Mobile Game and App Development the Easy Way

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Version 1.3

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What is AppEasy?

AppEasy for Marmalade is a software development tool and set of libraries that are designed to bring cross platform native mobile game and application development to people from all walks of life. Our goal is to enable anyone (regardless of expertise) to develop their own apps using AppEasy and the Marmalade SDK for fun or for sale on a variety of app stores, including the Apple App Store, Google Play, Amazon Market and beyond.

How do we plan to accomplish this? AppEasy uses an easy to learn mark-up language similar to HTML but designed specifically for producing game and application content. For example, it is possible to create game characters complete with physics and collision in only a few lines of mark-up. Its also equally possible to create complex user interface controls that are bound to remote data.

We also cater for the more experienced developer that would like more control over their app. Our rich mark-up language (XOML) has support for a wide range of tasks including working with variables, events, actions, commands, programs, calling Lua scripts and much more.

IwGame Libraries and headers are also provided that enable the developer to access the power of AppEasy from C/C++.

AppEasy is compatible with all Marmalade compatible platforms. AppEasy Project Manager is currently compatible with Windows XP / Vista and Windows 7

Why AppEasy?

Simple, we want to place mobile app development into the reach of anyone that has ever thought about making an app, regardless of expertise.

The current problems with the mobile app development market are:

- High barrier of entry – Its incredibly difficult to create apps using current technologies because they require many years of training, learning difficult programming languages, concepts and tools. This places app development into the hands of an elite class of developers

- Cross platform development – Traditionally app developers create an app using a single signature platform, for example Android. When the product is complete or near to completion the developer would need to hire expertise that will convert their product to the iPhone / iPad platform

- Modifying apps after release – The functionality and resources associated with

most mobile apps and games is static and to make changes requires the app to be modified and resubmitted to app stores for re-testing. This can be a lengthy, painful and often expensive process for the developer.

- Complicated App Store Processes – Creating a mobile app is only half the story. The other half of the story is getting used to working with the overly complicated methods and technologies that app stores use for signing apps, provisioning devices, submitting apps etc..

AppEasy addresses all of these issues:

- AppEasy invented the XOML mark-up language and drag and drop project manager tool. XOML is an easy to learn mark-up language that enables the user to create apps and games much easier and quicker than they would with conventional tools. AppEasy does not stop there as it also provides users with access to its integrated development language (Lua) which enables more experienced users to create more powerful apps. The AppEasy project manager is a simple tool that allows users to drag and drop assets and scripts from a folder on their PC onto it then click a single button to create a Marmalade compatible project file that can be compiled into an app or tested in the Marmalade simulator.

- AppEasy is a cross platform software development system and supports all Marmalade compatible platforms.

- Apps developed with AppEasy can use a combination of static and dynamic assets that are located somewhere outside of the app. For example, the app developer can host all of their assets and scripts on a web site, which they can modify and update to fix problems with the app or update its features well after the game has been approved by the app stores

- AppEasy supplies wizards that walk the user through everything from creating app store accounts to submitting apps to the app stores, making the whole process as easy and as painless as it can be.

Who is it for?

AppEasy for Marmalade is designed to enable anyone that has basic knowledge of Microsoft Visual Studio to develop and deploy their own games and apps onto mobile phones and onto mobile stores.

What can be Made with AppEasy?

The possibilities are endless but here are a few ideas:

- 2D games (any genre)
- 2D Physics games (any genre)
- Interactive presentations
- Interactive books and magazines
- Interacive app-site (a web site within an app)
- Media player / browser
- Line of business apps
- Charting apps
- Much more.....

You are only limited by your imagination. Will you create the next Angry Birds or Instagram?

AppEasy Features

AppEasy boasts a large range of features including:

General
- No need to use C/C++ or complex IDE's other than to build your app
- Develop apps without expertise in traditional app development languages such as C, C++, C#, Objective C or Java, although a C/C++ API is also provided
- Mark-up driven for rapid development
- Define actions that can be carried out when events occur
- Support for Lua scripting
- Styles and Templates
- Local and web based assets
- Proportional sizing and positioning
- Auto screen sizing and device orientation lock
- Local storage access
- Multi-touch input
- Accelerometer and compass support
- Smooth sub-pixel rendering and batch rendering for speed
- Touch panning and pinch zoom
- Persistent data
- HTTP POST / GET defined declaratively
- Access to video camera streaming
- Handles a myriad of different icon and splash screen configurations for you

