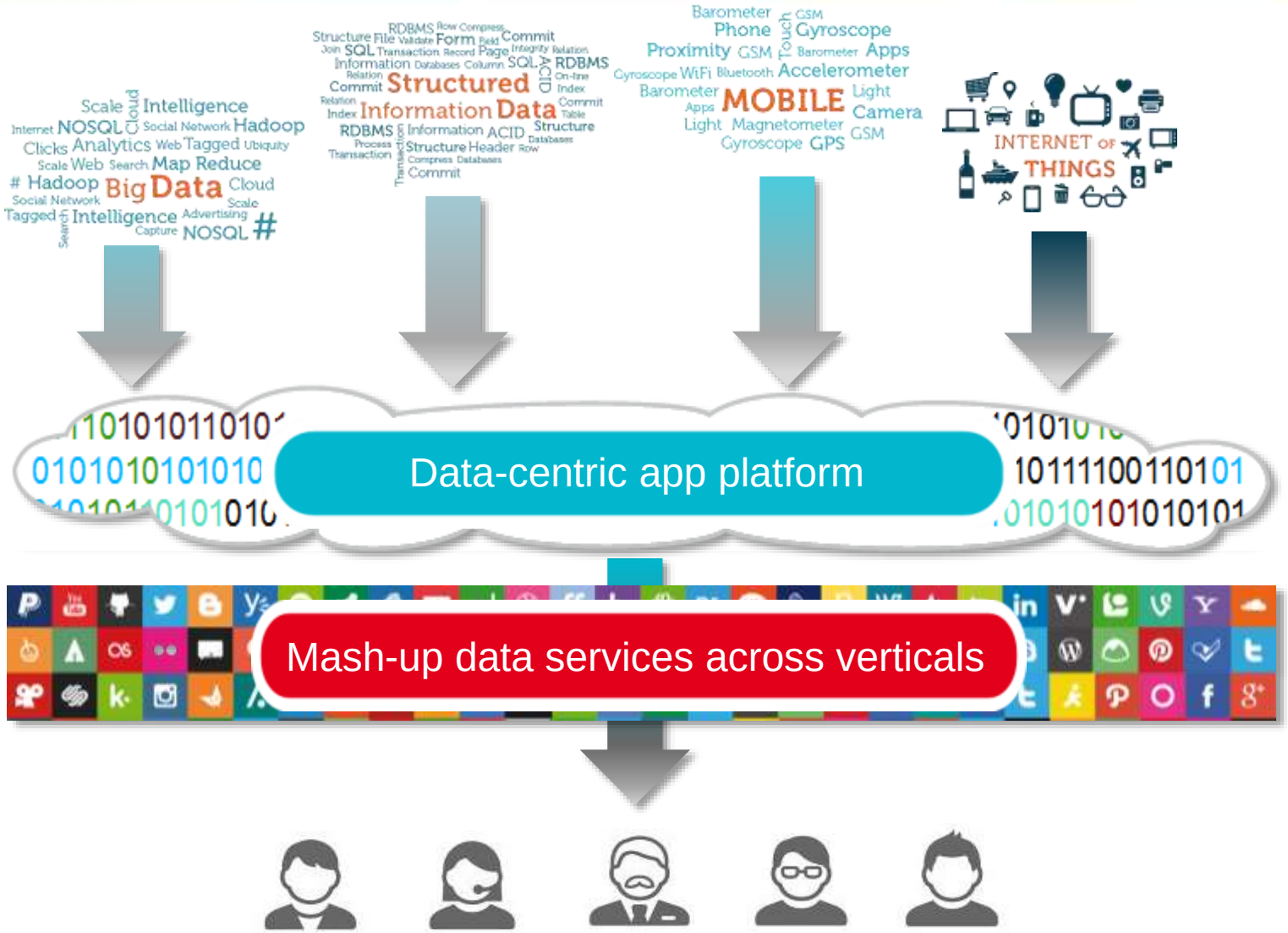
The Inflection Point in the Application Ecosystem

The post-PC era – the data explosion



The post-PC era – Consumer IT

The 5 major technology shifts this century

UX User Experience	Touch UI GUI Next-Gen Mobile
IT Delivery	Data Center Cloud
Information & Communications	PC Browser e-mail Social Media
Innovation & Usage Model	CMS/DMS Consumer Enterprise
Data	Relational Database & BI BIG Data & Analytics

Source: ZDNet

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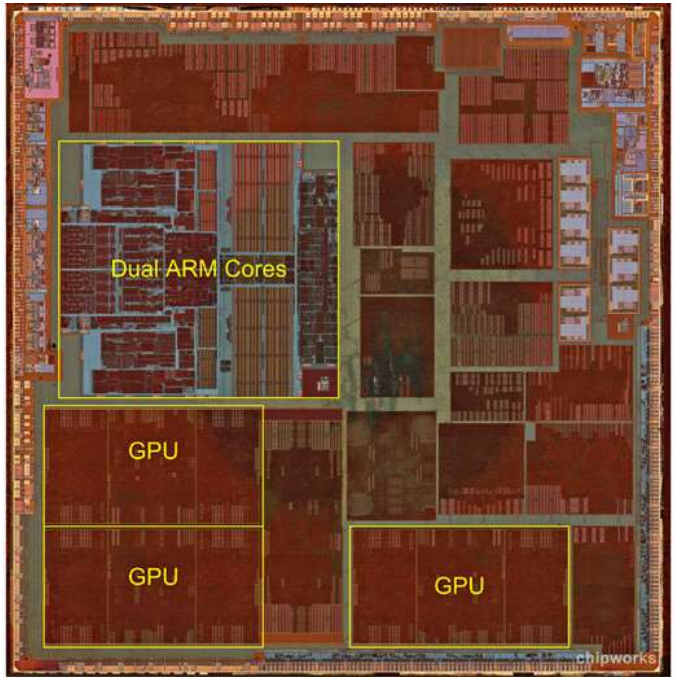
The post-PC era - mobile drivers

ARM outpacing Moore's Law

- ARM Cortex A53/A57
- big.LITTLE design: 50-70% less power
- 64-bit 'superphone' performance
- 3 x faster than 2012 smartphones
- 5 x better power efficiency
- Encryption 10x faster
- 40% smaller
- Scales to 'seas of cores'
- Enterprise applications



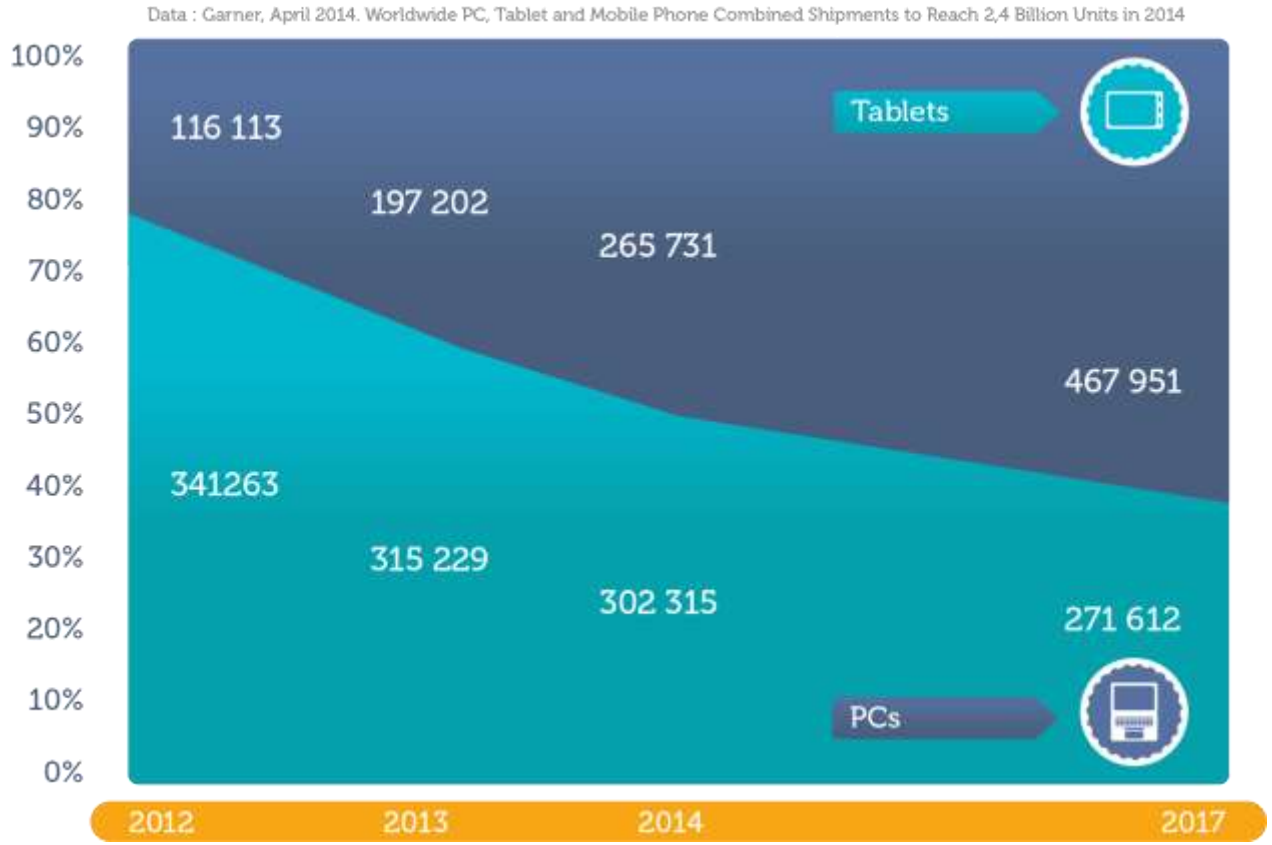
ARM The Architecture for the Digital World®

The post-PC era –seaping into the enterprise

A dramatic shift in application deployment is taking place

The post-PC era – tablets eroding PCs growth

WW PC vs tablet annual unit shipments ('000s)



Microsoft buys Nokia

Knee-jerk reaction resulting in 10,000 lay-offs

Microsoft can't risk having Google or Apple foreclose app innovation, integration, distribution or economics.

