Game Development with Corona SDK and Lua

@SergeyLerg
Spiral Code Studio

spiralcodestudio.com
Who is that guy on the stage?

PHP/JavaScript/HTML
C
Python
PHP
Lua
Go
What is Corona SDK

- coronalabs.com, #corona
- Android, iOS, Windows Phone 8
- Development on Win or Mac
- 2D only (2.5D)
- Lua
- Fast and easy to use Simulator
- No need for Xcode
Corona’s Language Stack

- Core is pure C++ and OpenGL
- Objective-C and Java only in wrappers
- Lua for actual code and libraries
I ❤️ Lua

- Overall good language
- Simple, easy to learn
- Crossplatform and embeddable
- Small overhead
- But no JIT on iOS
Corona SDK

- High performance, similar to Unity3D
- Vast API
- Starter- Basic- Pro- Enterprise- plans
3rd Party SDK and Libs

- Ad: Admob, iAd, Vungle, Chartboost...
- Facebook, Twitter, GameCenter, Google Play Game Services
- In-Apps: Apple, Google, Amazon, OUYA
- Analytics, zip, SQLite, JSON, LFS, bit, video, maps, native UI, PayPal...
- Scene manager, transitions and easings, timers, physics, gamepads
- Custom plugins
Rapid Development

- Works on all platforms with little to no adjustments
- Fast
  - Simulator
  - Compiling (packaging)
  - Mini framework
- Hard to crash
Fragmentation Zoo

- Aspect ratios
- Content Scaling
- config.lua
- Reference screen coordinates
local w, h = display.pixelWidth, display.pixelHeight
while w >= 600 do
    w, h = w * 0.5, h * 0.5
end
application = {
    content = {
        width = w, height = h,
        scale = 'letterbox', fps = 60,
        imageSuffix = {('@2x') = 1.2}
    }
}
When you deal with Lua

Everything looks like a table
local function some(params)
    local self = {}
    self.x, self.y = params.x or 0, params.y or 0
    return self
end
Lua is too forgiving
MOAR Punishment

- strict.lua
- type checking
- strict syntax style
- unused variables
- non-nil type casting
- safe indexing
- memory leaks
- lost values on return
Inheritance

- Classless inheritance is great
- Metatables most of the time are overkill
local function newBase(params)
    local base = {}
    function base:makeTheConsoleDirty()
        print('dirt-dirt-dirt-dirt-dirt')
    end
    base.heavyFunction = heavyFunction
    return base
end

local function newChild(params)
    local child = newParent()
    function child:cry() print('plak plak') end
    return child
end
More Lua

- Inline conditionals `a = b and b.c or c`
- Globals
- Automatic local variables
- Ad-hoc or monkey patching
Weakened tables

- Weak values
- Weak keys
- Weak programmer
Bad Lua code

- Forgiveness
- Many beginners
- Internet
- Mixed whitespace
- Mixed quotes
- JavaLua, JSLua, PascalLua.
Metatables magic

- Vector2D
- Transition a number
wxLua

- ZeroBrane Studio by Paul Kulchenko
- studio.zerobrane.com
- IRC #zerobrane
Blog

● spiralcodestudio.com
● Corona/Lua tips
● 30+ are ready
● More than 30 are planned
Corona SDK Pro Tip of the Day #34
Transition.to() for simple numbers
30 Jul 2014 🍊 corona sdk pro tip

transition.to() and other similar functions are designed to work only on display objects. But what if you need to smoothly transition a simple number instead?

A recent tutorial from Corona Labs pushed me to share this method. The idea is to use a simple table instead of a display object and with help of a metatable track a variable being transitioned inside this table.

I'll take the code from that tutorial as a base and modify it to use a metatable and transition.to().
Clean

- Clear your mind and keyboard
- Clean keyboard leads to clean code
Thank you

Sergey Lalov - Spira Code Studio
@SergeyLerg
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Questions and Offers
spiralcodestudio@gmail.com