Games
- Support for Scenes (game world / app canvas) and Actors (game / app objects)
- Images, fonts, compressed WAV sound effects and and MP3 music
- Animation
- Box2D Physics (shape, materials, collisions and joints)
- Video
- Tile maps

Apps
- Create simple or complex user interfaces
- Full support for simple and complex data bindings

User Interface
- Text input boxes
- Buttons / Check boxes
- Labels
- Icons
- Sliders
- Panels (StackPanel, WrapPanel, Canvas)
- Grid
- Image / Text View – Support for pinch zoom and pan
- Web View (display web content)
- Tab Bars

- Video Overlay
- Sliders
- XML data bindings
- Multi-touch based user interface (up to 5 simultaneous touches)

Monetisation
- Mediated animating ads from many ad providers
- In-app purchases (coming soon)

Advanced
- Variables
- Modifiers
- Programs and commands
- Marmalade SDK resource groups
- Call scripts
- Inline scripts
- Image filtering

Social
- Facebook wall posting (coming soon)

The 3 Phases of AppEasy

AppEasy is a three phase project split into the following phases:

- Phase 1 – Phase 1 gives you the ability to use a simple project manager to combine graphics, audio, fonts, XOML, scripts etc.. and set application specific information using an easy to use drag and drop interface.
- Phase 2 – Phase 2 introduces a WYSIWYG editor that enables you to put together games and apps using a drag and drop app / game editor (available in 2013)
- Phase 3 – Custom editors based on phase 2 for different genres of games and different style apps (available in 2013)

AppEasy Project Manager

The AppEasy Project Manager allows you to collect all of your app and game assets together and deploy them as a Marmalade project.

The AppEasy Project Manager is a native Microsoft Windows application that you install using one click installation via a web browser. When ran you will be presented with a screen that looks like this:
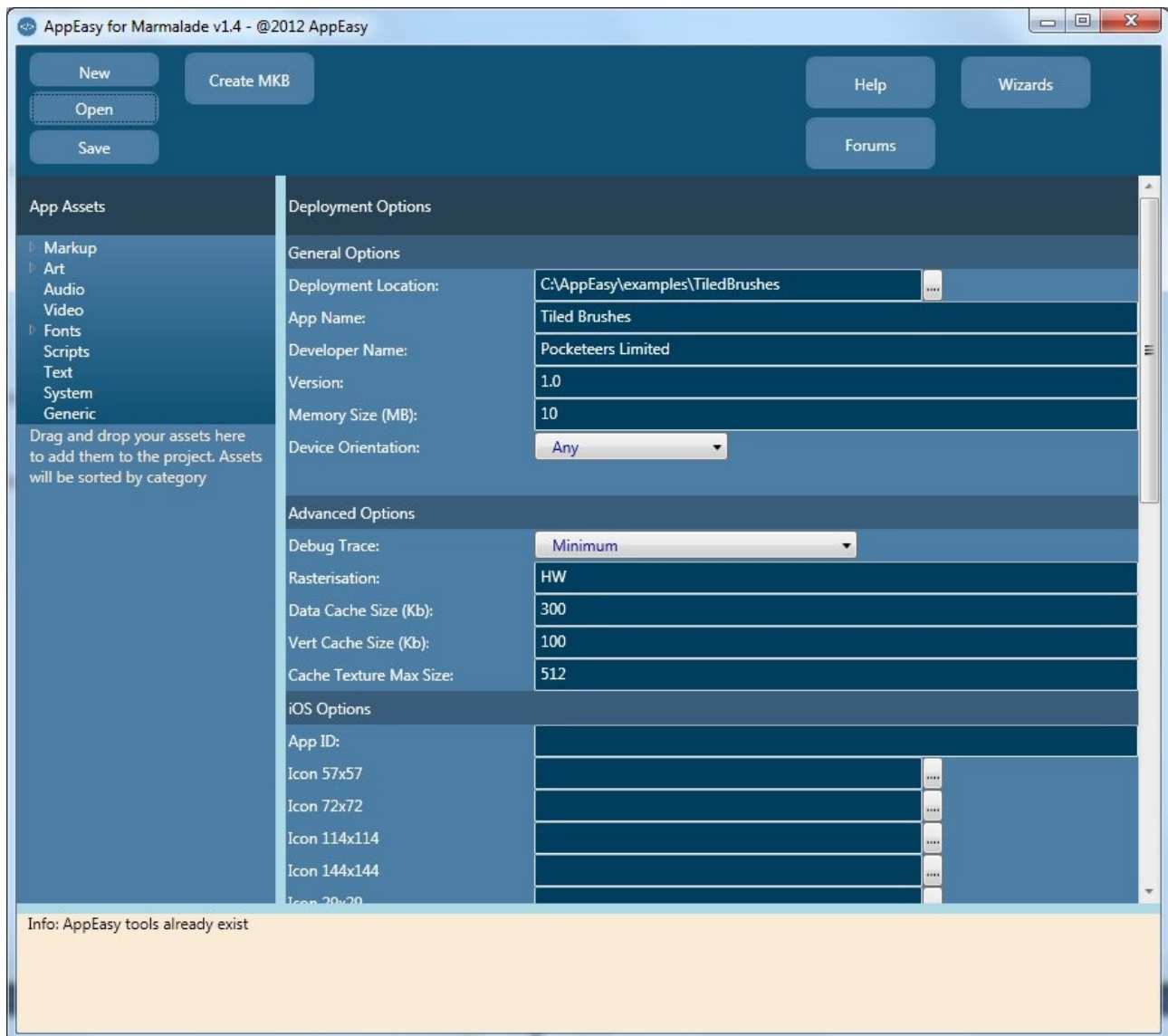
App Easy Development

