



FUSED!

CLICKTEAM'S MONTHLY EDITORIAL
WWW.CLICKTEAM.COM

MAY/JUNE 2015 BUMPER EDITION

room



Your first look into
Extension Development!

Ever fancied it? We
will get you started!

Let's review some epic
WIP and New Releases!

In this bumper edition
we have a ton of stuff
to showcase to you!



NOT A HERO!

Eliminate the
criminal under-
world in this
epic 2D
platformer!



- Including:**
- Fusion 2.5 News
 - Monthly Tutorial
 - Monthly Reviews
 - Upcoming Releases

and much more...!

We'll take a look at what
is new in ClickStore!



MAY/JUNE 2015

BUMPER EDITION

**The month May was named for Maia, the Greek goddess of fertility.
In any given year, no month ever begins or ends on the same day of the week as May does!**

Hello and welcome to this May/June 2015 Bumper Edition of Fused! I started to write this a lot sooner than usual as I wanted to actually release it in MAY. I did well so far but slipped in April, which if you read it, I had a valid reason (or two).

Since the new chapter turn, I have started in the new life direction and it's looking very bright. It's surprising how the trials and tribulations in life will change how you are as a character, I like to think I haven't personally changed, but sure have adapted. You should always remain the optimist, life really is what you make it, so go out there and make it! This little addendum actually reflects some of my material for this Fused edition. Concentrating on who has made something of their lives, their business and their game development careers. Some of us are in the game just purely for the fact of having the ability to create our very own computer games and ideas, bringing them to life. Some of us, myself included, have used the gateway to creating a professional career or at least gain the experience. Some of us have just been lucky in creating an app or game that was meant to just be a personal achievement and it ended up a professional landmark.

My focus on Fused always has been and always will be to focus around the Click community and give you as many insights as to what is going on in the community but more importantly Clickteam itself. There's lots in-store for this edition and I hope you find it insightful, a lot of it is just pure first hand experience in this edition and I will always remember from **Mary Schmich** and that was ***"Advice is a form of nostalgia! With all the bad parts brushed away and just the good parts dispensed!"*** [cee*]



Danny James
Editor
Clickteam UK

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2. Clickteam Fusion 2.5 News

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3. New Releases

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Let's take a look at some of the current game and app developments from around the Click Community

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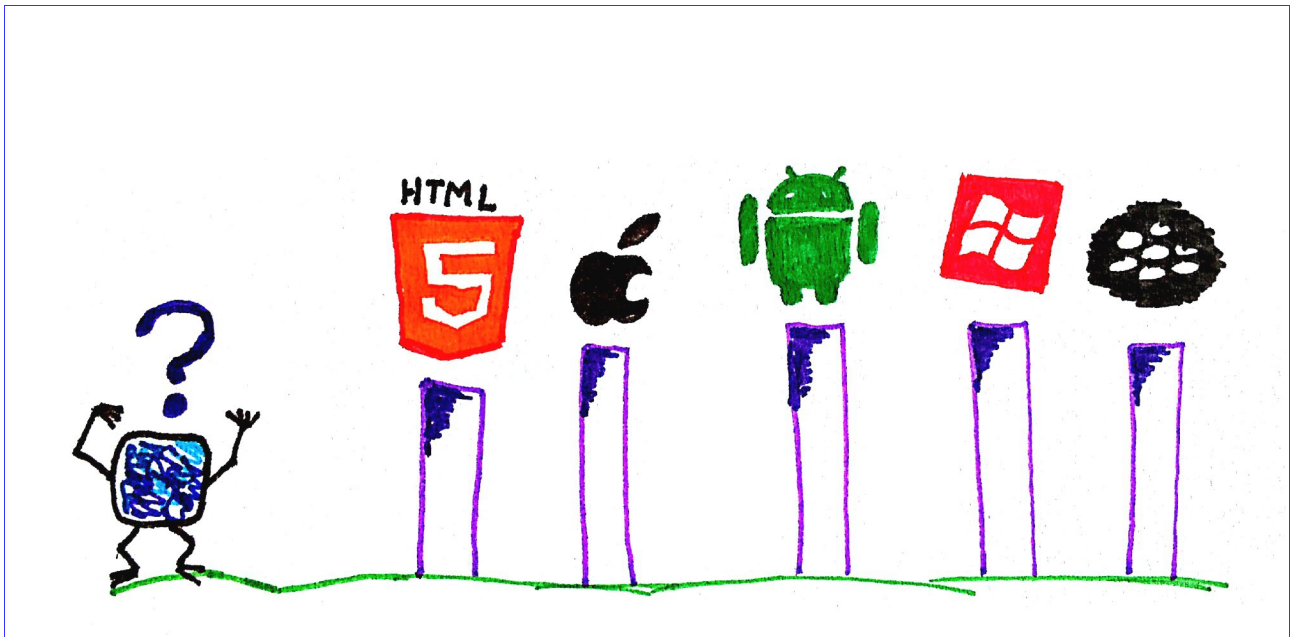
Each month there will be a new guide released inside of Fused itself for you to take a look at...

6. What's Hot

What is hot around the community. I'll talk about it and link you!

May/June Headlines

App Development – A Personal Experience



Application development is something that rarely has any focus or attention in the Click Community. It is overridden by the masses who wish to create computer games for Windows and all the available platforms. Which is cool, part of Clickteam's ethos is to provide software that allows faster development with no code.

If you read the article in Fused (**March Edition**) when we took a look back in time at all of Clickteam's products, you will get a slight insight as to where it was I personally started off, right at the beginning and followed up slowly.

Since 2009, I have been pro-actively developing software applications for private businesses and consumers internationally. It would be a career that exploded rapidly, brought many reliefs and benefits; such as working with people from all over the world and handling the dynamics of such a wide and diverse range of projects. None of this I don't think would have been possible with Multimedia Fusion/Fusion 2.5 and we'll take a look back at some of the projects I have developed using Clickteam products and how a new career was born almost 6 years ago!

May/June Headlines

App Development – A Personal Experience

Back in 2009, I was getting ridiculously bored of the market I was in. Web Dev and SEO. I had been in this market pro-actively since 2003. It was good to begin with, especially as the web was still in early days (in comparison to today anyway). Clients were starting to get tedious in their demands and a lot of UK businesses were expecting much, much more than quoted. The market started to get more saturated as time went by and 2009 was the pinnacle for me, but ultimately I knew it was going to be the end.

I had practised SEO for a long time, everything was completely white-hat. Some days I spent up to 18 hours a day with various setups and scripts. From standard HTML markup, to PHP and developing framework plugins. I had to spend a lot of time self-teaching SEO because majority of 'SEO'ers were just going off the basic 'Keyword stuffing/Description tagging/Title Tagging' route and I knew this wasn't enough.

Without blowing smoke, all the hard, personal work I had put into sussing the algorithms was not wasted. Eventually I landed myself some very, very lucrative contracts based purely on my experience and I was able to achieve those targets with ease. In 2009 Google's algorithm was starting to change, dramatically. They knew the algorithm had to change and it wasn't a case of waiting for a standard refresh anymore, the newer refreshes were huge updates that would knock most SEO'ers back another 50 feet. By this time, the market was already competitive anyway so I walked away from it all knowing I did well and all the experience I had gained purely by my own trial and errors. It was a successful achievement.

In between the time of 2003 – 2009 I was dabbling into developing software apps and games. The games side was purely personal and for fun. The software development side was always a market I wanted to get in but with my full time work doing Web Dev and SEO for clients, I never had the time to study any programming language. I typically fluttered between Visual Basic and MMF. When developing my own prototypes I knew deep down this is what I actually wanted to do full time one day.

May/June Headlines

App Development – A Personal Experience

Behold 2009. This was a risk for me to take as I already had a plethora of clients under my belt. I decided to take a 3 month break from work. I kept up on my maintenance contracts with existing clients but I refused to take any new work on. I used this time to study the market for game development, app development and really, really get into Multimedia Fusion. I knew it had potential when I realised there were a plethora of 3rd party extensions, which tapped into WinAPI and performed a wide-range of tasks outside of the built-in MMF stuff.

This impressed me, what also impressed me was the implementation of ActiveX. This was pretty epic to me as I knew I could develop ActiveX controls and import them into MMF2. I started to build some prototypes and realised that when it comes to Application development, MMF2 Developer opened a lot of doors. I took this chance and entered the market. I signed up to a few freelance developer websites such as oDesk. The market was littered with a lot of developers already, but it seemed like an active marketplace, a good place to start after reading the reviews.

It was a little difficult to get started without a portfolio, I didn't really have anything to show off in the respect of App/Game development. I had to wing a shiny and bright description of my experience; and uploaded some screenshots of some of the personal projects I had worked on. It seemed to have done the trick.

Within just a few days, I started applying for jobs that were available and bidding for them. A lot were ignored, just not accepted or were submitted too late (contractor found a suitable applicant). However, I persisted. I stuck with it and within 4-5 days, I got my first job. It was a mere \$600 for a quick shoot 'em up game. This is not a lot of money by no means, especially after once all the fees were stripped but it was a start! That was the key. The project literally took me 1-2 days to develop the full game as the assets were already provided. \$600 into my account, minus oDesk's fees, I think I can away with about \$480. Transfer to PayPal and a charge there, probably about \$440 afterwards.

May/June Headlines

App Development – A Personal Experience

So, on the ladder and pushing my way forward. I kept applying for different jobs and was successful on around 75%. This was a good market to get into. Luckily, the dedication, quality and support for my work paid off as clients then became reoccurring clients which was cool. The doorway looked wide open and it was a very interesting and very exciting journey to say the least.

Here is some of the stuff I worked on between 2009 and 2014. Bearing in mind, every single project listed here, was developed purely with **Multimedia Fusion 2.5** and/or **Fusion 2.5**. Some of the titles I cannot express, but I'll go as in-depth as possible with the projects as I can.



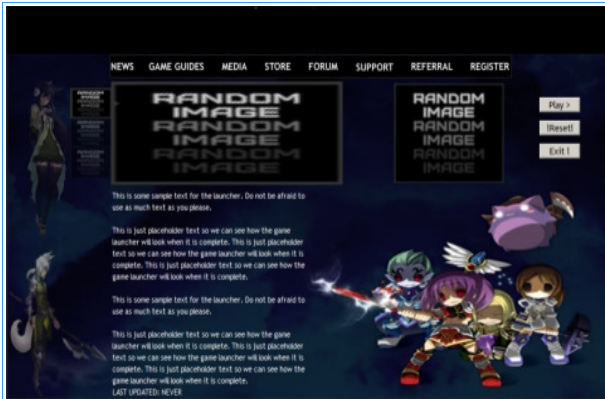
This was one of my first projects in Multimedia Fusion 2 and boy was it testing. It was a full-blown, feature-rich installer. The client had developed a 3D game that was playable both on Desktop PC, Mac and via the web browser. The installer was for the Windows Version. It was completely designed and written in MMF2 and featured everything you would expect an

installer to have.

It even included a custom, online registration security system that I developed into the application. It was certainly a mile-high achievement in terms of App Development. The hardest part for me was developing the uninstall routine. The uninstall routine had to conform to a strict set of Microsoft Windows and Antivirus regulations, a feat in itself that lost me some sleep, but finally managed. The hardest part at first was defining how the variables would be used to store information such as install paths as the user could change or create their own. The uninstaller had to have all the information passed to it. So it was a case of creating the uninstaller as a standalone app that had a shed-load of information passed to it when run so it knew where the Install Path was, which files to remove etc. Quite challenging but very fun to do.

