LIVE CODE

Cross-Platform Development
from RUN REV

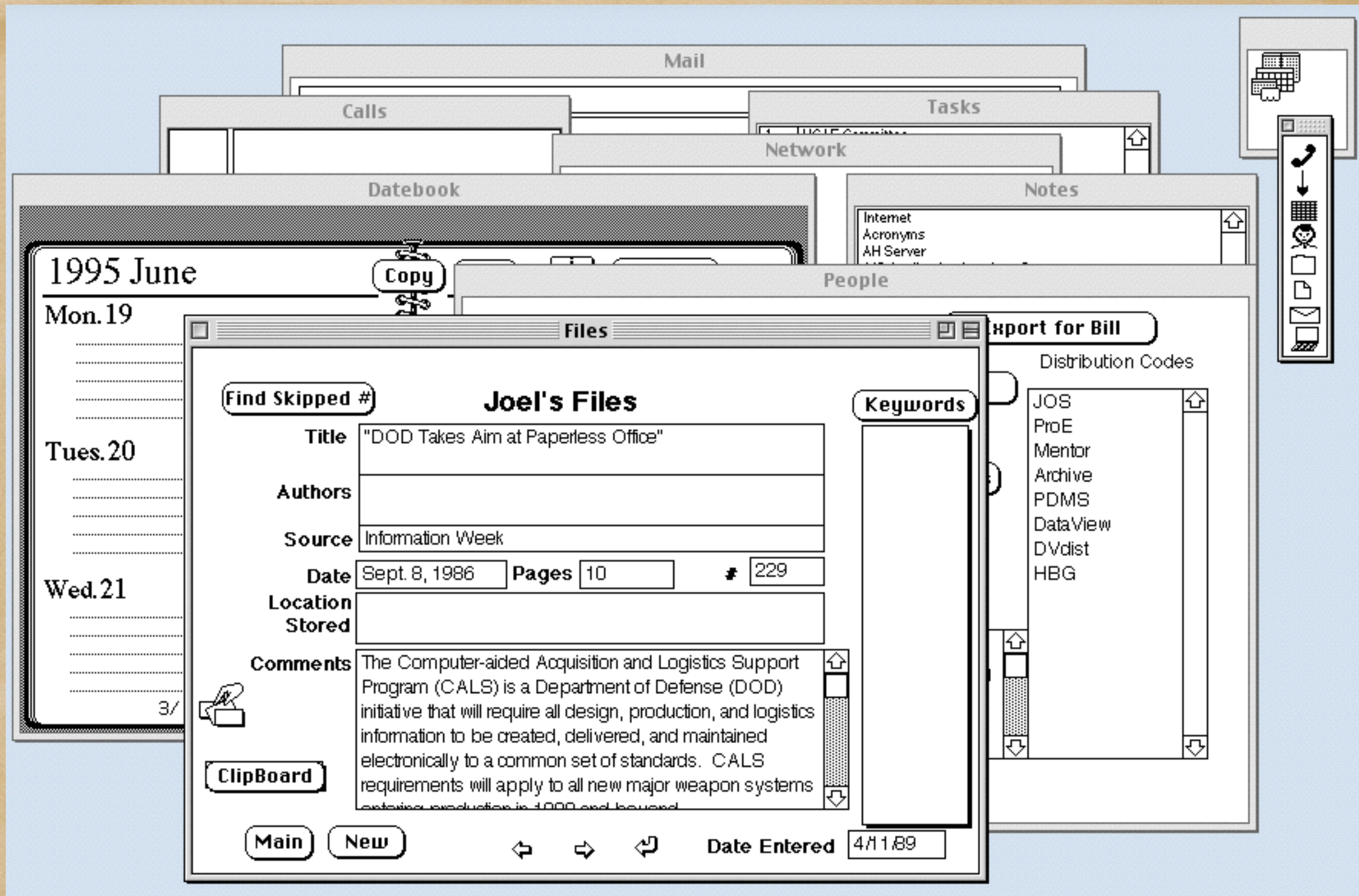