Microsoft Press Conference
Sept 2, 2013

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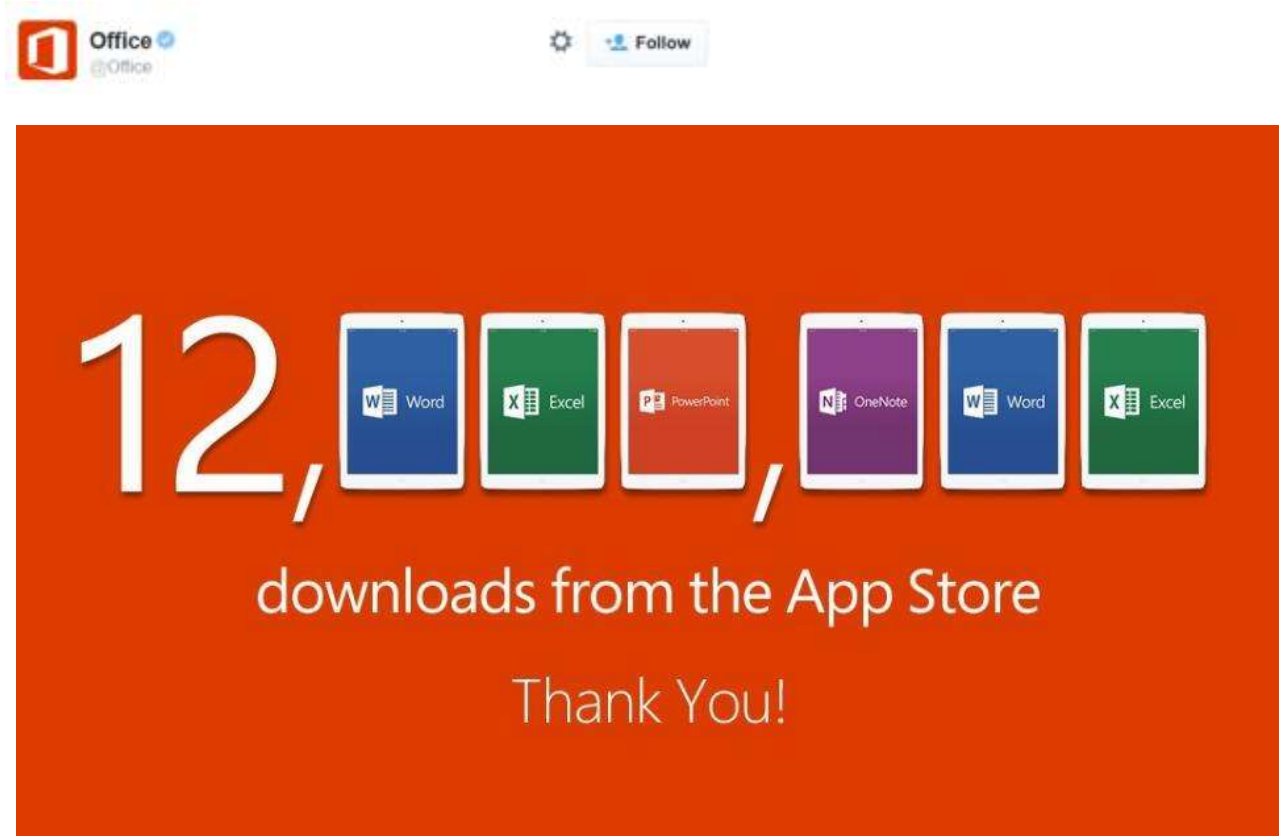
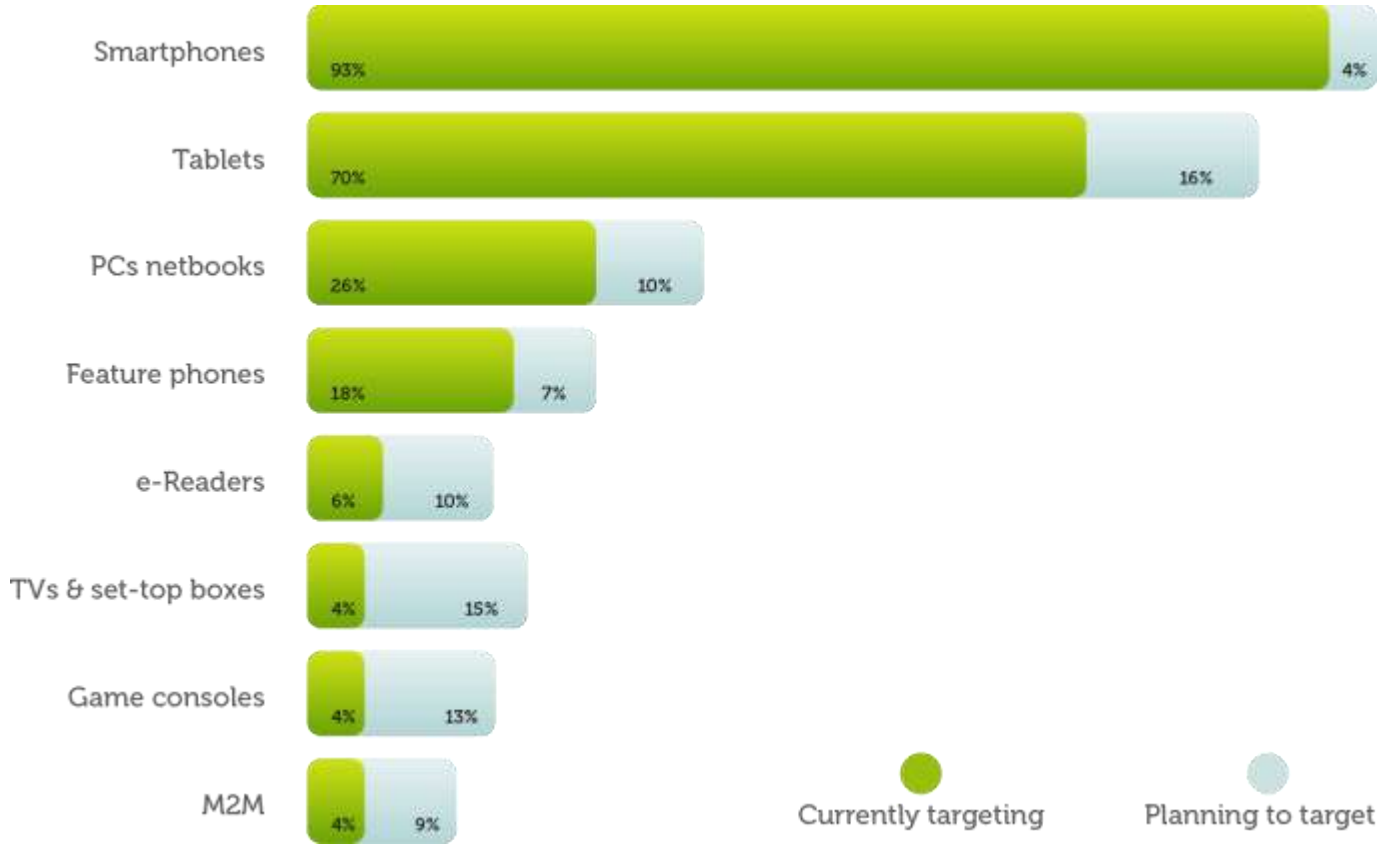
Microsoft Office for iOS, Android on its way

Over 12 million downloads in first week



Developer intentions

Future development plans



Source: Developer Economics Q3 2013 – The State of the Developer Nation, n=4,946

Developer jobs

Indeed.com – job postings exploding for mobile app developers

Scale: Absolute - **Relative**

Indeed.com searches millions of jobs from thousands of job sites.
This job trends graph shows relative growth for jobs we find matching your search terms.

Top Job Trends

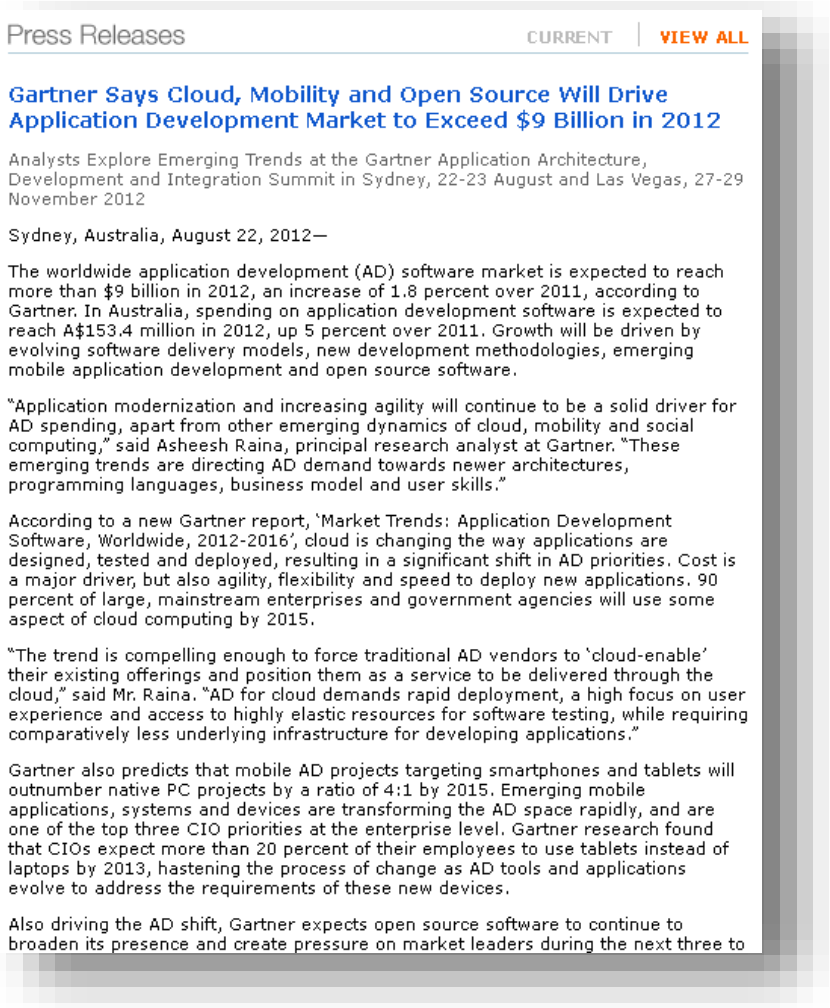
1. HTML5
2. MongoDB
3. iOS
4. Android
5. Mobile app
6. Puppet
7. Hadoop
8. jQuery
9. PaaS
10. Social Media

Application development forecast

Application development trends – 2015 forecast, mobile & Cloud drivers

- 2013 – 20% of employees use tablets over PCs
- 2015 – 80% of app dev projects will be mobile
- Mobile apps:

"One of three top CIO priorities"



Press Releases CURRENT | VIEW ALL

Gartner Says Cloud, Mobility and Open Source Will Drive Application Development Market to Exceed $9 Billion in 2012

Analysts Explore Emerging Trends at the Gartner Application Architecture, Development and Integration Summit in Sydney, 22-23 August and Las Vegas, 27-29 November 2012

Sydney, Australia, August 22, 2012—

The worldwide application development (AD) software market is expected to reach more than $9 billion in 2012, an increase of 1.8 percent over 2011, according to Gartner. In Australia, spending on application development software is expected to reach A$153.4 million in 2012, up 5 percent over 2011. Growth will be driven by evolving software delivery models, new development methodologies, emerging mobile application development and open source software.