May/June Headlines

App Development – A Personal Experience



Just prior to the installer, the same client wanted me to develop them an online updater/splash/launch screen. Because it wasn't developed in an engine unknown to me, I had to get to grips with the file/directory structure. I had to MD5 all the files and develop a system for the client to use online to 'ping' the launcher every time it was run to see if there

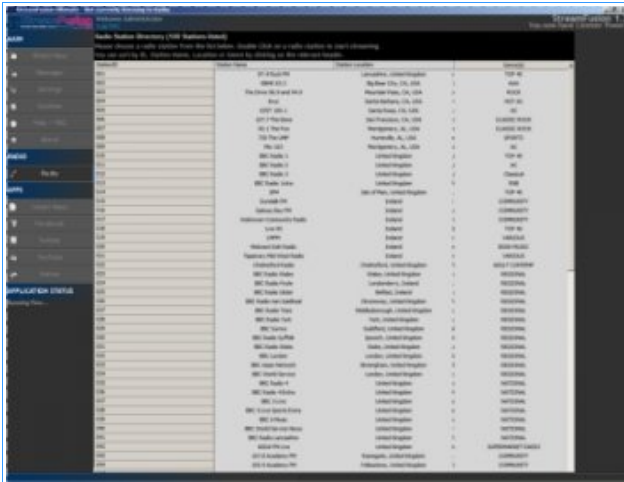
was an update available by comparing the users current version and checking the current version release.

For this I had to develop two applications. The first one was the update/splash/launch screen the user would run to run the game. This did the update check, as all the online clients had to be using the latest version to connect to the servers to play online, otherwise it would cause issues. I had to ensure the checks were forced and verified before the user could play the game. The second app I had to develop was an app the client could use to pack up the updated files. They would have a distro folder on the server, so the app would scan the distro folder to see which files were modified after the last update and only packed those files which were modified to save bandwidth and unnecessary time wasting. The application then packed the files up, uploaded them to the server and incremented the latest version string all on its own. This made it very, very easy for the client to publish updates.

The splash/launcher itself (as you can see above) contained placeholders which again, were checked against the images on the server to see any differences. If there was a difference, it would re-download the new images, if not, it would just used the locally cached ones to save on bandwidth. It was an interesting project to work on and the client was very pleased with the results. The client was outstanding to work with and it really lifted my spirits on the new path I was heading down.

May/June Headlines

App Development – A Personal Experience



This was an application I developed which stemmed from my love of Radio. Previously since 2000, at the tender age of 15, I have worked in and on community and commercial radio here in the UK. I haven't done any production material since 2008 and no on-air work since 2012. However, I saw a bit of a gap for a niche in the market. I was an avid fan of how Spotify worked and I wanted to present people around

the worldwide with a solution that worked from their desktop and mobiles.

The framework was developed completely inside Multimedia Fusion 2, which some SQL/PHP work for the profile logins. You could launch the application straight from your desktop and begin streaming commercial, private and community radio stations from around the world.

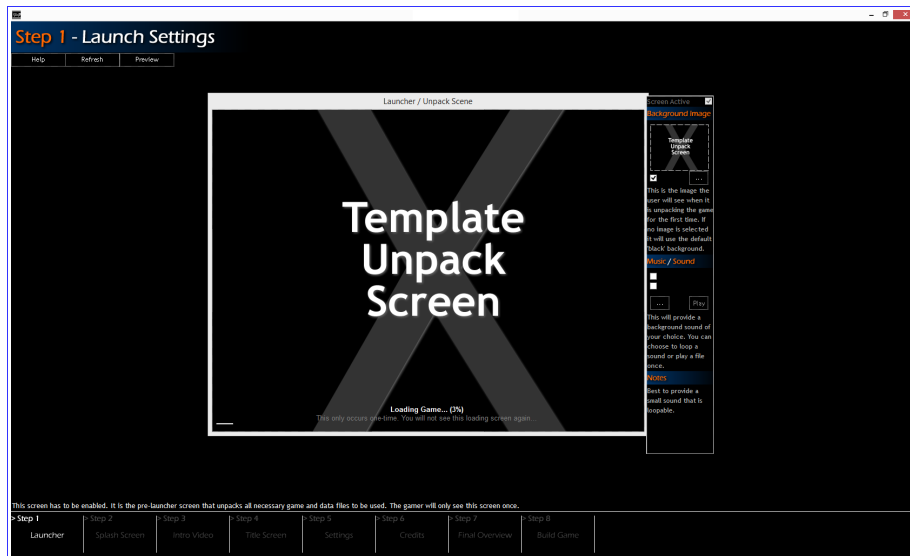
I designed the application with current trends with the 'flat-style' UI, which looked slick and worked fantastic. The leftbar contained all the buttons for the application, it had a full-width status bar for a quickview of connectivity etc. and the centre column was used for the radio station listings.

The topbar or what most refer to as a 'toolbar' didn't contain any toolbar buttons except the login/profile dropdowns and a 'Whats Streaming' section.

The project was flawless for me to develop as I already had a lot of experience of developing MDI applications in MMF2. I moved onto Fusion 2.5 for the updates after 2013, but in early 2014 I had to abandon the project which was home to 15k+ listeners worldwide due to time commitments. However, this year I plan to relaunch this software.

May/June Headlines

App Development – A Personal Experience



One of my best, personal achievements to date was a front-end application I wrote to develop and distribute 3D games created with an engine that lacked support for title/configuration/intro videos.

The engine itself was good for commercial use and some of its users produced some commercial-quality games with it. However, the engine did not provide any kind of 'Intro Screen' 'Title Screen' screens or anything else of the kind. There was no real way to tap into this without coding either. Step in me. I created an entire WYSIWYG system (imagine Fusion 2.5 for 3D games) that allowed those developers to pack their 3D games into a single, distributable executable and also design their own intros, title screens, save/load screens, configuration screens and credit screens.

It was a full “What You See Is What You Get” desktop application. Users could import their own art, movies, music and strings, position them and a ton of other features.

I choose not to decipher too many intricate details of this product for my own reasons, however I have included an edited screenshot above. Who knows... Maybe someone in our community has even used it? :)

May/June Headlines

App Development – A Personal Experience

The screenshot shows the Fusion 2.5 application window. On the left is a sidebar with a menu: Homepage, System Information (selected), Optimise Your Computer, Clean Junk Files, Windows Startup, Defrag Drives, Temporary Internet Files, Internet Cookies, Useful Stuff, One-Click Cleanup, Privacy Assassin, Information, Check for Updates, and Configuration. The main area is titled 'System Information' and contains two sections: 'User / Operating System Information' and 'Hardware Information'. The 'User / Operating System Information' section lists: Current User Logged In: Danny, Computer Name: DANDEVPC2, Default System Language: English (United Kingdom), Default User Language: English (United Kingdom), Operating System Version: 9, and OS Major/Minor/Build: 6.2 / Build Number: 9200. The 'Hardware Information' section lists: CPU Speed (Mhz): 3192mhz, CPU Architecture: AMD64, CPU Identifier: Intel64 Family 6 Model 60 Stepping 3, GenuineIntel, No. of Processors (Cores): 4, Total RAM (GB): 8 GB, and Currently Used RAM (MB): 3537 MB (28%). Below these is a 'Graphics Card Information (GPU)' section listing: GPU (Graphics) Type: NVIDIA GeForce GTX 750, GPU Provider: NVIDIA, GPU BIOS Version #: Version 82.7.32.0.25, Current Driver Date: 2-5-2015, Screen Resolution: 1680 x 1050, Screen Depth: 32, and Screen Refresh (hz): 59. At the bottom right of the main area, it says 'Ready...'. The version 'Version 1.0.1.2' is displayed at the bottom left of the sidebar.

System Information	
User / Operating System Information	
Current User Logged In:	Danny
Computer Name:	DANDEVPC2
Default System Language:	English (United Kingdom)
Default User Language:	English (United Kingdom)
Operating System Version:	9
OS Major/Minor/Build:	6.2 / Build Number: 9200
Hardware Information	
CPU Speed (Mhz):	3192mhz
CPU Architecture:	AMD64
CPU Identifier:	Intel64 Family 6 Model 60 Stepping 3, GenuineIntel
No. of Processors (Cores):	4
Total RAM (GB):	8 GB
Currently Used RAM (MB):	3537 MB (28%)
Graphics Card Information (GPU)	
GPU (Graphics) Type:	NVIDIA GeForce GTX 750
GPU Provider:	NVIDIA
GPU BIOS Version #:	Version 82.7.32.0.25
Current Driver Date:	2-5-2015
Screen Resolution:	1680 x 1050
Screen Depth:	32
Screen Refresh (hz):	59
Ready...	

Here is a software product I've been working on for my own brand, for the last 6-7 months (in between other work). It's almost like a combination of Ccleaner and Ad-Adware. Fully designed and developed in Fusion 2.5, it also uses additional custom extensions to access some functions of WinAPI especially for memory reading/handling. As you can see above, still a bit of work remains in some aspects, particularly the memory reading. I intend to release this as a standalone software at some point in the next 3 months. A LOT of testing has to be done, especially with the 'Clean Junk Files' as there are so many routines to perform and places to search. Again, another nice challenge for myself.

May/June Headlines

App Development – A Personal Experience

These are literally a handful of projects I've worked on over the years in MMF2/Fusion 2.5. With the available SDKs, there really is NO LIMIT to what you can achieve with Clickteam products. I have managed to write full-blown radio broadcast software, aviation-flight monitoring software for a danish company and also written a full, feature-rich slot machine engine which can be used for fun, private development and even commercial development.

The tip of the iceberg when it comes to development in Fusion 2.5. Of course, over the years I have developed games for clients and myself too but the real challenge for me is Application Development. Having the ability to design and develop custom installers for example, brings many challenges to the table in terms of design, implementation and most of all getting it right. The uninstall process was the most difficult of the lot I think as the testing had to be perfect. Luckily I managed to test the standalone executable which handled the uninstall on a test machine as a couple of times I actually managed to almost wipe the HDD after passing the wrong parameters (I blame tiredness), but this is part of the fun of developing software applications.

You too, today, can develop your own software applications with Fusion 2.5 and with the available SDKs allowing you to import 3rd party SDKs/Apis means you literally have everything at the palm of your hand for development.

Don't be shy! Dive into Fusion 2.5 and see what it really is capable of. If you have the developer version, even better as this allows for a full MDI interface, access to developer-only extensions and many options for final builds. However, most of this is possible with Standard, so give it a try. Developer version is only an upgrade away if you really want access to some of the additional features.

It's been fun reminiscing on what I have achieved over the last 5-6 years with MMF2/Fusion 2.5 and even better the fact I can still continue to do this AND work for Clickteam at the same time. One happy Danny!

May/June Headlines

New in ClickStore



The ClickStore has been thriving with some fresh material every week and here I'll review all the latest additions to it, just for you!