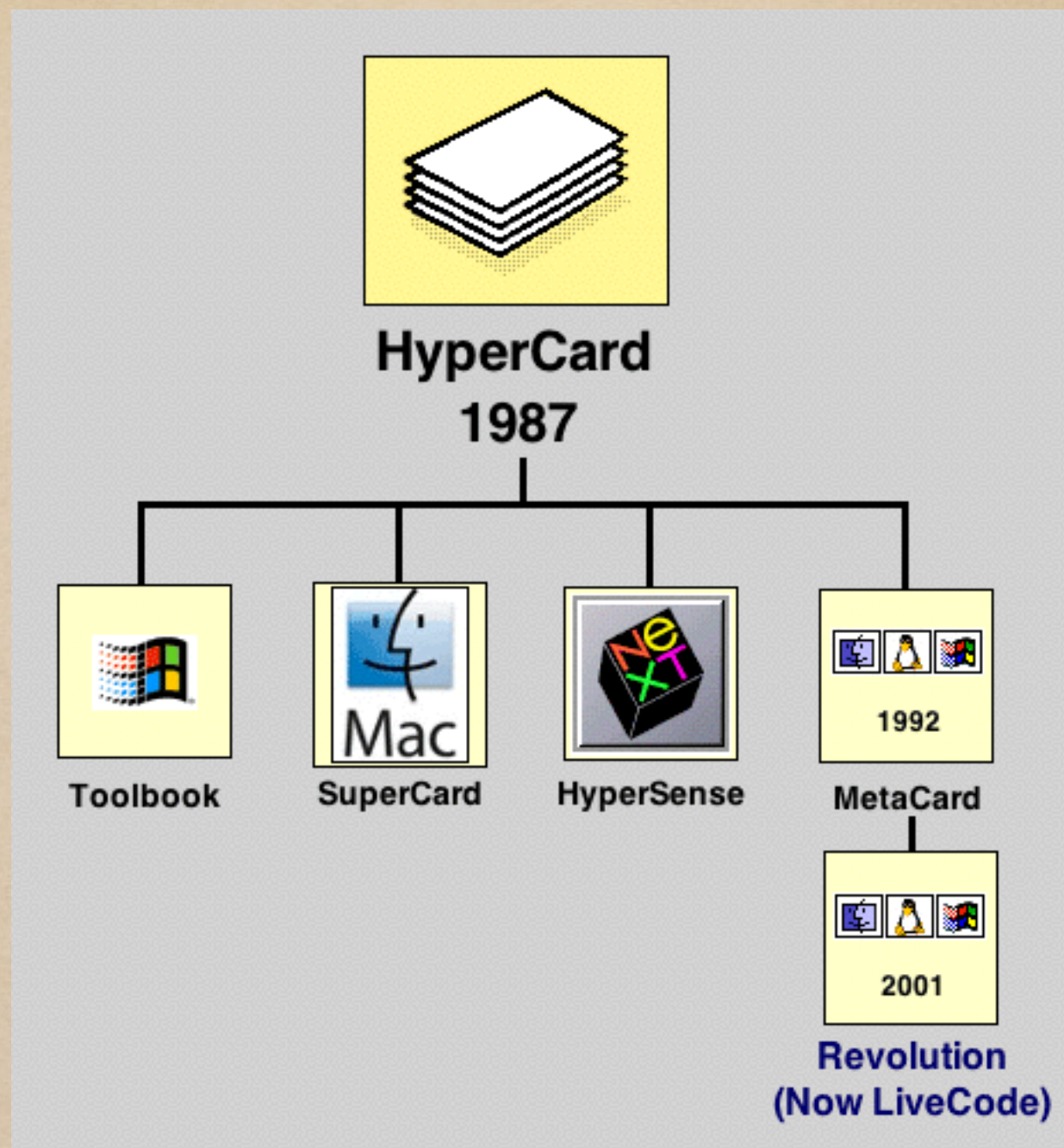MobileMarchTC
March 20, 2014
Joel Gerdeen