"Application modernization and increasing agility will continue to be a solid driver for AD spending, apart from other emerging dynamics of cloud, mobility and social computing," said Asheesh Raina, principal research analyst at Gartner. "These emerging trends are directing AD demand towards newer architectures, programming languages, business model and user skills."

According to a new Gartner report, 'Market Trends: Application Development Software, Worldwide, 2012-2016', cloud is changing the way applications are designed, tested and deployed, resulting in a significant shift in AD priorities. Cost is a major driver, but also agility, flexibility and speed to deploy new applications. 90 percent of large, mainstream enterprises and government agencies will use some aspect of cloud computing by 2015.

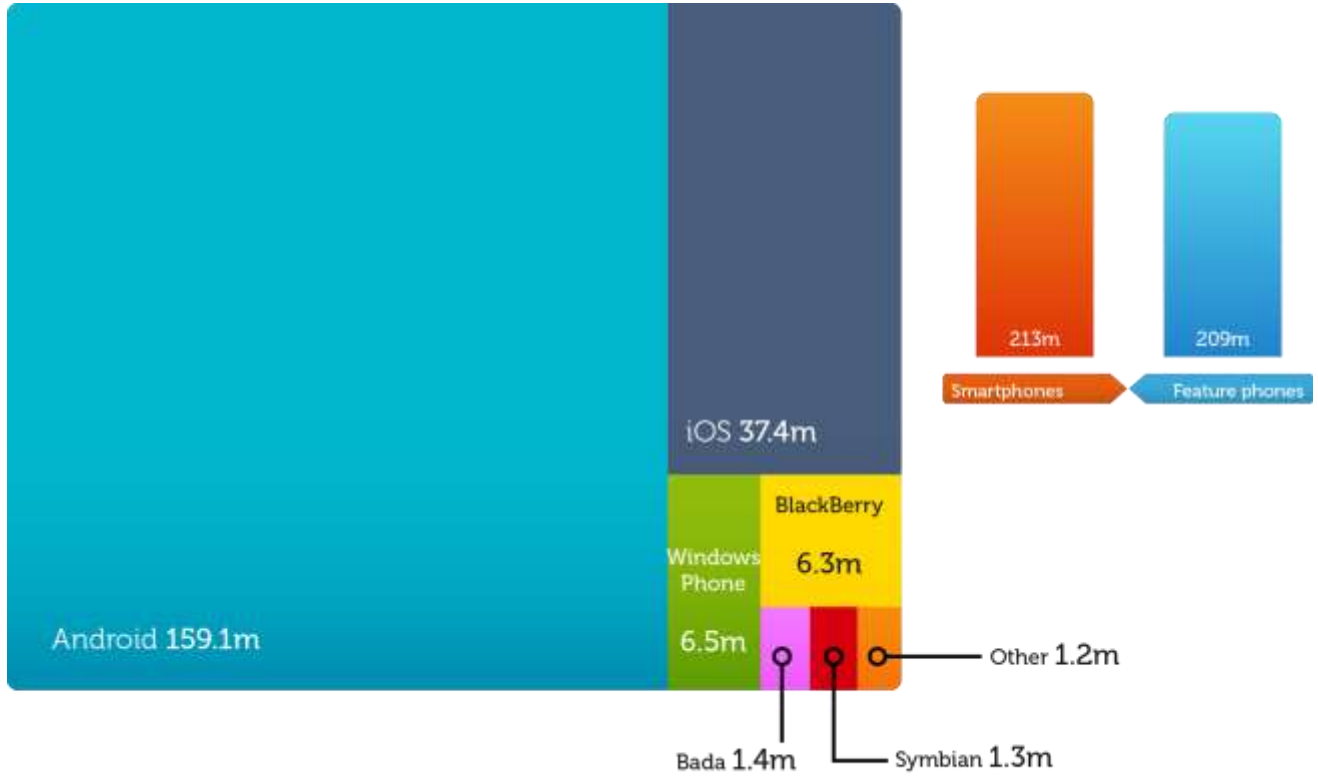
"The trend is compelling enough to force traditional AD vendors to 'cloud-enable' their existing offerings and position them as a service to be delivered through the cloud," said Mr. Raina. "AD for cloud demands rapid deployment, a high focus on user experience and access to highly elastic resources for software testing, while requiring comparatively less underlying infrastructure for developing applications."

Gartner also predicts that mobile AD projects targeting smartphones and tablets will outnumber native PC projects by a ratio of 4:1 by 2015. Emerging mobile applications, systems and devices are transforming the AD space rapidly, and are one of the top three CIO priorities at the enterprise level. Gartner research found that CIOs expect more than 20 percent of their employees to use tablets instead of laptops by 2013, hastening the process of change as AD tools and applications evolve to address the requirements of these new devices.

Also driving the AD shift, Gartner expects open source software to continue to broaden its presence and create pressure on market leaders during the next three to

Smartphone unit sales

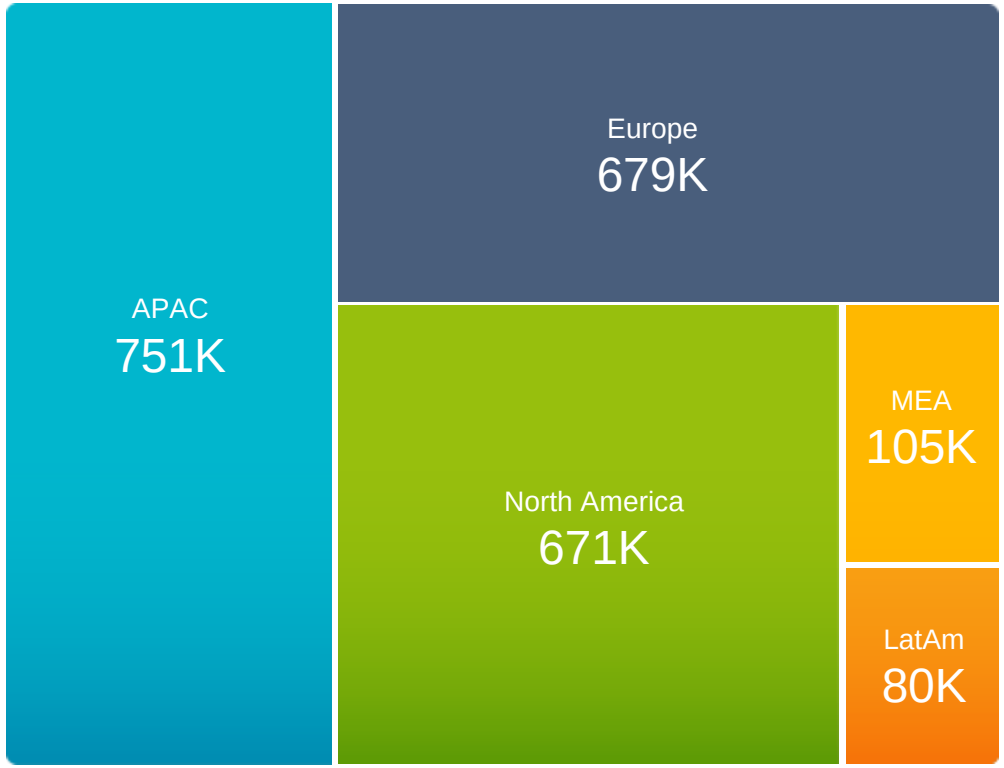
Over 90% handset sales are with Android and iOS



