

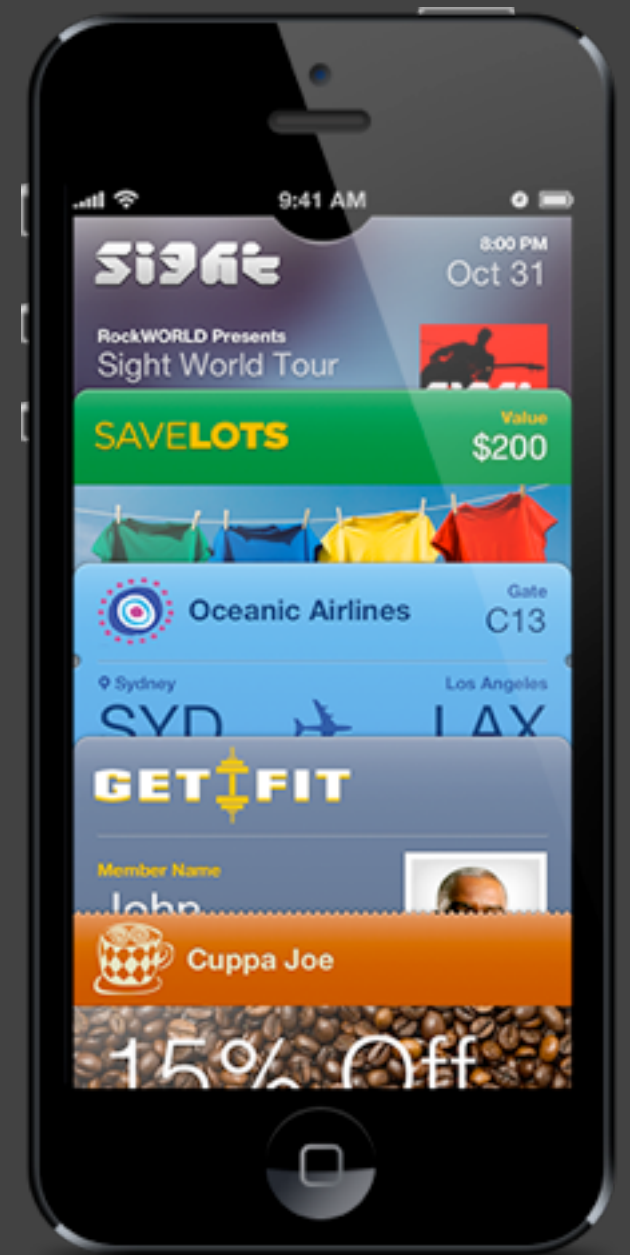
Introduction to Apple® Passbook®

Joe Beninato
Founder/CEO of PassTools
joe@tello.com
Twitter: @beninato
about.me/joe

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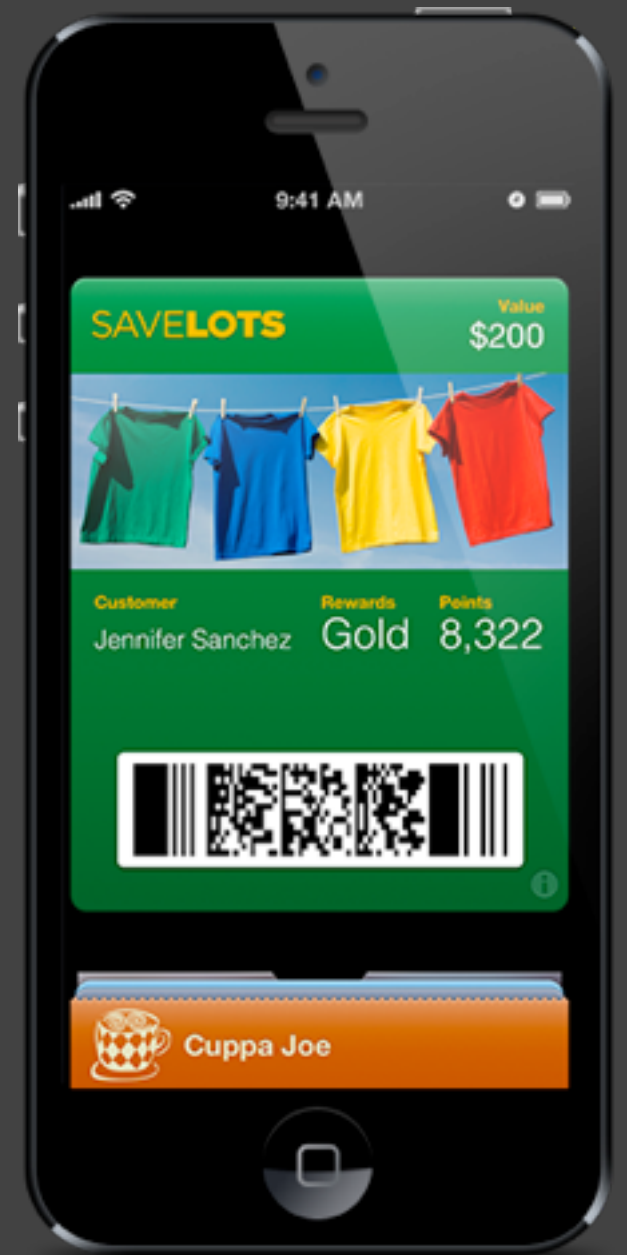
What is Passbook?

- New app on home screen of iOS 6
- The first version of “Apple Wallet”
- 5 pass types including:
 - Coupons
 - Event Tickets
 - Store Cards
 - Boarding Passes
 - Generic
- Location and date/time aware
- Credit cards coming?
- It's taking off!



Passbook Opportunities

- Boarding passes, tickets are obvious
- Interaction with iPhone apps
- Coupons - can be location aware
- Membership cards
- Payments via store cards (POS)
- Loyalty cards
- In app incentives
- Anything with a (2D) barcode



How to Make a Pass

1. Images
2. JSON file
3. Manifest
4. Certificate
5. Signature
6. Zip
7. .pkpass file



I. Gather Your Images

icon@2x.png logo@2x.png plus background, thumbnail, strip

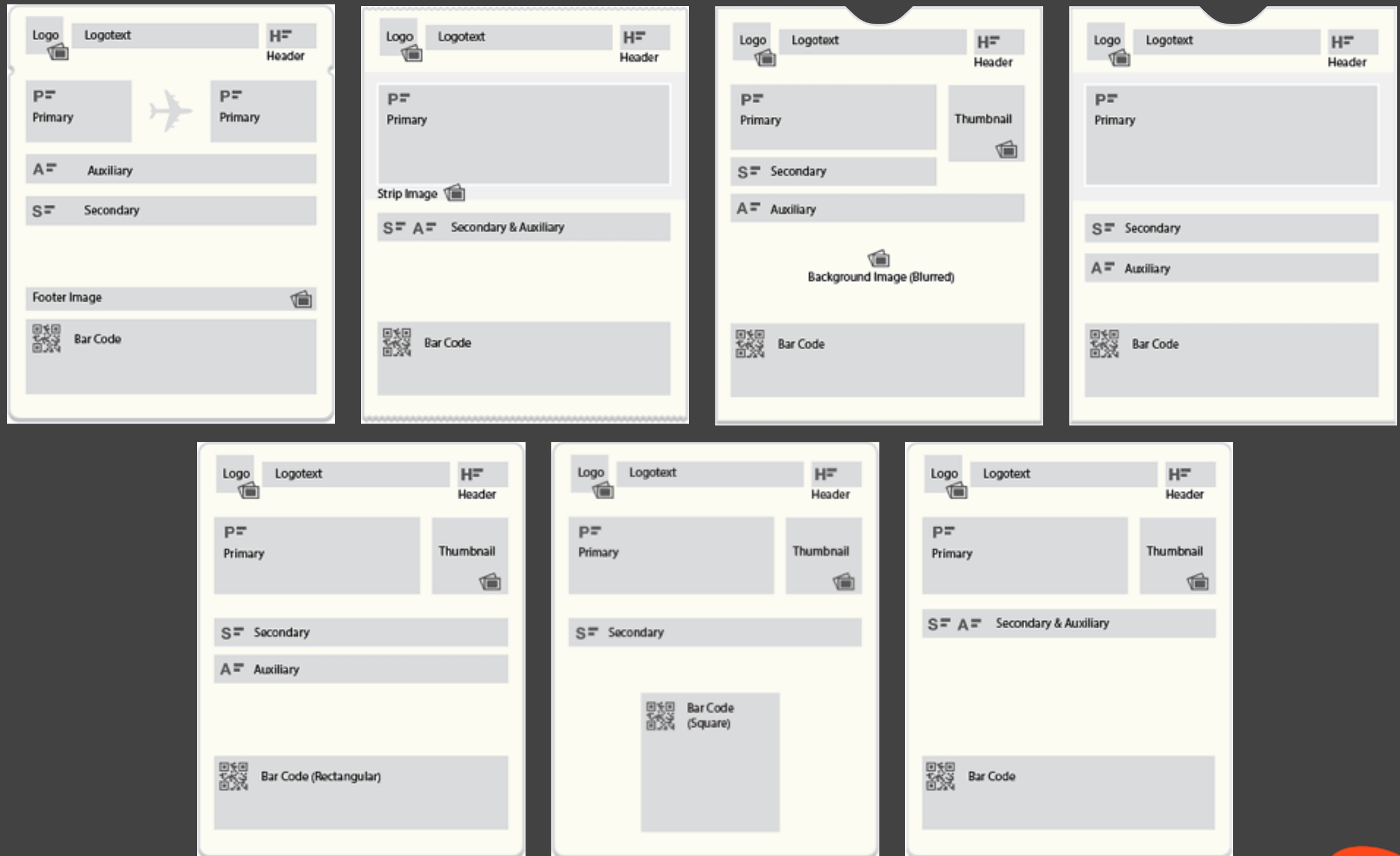
Pass Style	Supported Images
Boarding Pass	Icon, Logo, Footer
Coupon	Icon, Logo, Strip
Event Ticket (Layout 1)	Icon, Logo, Background, Thumbnail
Event Ticket (Layout 2)	Icon, Logo, Strip
Generic Pass	Icon, Logo, Thumbnail
Store Card	Icon, Logo, Strip

2. Create pass.json File

- Required fields
- Optional fields
- Pass layouts

```
{
  "backgroundColor": "rgb(50, 91, 185)",
  "barcode": {
    "format": "PKBarcodeFormatPDF417",
    "message": "SFOJFK BENJAMIN LINUS LH451
2012-07-22T14:25-08:00",
    "messageEncoding": "iso-8859-1"
  },
  "boardingPass": {
    "auxiliaryFields": [
      {
        "changeMessage": "Boarding time changed to
%@",
        "key": "boardingTime",
        "label": "DEPART",
        "value": "2:25 PM"
      },
      {
        "changeMessage": "Flight number changed to
%@",
        "key": "flightNewName",
        "label": "FLIGHT",
        "value": "815"
      },
      {
        "key": "class",
        "label": "CLASS",
        "value": "Coach"
      }
    ]
  }
}
```

Passbook Pass Layouts



3. Create manifest.json File

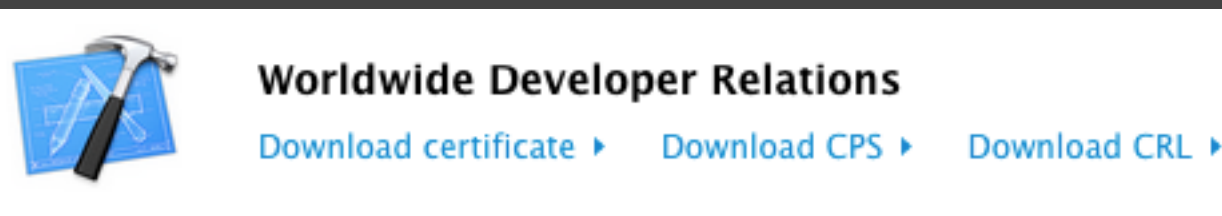
SHA-1 hash for each of pass.json plus all graphic files

```
$shasum [filename]
```

```
{  
  "icon@2x.png": "4a0383e772bec5c16ebb05c29d93457dfa4d8279",  
  "logo@2x.png": "4a0383e772bec5c16ebb05c29d93457dfa4d8279",  
  "pass.json": "e620bab0eaa6ab1e27838a55482f18b26bd6e0fe"  
}
```


4. Certificates

- Get Apple Developer account
- Go to Pass Type ID page in iOS Provisioning Portal
- Create Certificate Signing Request (CSR) which generates public/private key pair
- Use CSR to generate pass certificate
- Convert pass certificate to .pem
- Create PKCS#12 from .pem
- Extract private key and signed public key
- Get WWDR Intermediate Certificate



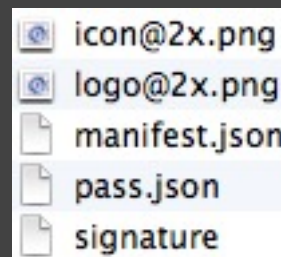
5. Create Signature File

Creates a signature based upon the manifest.json file using OpenSSL

```
$openssl smime -binary  
-sign  
-signer <ssl_cert>  
-inkey <ssl_private_key>  
-in <manifest.json>  
-out <signature_file>  
-outform DER  
-passin pass:<password>  
-certfile <intermediate_cert>
```


6. Zip

Zip together the graphics files, pass.json, manifest.json, and the signature file with a .pkpass extension



```
$zip output.pkpass *
```

7. .pkpass File

- Congratulations! Now you have a .pkpass file and can distribute via:
 - Email
 - Text Message
 - URL 
- Apple's email clients (Mac and iOS) recognize the .pkpass file format
- When you open on iPhone, you're asked to Add to Passbook



There Must be a Better Way...

- How do I see what my pass looks like?
- It's a hassle to write pass and manifest JSON files.
- Dealing with certificates is a pain.
- How do I track what's happening with passes?

What is PassTools?

- The easiest way for businesses to build and manage passes for Passbook.
- The world's first visual pass builder.
- No need to write JSON files.
- No messy certs (unless you want to bring your own)
- REST API and Template Builder for high volume applications.
- Detailed analytics



Resources

- PassTools help and documentation
- <https://developer.apple.com/passbook/>
- https://developer.apple.com/library/ios/Documentation/UserExperience/Conceptual/PassKit_PG/PassKit_PG.pdf
- https://developer.apple.com/library/ios/documentation/UserExperience/Reference/PassKit_Bundle/PassKit_Bundle.pdf
- <https://developer.apple.com/videos/wwdc/2012/?id=301>
- <https://developer.apple.com/videos/wwdc/2012/?id=309>

I'd love your feedback!

Joe Beninato
Founder/CEO of PassTools
joe@tello.com
Twitter: @beninato
about.me/joe