

macDX



PC and Macintosh versions developed by Gunnar Games, Inc.



"We never could have finished the port of our latest game on time without the help of MacDX. The guys at Coderus were very receptive to our needs and were always quick to turn around special requests or functionality changes."

Jamie Nye, Gunnar Games, Inc.

The Situation

We were developing an in-film tie-in game licence for the upcoming Disney and Pixar film "Cars", which was going to be released in 6-7 months and was required for both the PC & Mac OS platforms for availability on a hybrid CD. Being a software house, which develops mainly PC film and television tie-in software titles, this was going to be challenging in terms of time, but also because we would be providing our first universal binary and Mac OS product.



The Challenge

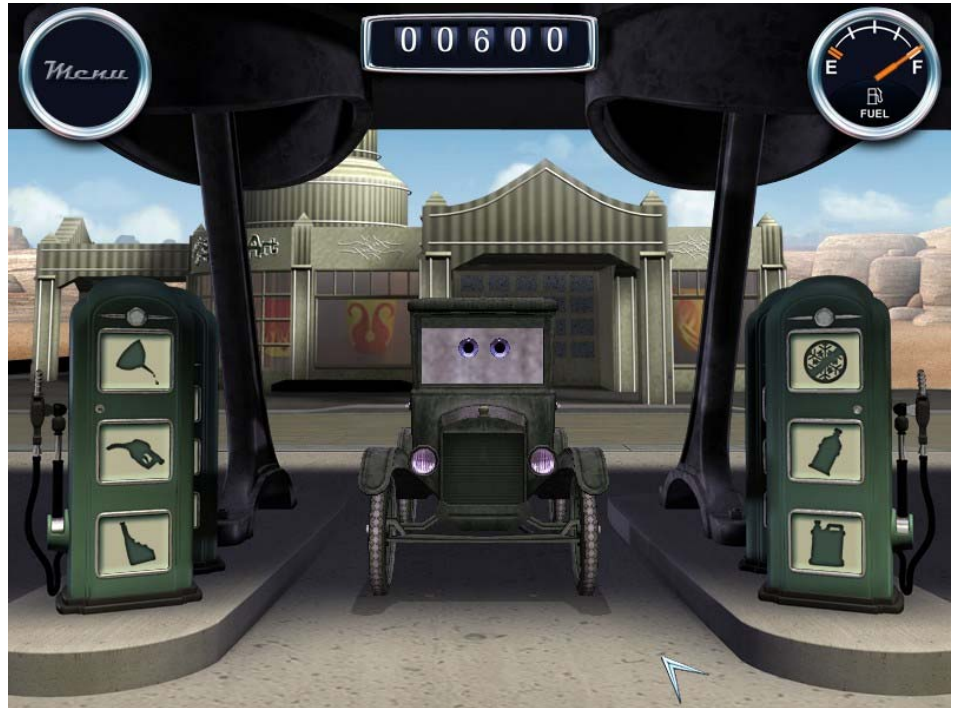
Not having much Mac OS development experience in house and the tough deadline of the film meant there wasn't enough time to become familiar with all the Mac OS equivalent technologies required for our present game engine. Furthermore, dealing with the new universal binary requirements in Mac OS products made us realise time was stacked against us.



Keeping portability of the game play and rendering engine source code was going to be paramount, as we were still developing and testing the playability of this title and, at the same time, receiving artwork & voice-overs constantly throughout the schedule. We wanted to make sure we didn't waste time on synchronisation and kept both the PC and Mac OS platforms in parallel, as there was no time to develop on both platforms sequentially, which is usual in porting.

The Solution

We choose to use MacDX from Coderus, as this allowed us to reuse the majority of our DirectX code, which covered rendering and sound engines. As part of the MacDX SDK there is an open source Win32 API compatibility library which provided a large percentage of the Windows API we were already using. The components which we weren't provided, we easily substituted with their Mac OS equivalents ourselves or with assistance from the Coderus support team.



The Results

With 5 months to go we started to use the MacDX SDK for the first time and got onto the learning curve of using Apple's XCode developer tools. As MacDX uses the same Windows and DirectX headers as on the PC, we were able to get the majority of game code compiled. We did have some issues when compiling with GCC, it being stricter than MSDEV, and there were some linking challenges, but the Coderus support team were able to assist with common issues and give direction on using the XCode environment as well as drawing on their Mac OS porting experience and techniques. Using the MacDX and Win32 libraries together we were able to reuse the majority of our code and share it between the two platforms. The portion of source code which was platform-specific was just the start up code and the user interface code.

We did find that MacDX was missing some of the D3DX functions which we were using on the PC, but once we reported their absence to the support team, the functions were provided in a timely manner and were consistent with Microsoft DirectX implementations. The updates were received quickly and caused little disruption to our schedule. About 4 weeks after starting developing with MacDX, we had first alphas of the game running on the PowerPC platform and were building the universal binary in 4 months. Our Mac OS version stayed pretty much in synch with its PC counterpart during the development of the PC title. As MacDX is optimised for both the PowerPC and INTEL platforms, we found that we didn't need any platform-specific optimisation work, as that was already taken care of.

The PC and Mac OS hybrid CD was translated and released on schedule in multiple language versions: English, French, Spanish, German & Japanese, using both Roman and Unicode character sets.

The Conclusions

We found the support team were very supportive and probably the biggest asset during our development schedule. Using MacDX libraries on the Mac OS platform is pretty much like using DirectX on the PC and made for good value when using both the libraries provided in the SDK and the support package from Coderus. For future products we would consider using MacDX again.



About Coderus Ltd.

Coderus Ltd. was founded in 1998 and is based in Ipswich, England. It provides unique solutions to common development problems with minimal loss of performance, as well as cross-platform porting and consultancy services. Further information on MacDX and services can be found on the company's web site: <http://www.coderus.com>.

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