RPG Tile-Based Movement

One of the latest editions to the ClickStore this month is the RPG Tile-based Movement similar to what you would find in Pokemon or Zelda. Well worth a download and something to learn from for less than a dollar! [<Link>](#)



Changing Skins in Clickteam Fusion

Fusion 2.5 – Changing Skins

Ever wanted to create your own skin instead of using other skins made by other users? Didn't know where to start? This tutorial explains the how skinning works in Clickteam Fusion & explains each individual component in the skinning process! [<Link>](#)



Blue Dawg – Scooch that Pooch

Check this out by Blurtsmum. It's a cool, blue "dawg". Scooch the Pooch by name and it's available, fully animated in the ClickStore. Gauging by this submission, I really hope we do see more from Blurtsmum on the store! [<Link>](#)



Effects Pack #4 - Willay

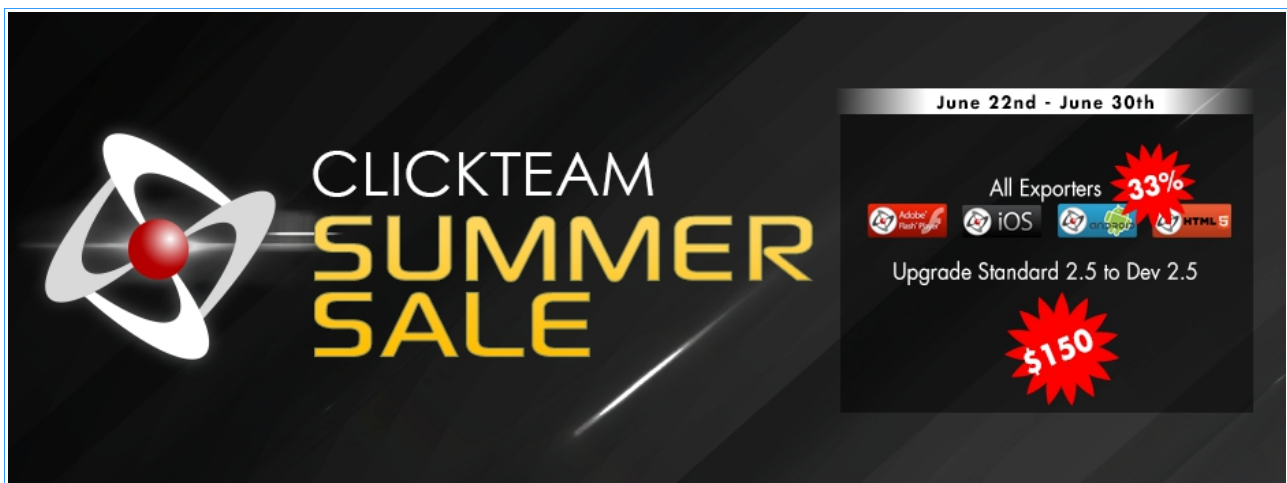
Mr Clement is back again with some awesome effects for Fusion 2.5. Import them straight into your games and mash them up. Inside the link comes 9 superb effects which you can also check out in action on his YouTube channel! [<Link>](#)

May/June Headlines

Clickteam Sales

Sales Galore!

If you missed the Super Steam, Clickteam sale over the beginning of June, fear not!

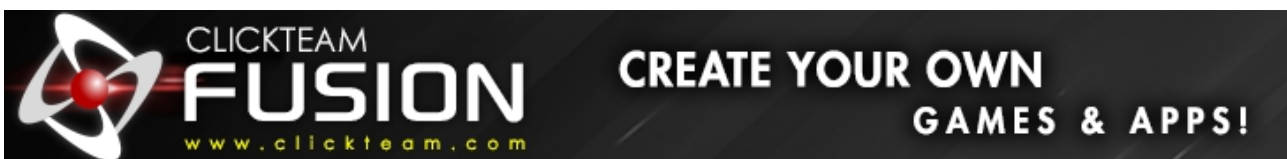


The official Clickteam Summer Sale will be held for the last remaining days of June! This means you get a juicy 33% off ALL exporters available from Clickteam and a massive 50% off if you decide to upgrade from Fusion 2.5 Standard to Fusion 2.5 Developer.

This sale will run online from June 22nd – June 30th.

The Clickteam sale discounts will apply across all worldwide stores to applicable countries. No point in waiting about... grab it now!

CLICK THE IMAGE BELOW TO GO TO THE ONLINE STORE!



May/June Headlines

Apple Go Wild!



Well, this is kind of unorthodox for Apple, I thought it was news-worthy!

It would appear Apple have taken an unorthodox route of now making testing absolutely free for all iOS developers!

This is certainly an interesting move from Apple. Apple seem to be a very strict company with an insane amount of guidelines and regulations to adhere to, especially in terms of development.

But is having very strict guidelines ultimately, a bad thing? Well, considering the open-shut-market of XBLIG, in the bigger picture I think not. In the grand scheme of things, we've seen markets open-up, with one of the first biggest ones I remember being XBLIG. This gave your average Joe a chance to develop games for the Xbox 360 and actually have its own place on the console with the XBLIG marketplace being accessible straight from the console-owners dashboard, hence making your game available for millions of eyes around the world.

Microsoft took a different approach with their submission guidelines and whatnot. Don't get me wrong, they had a sheet of regulations and guidelines but it was quite a rough draft in comparison to Apple's. Microsoft let the community itself moderate the submissions. This did work well, however, it also meant after a while, the flood gates opened with a thriving community and eventually some games slipped through the net that really should not have been published. In this respect, even though Apple's guidelines may seem silly and long-winded from the off, their guidelines DO keep end-users safe, their devices safe and content is quite rich throughout the entire marketplace. So, a huge +1 to Apple in this respect but it does make development feel like a battle (even though it's already a battle). Developers had to pay \$99 for their license fee each year and this allowed them to test their apps and then deploy. Now however, you can develop and test apps just with your AppleID and then apply for your license once you're ready to deploy.

Pretty cool move Apple!

May/June Headlines

Rock.Rock Rocket – In Review



I remember a time when every so often we used to discuss a new-style, innovative and creative game that was developed with Fusion 2.5. A lot of games have always been developed but the rarity of the genre was always few and far between, until the last couple of years. I have said this a few times already!

The method used in Rock.Rock Rocket is something that is VERY unique to Fusion 2.5 and again, it just goes to show what a bit of math, patience and trial-error can produce. The video looks fantastic! It shows off quite a bit of the game. The developer 'Ryan Stevens' also on Kickstarter with not long remaining (from the time of writing). Rock.Rock Rocket is a first-person style shoot 'em up developed purely in Clickteam Fusion 2.5. This really is amazing to watch.

You can check it out today on Kickstarter here:

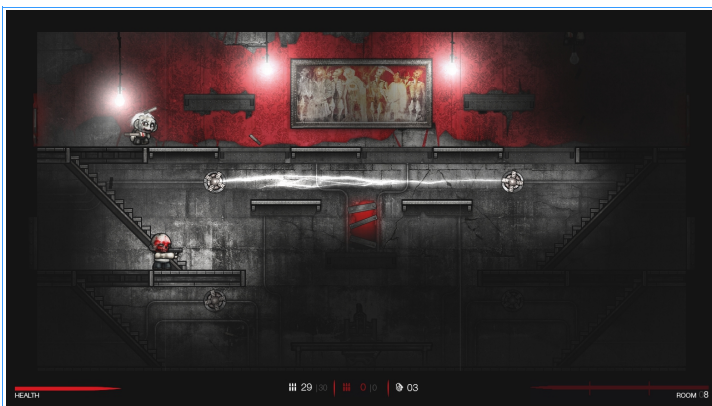
<https://www.kickstarter.com/projects/ryanestevens/rock-rock-rocket>

May/June Headlines

Room13 – In Review



I remember a time when every so often we used to discuss a new-style, innovative and creative games made with Fusion 2.5 but TonyD takes it another step further with Room13!



You have no face.....they have no chance. Travel room by room emptying your clip into hordes of the undead as you unlock the secrets of the labyrinth you find yourself trapped in. Customize your weapons, search for supplies, battle bosses, and find out what the hell happened.

An epic looking platformer that contains lots of gruesome attitude and as you can imagine, lots of gore and blood! You can customise the weapons and take part in some epic boss battles! Available for PC, Android, OUYA and iOS you can check out the official website here

<http://thepaperrobot.com/> - Vimeo Trailer: <http://www.vimeo.com/121044040>

May/June Headlines

Not a Hero – In Review



Blast open doors, blast open hearts, blast open minds – in the newly released 'Not a Hero'! An action-packed 2½D game using what the developer calls 'IsoSlant™' Technology.



(Click for Trailer)

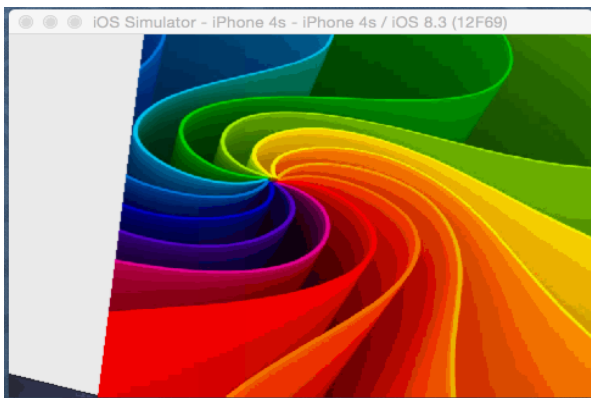
You can check out the official website for Not a Hero here:
<http://www.notahe.ro/> and you can purchase Not a Hero for Steam here:
<http://store.steampowered.com/app/274270> – Be there or be square!

Clickteam Fusion 2.5 News

What's going on in Fusion 2.5...

I know I already mentioned it above but now really is a fantastic time to scoop up any additional exporters you were looking into buying! With a nice 33% off all standalone exporters and a juicy 50% off the Standard-to-Dev upgrade, June is a good reason to put a smile on your face and expand your platform development with Fusion 2.5.

I had the pleasure of seeing some of Anders` handy work this month too. Anders whipped together a quick effect for iOS as he needed a 'page curl' effect, kind of like a transition (if you will).

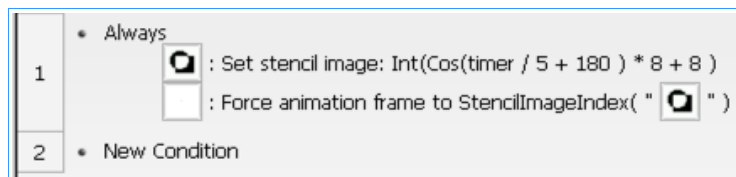


"It allows you to make all sorts of transition effects that were otherwise impossible to do.

It works by having one StencilMask object at the bottom of what you want to mask (draw-order wise). Whatever is then drawn after that will be masked using the current stencil image. The stencilmask is stopped by

inserting another StencilMask object in the draw order with the property set to 'Stop masking'." is how Anders explains it.

This extension doesn't even require any events to work, however you can control the mask image with an action...



This is not however anything official but again, it goes to show what Fusion 2.5 can actually do. You can download the official SDKs from Clickteam's website here: <http://www.clickteam.com/extensions-sdks>

New Releases

What's New?

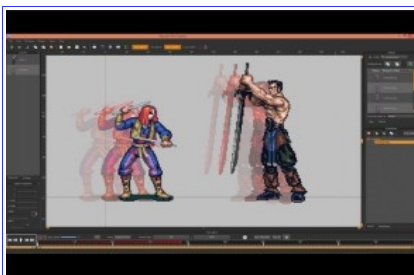
Let's take a look at some of the new releases in and around the community the last month or two.