My Background

- First computer use in at GM Tech Center summer job

- Minicomputer, main-frames & home computers

- Engineering IT professional at 3 Fortune 100 companies

- Computer historian (hoarder)

- Secretary of Mini'app'les user group

- Partner in Primmo Apps iConnexUs startup/shutdown

- Registered Android & Apple iOS developer

HyperCard Office

Source: BYU DigHT 210 Course

Why you should be interested

- Livecode was a finalist in a recent review of Mobile Development Tools by Dr. Dobb's
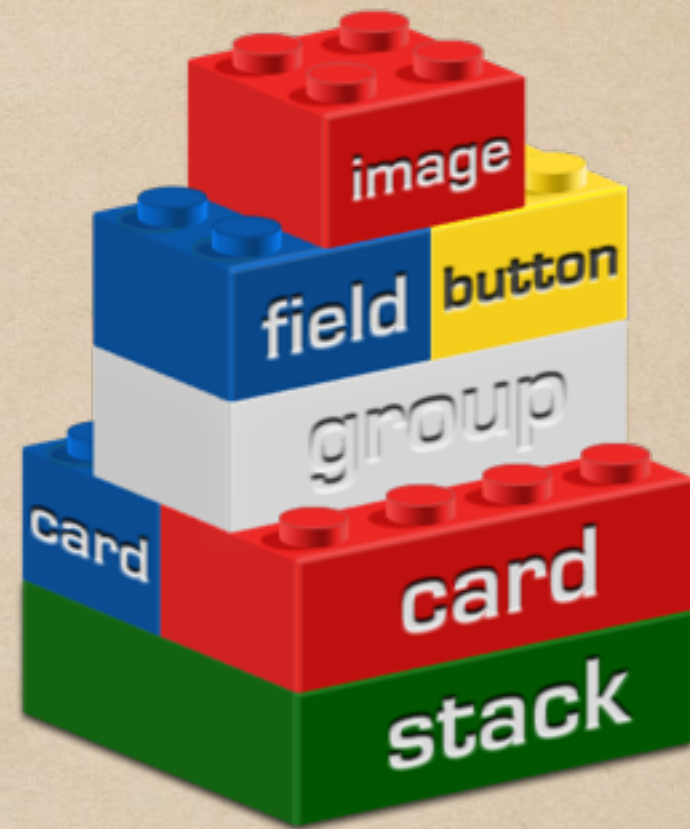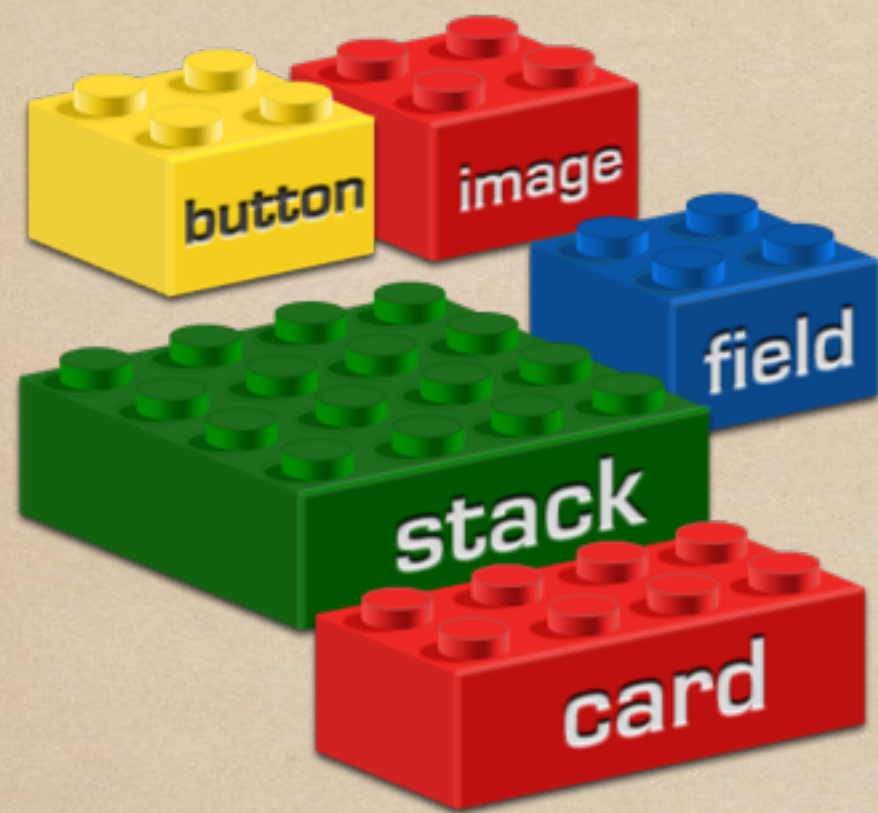
- <u>Xamarin</u>, Sencha, Corona, Titanium, <u>PhoneGap</u>