Data : Gartner, IDC, VisionMobile

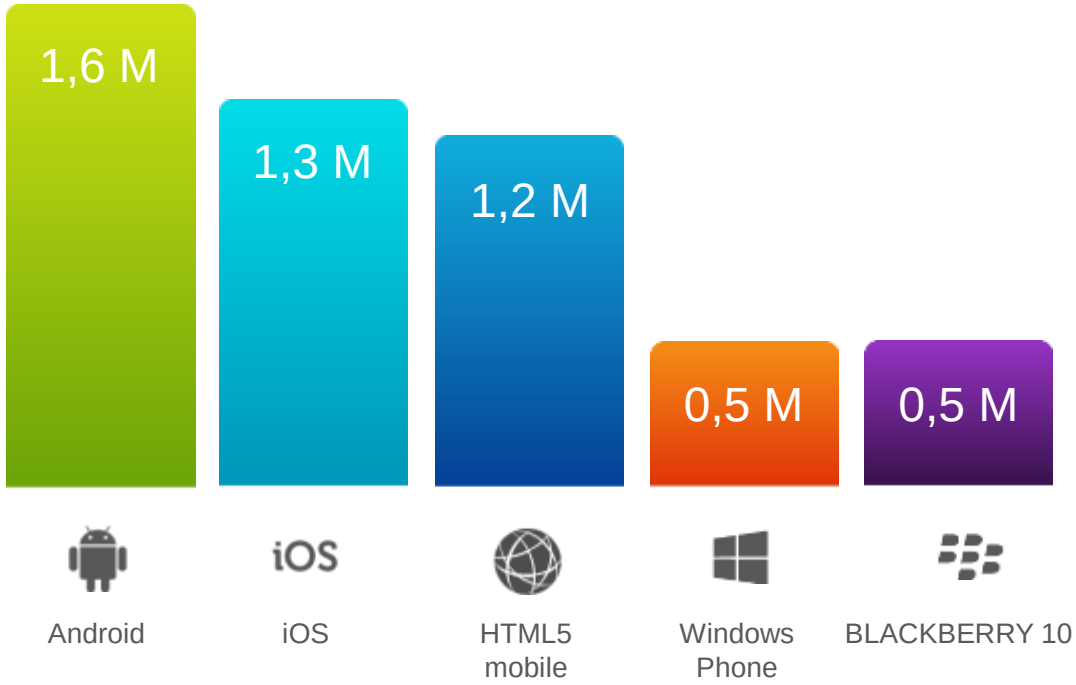
Mobile developer community

FY2014, Q2 - by region



Mobile developer community

FY2014, Q2 - by platform



Developer Economics App Economy Forecasts 2013-2016

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Mobile development tools

Two operating systems dominate

Xcode
Objective-C
C++
Cocoa Touch, Desktop
LLVM

Eclipse
Android Studio
Java

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Mobile development tools

Thousands of API calls to learn

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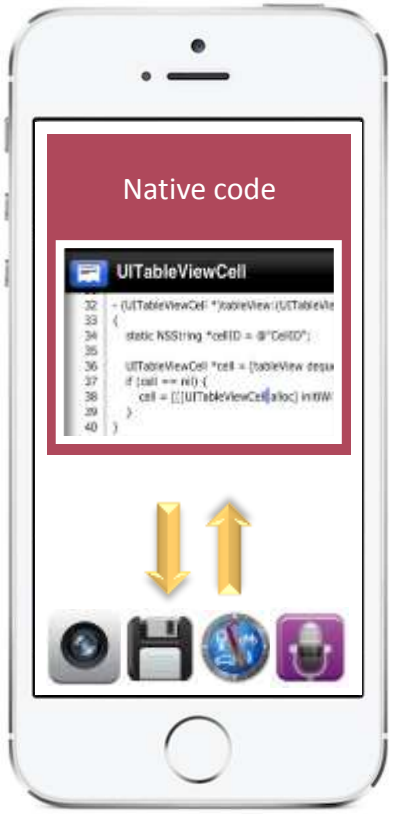
Mobile architectures

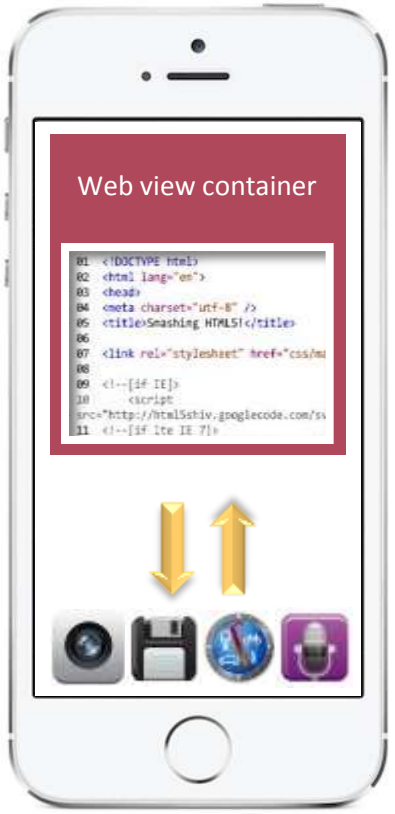
Implementation types

Native



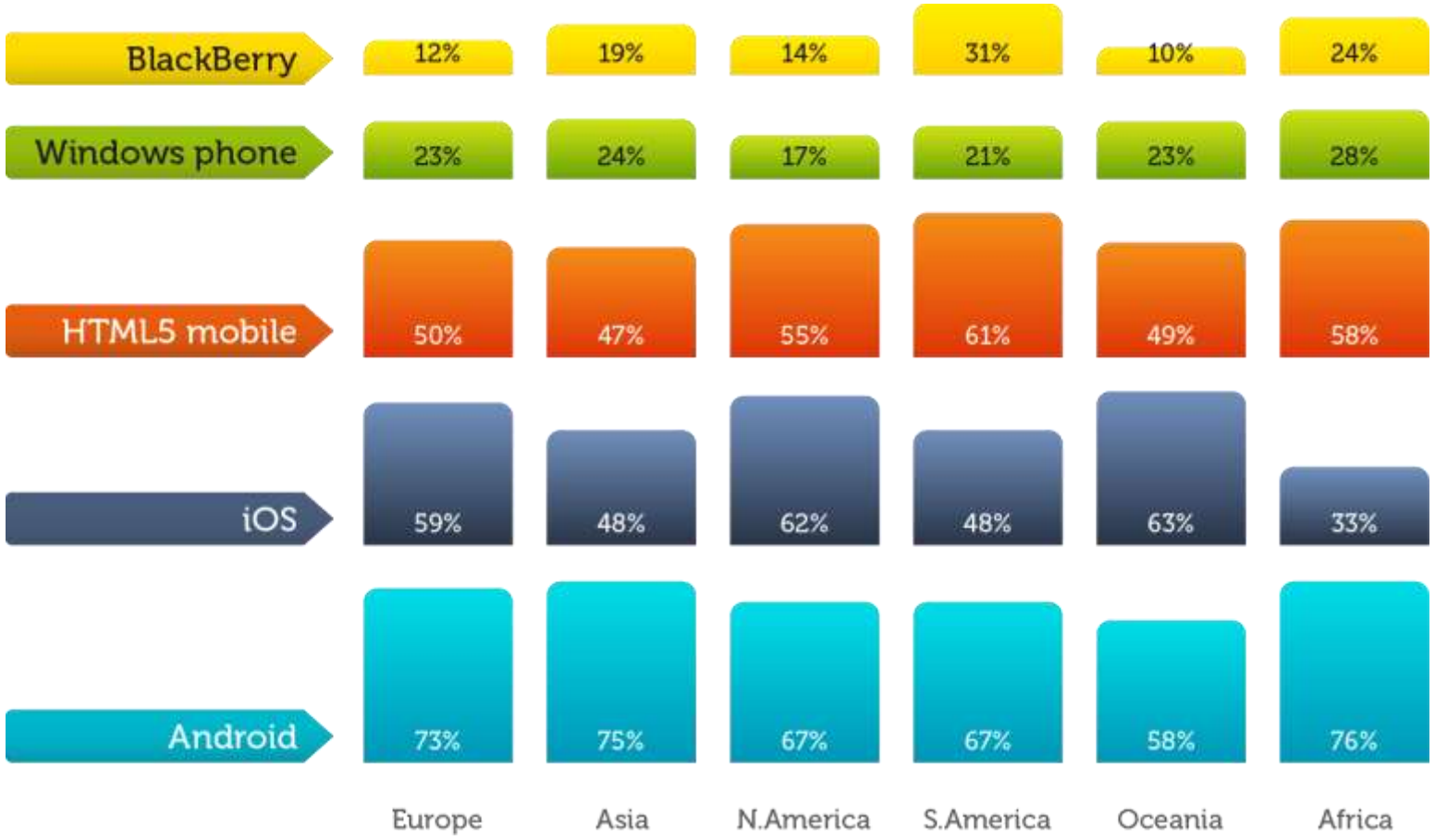
HTML5

Hybrid



Mobile developer mindshare

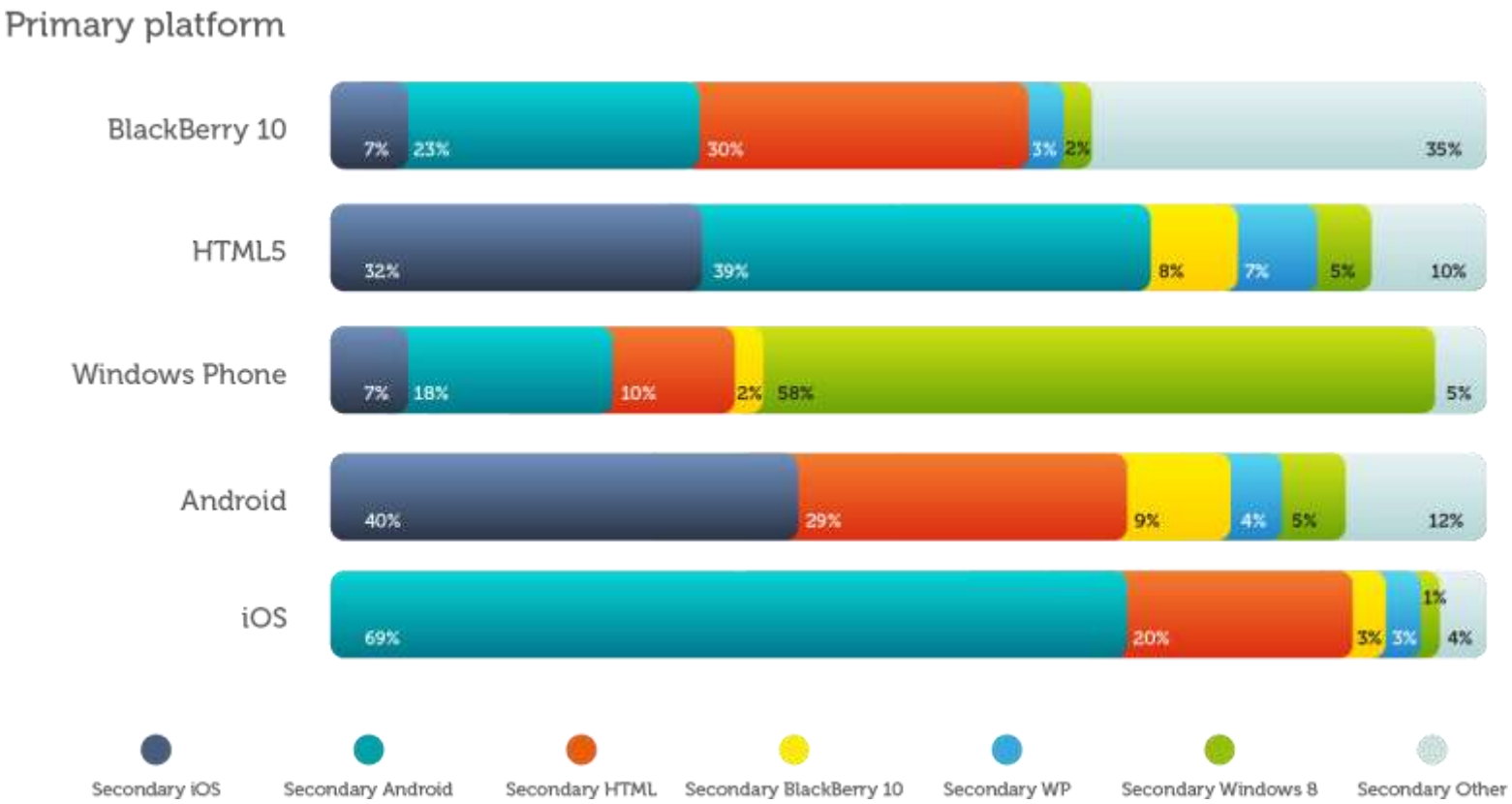
Developer platform preferences by region