Spriter

Platform(s): PC

Price: Paid



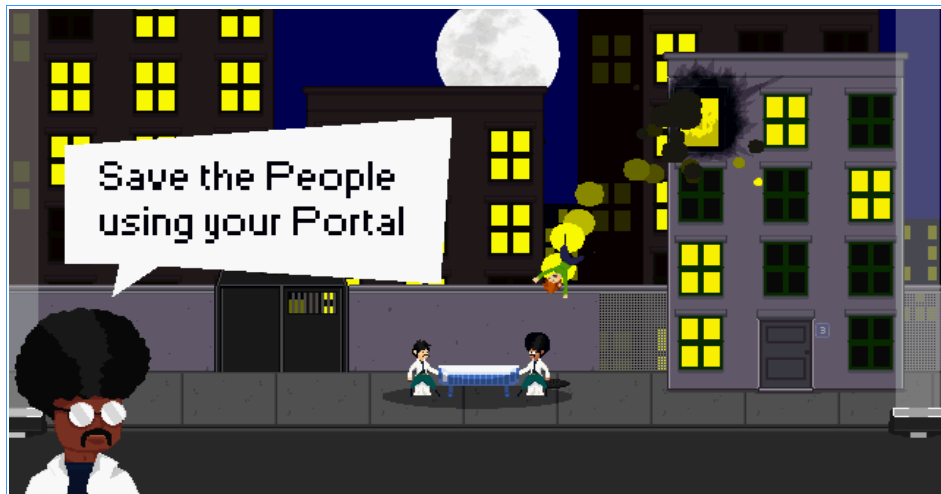
Spriter makes it easy for anyone, regardless of experience, to create 2D game animations using a technique called Modular Animation. Individual sprite pieces can be attached to bones and then easily animated with the powerful, yet easy to use toolset. When you purchase Spriter Pro you will receive a serial number which you can use within the free version to unlock all of the Pro features!

You can check more out on the website: <http://www.brashmonkey.com/>

Next issue, I will interview the developers to get lots more detail!

New Releases

What's New?



Portal Service

Released by: 2Brosoft

Platform(s): Android

Price: Free

Check out this cool, little Android game by coler123 on the forums.



Portal Service is a niche little 2D Retro Arcade/Casual game that takes place in 2024 where humans have developed a device that allows people to travel through portals! The aim of the game is to catch as many people as you can using the portal before they hit the floor! You can earn points and unlock new

skins for the game itself.

The controls are relatively simple and the logic is pretty easy to follow and this is well worth the free download on the Google Play Store:

<https://play.google.com/store/apps/details?id=com.twobrosoft.portalservice>

New Releases

What's New?



Mack Loves Colors

Released by: Bubbles

Platform(s): iOS

Price: Paid (\$1.99)



Meet Mack and friends in their very first fun-filled, educational app! Complete with three unique activities, esigned to teach kids all about colors!

This interactive storybook designed to teach kids about colours, using primary and

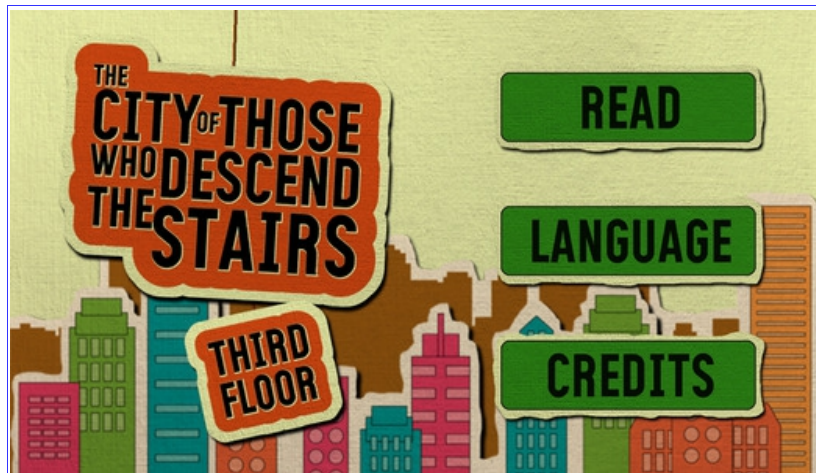
secondary colours on a journey that takes them from a Fire Station to outer space!

[https://itunes.apple.com/us/app/mack-loves-colors/id998182775?](https://itunes.apple.com/us/app/mack-loves-colors/id998182775?ls=1&mt=8)

[ls=1&mt=8](https://itunes.apple.com/us/app/mack-loves-colors/id998182775?ls=1&mt=8)

New Releases

What's New?



Third Floor

Released by: Chokito

Platform(s): iOS

Price: Free/Paid (\$4.99)

Another cool looking game developed by Chokito on the forums is 'Third Floor'. This iOS game priced at a cool \$4.99. The story is about a guy called 'Igor' who is trapped in a mysterious city whilst exploring the the famour 'Tower-In-The-Middle-Of-The-Street'. It's a 10-Chapter text book filled with lots of illustrations, several styles of game mechanics and goals to achieve.

Check out the video here: <https://www.youtube.com/watch?v=bzXQOvxMyKE>

Free Version here: <https://itunes.apple.com/app/third-floor-lite/id985463144>

Paid Version here: <https://itunes.apple.com/app/third-floor/id933511550>

New Releases

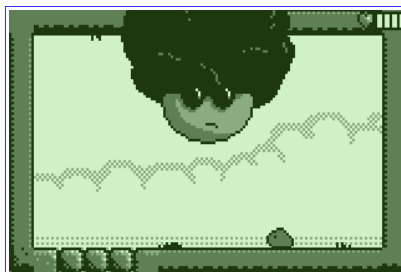
What's New?



Nim from the forums brings us his all new adventure in 'A Mini Falafel Adventure'.

It's a gameboy-style, metroidvania game. His aim was to create an intense metroidvania-style game. There is lots to explore and lots of 'Power-ups' etc. but the speed-running flaw may feel closer to a "boss rush" as Nim puts it himself.

Nim has some real good artistic skills and they show in this game.



Check it out today on the forum:

<http://community.clickteam.com/threads/92771-A-Mini-Falafel-Adventure?p=666888> - Links to follow on this thread!

New Releases

What's New?



The Nodus

Released by: Simflare

Platform(s): Android

Price: Free

Look at this little beaut of a game, coming out of no-where! This is Nodus, the game. It's a sweet looking pixel-drawn version of Sokoban and it comes in its own unique style with some sweet looking visuals.



Check out the website here: <http://nodusgame.com/> complete with an online demo and the Google Play Store Link is:

<https://play.google.com/store/apps/details?id=com.spgames.thenodusrelease>

New Releases

What's New?



Fort Meow

Released by: RhysD

Platform(s): PC/Steam/iOS

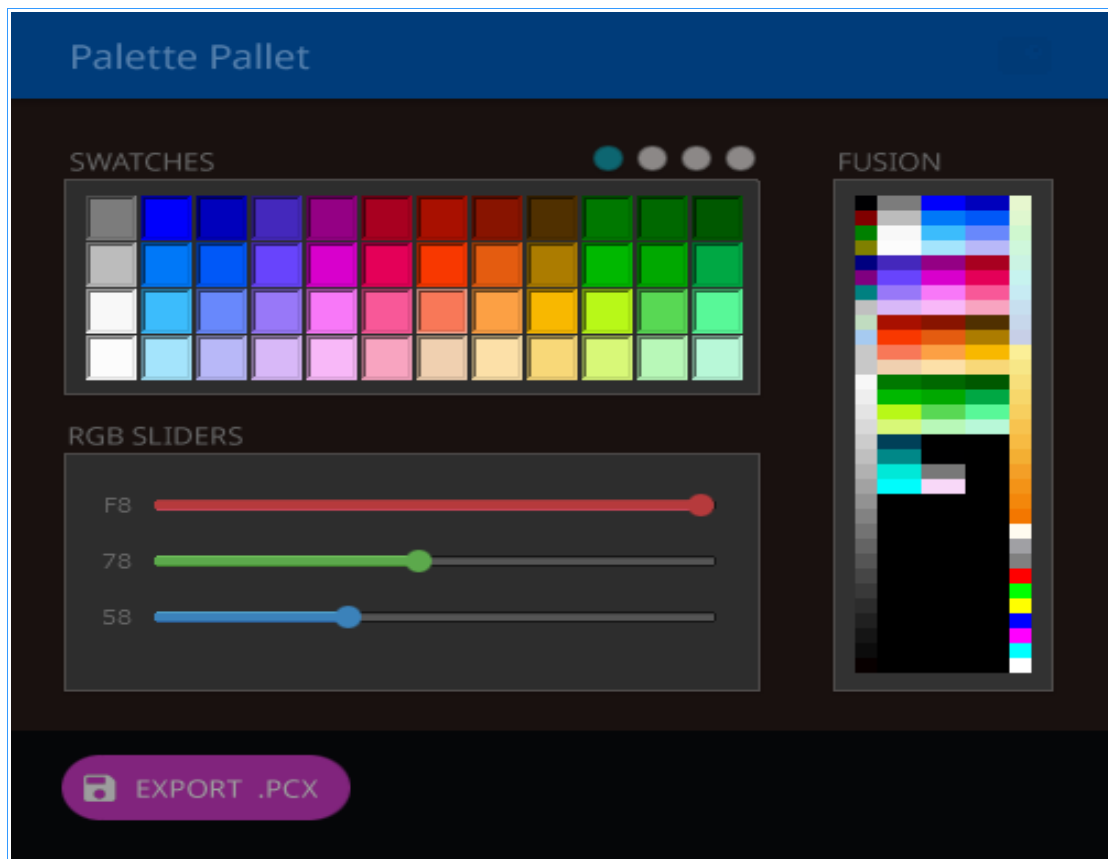
Price: Paid (\$3.99/Other)

RhysD let the cat out of the bag this month as Fort Meow is now available for the PC/Steam aswell as iOS. This cool and funky game from RhysD on the forum is a stunning looking game with a cool concept behind it.



New Releases

What's New?



Palette Pallet

Released by: Nim

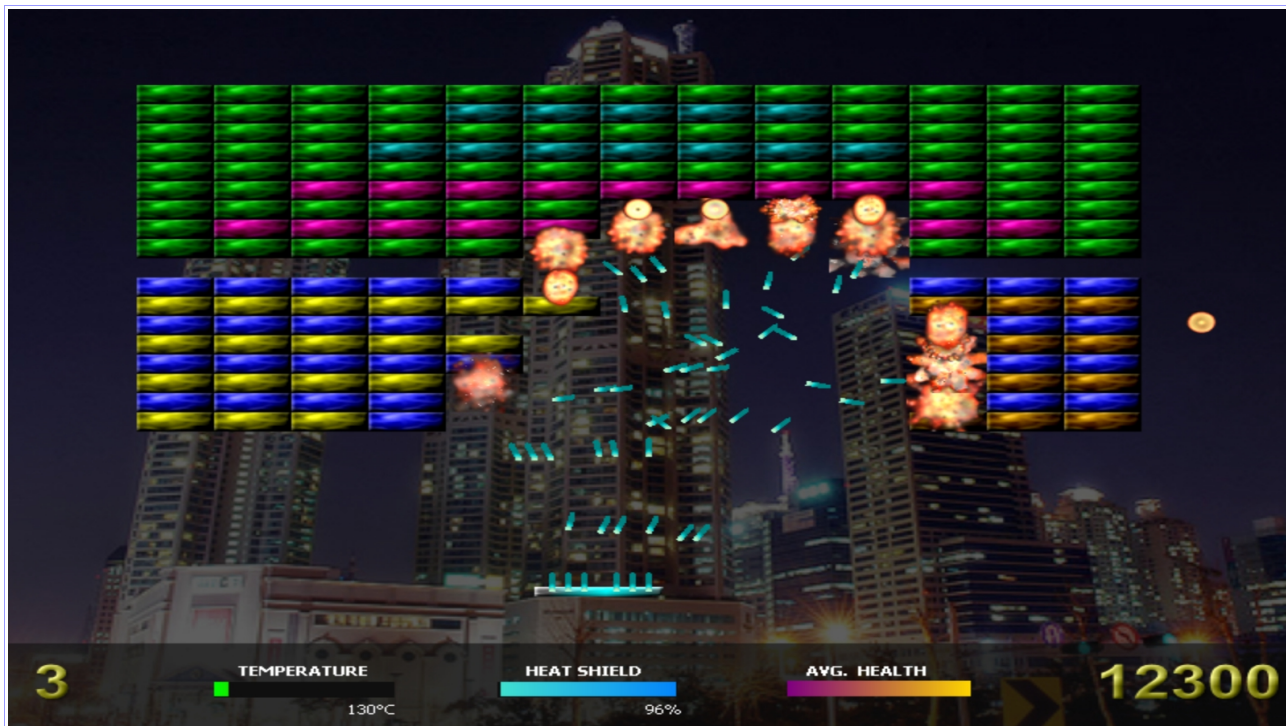
Platform(s): PC

Price: Free

Ever thought about importing a custom palette into MMF2/CF 2.5? Well now you can achieve this much faster with Palette Pallet from Nim on the forums. It's completely free to use and little utilities like this just help to fill in those bridges in development that can consume more and more time up. Thanks Nim!