Heritage & History

- Hypertext/HyperMedia – Ted Nelson 1963

- Hypercard – Apple 1987

- WWW – Tim Berners-Lee 1989

- RunRev – Edinburgh, Scotland 1997

- Metacard – 1992, Acquired by RunRev 2003

- LiveCode – New name 2010

- Kickstarter Campaign – Open Source 2013

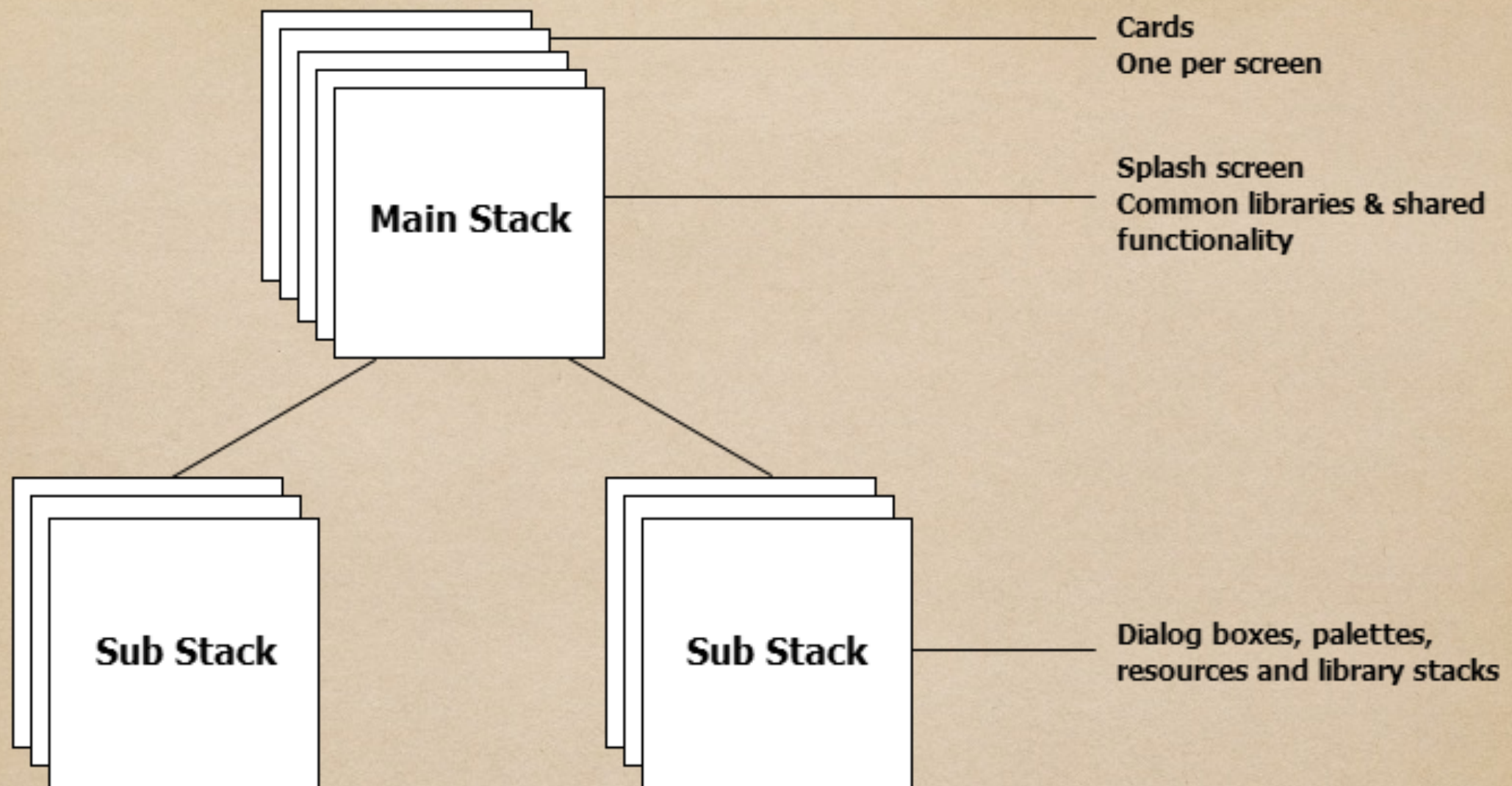# Supported Devices

- Development - Mac, PC, Linux

- Delivery - Mac, PC, Linux, iOS, Android, servers

- Future - Raspberry Pi, Windows 8 Mobile, ?

Building Block Approach

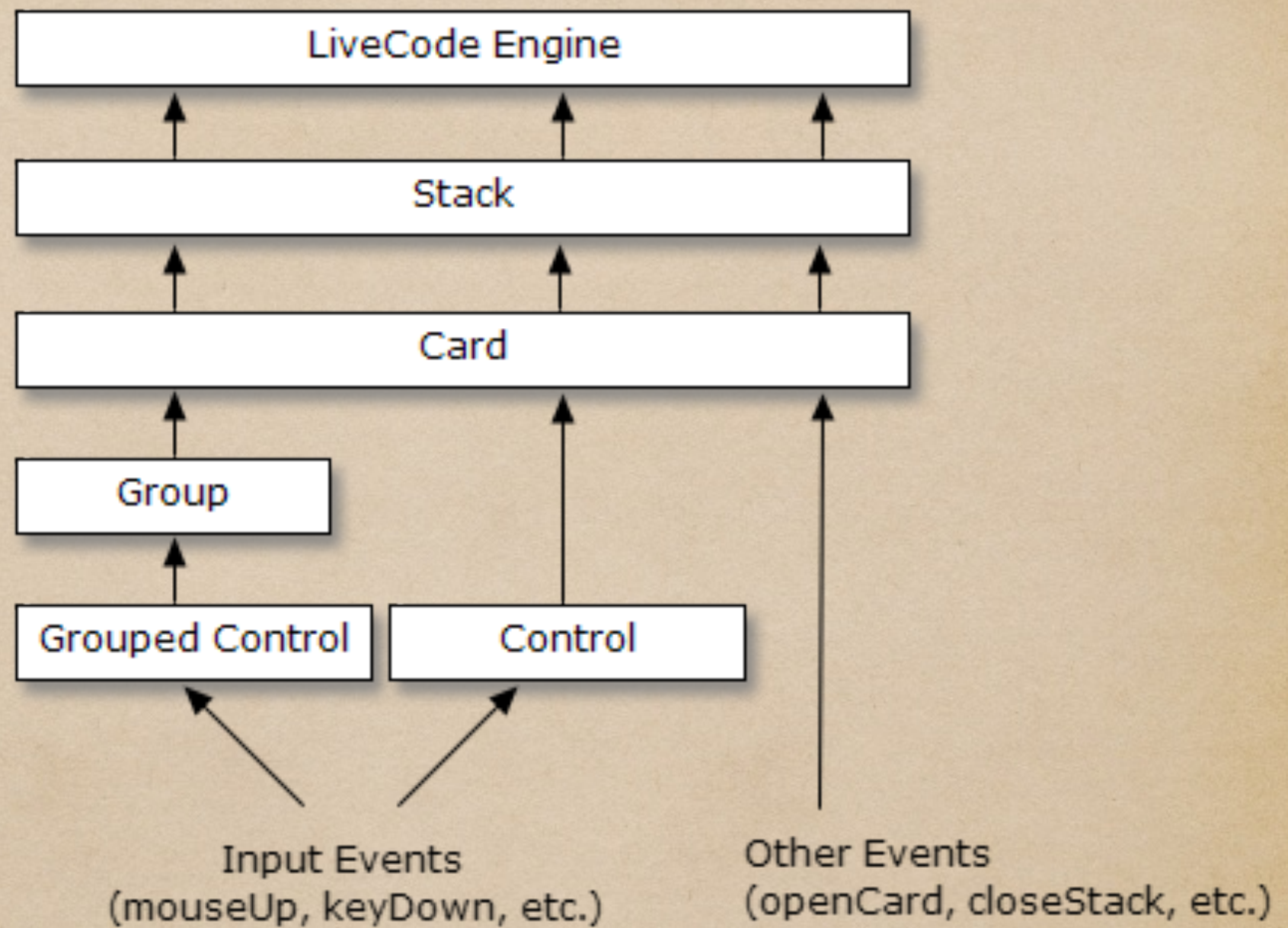Source: BYU Digital Humanities & Technology

