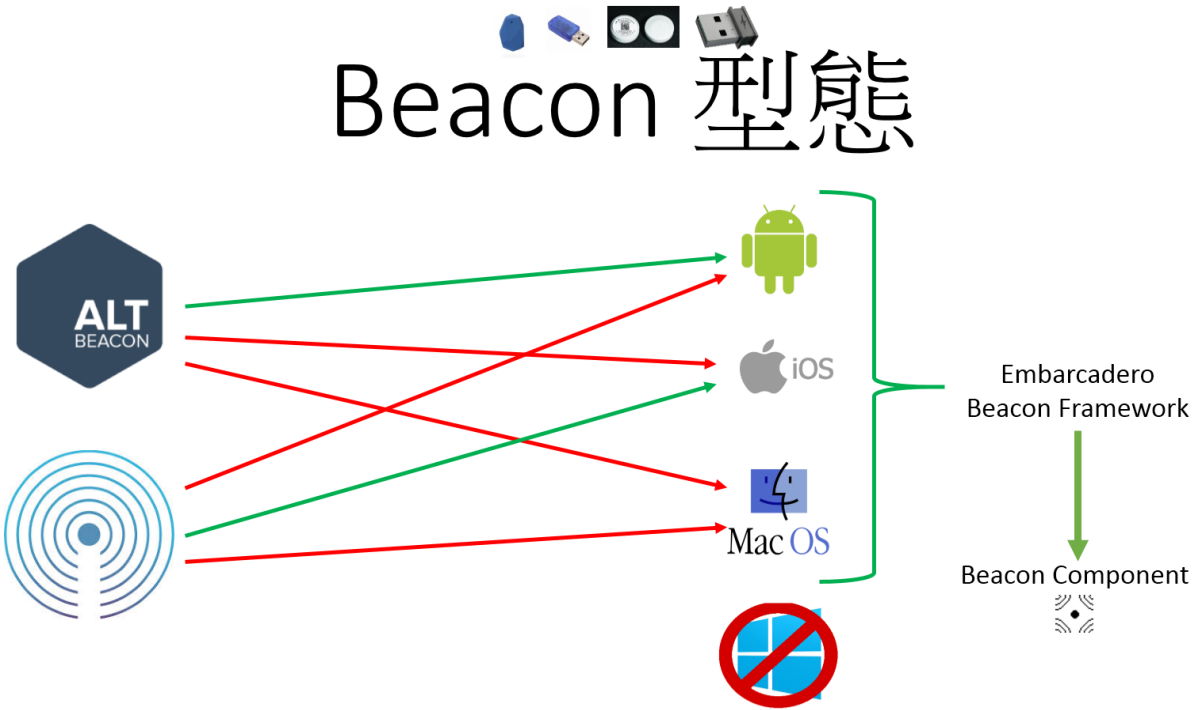
```
class function TBluetoothLEManager.GetKnownServiceName(const AServiceUUID: TGUID): string;
type
  TServiceNames = array [0..186] of TBluetoothService;

const
  ServiceNames: TServiceNames = (
    (Name: 'Base GUID'; UUID:'{00000000-0000-1000-8000-00805F9B34FB}'),
    // GATT PROFILES
    (Name: 'GAP'; UUID:'{00001800-0000-1000-8000-00805F9B34FB}'),
    (Name: 'GATT'; UUID:'{00001801-0000-1000-8000-00805F9B34FB}'),
    (Name: 'IMMEDIATE ALERT'; UUID:'{00001802-0000-1000-8000-00805F9B34FB}'),
    (Name: 'LINK LOSS'; UUID:'{00001803-0000-1000-8000-00805F9B34FB}'),
    (Name: 'TX POWER'; UUID:'{00001804-0000-1000-8000-00805F9B34FB}'),
...
```

物聯網開發

種類	說明
iBeacon	使用Apple格式的設備，使用iBeacon格式的設備必須先向Apple註冊
AltBeacon	開放的格式，它的規格公開在http://altbeacon.org/