Download: <http://beadybox.com/palettepallet/>

Upcoming Works-in-Progress...



Breakage

Developed by: Jobromedia

Platform(s): PC (Windows)

Johan gave me a sneak peek into his latest development the other week and I'm determined to give this gent a review. It looks like a classic sweep of Breakout but from what I can gather from the screenshot(s) he sent me, it looks like it has a few unique twists and turns to it.

You can check out his official thread here:

<http://community.clickteam.com/threads/92612-WIP-Breakage-Constructive-critics-needed> on the forums and I will liaise with Johan in the upcoming weeks to feature this more heavily in the next edition of Fused as I find Johan has a very interesting and inspirational story behind his developments with Fusion 2.5!

Upcoming Works-in-Progress...



SEEP Universe, currently on Steam Greenlight and boasting some epic looking visuals inspired by the retro 8/16 bit decades! It contains some unique and original soundtracks with some funny 8-bit sound effects. It contains a host of retro goodness including Power-Ups, Boss Battles, lots of enemies and various game mechanics including Platform, Action, Puzzle, Driving and much more!



It looks like it could be a hit and we wanted to be the first to cover this. It's well worth checking out and following/supporting.

You can find it on Steam here:

<http://steamcommunity.com/sharedfiles/filedetails/?id=423573440>

Upcoming Works-in-Progress...



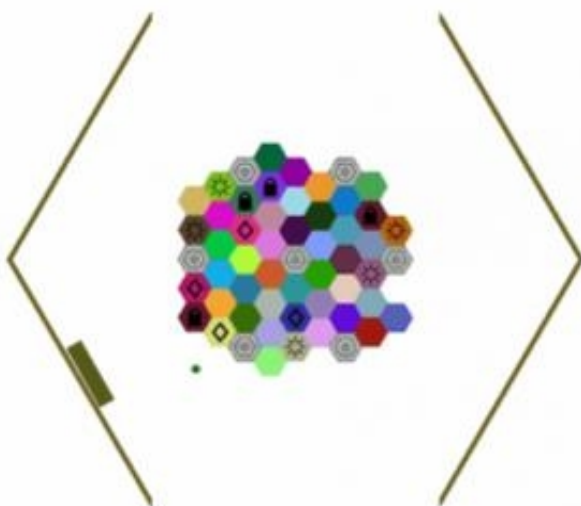
Jhale brings us another development he's been working on and it's called ChelZ!

“You play as Chel-Z to escape the robotronics lab building, but beware of the high end security in place trying to dismantle anything in it’s path. Look around the building to find parts from inventions on the way out to help you through the havoc. This is a side scrolling metroidvania styled platformer that will keep you entertained for hours!” as cited by JHale himself. Check it out...



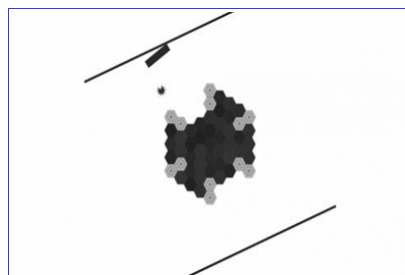
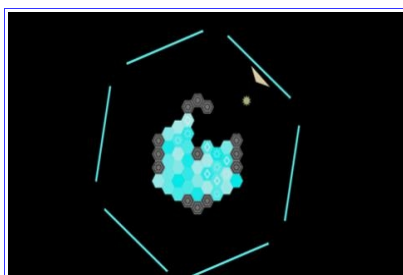
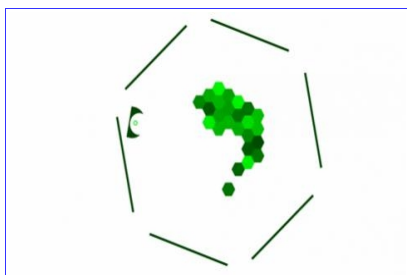
On the Forum: [http://community.clickteam.com/threads/92519-Chel-Z-\(Retro-metroidvania-styled-platformer\)-coming](http://community.clickteam.com/threads/92519-Chel-Z-(Retro-metroidvania-styled-platformer)-coming)

Upcoming Works-in-Progress...



dsilvers from the forum presents us this month with his latest development entitled 'Mondrian'.

He goes on to elaborate how it was initially meant to be a 'Breakout Clone' but he managed it too quickly and decided to ponder off in a whole new direction and my, is it a new direction alright. Mondrian now focuses on procedural generation for color, level layout and item selection. He estimates a potential 40,000,000 possible level combinations from his game! Impressive stuff!



He also needs some help from testers, so if you have a spare bit of time and want to try it out check out: <http://community.clickteam.com/threads/92497-WIP-Mondrian-A-360-degree-blockbreaking-look-at-videogame-art-history>

Upcoming Works-in-Progress...

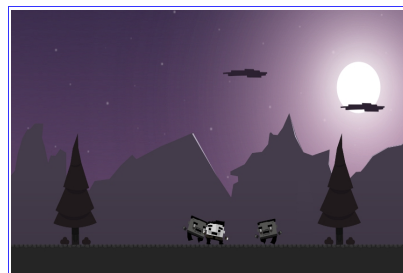
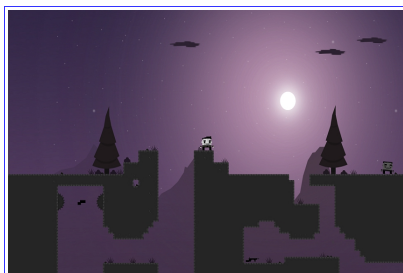
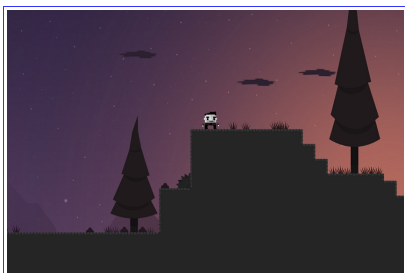


Another superb looking game that is currently in development by droxon is 'Get Out'.

It's a 2D Platformer with a love story which is love driven and contains plenty of action! Here is the YouTube Pre-Alpha footage:

https://www.youtube.com/watch?v=5D_zpis_ZsE&feature=youtu.be

He wants some feedback, so go ahead and try it out and leave some feedback. Could be a very cool game in the making! Looks it!



The thread can be found here: <http://community.clickteam.com/threads/91896-GetOut!-is-a-story-driven-action-platformer>

Monthly Guide

Develop Your First Extension

For the first time ever, featured in Fused (or even anywhere else I can think of) we have an introductory extension tutorial available for ANYONE to read through. Whether you're an experienced programmer or just know a "few bits" or nothing at all, fear not, **ColdFire** has written a superb and easy to follow tutorial here which you can follow. This bridges a gap that was needed for a long time. This will be a continuation tutorial and will only contain simple formatting. If you have any questions regarding extension development, head over to the Extension Development Lobby on the Clickteam forums!

IMPORTANT: Before you start, **I MUST STRESS HERE**, this tutorial uses rSDK. This is an SDK that is no longer supported by Clickteam. You may use rSDK for the basis of this tutorial and creating your first extension in Fusion 2.5 but after the tutorial, **DISCARD rSDK** and use EDIF or obtain the latest SDK from here: <http://www.clickteam.com/extensions-sdks>

Getting started with extension development part 1

Requirements:

Rsdk,

Visual Studio 2008 or higher

MMF2 or CF.2.5

Basic knowledge about C++

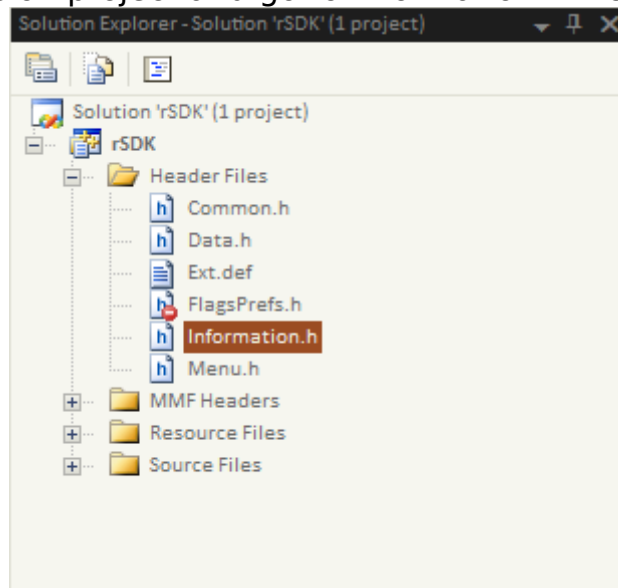
In this tutorial I am going to show you how easy is to setup your RSDK project and how to make simple extension in Visual Studio. Before we start you need to download RSDK from Clickteam community forum. Once you've downloaded the files unzip it. You need to copy and rename "Template" folder to "ListObject". Ok, now we can start to configure project.

Step 1: Set extension icon

If you want to change extension icon in RSDK just open "ListObject" folder and edit EXTICON.bmp and EXTIMG.bmp files.

Step 2: Basic extension information

The next step is to setup all information about extension like extension name, description, author, extension identifier. To do that we need to run visual studio and open our extension project and go to information.h file.



I set this file in this way:

```
// Basic object details
#define      ObjectName      "ListObject"
#define      ObjectAuthor    "Cootje"
#define      ObjectCopyright "Copyright © 2015 Cootje"
#define      ObjectComment   "Simple list tutorial"
#define      ObjectURL        "http://www.mypage.com"
#define      ObjectHelp      "Help\\tutorialarray.chm"

// If you register your object with Clickteam, change this to the ID you were given
#define ObjectRegID      REGID_PRIVATE

// Change N,O,N,E to 4 unique characters (MMF currently still uses this to keep track)
#define      IDENTIFIER    MAKEID(T,u,t,4)

// -----
// Version information
// -----

// PRODUCT_VERSION_TGF or PRODUCT_VERSION_DEVELOPER
#define ForVersion      PRODUCT_VERSION_STANDARD

// Set this to the latest MMF build out when you build the object
```

#define MinimumBuild 284

Step 3: Our extension main code

In this step we need to write our extension code and put it into our project to make this step simple I made list class. You can copy this code and put it into project or write your own array code.