Main Stack

Cards
One per screen

Splash screen
Common libraries & shared
functionality

Sub Stack

Sub Stack

Dialog boxes, palettes,
resources and library stacks

LiveCode Language

- English-like with minimal syntax, self-documenting

- LiveCode: sort lines of theText descending by last item of each

- JavaScript: theText = theText.split("\n");theText = theText.sort(sort_item_3).join("\n");function sort_item_3(line1, line2) {   line1 = line1.split(",");   line2 = line2.split(",");   if(line1[2] == line2[2]) return 0;   else if(line1[2] > line2[2]) return -1;   else return 1;}

Example source: RunRev CEO Presentation

LiveCode Message Path
(simplified)

LiveCode Engine

Stack

Card

Group

Grouped Control | Control

Input Events
(mouseUp, keyDown, etc.)

Other Events
(openCard, closeStack, etc.)

Demo

- Show the development system

- Create a simple app with full screen scaling

- Configure standalone parameters

- Show app running in iOS and Android emulators

Standalone Application Settings for Demo5 – OS X

General | Stacks | Copy Files | **Mac** | Windows | Linux | iOS | Android | Bug Reports

Build for: ☑ Mac OS X (Universal)   ☐ Mac OS X (PowerPC Only)   ☐ Mac OS X (Intel Only)

Application Icon: [   ] [Use None] [Choose...]

Document Icon: [   ] [Use None] [Choose...]

Icons to display on ask and answer dialogs

Application Icon: [   ] 🪄   Small Application Icon: [   ] 🪄

PLIST

◉ Enter the information and have Revolution write the PLIST file for you

◯ Choose a PLIST file to import into the application bundle

Name: [Demo5]   Document Type: [   ]

Signature: [????]   Document Extension: [   ]

Version Information

Short Version: [1.0.0.0]   Long Version: [Demo5 1.0.0.0]

Get Info String: [Demo5 Version 1.0.0.0]

Copyright Notice: [2014 All rights reserved worldwide]

Bundle Identifier: [com..demo5]

Mac Setup

Standalone Application Settings for Demo5 – iOS

| General | Stacks | Copy Files | Mac | Windows | Linux | iOS | Android | Bug Reports |

Build for: ☑ iOS   [iPod and iPhone ⇅]   [4.3 or later ⇅]

Basic Application Settings

Display Name [Demo5]   Version [1.0.0]

Internal App ID [com.yourcompany.yourapp]

Profile [(none) ⇅]

Externals ☐ revZip ☐ revXML ☐ SQLite
☐ MySQL ☐ PDF Printing ☐ Encryption

Status Bar

iPhone Status Bar ⦿ Visible ○ Hidden

iPad Status Bar ⦿ Visible ○ Hidden

Status Bar Style [Default ⇅]

Orientation Options

iPhone Initial Orientation [Portrait ⇅]

iPad Supported Initial Orientations:

☑ Portrait   ☐ Portrait Upside-Down
☐ Landscape Left   ☐ Landscape Right

Requirements and Restrictions

☐ Persistent WiFi   ☐ File Sharing
☐ Push Notifications

	Required	Prohibited	n/a
Telephony	○	○	⦿
Peer-Peer	○	○	⦿
SMS	○	○	⦿
Still Camera	○	○	⦿
Auto-Focus Camera	○	○	⦿
Front-Facing Camera	○	○	⦿
Camera Flash	○	○	⦿
Video Camera	○	○	⦿
Accelerometer	○	○	⦿
Gyroscope	○	○	⦿
Location Services	○	○	⦿
GPS	○	○	⦿
Magnetometer	○	○	⦿
Microphone	○	○	⦿
Game-Kit	○	○	⦿
WiFi	○	○	⦿
OpenGL ES 1.1	○	○	⦿
OpenGL ES 2.0	○	○	⦿