物聯網開發

Beacon 型態



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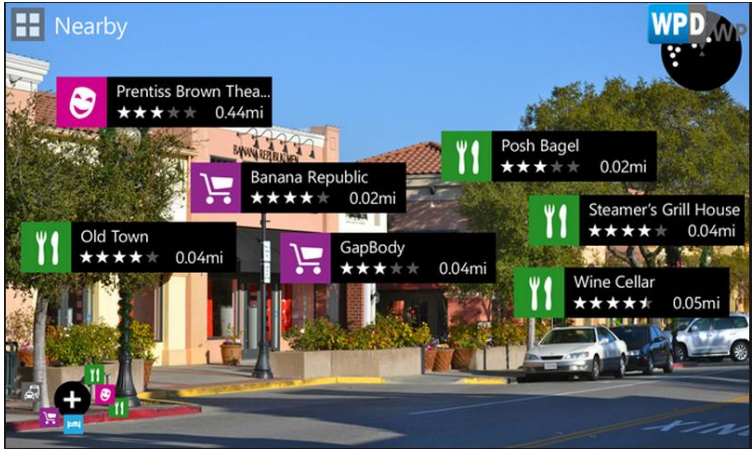
物聯網開發

欄位	說明
UUID	獨特的ID，代表唯一公司的Beacon設備
Major ID	代表唯一公司的Beacon設備中的特定Beacon群組
Minor ID	代表唯一公司的Beacon設備中的特定Beacon群組中的特定Beacon設備
TxPower	此常數值代表從一公尺接收Beacon設備的信號強度，TxPower結合RSSI(Received Signal Strength Indicator)後即可

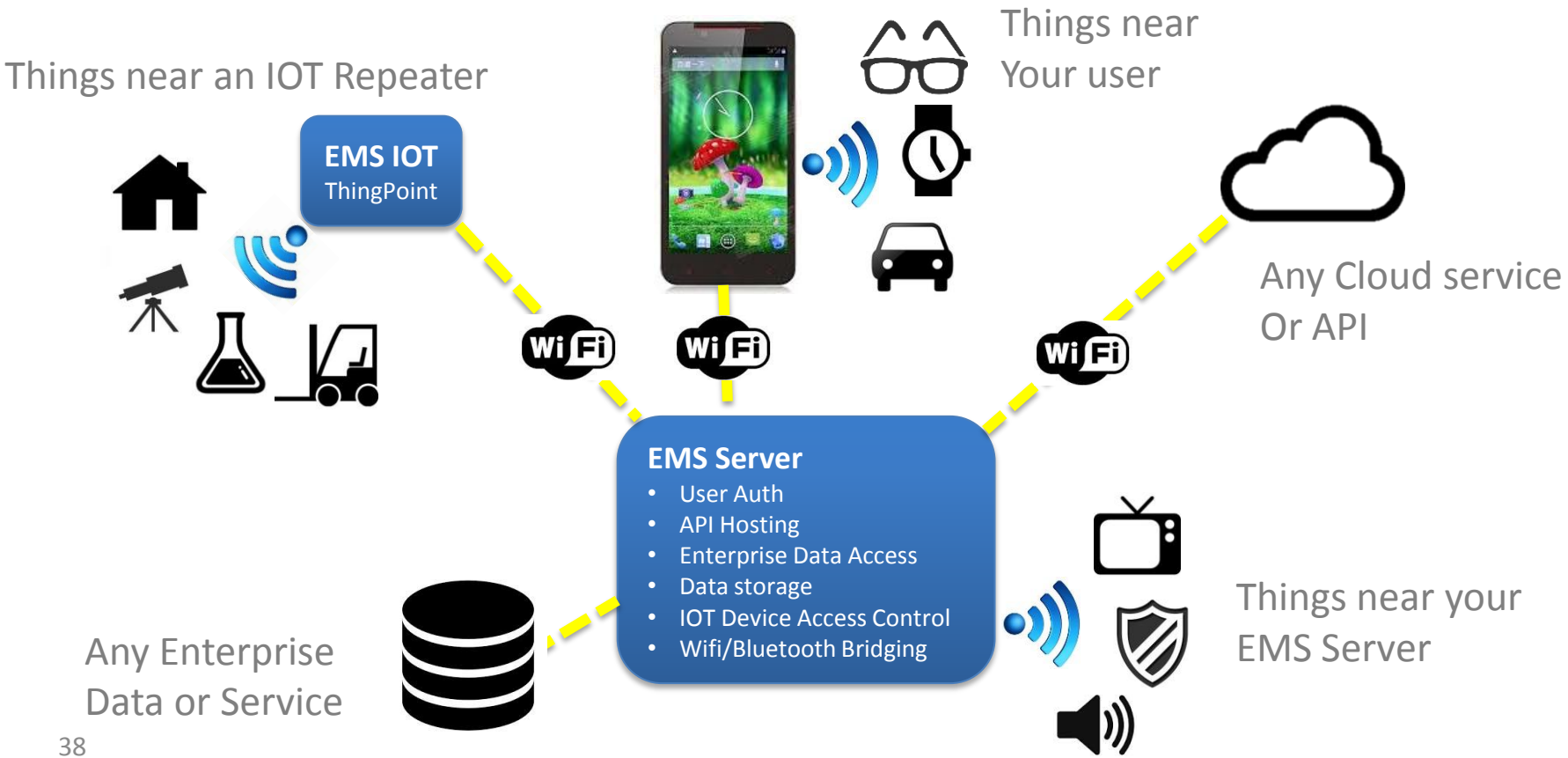
百貨地點		台北	台中	高雄
UUID		1D614A54-0149-4361-9BF1-42389A2AE58B		
Major		1	2	3
Minor	男裝	10	20	30
	女裝	10	20	30
	童裝	10	20	30