Create file ListOfInt.hpp and put this code into it:

```
#ifndef LISTOFINT
#define LISTOFINT

#include <cstdlib>

class ListOfInt {

private:

    struct NODE {

        int value;
        NODE* next;

        NODE( int v ){

            value = v;
            next = NULL;

        }

    };

    NODE * head;
    NODE * current;
    NODE * tail;

    bool state;
    unsigned int size;
    bool error;
    char * errorMsg;

    // Copy constructor
    ListOfInt( const ListOfInt& );

public:
    int ** tab;
    ListOfInt();
    ~ListOfInt();

    /// ACTIONS

    // Add element at end of list
    void add(int value);
    // Delete element with number = id
```

```
void del(unsigned int id);
// Edit element with number = id
void edit( unsigned int id,int value );
// increment element with number = id
void inc( unsigned int id );
// decrement element with number = id
void dec( unsigned int id );
// Insert element before element with number = id
void insert( unsigned int id,int value );
// Clear list
void reset();
// Swap two element in list
void swap( unsigned int id,unsigned int id2 );
// Swap two element in list UNSAFE!
void swap2( unsigned int id,unsigned int id2 );
// Sort A
void SortA();
// Sort D
void SortD();
// Save List to file
void Save( const char * path );
// Load List from file
void Load( const char * path );
void Append( const char * path );
// Transfor List into Array
void transform();
// Free array
void utransform();
// QuickSort A
void quicksortA(int * t[], int left, int right);
// QuickSort D
void quicksortD(int * t[], int left, int right);

/// CONDITIONS

bool isEmpty();
bool onError();

/// EXPRESSIONS

// Return number of List elements
unsigned int GetSize();
char * GetError();
// Return value from element with number = id
int GetValue( unsigned int id );
// Return value from element with number = id and delete it
int GetValueD( unsigned int id );
int GetValueFromTail();
```

```
};
```

```
#endif
```

Create file ListOfInt.cpp and put this code into it:

```
#include "ListOfInt.hpp"  
#include <iostream>  
#include <fstream>  
#include <cstdlib>
```

```
ListOfInt::ListOfInt(){
```

```
    head = NULL;  
    current = NULL;  
    tail = NULL;  
    size = 0;  
    errorMsg = NULL;  
    error = 0;  
    tab = NULL;  
    state = 0;
```

```
}
```

```
ListOfInt::~~ListOfInt(){
```

```
    size = 0;  
    if ( errorMsg != NULL )  
        delete [] errorMsg;  
  
    if ( tab != NULL ){  
        delete [] tab;  
    }  
  
    while( head != NULL ){  
        current = head->next;  
        delete head;  
        head = current;  
    }
```

```
}
```

```
/// ACTIONS
```

```
//////////////////////////////////////////
// Add element at end of list
//////////////////////////////////////////
void ListOfInt::add( int value ){

current = new NODE( value );

    if (head == NULL){

        head = current;
        tail = head;

    }
    else{

        tail->next = current;
        tail = current;
    }

    size++;

}

//////////////////////////////////////////
// Delete element with number = id
//////////////////////////////////////////
void ListOfInt::del( unsigned int id ){

    if( id < size ){

        NODE * prev = NULL;
        current = head;

        for ( unsigned int i = 0; i < id ; i++ ){

            prev = current;
            current = current->next;

        }

        if( prev != NULL )           // If not first

            prev->next = current->next ;

        else                       // If first

            head = current->next;

        delete current;
        size--;

    }

}
```



```
}  
else {  
if ( errorMsg != NULL )  
    delete [] errorMsg;  
errorMsg = new char[39];  
errorMsg = "Item witch you try delete don't exist!";  
error = 1;  
}  
  
}
```

```
/////////////////////////////////////  
// Edit element with number = id  
/////////////////////////////////////  
void ListOfInt::edit( unsigned int id, int value ){
```

```
    if( id < size ){  
  
        current = head;  
  
        for ( unsigned int i = 0; i < id; i++ ){  
  
            current = current->next;  
  
        }  
  
        current->value = value;
```

```
    }  
    else{  
    if ( errorMsg != NULL )  
        delete [] errorMsg;  
  
    errorMsg = new char[37];  
    errorMsg = "Item witch you try edit don't exist!";  
    error = 1;  
    }  
  
}
```

```
/////////////////////////////////////  
// Inc element with number = id  
/////////////////////////////////////  
void ListOfInt::inc( unsigned int id ){
```

```
    if( id < size ){  
  
        current = head;  
  
        for ( unsigned int i = 0; i < id; i++ ){  
  
            current = current->next;
```

```
    }

    current->value++;

}
else{
if ( errorMsg != NULL )
    delete [] errorMsg;

errorMsg = new char[37];
errorMsg = "Item witch you try inc don't exist! ";
error = 1;
}

}

////////////////////////////////////
// Inc element with number = id
////////////////////////////////////
void ListOfInt::dec( unsigned int id ){

    if( id < size ){

        current = head;

        for ( unsigned int i = 0; i < id; i++ ){

            current = current->next;

        }

        current->value--;

    }
    else{
if ( errorMsg != NULL )
    delete [] errorMsg;

errorMsg = new char[37];
errorMsg = "Item witch you try dec don't exist! ";
error = 1;
}

}

////////////////////////////////////
// Insert element before element with number = id
////////////////////////////////////
void ListOfInt::insert( unsigned int id, int value ){
```

```
NODE * pom = new NODE( value );
unsigned int Eid = id -1;

if( id < size ){

    if ( id == 0 ) {

        current = head;
        head = pom;
        head->next = current;

    }
    else{
        current = head;

        for ( unsigned int i = 0; i < Eid ; i++ ){

            current = current->next;

        }

        pom->next = current->next;
        current->next = pom;

    }

}

else{

    if( head == NULL ){

        head = pom;
        tail = pom;

    }
    else{

        tail->next = pom;
        tail = pom;

    }

}

size++;

}
```

```
////////////////////////////////////  
// Clear list  
////////////////////////////////////  
void ListOfInt::reset(){  
  
    size = 0;  
  
    while( head != NULL ){  
  
        current = head->next;  
        delete head;  
        head = current;  
  
    }  
  
}
```

```
////////////////////////////////////  
// Swap two element in list  
////////////////////////////////////  
void ListOfInt::swap(unsigned int id,unsigned int id2){  
  
    if( id < size && id2 < size){  
  
        int temp;  
        unsigned int loop;  
        NODE * pom;  
        current = head;  
  
        if ( id > id2 ){  
  
            loop = id - id2;  
  
            for ( unsigned int i = 0; i < id2; i++ ){  
  
                current = current->next;  
  
            }  
  
            temp = current->value;  
            pom = current;  
  
            for ( unsigned int i = 0; i < loop; i++ ){  
  
                current = current->next;  
  
            }  
  
            pom->value = current->value;  
            current->value = temp;  
  
        }  
  
    }
```

```
else{

    loop = id2 - id;

    for ( unsigned int i = 0; i < id; i++ ){

        current = current->next;

    }

    temp = current->value;
    pom = current;

    for ( unsigned int i = 0; i < loop; i++ ){

        current = current->next;

    }

    pom->value = current->value;
    current->value = temp;

}

}
else{

if ( errorMsg != NULL )
    delete [] errorMsg;

errorMsg = new char[37];
errorMsg = "Item witch you try swap don't exist!";
error = 1;
}

}

////////////////////////////////////
// Swap two element in list UNSAFE!
////////////////////////////////////
void ListOfInt::swap2(unsigned int id,unsigned int id2){

    int temp;
    unsigned int loop;
    NODE * pom;
    current = head;

    if ( id > id2 ){

        loop = id - id2;
```



```
for ( unsigned int i = 0; i < id2; i++ ){  
    current = current->next;  
}  
  
temp = current->value;  
pom = current;  
  
for ( unsigned int i = 0; i < loop; i++ ){  
    current = current->next;  
}  
  
pom->value = current->value;  
current->value = temp;  
  
}  
else{  
    loop = id2 - id;  
  
for ( unsigned int i = 0; i < id; i++ ){  
    current = current->next;  
}  
  
temp = current->value;  
pom = current;  
  
for ( unsigned int i = 0; i < loop; i++ ){  
    current = current->next;  
}  
  
pom->value = current->value;  
current->value = temp;  
}  
  
}  
  
////////////////////////////////////  
// Sort A  
////////////////////////////////////  
void ListOfInt::SortA()  
{
```

```
for ( unsigned int i = 0; i < size; i++ ){

    for ( unsigned int j = 0; j < size - 1; j++){

        if( GetValue(j) > GetValue(j+1) )
            swap2(j,j+1);

    }

}

}

////////////////////////////////////
// Sort D
////////////////////////////////////
void ListOfInt::SortD()
{

    for ( unsigned int i = 0; i < size; i++ ){

        for ( unsigned int j = 0; j < size - 1; j++){

            if(GetValue(j)<GetValue(j+1))
                swap2(j,j+1);

        }

    }

}

////////////////////////////////////
// Save List to file
////////////////////////////////////
void ListOfInt::Save( const char * path ){

    if (size > 0){

        std::ofstream plik( path );
        if ( plik.good() ){

            current = head;

            for ( unsigned int i = 0; i < size-1; i++ ){

                plik << current->value << "\n";
                current = current->next;

            }

        }

    }

}
```

```
    }

    plik << current->value;
    plik.close();
}
else{

    if ( errorMsg != NULL )
        delete [] errorMsg;

    errorMsg = new char[26];

    errorMsg = "Extension can't save file";
    error = 1;

}
}

}

////////////////////////////////////
// Load List from file
////////////////////////////////////
void ListOfInt::Load( const char * path ){

    char buf[12];
    std::ifstream plik(path);

    if ( plik.good() ){

        size = 0;

        while( head != NULL ){

            current = head->next;
            delete head;
            head = current;

        }

        while( plik.getline(buf,12) )
        {

            current = new NODE( atoi(buf) );

            if (head == NULL){

                head = current;
                tail = head;

            }
            else{

                tail->next = current;

            }

        }

    }

}
```

```
        tail = current;
    }

    size++;

}
}
else{

    if ( errorMsg != NULL )
        delete [] errorMsg;

    errorMsg = new char[26];

    errorMsg = "Extension can't open file";
    error = 1;

}

}

////////////////////////////////////
// Append file to
////////////////////////////////////
void ListOfInt::Append( const char * path ){

    char buf[12];
    std::ifstream plik(path);
    if (plik.good()){

        while( plik.getline(buf,12) )
        {

            current = new NODE( atoi(buf) );

            if (head == NULL){

                head = current;
                tail = head;

            }
            else{

                tail->next = current;
                tail = current;

            }

            size++;

        }
    }
    else{
```

```
if ( errorMsg != NULL )
delete [] errorMsg;

errorMsg = new char[26];

errorMsg = "Extension can't open file";
error = 1;

}
```

```
}
```

```
////////////////////////////////////
// Transform list into array
////////////////////////////////////
```

```
void ListOfInt::transform(){

if ( size > 0 ){

    tab = new int*[size];
    state = 1;

    current = head;

    for ( unsigned int i = 0; i < size; i++ ){

        tab[i] = &current->value;
        current = current->next;

    }

}
```

```
}
```

```
////////////////////////////////////
//Untransform
////////////////////////////////////
```

```
void ListOfInt::utransform(){

if ( tab != NULL )
delete [] tab;

}
```

```
////////////////////////////////////
//QuickSortA
////////////////////////////////////
```

```
void ListOfInt::quicksortA(int* t[], int left, int right){
```

```
int i=left;
int j=right;
int x=*t[(left+right)/2];
do{
    while(*t[i]<x) i++;
    while(*t[j]>x) j--;
    if(i<=j){
        int temp=*t[i];
        *t[i]=*t[j];
        *t[j]=temp;
        i++;
        j--;
    }
}while(i<=j);
if(left<j) quicksortA(t,left,j);
if(right>i) quicksortA(t,i,right);
}
```

```
////////////////////////////////////
//QuickSortD
////////////////////////////////////
```

```
void ListOfInt::quicksortD(int* t[], int left, int right){
```

```
    int i=left;
    int j=right;
    int x=*t[(left+right)/2];
    do{
        while(*t[i]>x) i++;
        while(*t[j]<x) j--;
        if(i<=j){
            int temp=*t[i];
            *t[i]=*t[j];
            *t[j]=temp;
            i++;
            j--;
        }
    }while(i<=j);
    if(left<j) quicksortD(t,left,j);
    if(right>i) quicksortD(t,i,right);
}
```

```
/// CONDITIONS
```

```
////////////////////////////////////
// If List is empty
////////////////////////////////////
```

```
bool ListOfInt::isListEmpty(){

    if( size == 0 ) return true;
    return false;

}
```



```
////////////////////////////////////
// OnError
////////////////////////////////////
bool ListOfInt::onError(){

    if (error == 1){
        error = 0;
        return true;
    }

    return false;

}

/// EXPRESSIONS

////////////////////////////////////
// Return number of List elements
////////////////////////////////////
unsigned int ListOfInt::GetSize(){

    return size;

}

////////////////////////////////////
// Return last error
////////////////////////////////////
char * ListOfInt::GetError(){

    return errorMsg;

}

////////////////////////////////////
// Return value from element with number = id
////////////////////////////////////
int ListOfInt::GetValue(unsigned int id){

    if( id < size ){

        current = head;

        for (unsigned int i = 0; i < id; i++){

            current = current->next;

        }

        return current->value;

    }

}
```

```
}
else{
    if ( errorMsg != NULL )
        delete [] errorMsg;

    errorMsg = new char[37];

    errorMsg = "Item witch you try read don't exist!";
    error = 1;
    return 0;
}
}

////////////////////////////////////
// Delete element with number = id
////////////////////////////////////
int ListOfInt::GetValueD( unsigned int id ){
    int value = 0;
    if( id < size ){

        NODE * prev = NULL;
        current = head;

        for ( unsigned int i = 0; i < id ; i++ ){

            prev = current;
            current = current->next;

        }

        if( prev != NULL )           // If not first

            prev->next = current->next ;

        else                         // If first

            head = current->next;

        value = current->value;
        delete current;
        size--;

    }
    else {
        if ( errorMsg != NULL )
            delete [] errorMsg;
        errorMsg = new char[39];
        errorMsg = "Item witch you try delete don't exist!";
        error = 1;
    }
}
```

```

    return value;
}
////////////////////////////////////
// Get last value from list
////////////////////////////////////
int ListOfInt::GetValueFromTail(){

    if( tail != NULL ) return tail->value;

    if ( errorMsg != NULL )
        delete [] errorMsg;

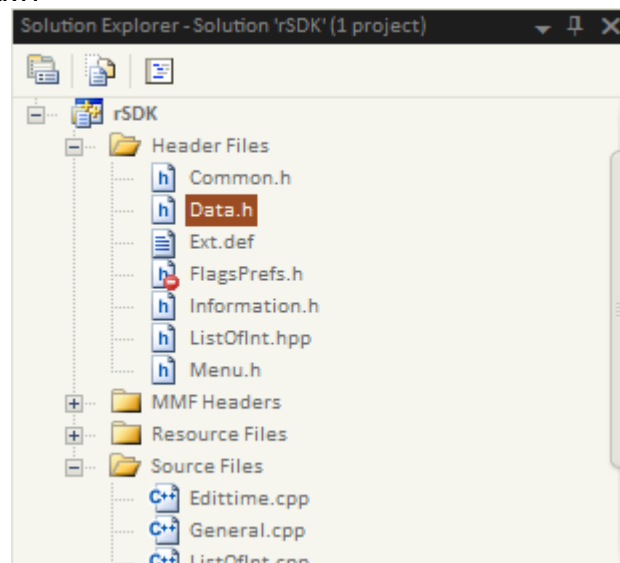
    errorMsg = new char[39];
    errorMsg = "Item witch you try delete don't exist!";
    error = 1;
    return 0;

}