Icons   ☐ Prerendered Icon

iPhone	[ ] ⊗ ⋯
Hi-Res iPhone	[ ] ⊗ ⋯
iOS 7 Hi-Res iPhone	[ ] ⊗ ⋯
iPad	[ ] ⊗ ⋯
Hi-Res iPad	[ ] ⊗ ⋯
iOS 7 iPad	[ ] ⊗ ⋯
iOS 7 Hi-Res iPad	[ ] ⊗ ⋯

Splash Screens

iPhone	[ ] ⊗ ⋯
Hi-Res iPhone	[ ] ⊗ ⋯
4 Inch iPhone	[ ] ⊗ ⋯
iPad Portrait	[ ] ⊗ ⋯
iPad Lscape	[ ] ⊗ ⋯
Hi-Res iPad Portrait	[ ] ⊗ ⋯
Hi-Res iPad Lscape	[ ] ⊗ ⋯

Custom URL Scheme

URL Name [   ]

iOS Setup

Standalone Application Settings for Demo5 – Android

General | Stacks | Copy Files | Mac | Windows | Linux | iOS | **Android** | Bug Reports

Build for: ☑ Android

Basic Application Settings

Label | Demo5

Identifier | com.yourcompany.yourapp

Version Name | 1.0.0   Version Code | 1

Icon | [   ] ⊗ [...]

Splash | [   ] ⊗ [...]

Signing | Sign with my key ▼

Key | [   ] ⊗ [...]

Install Location | Internal Storage Only ▼

App Billing Key | [   ]

Externals | ☐ revZip   ☐ revXML   ☐ SQLite
             ☐ MySQL   ☐ SSL & Encryption

Custom URL Scheme | [   ]

Push Sender ID | [   ]

Status Bar Icon | [   ] ⊗ [...]