Source: Developer Economics Q3 2013 – The State of the Developer Nation, n=5,271

Mobile developer mindshare

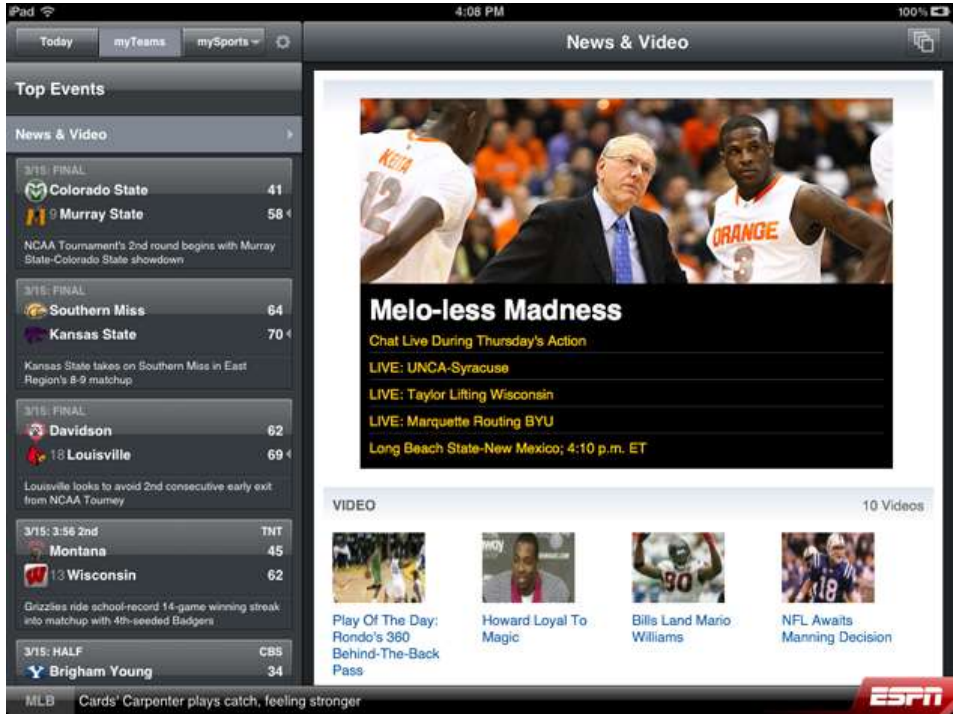
Primary and secondary platforms



Source: Developer Economics Q3 2013 – The State of the Developer Nation, n=5,271

Primary platforms

Primary platform apps are better



ESPN ScoreCenter on Android and iOS tablets

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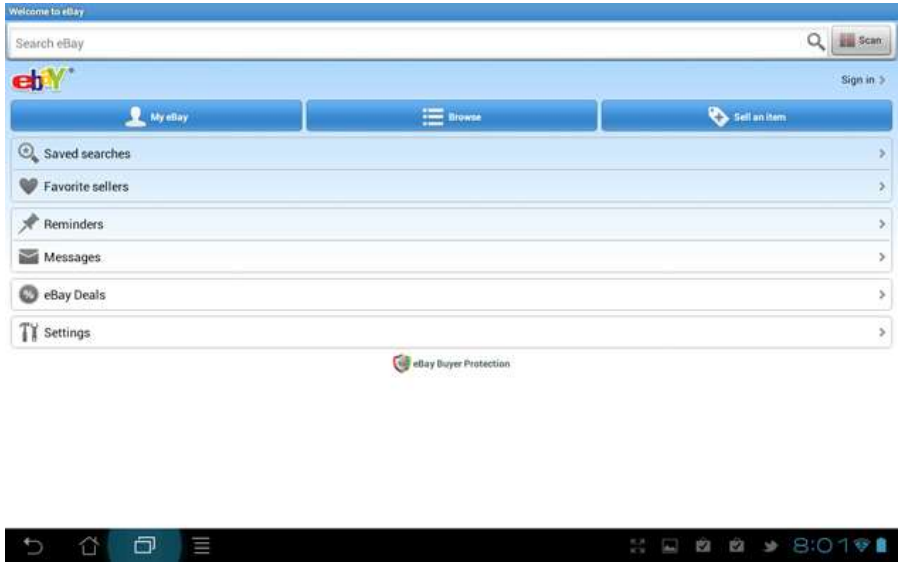
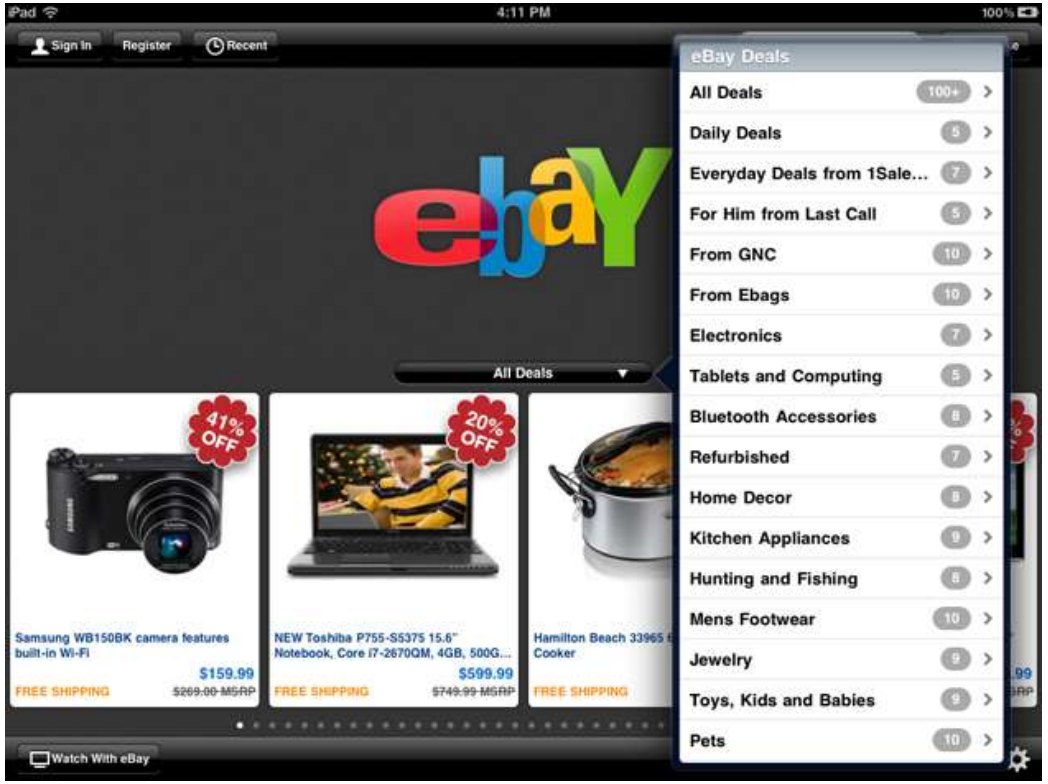
Primary platforms