```

Step 4: Add our list to extension

To add our list into extension we must add object of listOfInt class into editdata structure in file Data.h



```

typedef struct tagRDATA
{
    #include "MagicRDATA.h"
    ListOfInt * list; // Just add this

} RUNDATA;
typedef RUNDATA * LPRDATA;

```

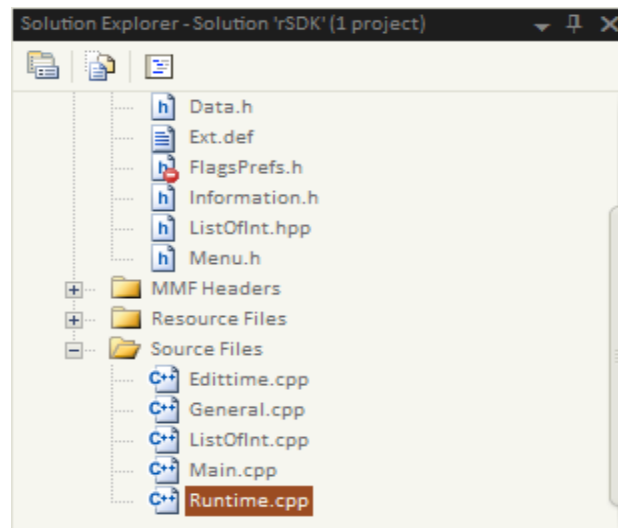
Step 5: Create the run-time routines

The next step is to make our extension live in run-time. Two routines are absolutely crucial to the development of an extension object:

- CreateRunObject
- DestroyRunObject

The CreateRunObject routine is called when the object is created. In this routine you have to initialize all data of our object. DestroyRunObject is called when the object is destroyed. This routine should free any memory that is allocated, windows that are opened, or resources that are loaded during the life of the object.

We need to open Runtime.cpp and edit CreateRunObject and DestroyRunObject

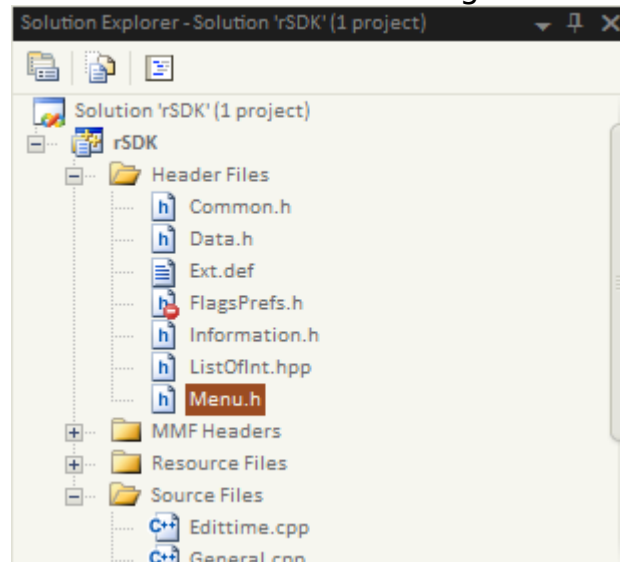


```
short WINAPI DllExport CreateRunObject(LPRDATA rdPtr, LPEDATA edPtr, fpcob cobPtr)
{
    // Do some rSDK stuff
    #include "rCreateRunObject.h"
    rdPtr->list = new ListOfInt();
    return 0;
}

short WINAPI DllExport DestroyRunObject(LPRDATA rdPtr, long fast)
{
    if( rdPtr->list !=NULL ){
        delete rdPtr->list;
        rdPtr->list = NULL;
    }
    delete rdPtr->rRd;
    return 0;
}
```

Step 6: Extension menu

We have our extension code but we need to create menu that will allow use our extension in MMF2/CF 2.5 . To do this we need to go into menu.h file and set it.



To add separator we just use MACRO „SEPARATOR” to add action, condition and expression “ITEM(uniqueID, “name to shown in menu”)

Here is ready menu for our extension:

```
// -----
// Condition menu
// -----

#ifdef CONDITION_MENU
    SEPARATOR
    ITEM(0, "isListEmpty")
    SEPARATOR
    ITEM(1, "onError")

#endif

// -----
// Action menu
// -----

#ifdef ACTION_MENU

    SEPARATOR
    ITEM(0,"Add to list")
    ITEM(3,"Insert item")
    ITEM(2,"Change item")
```

```
SEPARATOR
ITEM(11,"Increment item")
ITEM(12,"Decrement item")
SEPARATOR
ITEM(7,"Swap two items")
SEPARATOR
ITEM(1,"Delete from list")
ITEM(4,"Reset")
SEPARATOR
SUB_START("Sort")
        ITEM(5,"ASC")
        ITEM(6,"DESC")
SUB_END
SEPARATOR
ITEM(8,"Append File to List")
ITEM(9,"Save List to File")
ITEM(10,"Load List from File")
SEPARATOR
```

#endif

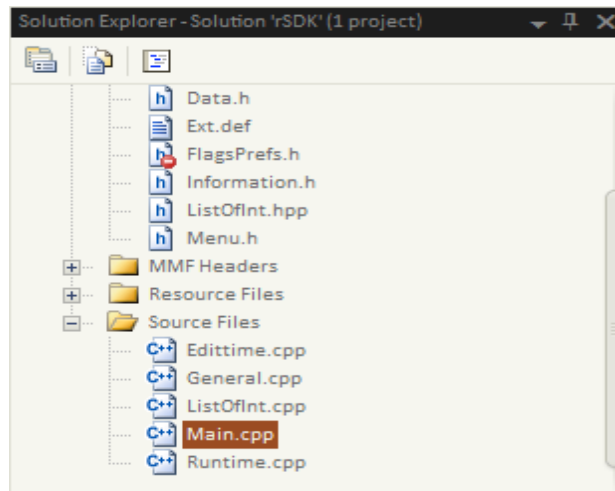
```
// -----
// Expression menu
// -----
```

```
#ifdef EXPRESSION_MENU
SEPARATOR
ITEM(0,"Get Size of list")
ITEM(1,"Get last error")
SEPARATOR
ITEM(2,"Get value from list")
ITEM(3,"Get value from list and delete it")
ITEM(4,"Get last value from list")
SEPARATOR
```

#endif

Step 7: Actions, conditions and expressions

Now we must create our code for actions, conditions and expressions in file Main.cpp.



