

## The Cost of Code

- A review of the development cost realities for audio software -  
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Many people have really good ideas for products, and the audio world is no different, and there are as many ways to develop as there are ideas and developers, but a high percentage of the people who approach us, and the forums and associations we frequent, do so without a great deal of forethought or knowledge about the costs associated with development. This paper attempts to look at some numbers for some of the approaches to doing development. It makes no claim about how successful any product will or won't be, but looks at some back-of-the-envelope realities. I'm sure most people will be able to point at specific alternate circumstances and conditions that renders all I say here as moot. But this, in our experience, is the reality we work with.

First there is no typical product, but there are some common aims. In our world products are often aimed at one or other of the plug-in formats (VST, AU etc.), or as Kontakt instruments. These Kontakt instruments can themselves become plug-in based solutions, and more on the cost of doing that later.

If you read our previous white paper on the state of the Kontakt Marketplace you will know that these days for Kontakt instruments, and for a long time now for VST-type plug-ins the hard work was in the coding. We can talk about sample recording, graphic design, instrument design, marketing, social media viral sales etc. But our experience is that most people have a ball-park understanding of the costs of these things and have not unreasoned expectations of the price they will pay.

So let's look at code cost. Someone who writes code for a living, is precisely that – someone. They have all the same expenses the rest of us have, food, rent/mortgage, health insurance etc. Etc. So they are going to need to be paid. Here's two sobering numbers:

The UK 2016 national minimum wage is £12,600 per year

The average salary for a coder (JavaScript) in the UK is £38,000

Our coder would be paid MORE than the UK minimum wage if they worked at McDonalds, but still lets stick with these numbers, in fact lets stick with the minimum wage number as our reference point for developer costs, the JavaScript average will scare me and possibly you.

Let's also stick with building a Kontakt instrument in KSP, it's about 25% of the time you would need to spend building your own VST.

Our experience of building a meaningful unique Kontakt instrument is at least 3 months of solid work for an experienced developer. By "meaningful" here I mean one that has a chance of success in the marketplace (see the previous white paper for more on that), and by "experienced" I mean one with 5+ years of development in their background. But let's assume our coder is:

A. experienced

B. willing to work for these nearly nothing numbers.

So for the time spent we need to pay our developer 25% of their yearly income:  $£12,600/4 = £3,150$  (roughly \$4000), remember these are subsistence wages.

Sure a well connected KSP developer with a good solid library of KSP code could build this in less time, BUT they are NOT going to take subsistence wages, your costs are going to be about the same.

A VST? Yes the better part of a year, so @ £12,600. (Nearly \$16,000)

Our experience of quotes for a reasonable VST from a developer with a lot of experience and a large library of code to draw on is actually more like £8,000 ( @ \$10,000) so considerably cheaper.

Of course there is another route to VST/AU/AAX compatibility and that's to take our newly crafted Kontakt instrument and get it turned into something that runs in Native Instruments free Kontakt Player. To do that we will need to engage Native Instruments to make our Kontakt Instrument into a Kontakt Library. Here's the costs last quoted to us in 2015(so whenever you are reading this these may be different):

Join the Native Instruments Library Developer Program: \$1000

Encoding the library: \$1800

Licenses: (let's say 300 for a unit price of our product of \$170.00) : \$3200

So all up \$6000 to move from Kontakt Instrument to Kontakt Library. So to go from having a disk drive of samples to an independent DAW compatible plug would cost \$10000 – what a surprise it seems to be about the same as the other (direct) path to a plug-in would cost!

As I say there are 101 different ways to reduce costs, but none of them in any practical way reduce the costs by 95% - whereby you could get to a cost of \$500.00. So simple back-of-the-envelope conclusion. It's NEVER going to cost \$500, it very very unlikely to cost less than \$5000.00, it's most likely to cost \$10,000.

You can build a Kontakt Instrument sure, and if you think this is a way to go (and it could well be) then I strongly recommend you read our other whitepaper –" The Kontakt Virtual Instrument Market".

Good luck with your development.