物聯網開發

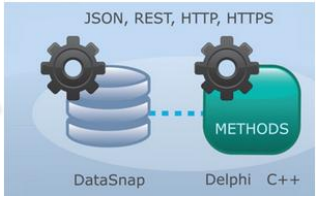
接近狀態	說明
Immediate	App距離Beacon設備0到0.5公尺
Near	App距離Beacon設備0.5到1.5公尺
Far	App距離Beacon設備1.5公尺以外
Unkonw	未知距離(可能太遙遠或是有東西阻擋訊號)



IOT for Enterprise



接近狀態	說明
Immediate	App距離Beacon設備0到0.5公尺
Near	App距離Beacon設備0.5到1.5公尺
Far	App距離Beacon設備1.5公尺以外
Unkonw	未知距離(可能太遙遠或是有東西阻擋訊號)



Far, Far Away

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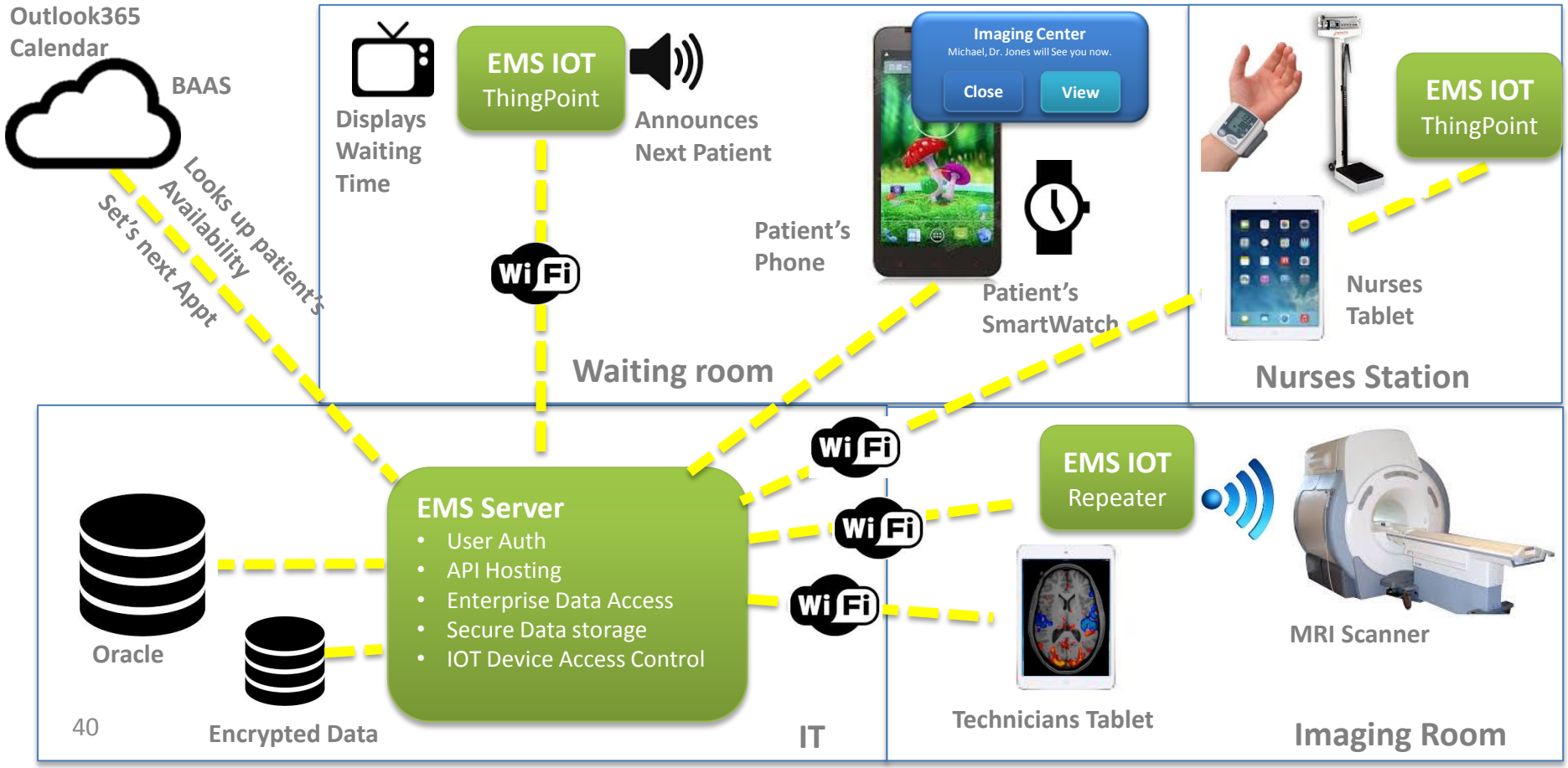
Example: Hospital/Digital Imaging Center