Each Condition, Action and Expression must have unique ID the same id that you set in extension menu!

```
#include "common.h"
```

```
//
=====
//
// CONDITIONS
//
//
=====
//EVFLAGS_NOTABLE allow to negate condition
//EVFLAGS_ALWAYS - condition is checked every loop

CONDITION(
    /* ID */                0,
    /* Name */              "%o: isEmpty",
    /* Flags */             EVFLAGS_ALWAYS|EVFLAGS_NOTABLE,
    /* Params */            (0)
) {
    return rdPtr->list->isEmpty();
}

CONDITION(
    /* ID */                1,
    /* Name */              "%o : On Error",
    /* Flags */             EVFLAGS_ALWAYS|EVFLAGS_NOTABLE,
    /* Params */            (0)
) {
    return rdPtr->list->onError() == true;
}

//
```

```
=====
//
// ACTIONS
//
//
=====
```

```
ACTION(
    /* ID */          0,
    /* Name */        "Add %0 to list",
    /* Flags */        0,
    /* Params */       (1,PARAM_NUMBER,"Value")
) {
    rdPtr->list->add(Param(TYPE_INT));
}
```

```
ACTION(
    /* ID */          1,
    /* Name */        "Delete item %0 from list",
    /* Flags */        0,
    /* Params */       (1,PARAM_NUMBER,"Index")
) {
    rdPtr->list->del(Param(TYPE_INT));
}
```

```
ACTION(
    /* ID */          2,
    /* Name */        "Change item %1 to %0",
    /* Flags */        0,
    /* Params */       (2,PARAM_NUMBER,"Value",PARAM_NUMBER,"Index")
) {
    rdPtr->list->edit(Param(TYPE_INT),Param(TYPE_INT));
}
```

```
ACTION(
    /* ID */          3,
    /* Name */        "Insert value %0 at %1",
    /* Flags */        0,
    /* Params */       (2,PARAM_NUMBER,"Value",PARAM_NUMBER,"Index")
) {
    rdPtr->list->insert(Param(TYPE_INT),Param(TYPE_INT));
}
```

```
ACTION(
    /* ID */          4,
    /* Name */        "Reset",
    /* Flags */        0,
    /* Params */       (0)
) {
    rdPtr->list->reset();
}
```

```
ACTION(
    /* ID */          5,
    /* Name */        "Sort Asc",
    /* Flags */        0,
    /* Params */      (0)
) {
    if(rdPtr->list->GetSize()>0){
        rdPtr->list->transform();
        rdPtr->list->quicksortA(rdPtr->list->tab,0,rdPtr->list->GetSize()-1);
        rdPtr->list->utransform();
    }
}

ACTION(
    /* ID */          6,
    /* Name */        "Sort Desc",
    /* Flags */        0,
    /* Params */      (0)
) {
    if(rdPtr->list->GetSize()>0){
        rdPtr->list->transform();
        rdPtr->list->quicksortD(rdPtr->list->tab,0,rdPtr->list->GetSize()-1);
        rdPtr->list->utransform();
    }
}

ACTION(
    /* ID */          7,
    /* Name */        "Swap %0 with %1",
    /* Flags */        0,
    /* Params */      (2,PARAM_NUMBER,"Index",PARAM_NUMBER,"Index")
) {
    rdPtr->list->swap(Param(TYPE_INT),Param(TYPE_INT));
}

ACTION(
    /* ID */          8,
    /* Name */        "Append %0 to List",
    /* Flags */        0,
    /* Params */      (1,PARAM_STRING,"Path to file")
) {
    rdPtr->list->Append((char *)Param(TYPE_STRING));
}

ACTION(
    /* ID */          9,
    /* Name */        "Save List to %0",
    /* Flags */        0,
    /* Params */      (1,PARAM_STRING,"Path to file")
) {
    rdPtr->list->Save((char *)Param(TYPE_STRING));
}
```

```
ACTION(
    /* ID */          10,
    /* Name */        "Load List from %0",
    /* Flags */        0,
    /* Params */       (1,PARAM_STRING,"Path to file")
) {
    rdPtr->list->Load((char *)Param(TYPE_STRING));
}
```

```
ACTION(
    /* ID */          11,
    /* Name */        "Increment item %0",
    /* Flags */        0,
    /* Params */       (1,PARAM_NUMBER,"Index")
) {
    rdPtr->list->inc(Param(TYPE_INT));
}
```

```
ACTION(
    /* ID */          12,
    /* Name */        "Decrement item %0",
    /* Flags */        0,
    /* Params */       (1,PARAM_NUMBER,"Index")
) {
    rdPtr->list->dec(Param(TYPE_INT));
}
```

```
//
=====
//
// EXPRESSIONS
//
//
=====
```

```
EXPRESSION(
    /* ID */          0,
    /* Name */        "GetSize(",
    /* Flags */        0,
    /* Params */       (0)
) {
    return rdPtr->list->GetSize();
}
```

```
EXPRESSION(
    /* ID */          1,
    /* Name */        "GetError$(",
```

```

        /* Flags */          EXPFLAG_STRING,
        /* Params */        (0)
    ) {

        ReturnString(rdPtr->list->GetError());
    }

    EXPRESSION(
        /* ID */              2,
        /* Name */            "GetValue(",
        /* Flags */           0,
        /* Params */          (1,EXPPARAM_LONG,"Index")
    ) {

        return rdPtr->list->GetValue(ExParam(TYPE_INT));
    }

    EXPRESSION(
        /* ID */              3,
        /* Name */            "GetValueD(",
        /* Flags */           0,
        /* Params */          (1,EXPPARAM_LONG,"Index")
    ) {

        return rdPtr->list->GetValueD(ExParam(TYPE_INT));
    }

    EXPRESSION(
        /* ID */              4,
        /* Name */            "GetLast(",
        /* Flags */           0,
        /* Params */          (0)
    ) {

        return rdPtr->list->GetValueFromTail();
    }
}

```

Step 8: Building the object

Before we build our extension we need to prepare building options to do that press alt+f7 and go to Configuration prosperities > Linker > Genreal and set output file to Clickteam Fusion 2.5 or Multimedia Fusion2 path + \extensions\LOI.mfx for Configuration Active(release) and to Clickteam Fusion 2.5 or Multimedia Fusion2 path + \Data\Runtime\LOI.mfx for Configuration Run_Only. Now we can build extension and run it in CF2.5/MMF2!

What's Hot

In and Around the Community lately

LeadBolt – Need some feedback!

So, one of the guys at Leadbolt requires a bit of feedback from users. They're looking at average times it takes you to design and build a game and then go live with it on a market/store by the looks of it.

Check out the thread here:

<http://community.clickteam.com/threads/92437-app-developers-who-is-your-personal-inspiration>

I may just move this thread to somewhere else as it's not getting the recognition it deserves in this section of the forum. I can confirm this is an official Leadbolt representative.

Minecraft in Fusion?

Yes, it would appear that this is possible:

<https://www.youtube.com/watch?v=nQ5JKcTNze8>

I'm not 100% sure on the authenticity of this video or by whom it was created, however on the surface this does appear entirely possible in Fusion 2.5 with the OpenGL objects that are available. Unfortunately these objects are not supported by Clickteam but rather the 3rd party developers, however they do appear to work fine from what I've worked on in the past. The forum is littered with plenty of resources regarding these objects and what they can do! Pretty cool.

Did you know...?

You can build an installer for your game right from inside Fusion 2.5? Yes, there is a built-in installer that will compile your game to it's very own installer ready for you to give away to people! It's under **File > Build > Install Program**. This is a specialised version of ICP (Install Creator Pro) which you can purchase direct from Clickteam. The pro version contains lots of features for creating your very own custom installers. It's a market-leading product here: <http://www.clickteam.com/install-creator>

What's Hot

In and Around the Community lately

The ClickWiki!

In the last edition, I reviewed Clickwiki which I think is a VERY cool idea and some of the guys on the forum have already been populating it. I have been helping out too and will continue to do so. It's almost like a central focus point for a Click WIKI.

Check the new and improved version out here:

[http://community.clickteam.com/threads/91043-ClickWiki-Community-driven-encyclopaedia-\(Unofficial\)](http://community.clickteam.com/threads/91043-ClickWiki-Community-driven-encyclopaedia-(Unofficial)) Don't forget, you're more than welcome to signup and contribute towards the wiki!

Full Steam Ahead!

It would appear some people have some slight confusion between our Steam Version and Standalone Version of Fusion 2.5. Simon pretty much sums up the entire thing in one post. It's worth a read. We are not bias towards any market, whether it's Standalone or Steam. We welcome both communities and everyone is treat equally. However, when it comes to Sales, things are slightly different for valid reasons. I hope Simon's post puts a nice finish on to some valuable information anyone was seeking regarding this: <http://community.clickteam.com/threads/92729-Steam-Summer-Sale-vs-Clickteam-Summer-Sale-and-Other-Concerns>

A New Physics-Based Tutorial!

Remember Angry Birds? Don't we all. The popular physics-based game that blew up the physics-based genre and paved a way for this market. Well, all of these types of games are VERY easy to achieve in Fusion 2.5 with absolutely no programming. Olivier has taken the time to develop a brand spanking new tutorial on it and it will be shipped with the next update of the free version of Fusion 2.5. I will convert it over to a PDF for Standard and Developer users and post it on the forum.

Your Marketing Dos-and-Donts!

As developers, we're always looking for that edge to push our product out. Join in the discussion on the forum:

<http://community.clickteam.com/threads/92458-Your-Marketing-Dos-and-Don-ts>

What's Hot

In and Around the Community lately

Resources, Resources, Resources!!!

Some people have good artistic skills, some are skilled musicians, some are just really good at creating game engines and some have a combination of all. But still, a lot of people cannot draw good artwork, are lacking assets such as sound effects, music, game idea generators and much, much more. Aswell as the [ClickStore](#), I stumbled across a huge inventory online of mostly free stuff! It's well worth checking out:

<https://game-development.zeef.com/david.arcila>

What Else?!

In addition to the above resources, you maybe wondering just 'what else' your game or app needs for that extra bit of polish... Well, I stumbled across some more free stuff for you!

http://blog.tappx.com/en/2015/04/10/techniques-to-improve-your-app-promotion-for-free/#.VY1rH_IVhBc

#MadeWithFusion?

Lh37 - One of the key members of the new ClickWiki is looking for users who have developed and released games with Clickteam products. From TGF, CNC, TGF, MMF/MMFE/MMF2 and Fusion 2.5 (Of course other products too).

If you do possess a game that you have developed with a Clickteam product whether it was free or commercial, submit some simple details over to him. His aim is to build a "Super List" over the last 20+ years of development using Clickteam products.

The link to the thread on the forums is:

<http://community.clickteam.com/threads/92369-The-quot-Made-with-Fusion-quot-super-list-thread>

You will need a community user account to access it!

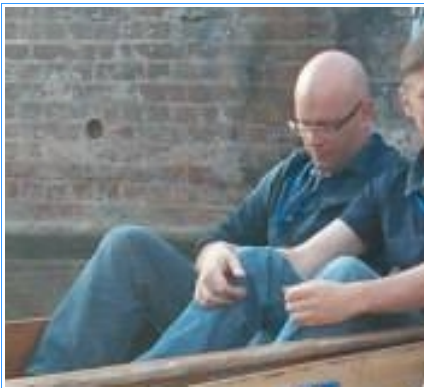
Final Word

Happy Developing!

Well, what an epic 'Bumper Edition' of Fused this was and what a strange last couple of months. I decided to write the bumper May/June edition as it enables me to re-sync the release dates of future editions of Fused (just in case you were wondering).

Lots of content the last couple of months and lots of users engaging in new, innovative methods using Fusion 2.5, also quite a lot of new users to the Fusion 2.5 scene. Things are going really well at the moment.

Clickteam-wise things are looking really good. We are managing and supporting more and more projects from within the community (more on this in the next edition). We are working hard and expanding resources as much as we possibly can. One thing I am working on which I can tell you about, is a new library for Clickteam. It will be an online, central repository which will contain all official documentation, tutorials, direct links to further resources and so much more. I will elaborate more on the library in the next edition of Fused, so that is something to look forward to.



Finally, I wanted to conclude with how I had to go through some of my older external HDD's to dig out some content for my article on app development above and as I was browsing, I came across some pictures from the last Click Convention (2013) in Cambridge, UK. Upon doing so, I managed to find one of Nico, in a state of what looks like 'sleeping'. This is a state we are used to seeing Nico in here at Clickteam so it's not a shock to any of us!

Once again to massively thank **ColdFire** for the contribution!

Until next time everyone, happy developing and remember, keep posting your stuff to the forums so I can pick it up for the next version of Fused!

Ciao for now!