Primary platform apps are better

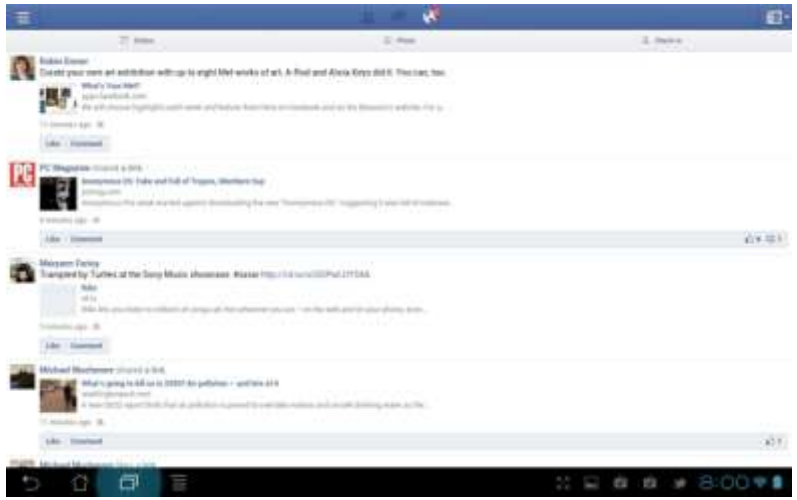




Ebay on Android and iOS tablets

Primary platforms

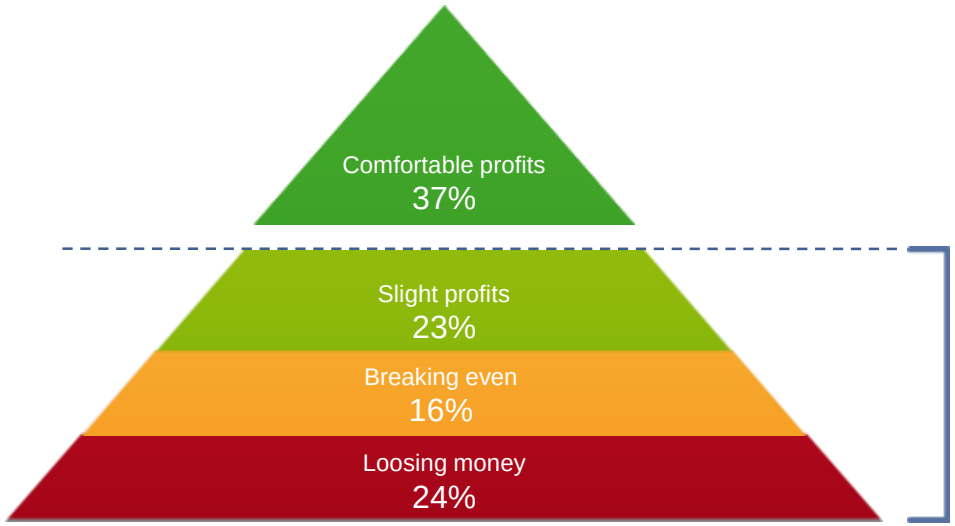
Primary platform apps are better



Facebook on Android and iOS tablets

Most mobile app developers struggle

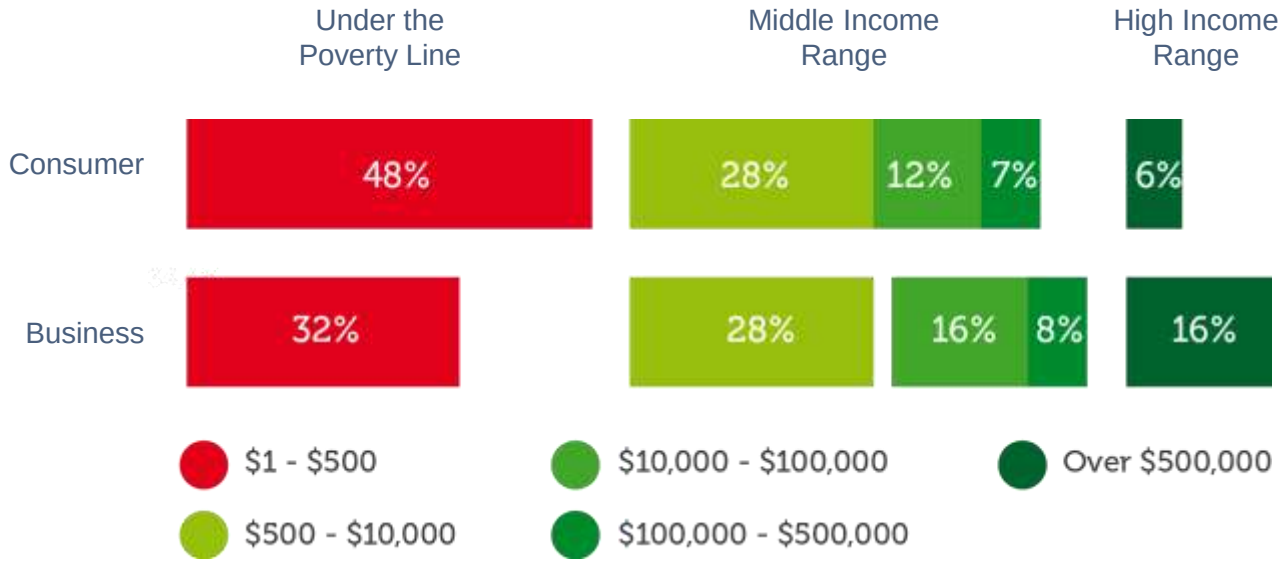
63% of mobile app developers are struggling to make a profit



63% of developers struggle or lose money

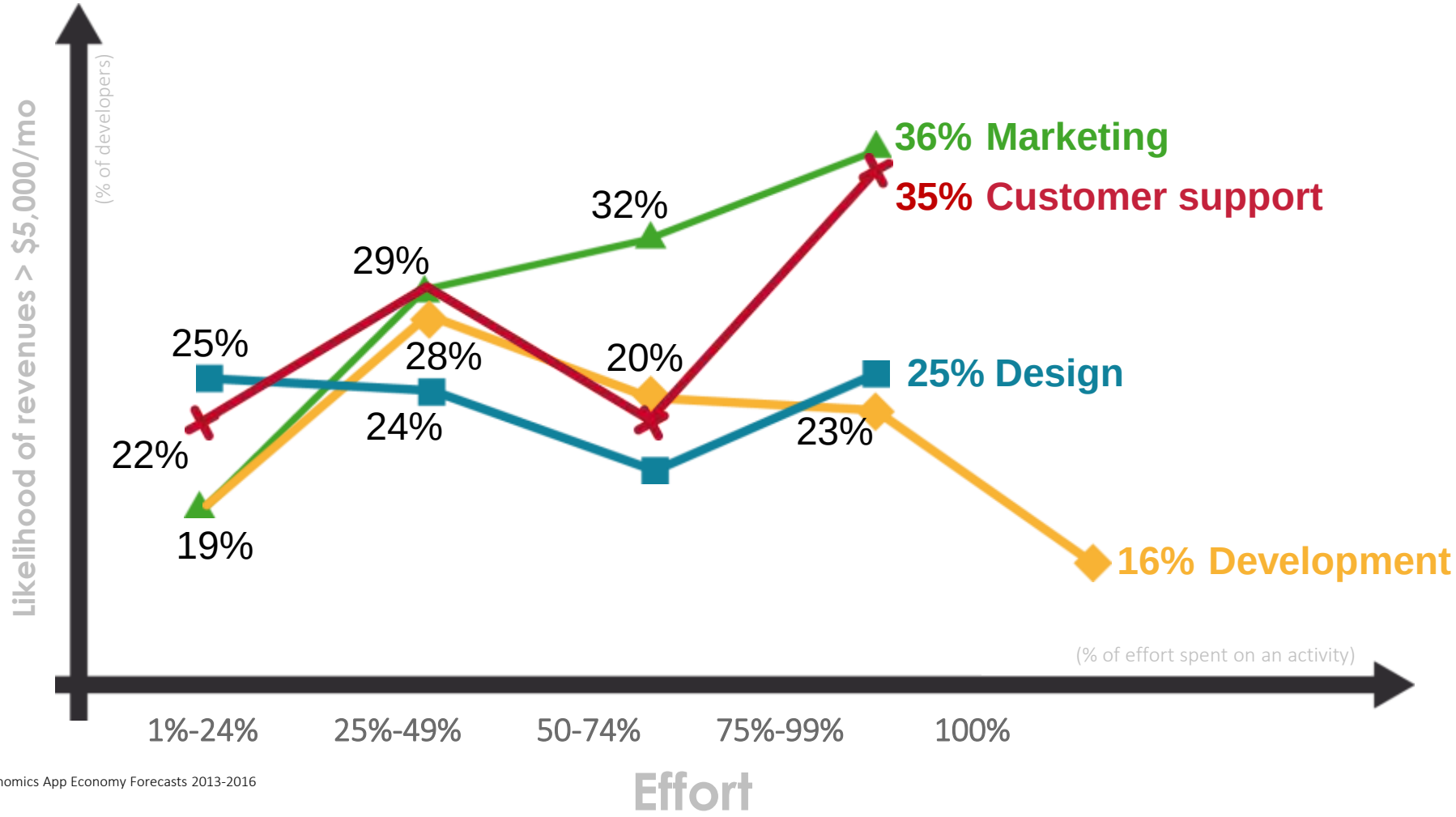
Business apps better opportunity

Majority of consumer mobile applications are not profitable



Marketing & customer satisfaction pays

Probability of making $5,000 per app/month vs. type of effort, developers (n=2,337)



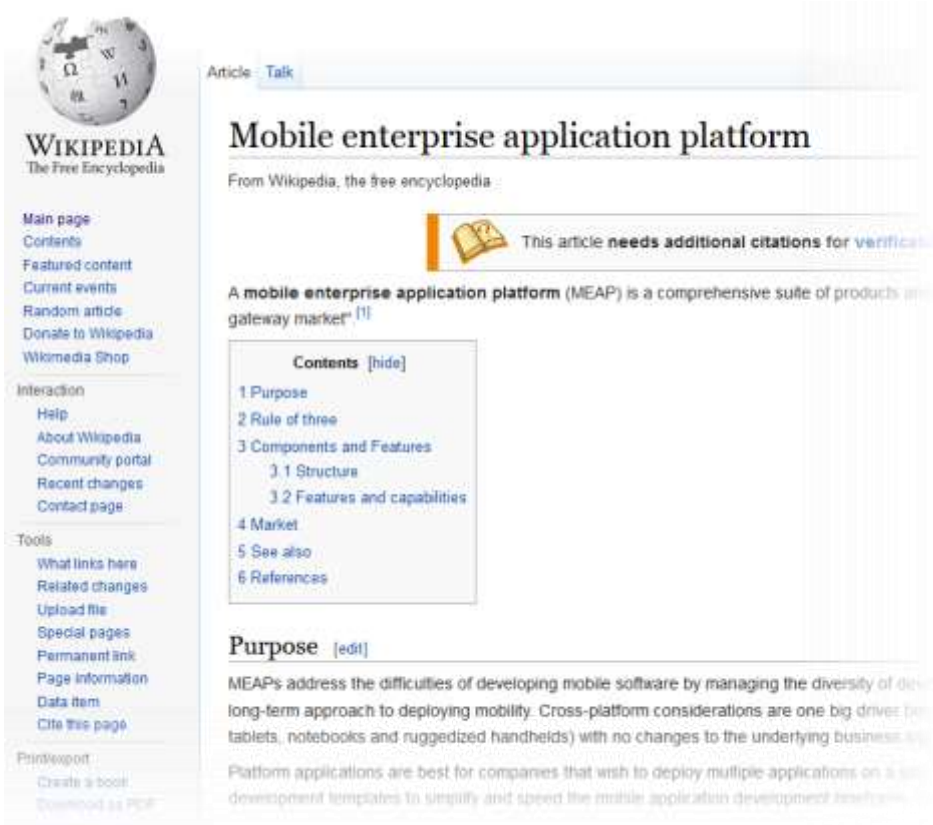
Genero Mobile

Product overview

Genero Mobile

Mobile Enterprise Application Platforms (MEAP) – Wikipedia definition

- Multiple device types,
  - Smartphone, tablet,
  - Abstract 4GL style code.
- Extend corporate network,
  - On-line and off-line,
  - Multiple server data sources,
  - Cloud enabled.
- Secure,
- Central app. management,
- Leverage existing skills and tools.