Example: :Smart Manufacturing

Robot

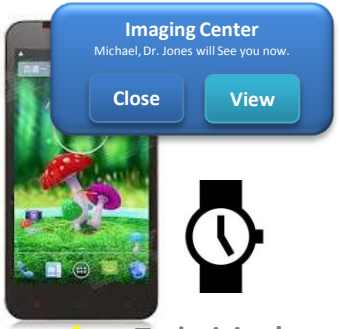
Displays Build Stats

EMS IOT ThingPoint

Technician's Tablet

Wi Fi

Technician's Phone



Technician's SmartWatch

Temp & Moisture Sensors

Inventory Robot

Manufacturing Floor

Wi Fi

Wi Fi

Wi Fi

EMS IOT ThingPoint

Oracle

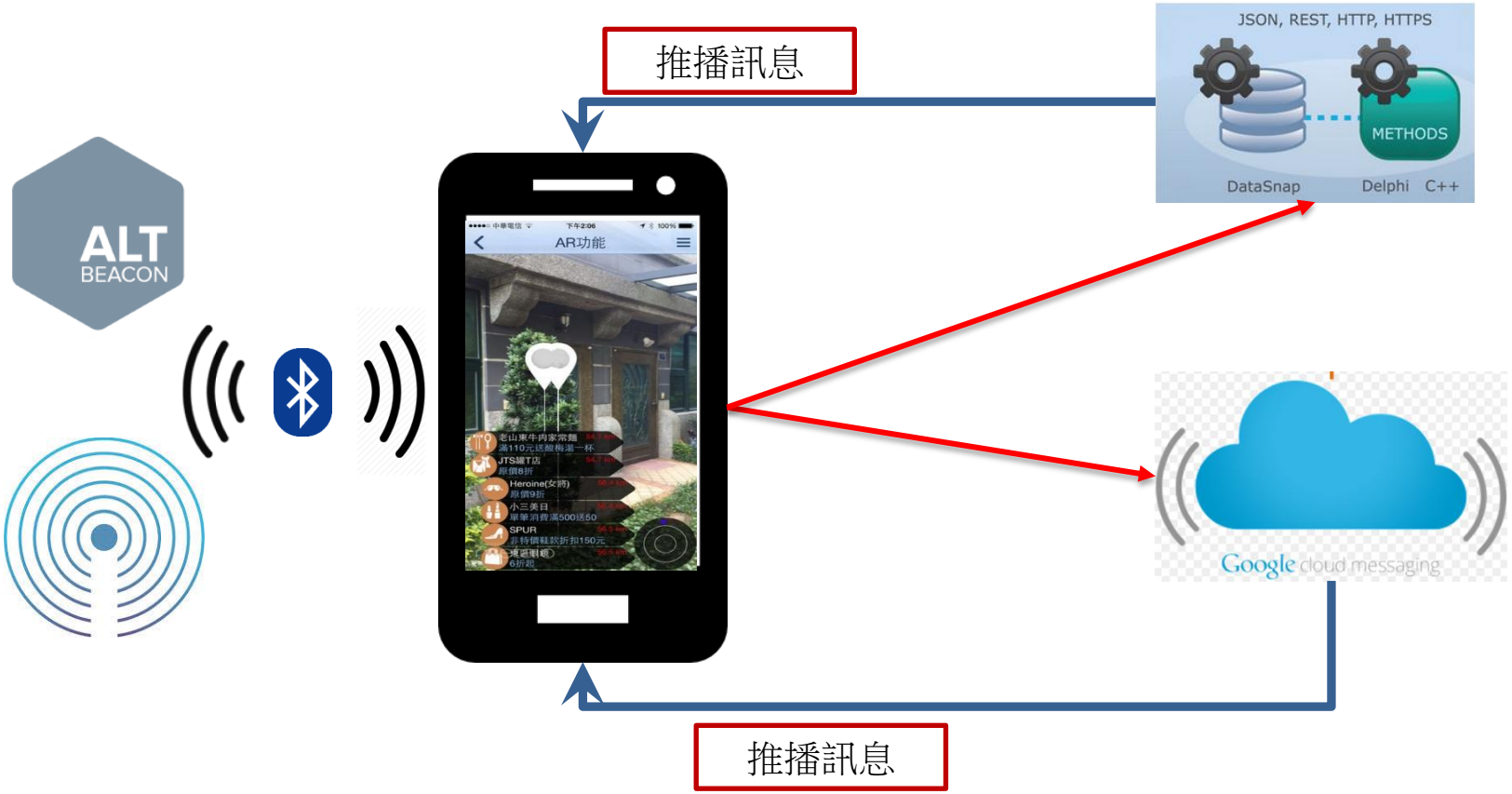
Encrypted Data

EMS Server

- User Auth
- API Hosting
- Enterprise Data Access
- Secure Data storage
- IOT Device Access Control

IT

Warehouse


推播訊息
JSON, REST, HTTP, HTTPS
METHODS
DataSnap
Delphi C++
ALT
BEACON
AR功能
Google cloud messaging
推播訊息

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tenki
ขอขอบคุณคุณ
takk
спасибо
kam sah hamnida
hvala
je
дзякуй
הדות
dhanyavadagalu
tack
dziękuję
bedankt
blagodaram
mèsi
xièxie
tanemirt
gracias
rahmet
enkosi
mochchakkeram
trugarez
dank
djere dieuf
danke
kop khun krap
faafetai lava
arigatô
akun
shukriya
ありがとう
kia ora
dankon
děkuji
manana
diolch
gràçie
kiitos
spas
ačiū
grazzi
mamnun
thank you
barka
शुक्रिया
sulpáy
dhanyavad
gratias ago
tau
dankie
gràcies
tapadh leat
chnorakaloutioun
bayarlalaa
teşekkür ederim
σας ευχαριστώ
obrigada
mahalo
didi madloba
chokrane
rahmat
sagolun
murakoze
taiku
sukriya
obrigado
dakujem
misaotra
welalin
najis tuke
terima kasih
mercé
köszönöm
شكرا
謝謝
asante
grazie
mersi
sobodi
nandri
nanni
vinaka
mauruuru
merci
matondo
cảm ơn bạn
go raibh maith agat
paldies
ngiyabonga


You Rock!!!