Ukulele build - final thoughts

Aside from less attention to detail, my ukulele differs from typical tenor-sized ukuleles in that the scale length is slightly longer (45 cm or 18"), the neck is wider, and it has a floating bridge.

The sound

I think I got lucky with the sound on this one. Comparing it to other ukuleles, I think mine sounds better than most (but I might be biased). That old growth spruce 2x8 is probably a good sound wood. I initially cut the sound board 2.5 mm thick, but on Pat's advice, shaved it down to 2 mm. I'm sure that helped. I also shaved the bracing down quite a bit before I closed it up.
I figured the back of a guitar or ukulele contributed very little to the sound, but on the one Pat built, pressing the back of the instrument against the skin noticeably dampens the sound. So I guess the back matters more than I thought it did. On mine, the effect is less noticeable. The back of mine is 2.5 mm thick and made of heavier white oak, so it doesn't vibrate as much.

I also initially ran into some problems with strong resonance at the low G in my instrument, but stuffing a bit of felt into the body helped with that. That may also contribute to this one being less sensitive to touching the back.

Floating bridge

I figured the very light floating bridge would help the sound, but I'm not sure that it did. At least I think the new one that Pat built sounds better, and it has a regular bridge. What's clear though is that the conventional style bridge looks better, whereas a floating bridge

is easier to make.

Fit and finish

I went at this project with the philosophy that the looks don't matter very much. But how "good" an instrument sounds is subjective. So, just as people enjoy food more if it looks like its good, an instrument that looks like it should sound good will be perceived as sounding better. As such, adding nice binding, a rosette and inlays on the neck really can make it "sound better". And this effect isn't limited to musical instruments. Think fancy gold plated digital audio cables that audiophiles claim sound better.

Wider neck

The neck came out a bit wider than I originally planned. I figured on trimming it down a bit more later, but never got around to it. When Lucas Haneman played with it, he found the wider fretboard itself wasn't a problem, but he said the neck being not as rounded as on other instruments, especially near the head, hard to get used to. Maybe I should carve that back a little more. If I build another one, I'll definitely keep the fretboard wider

than it is on most ukuleles. I find it easier to finger cords on the wider one.

Wooden nut

Some people expressed concern about making the nut out of wood, and that this would aversely affect the sustain of the ukulele. But, actually, sustain is one aspect where this ukulele is quite good.

Is over-bending necessary?

If you have a rubber heating blanket, like most luthiers do, you can just heat the sides hot enough and long enough that spring-back is not an issue, so there's no need to over-bend.
A reader suggested to using a regular kitchen oven to bend the sides. If I build another one, I will definitely try this. The idea is to bend the wood around a form, similar to how I did, then bake the form with the clamped-on side in an oven at maybe 300°F (150°C) to help set the shape. The form would need to be made without any glue, and with the workpiece held in place by all-metal clamps or by screws. This would probably cut down on spring-back a lot.
Update (2015): Chris Hoyle has tried this, and it works

Machine heads and other bought parts

I kept thinking about improvising other materials for the tuners and the frets. But if you use nylon strings, those stretch quite a lot over the first few weeks, so having tuners that adjust easily is really important. I'm glad I paid the $13 for the machine heads on mine. Frets need to be comfortable to touch and to be levelled precisely, so it would be hard to come up with a substitute. One guy mentioned using the thin metal strips from windshield wiper blades, placed in slots. That might work and would be no less comfortable than pressing down on steel strings. Though a bit hard to level. Or you could just make the frets out of an exotic hardwood.

Why a ukulele

Why a ukulele and not a guitar? Well, I'm not a musician, and I figured I'd have more hope of learning a ukulele than a guitar. But the fact that ukuleles don't get much respect also gives them some appeal to me. There are many aspiring guitar heroes, but not many "ukulele heroes". But even if your aspiration is to learn the guitar, you might do well to start with a ukulele. A ukulele tuned to low G tuning will play exactly the same notes as the high four strings of a guitar with a capo at the fifth fret.

Does it make sense to build your own?

If you want to build a ukulele, you should approach it as a passion, not for saving money. You can buy a toy ukulele for next to nothing, and good quality ones for $200. Compared to the time involved in building one, $200 is very inexpensive. By contrast, Pat Hawley used some excellent quality materials for his, and the materials alone came to over $300. I spent about $45 on mine, and I have most of a big 2x8x10' left over. For the hardwood parts, I just used scraps I already had, so those cost nothing.
If your goal is to save money, it may make more sense to build a bandsaw, which is a comparable amount of work. A good bandsaw will easily cost $600. Or you could build a machine that can't be bought at any price, like the pantorouter :)

Pat Hawley adds:

First off I'll say that working with Matthias has been a lot of fun, and I've enjoyed being exposed to his lateral thinking. Clever guy.

When we started off on this venture, I anticipated that he would be in my shop more often using some of my tools and jigs and asking me many questions. In fact, he wasn't over much and he asked few questions. Had he done so he could have saved himself some time and effort but, personally, I think the series has been much better because he didn't. What you have seen has been truly his approach and there's been something for everyone to learn (although I won't be anchoring my strings with screws any time soon). Most importantly what I hope people take away is that there is no magic to instrument building and if you just relax and go for it you surely will surprise yourself with the wonderful results.

I've noticed a few comments on forums where people have wondered what I think of his methods or what he's done so now I'll tell you. My opinion is that if something works for you, than it's a good method. So while some of the things Matthias did were "different", the bottom line is that he has built a great sounding ukulele that I'd take over most of those available in stores any day of the week. It has a nice, bright tone and good sustain. I would even begrudgingly admit that it sounds better than the one I show in our intro video and that one has a relatively expensive Engelmann Spruce top and Brazilian Rosewood back and sides! But Matthias did many things right. Most importantly he made the top thin and kept the bracing light. He also took care to get the frets well seated and level so his uke is quite playable. The only area where I thought he could have gone further while still remaining within the spirit of what he was doing was if he'd made the neck more rounded and lighter overall.

So again I want to come back to encourage others to give building a ukulele a try. I think Matthias has demonstrated that you don't have to be a specialist and you don't have to spend a lot of money on exotic woods to end up with something that plays and sounds great. And the humble uke has a lot to offer. On the one hand it's very accessible and you can very quickly be strumming some chords, and on the other you could spend a lifetime getting better all the time. It's hard not to get enthused. I had to talk Matthias into this and part of the fun for me has been seeing him go from "what do I want with a ukulele" to "it's hard to put this thing down". Hope you had fun too.

Comparing the ukuleles
Some fun with the ukulele
with Go Long(!) music

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