User Interface Options

Initial Orientation | Portrait ▼

Status Bar | ◉ Visible   ○ Hidden

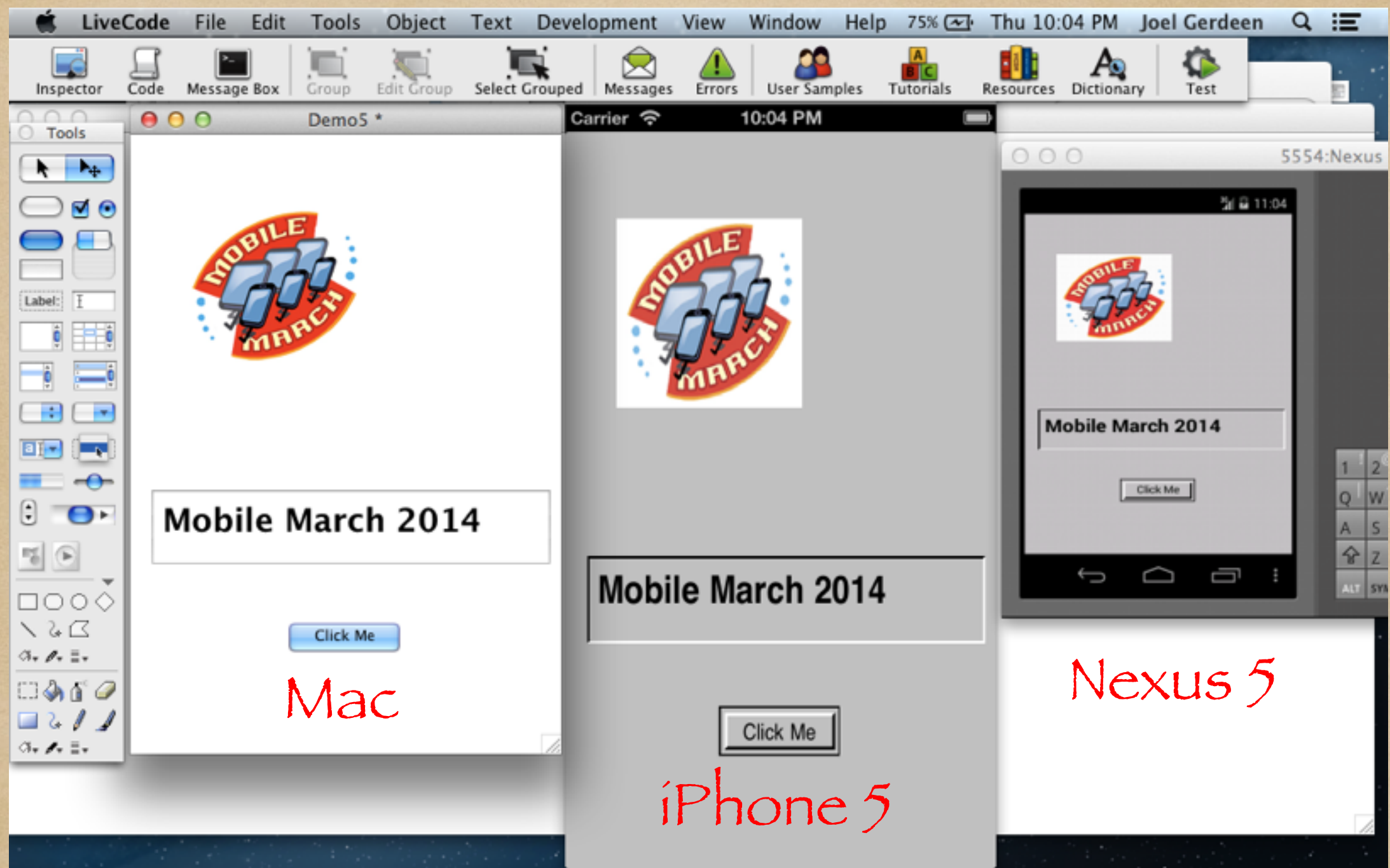## Requirements and Restrictions

Minimum Android Version | 2.2 – Froyo ▼

	Required	Used	n/a
Camera	○	○	◉
Camera Autofocus	○	○	◉
Camera Flash	○	○	◉
Front Camera	○	○	◉
Accelerometer	○	○	◉
Telephony	○	○	◉
Telephony CDMA	○	○	◉
Telephony GSM	○	○	◉
Fake Touch	○	○	◉
Touchscreen	○	○	◉
Multitouch	○	○	◉
Multitouch Distinct	○	○	◉
Multitouch Jazzhand	○	○	◉

Application Permissions

☐ Write External Storage   ☐ Fine Location
☐ Internet   ☐ Coarse Location
☐ Camera   ☐ Vibration
☐ In-App Billing   ☐ Idle Timer
☐ Read Contacts   ☐ Ad Support
☐ Write Contacts

Android Setup

LiveCode IDE with 3 emulators

App Scaling

- Adapts to different device sizes

- set the fullscreenmode of me to empty - default mode

  - exactFit

  - Letterbox

  - noBorder

  - noScale

Not just a mobile development tool

- Capable of enterprise level development

  - KLM Booking System

  - Univ of Vienna - Management of 100,000 student & staff

  - USGS Satellite Control

  - FrontDocs Document Management

- http://livecode.com/showcase/

Plugins/Externals

- Native look & feel

- Animation Engine

- ChartMaker

- Word Import/Export

- FileMaker Migrator

- Sound Libraries

- User Registration

- Plus many more

Plugins

- Mob-GUI

- Air Launcher

- Zygodact

- Animation Engine

- App Design Kit

- ChartMaker

- Data Grid Helper

- DataTree

- Quartram Reports

- WheeLib

- WordLib

- WordReport

- FMpro Migrator

- mergExt

Resources

- Free Community open source version, Commercial version required to publish

- Tutorials, University, Academies

- Newsletter & Blog

- Forums & Email list

- Sharing Portal

- RunRevLive Conferences

- on-Rev hosting service

Contact Info

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- Check back for presentation materials