

THE GCEA-TUNED UKULELE HANDBOOK



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Introduction

Having been an enthusiastic¹ guitar player most of my life (I got my first guitar aged 15 and that was nearly half a century ago) I switched to the ukulele as age caught up with my not-as-fast-as-they-used-to-be fingers. I have also, incidentally, switched to the tenor guitar. Either way you look at it, I have dropped from six strings to four.

The ukulele is popular (and becoming more so) for several perfectly good reasons:

- You can get started for quite a low price (unlike, say, the saxophone)
- The ukulele is **much** easier to play than the guitar (or the saxophone)
- There is a lot scope to increase the quality of your ukulele
- You can sing and play at the same time (unlike the saxophone²)

However, I have on good authority that most ukulele players are **not** dyed-in-the-wool musicians. Generally, they are people who know a few chords and like to think they can sing a bit. Some even can. I'm not a musician either³ so much of what is in this book is "pragmatic". Hence the word "Handbook" in the title.

If I can understand this stuff, I'm sure you can too.

I'm not writing this book because I'm a great ukulele player seeking to impart knowledge. No way. Far from it. I'm a decidedly average player. I don't even play a standard ukulele (I play a baritone ukulele, mostly, or "fake guitar" as it has been sneeringly called - not by me) and I have only a rudimentary knowledge of music theory. I'm hoping to learn as much from this book as any other reader and putting it together has, for me, been very useful in fleshing out my knowledge.

I'm assuming several things:

- ✓ You can count up to 13 (although "up to 8" might be enough)
- ✓ You know that a scale is Do-Re-Mi-Fa-Sol-La-Ti-Do
- ✓ You are happy enough just using a standard western scale rather than anything exotic. If you were expecting the Phrygian dominant scale or the Byzantine scale you are going to be seriously disappointed.
- ✓ You are not tone deaf (this is actually quite rare so you probably aren't)
- ✓ The symbols for sharp (#) and flat (♭) are familiar to you

Right through this book I will be using the flat (♭) symbol for **notes** but I will use the regular keyboard symbols # and b for sharps and flats within **chords**. So, talking about the B-flat **chord** you will get [Bb] but for the B-flat **note** you will get B♭. Sharps do not present any problem as the # (hash) is only a little different from the standard ♯ (sharp) symbol. This is simply a reflection on how ukulele music is presented in general. Across the internet, the chord of B-flat is written as [Bb] with

¹ But not especially skilful

² You get the idea that I don't like the saxophone? You'd be right. Apart from "Baker Street" (Gerry Rafferty)

³ Before I retired I was a Chemistry teacher.

the only variety being in the type of parenthesis used. We only rarely use the sign for “natural” (♮) in this book, in case you haven’t seen it before.

I'm an active member of a ukulele group⁴ and I often lead the weekly sessions that we have. We get together on Tuesday evenings to enjoy the communal fun that comes from playing the ukulele in a big group. We euphemistically call these sessions “practice” but, to be honest, the laughter and camaraderie easily exceeds the musicality every time. However, during these sessions a lot of questions come up and this (and the related handbook for the "other" ukes) book are an attempt to give answers to at least some of these questions.

This book was written with no strings attached⁵. There is, for my part, no restriction whatsoever on its distribution. I have shamelessly taken inspiration, and more, from other ukulele books across the globe and I seriously don’t mind if you have ended up with a copy from any source at all. There is a lot of that sort of thing in the ukulele world and I’m not going to get all copyrighty with anyone. Enjoy. You’re welcome. That said, if there is anything in here that **you** have copyright issues with, please let me know. Contact details are on the last page.

IMPORTANT: There are **LOTS** of different types of ukulele and I've tried to at least *mention* all types in this book. However, the **emphasis** - in this book - is always going to be on the most popular (**Soprano, