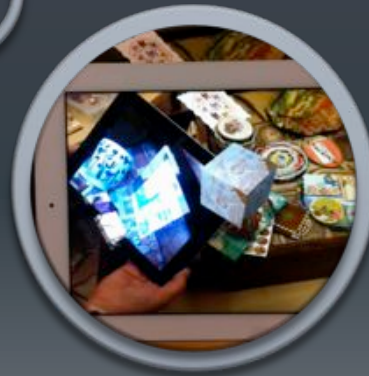
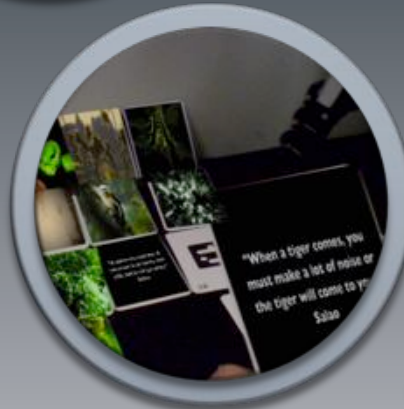


AR: Tips, Tools and Tricks

What Is The Fastest Route From Development To Deployment?



Which Solution Is Right For Your Campaign?



What Do Each Of These Tools Do?

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Ask yourself...

- Is AR the product itself?
(Paparazzi, Layar, ARDefender, World Lens)
- Or a feature? Do you want the user to be able to freely access the AR content? Is it being built into an existing app?
(Esquire Magazine, Yelp)



Get noticed

- If AR is a feature: is the technology the spectacle, the draw, the hook? What's new? What's the latest technology? (Example of Obvious Engine)
- Or is it more important that the content is easy to access?
- Get exposure from the company whose product you are using (if you are an early adopter). Enter in contests. Never spam forums, be a good community member, they often have product showcase threads.
- Most importantly: WHY? You will probably hear this question a lot.

Building the Best Product



Plug-ins?		Roll your own?	
Pros	Cons	Pros	Cons
Cross Platform	Third party dependency:	Good, efficient code	Rate of change for mobile SDKs
Decrease initial development time	Bug Fixes = work-arounds	Smaller Base App Size	Good programmers = expensive and hard to find
Exploit existing features of authoring tools (other plugins)	Hiring specialty skillset/ hobbyists	Fewer tools to upgrade (fewer points of failure)	Augmented Reality is still a specialty field
Communities/ Forums/ developers	Remember Director? (Environments come and go)	You can eventually develop your own plugin/ toolkit	



Launching in 3...

- Buy iOS and Android Devices to test on
- Sign up: get both Android (free) and Apple (\$99) Developer Accounts, and a Qualcomm Vuforia account
- Download Android SDK (and Package), Xcode including iOS SDK, Vuforia (Both iOS and Android for your OS) and Unity
- Purchase Unity Pro and the appropriate iOS and Android (basic \$400 each or Pro \$1500 each) Unity Add-ons (Pro features include Render Textures and full screen movie players)
- Install: Android SDK, Xcode, Unity, Vuforia
- Code sign your machine with Apple, backup your .p12 file

2...

- Import Android then iOS Vuforia packages.
- Switch platform to Android.
- Make your “trackables” using the online wizard. Download the Unity package and import to Unity.
- Make your app amazing.
- If there are Platform specific features: duplicate the project and switch second project to iOS platform.
- Create a Provisioning Profile for your iOS device and switch your Android device to Debug mode (settings, developer).
- Build, test and build for release.

1...

- Are you deploying custom trackables to your users? You may need to include this info in the App description to be approved.
- Deploy to the Android App store/Google Play first.
- Then Deploy using iTunes Connect to the App store and get the word out
- How long will it take Apple to approve my app?
- <http://reviewtimes.shinydevelopment.com>

Augmented Reality Prepared by Andrew Roth (aroth21@yorku.ca) with thanks to Brice Longnos and the Augmented Reality Lab at York University

Software Libraries	Built for	Tracking Technology	Built by	Licensing	Website
ARToolkit (Plus) (NFT)	Mac OS X, Windows, Android, iOS, Flash, Silverlight, Linux, IRIX, Java, etc...	BW Marker and Imperceptible	HITlab NZ	GPLv2/\$\$\$	https://www.artoolworks.com
String	iOS, Unity	Hybrid Marker (Color image with Border)	String Labs Limited	\$\$\$	http://www.poweredbystring.com https://developer.qualcomm.com/mobile-development/mobile-technologies/augmented-reality
Vuforia	iOS, Android, Unity	Imperceptible Marker	Qualcomm	Royalty free	
PTAM	Mac, Linux and Windows	Markerless (Parallel Tracking and Mapping)	Georg Klein	Non-Commercial/\$\$\$	http://ewokrampage.wordpress.com
SARI	Android, bada	Imperceptible Marker	Samsung	NDA	N/A
Obvious Engine	iOS, Unity	Markerless	Obvious Engineering Limited	\$\$\$	http://obviousengine.com/pricing
ARmsk	Android	Imperceptible Marker	Combitech	GPLv3	http://armsk.org
in2AR	Flash	Imperceptible Marker	IN2AR	\$\$\$	http://www.in2ar.com
Metaio	iOS, Android, Unity	Imperceptible Marker	Metaio	\$\$\$	http://www.metaio.com
Mixare	iOS, Android	GPS/Sensor	Peer Srl	GPLv3	http://www.mixare.org
ARLab	iOS, Android	Imperceptible Marker, Image Matching, GPS/Sensor	ARLab	\$\$\$	http://www.arlab.com
VRPN	Mac OS X, Windows, Unix, Linux,...	Sensors (Sonic, Inertial, magnetic, GPS)	Russell M. Taylor II	BSL1.0/Commercial Support	http://www.cs.unc.edu/Research/vrpn/index.html

Authoring Tools	Built for	Tracking Technology	Built by	Licensing	Website
D'fusion Studio	Windows, Linux (Debian and Ubuntu)	Imperceptible Marker and 3D Face Tracking	Total Immersion	\$\$\$	http://www.t-immersion.com
Aurasma	iOS, Android	Imperceptible Marker	Aurasma	Royalty free	http://www.aurasma.com
SnapDragonAR	Mac OS X	BW Marker	Future Stories	\$\$\$	http://www.futurestories.ca/snapdragonar/
Hoppla Augmentation	Layar, Junaio, Wikitude	GPS/Sensor	Hoppala	Royalty free	http://www.hoppala-agency.com
Layar Vision	Layar Browser	Imperceptible Marker	Layar	\$\$\$	http://www.layar.com
Junaio Glue	Junaio Browser	Imperceptible Marker	Metaio	Royalty free	http://www.junaio.com/develop/docs/documentat ion/general/glue/
BuildAR (.nz)	Mac OS X, Windows	BW Marker and Imperceptible	HIT Lab NZ	\$\$\$	http://www.buildar.co.nz
BuildAR (.com)	Layar	GPS/Sensor (with Imperceptible Marker)	Mobile Online Business Pty Ltd	\$\$\$	http://buildar.com

AR Browser Apps	Built for	Tracking Technology	Built by	Licensing	Website
Layar	iOS, Android	GPS/Sensor (with Layar Vision)	Layar	Free/\$\$\$	http://www.layar.com
Junaio	iOS, Android	GPS/Sensor (see Junaio Glue)	Metaio	Royalty free	http://www.junaio.com
Argon	iOS (Android TBA)	GPS/Sensor (with Vuforia Integration)	Georgia Tech	Royalty free	http://argon.gatech.edu
Wikitude	iOS, Symbian, Android, Blackberry, Windows Phone 7.5	GPS/Sensor	Wikitude GmbH	Royalty free	http://www.wikitude.com
BlippAR	iOS, Android	Imperceptible Marker	BlippAR	\$\$\$	http://blippar.com