So how would one develop games and apps using the AppEasy system?

Development can be split into two parts:

- XOML Mark-up – XML based mark-up similar to HTML but much more powerful in the sense that it is designed specifically for game and app development. XOML is also what we call "active XML" in the sense that logic can be built directly into the mark-up
- Scripting – At the moment AppEasy supports Lua bindings which allow user supplied scripts to communicate with XOML and XOML to communicate with Lua, allowing limitless possibilities. For example, tapping a button defined in XOML can activate a Lua function which carries out logic then modifies the app or games behaviour. We will be adding support for additional script languages including AngelScript, Python and Javascript. Alternatively you can link with the IwGameLib library and other associated libraries from C/C++ to interact with XOML.

It is entirely possible to create apps and games purely in XOML without the need to use additional scripting languages or C++. Over 60 example apps have bee provided with AppEasy that show many instances of apps created purely in XOML mark-up.

Once assets are added to the AppEasy Project Manager you can change them at any time as the project manager remembers their original locations. This system allows you to modify your files, hit the Create MKB button and your Marmalade project will be re-created.

AppEasy Mark-up

So what does AppEasy mark-up look like? Lets take a quick look:

```
<Image Name="Player" Location="http://www.mydomain.com/player_image.png" />
<Brush Name="PlayerBrush" Image="Player" />
<Icon Brush="PlayerBrush" Position="0, 0" Scale="2, 2" Angle="45" />
```

This simple piece of XOML mark-up downloads an image from the web and creates a brush that it can use to draw the image. We then create an Icon (a game or app object that can display images) at position 0, 0 at a 45 degree angle and a scale of x2.

Using XOML its possible to define scenes, game objects, physics, complex animations, user interfaces, variables, actions, programs and many other elements that go into making games and apps.

How Much Does AppEasy Cost?

AppEasy for Marmalade is currently free to use for all Marmalade SDK developers.

Easy Provisioning and App Store Submissions

We have found that the most difficult and frustrating processes involved in app development is setting up developer accounts, provisioning devices and submitting apps to the app stores. The AppEasy Wizards walk you through each of these processes, making them simple even for new developers.

Documentation & Other Resources

The following documentation is located in the C:\AppEasy\Docs folder:
- AppEasy for Marmalade Introduction.pdf – Introduction to the AppEasy concept, the document you are reading right now)
- AppEasy for Marmalade Quick Start.pdf – A brief walk through showing you how to get up and running quickly with the provided examples
- AppEasy Project Manager for Marmalade Guide.pdf – Guide to using the AppEasy Project Manager to build and test apps as well as how to provision devices and set up Apple and Android developer accounts.
- XOML User Guide.pdf – he complete guide to using XOML markup to develop apps

Many examples showing how to use the various aspects of AppEasy have been provided in the c:\AppEasy\examples folder. To open and test an example, simply drag and drop the xml project file from the example folder onto the AppEasy Tools bar and hit the Create MKB button. This will create and open a Marmalade project that you can build and run.

The AppEasy web site provides additional information and tutorials / examples online at www.appeasymobile.com. A support forum is also available.