WIKIPEDIA
The Free Encyclopedia

Article Talk

Mobile enterprise application platform

From Wikipedia, the free encyclopedia

This article needs additional citations for verification

A **mobile enterprise application platform** (MEAP) is a comprehensive suite of products and gateway market" [1]

Contents [hide]
1 Purpose
2 Rule of three
3 Components and Features
3.1 Structure
3.2 Features and capabilities
4 Market
5 See also
6 References

Purpose [edit]

MEAPs address the difficulties of developing mobile software by managing the diversity of devices long-term approach to deploying mobility. Cross-platform considerations are one big driver for tablets, notebooks and ruggedized handhelds) with no changes to the underlying business

Platform applications are best for companies that wish to deploy multiple applications on a single development templates to simplify and speed the mobile application development

Genero Mobile

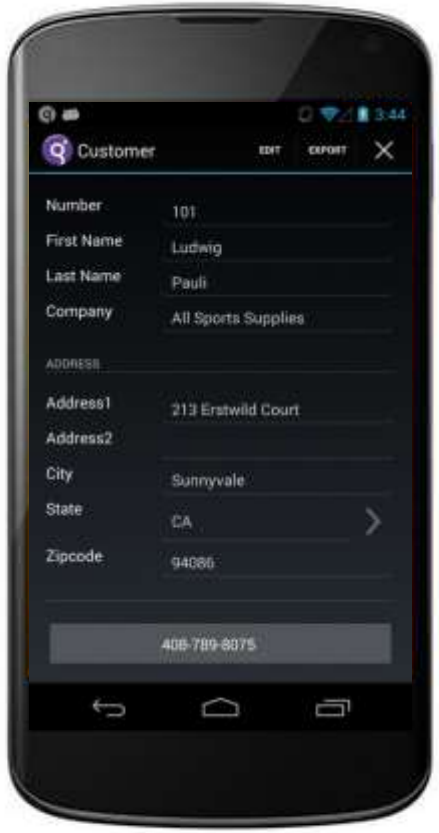
Genero Mobile – best of both worlds, cross-platform, native development

- Cross-platform
  - iOS, Android = 90% market.
- Native ‘look & feel’
- On-line & off-line modes
- Embedded SQLite
- Database sync.
- RESTful Web services
  - JSON,
  - SOAP.
- UTF-8 for international markets

Write once, deploy everywhere

No need to choose – one source code, one development cycle, one product to support

```
private function editCustomer(num)

    define num like customer.customer_num

    let int_flag = false

    -- Fetch customer record from database table
    select *
    into   customer.*
    from   customer
    where  @customer_num == num

    -- Get input from form for customer record
    input by name customer.* without defaults
        on action zoom infield state
            let customer.state = states.getState(customer.state)
            display by name customer.state
    end input

    -- Update customer record to database table or redisplay
    if not int_flag then
        update customer
        set    customer.* = customer.*
        where  @customer_num = num
    else
        select *
        into   customer.*
        from   customer
        where  @customer_num == num
        display by name customer.*
    end if

end function
```



genero mobile

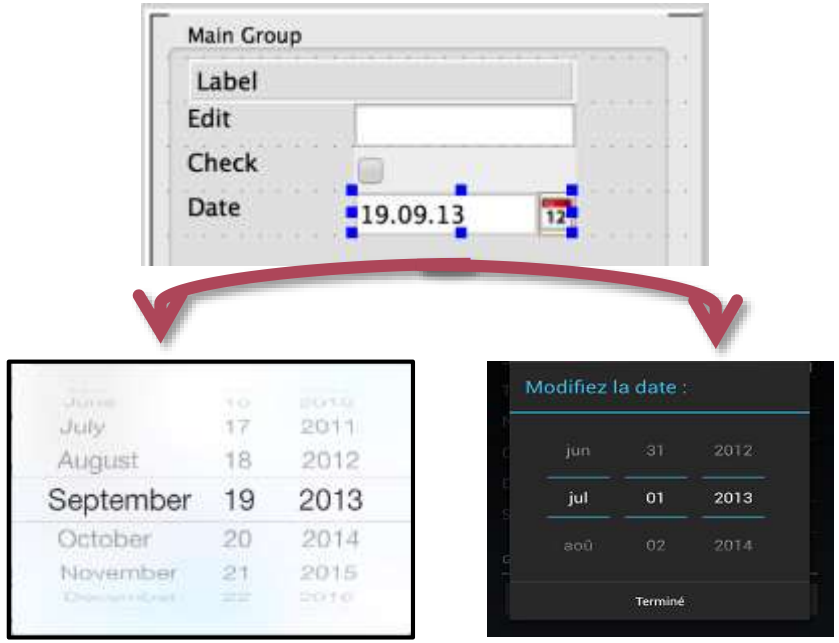
Write once, deploy everywhere

No need for deep API knowledge

- Native widgets

```
public function showForm()

  open window wForm with form "simple2"

  let pEdit = 3
  let pDate = today

  input by name pEdit, pCheck, pDate without defaults
    on action foo
      display "foo"
    on change pCheck
      display "ON CHANGE pCheck:", pCheck
    on action bar
      display "bar"
  end input

  close window wForm

end function
```

Abstract form description



Native rendering

Write once, deploy everywhere

No need for deep API knowledge

- Native widgets

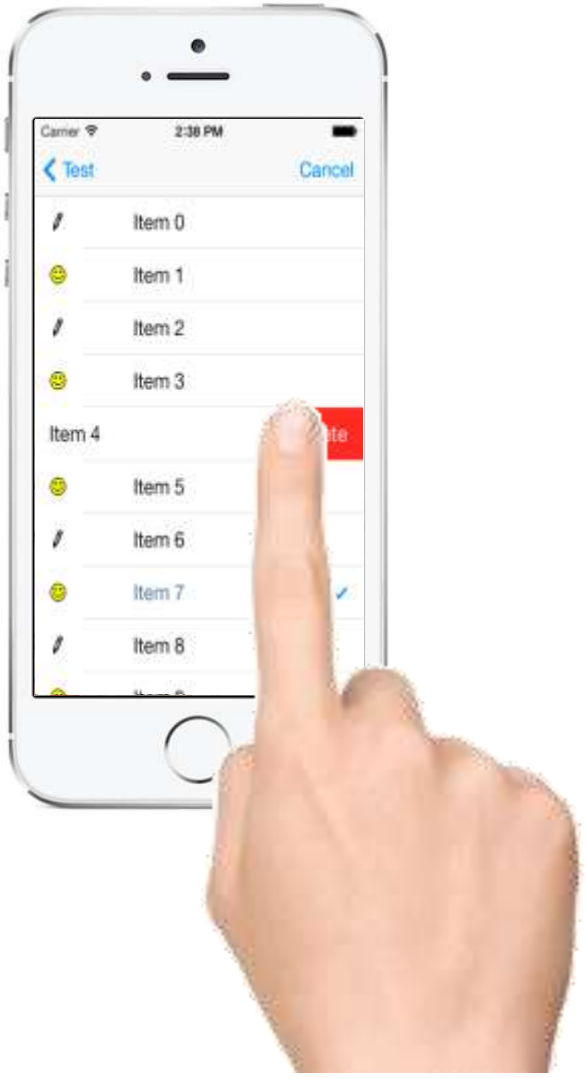
```
public function showForm()

  open window wForm with form "simple2"

  let pEdit = 3
  let pDate = today

  input by name pEdit, pCheck, pDate without defaults
    on action foo
      display "foo"
    on change pCheck
      display "ON CHANGE pCheck:", pCheck
    on action bar
      display "bar"
  end input

  close window wForm

end function
```

Write once, deploy everywhere

No need for deep API knowledge

- Swipe left to delete

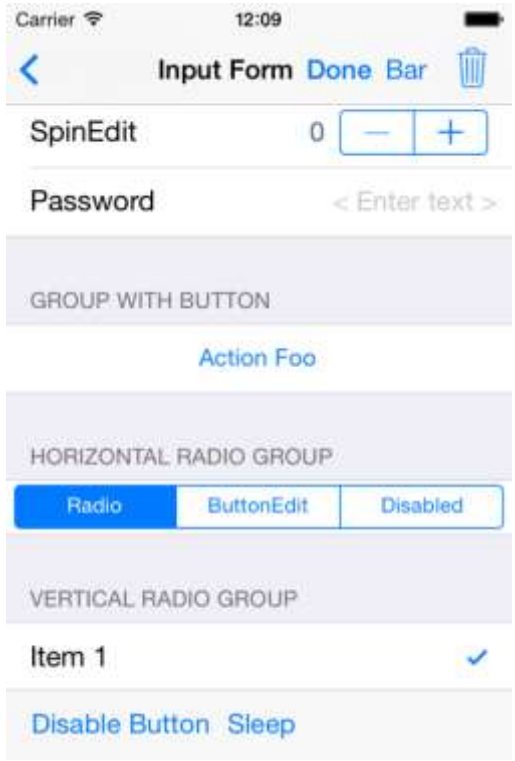
```
private function showlist()
  define arr dynamic array of record
    a string,
    b string
  end record
  define i int

  open window f with form "simple"

  --populate array
  for i = 1 to 100
    let arr[i].a = sfmt("          Item %1", i-1)
    let arr[i].b = iif(i mod 2 == 0, "smiley", "pen")
  end for

  display array arr to arr.* attributes(unbuffered)
    on delete
      display "deleted element at index:", arr_curr()
  end display

  close window f
end function
```



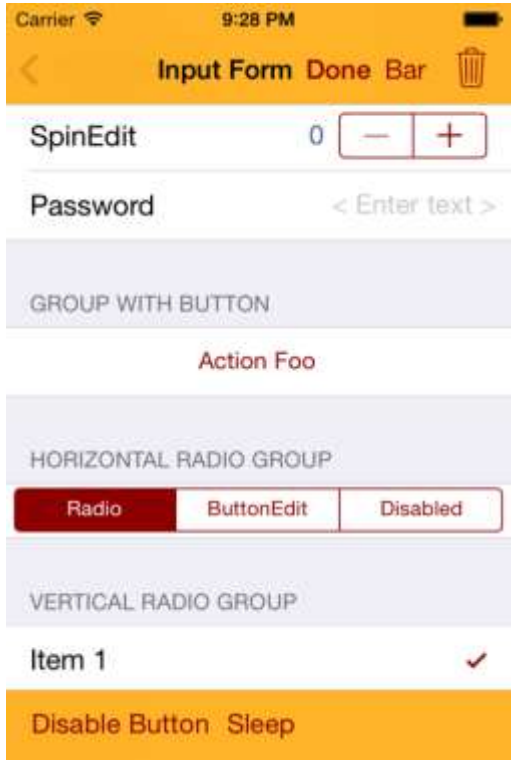
Customizable themes

Stylesheets

Default



With .4st



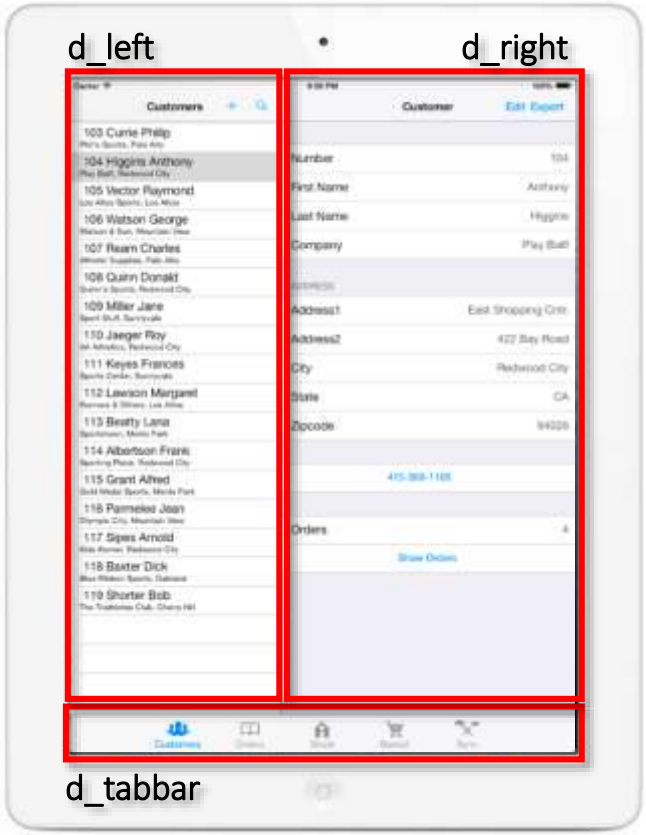
Parallel dialogs

No need for deep API knowledge

- Dialog statements run in parallel, independently in separate ‘panes’

```
OPEN WINDOW tabbar WITH FORM "tabbar"
ATTRIBUTE(STYLE=NAVIGATOR)
    START DIALOG d_tabbar
OPEN WINDOW w_left WITH FORM "left"
ATTRIBUTE(STYLE=LEFT)
    START DIALOG d_left
OPEN WINDOW w_right WITH FORM "right"
ATTRIBUTE(STYLE=RIGHT)
    START DIALOG d_right
```

Independent programme modules



Write once, deploy everywhere

No need for deep API knowledge

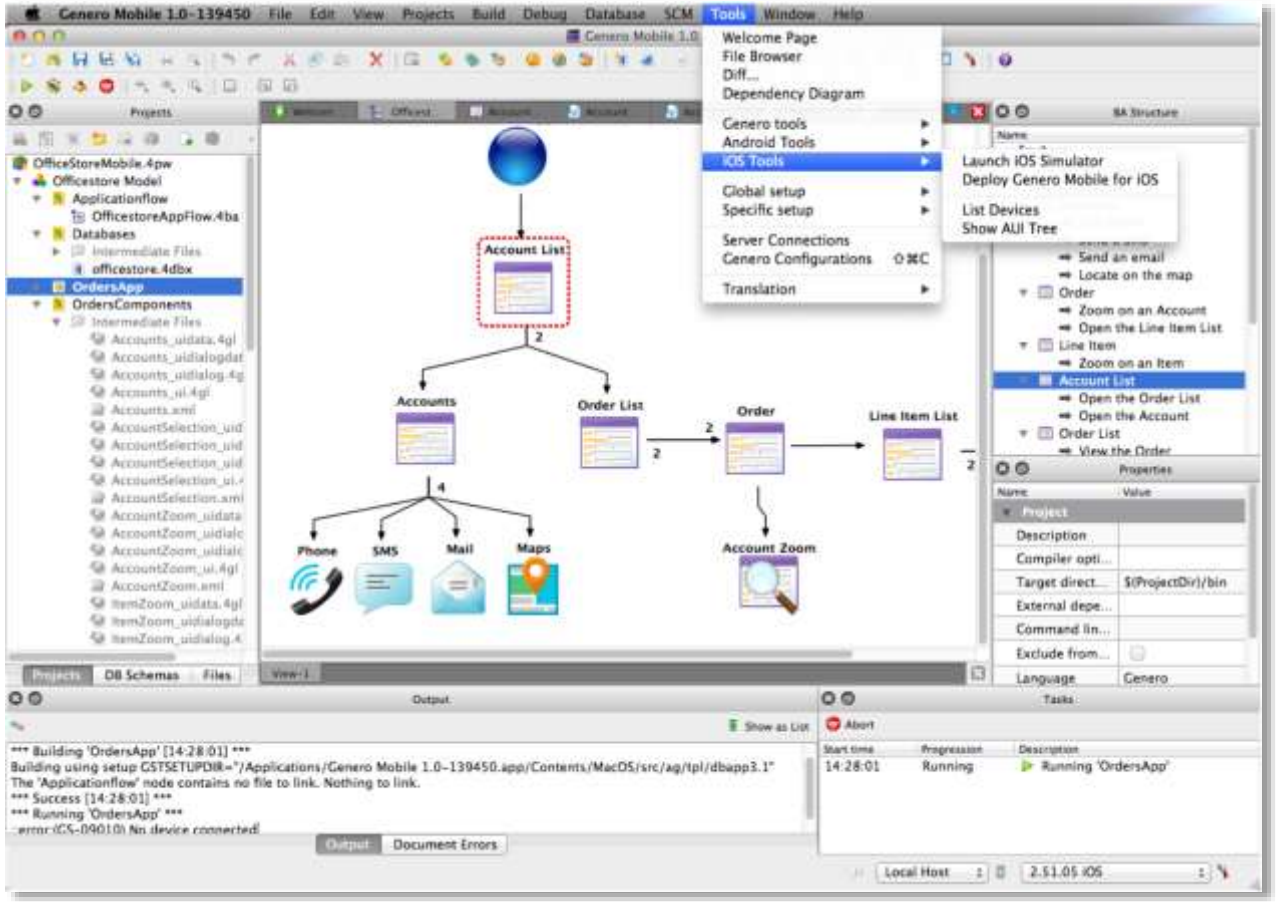
- Rotation

Orientable, scrolling panes

Access native peripherals & apps

No need for deep API knowledge

- Easy access to local apps
  - Camera
  - GPS
  - Phone
  - Contacts
  - Email
  - Calendar
  - Storage



Web components

Vast library of 3rd party components

- Embed Web components into native mobile apps
  - Eg. Signature capture

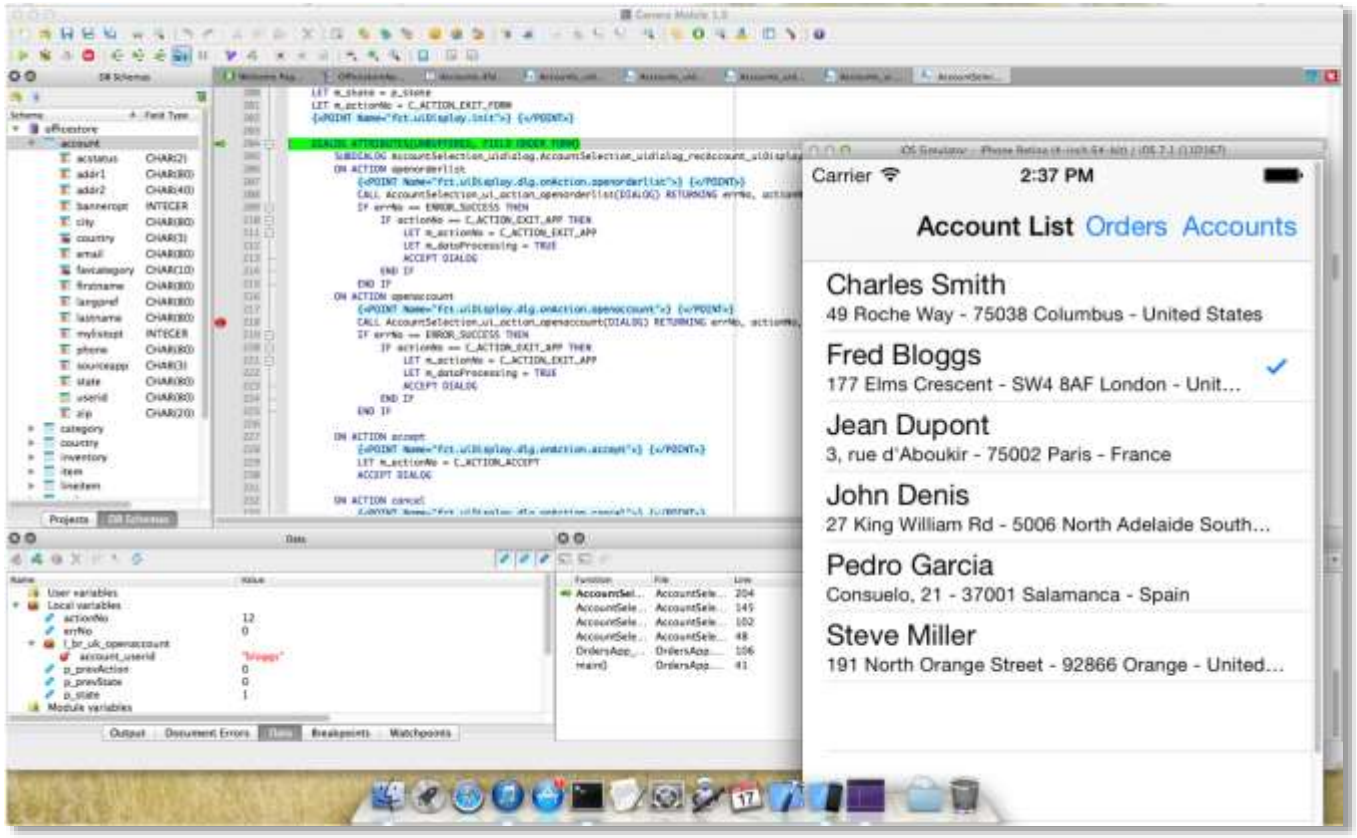
`http://mcc.id.au/2010/signature.html`

Web components

Vast library of 3rd party components

- Embed Web components into native mobile apps
  - Eg. Barcode scanners & sleds

Genero Studio

Develop and test in real-time

- Connect via Wi-Fi,
- Design,
- Debug,
- Test,
- Package.
  - Creates:
    - .ipa (iOS),
    - .apk (Android).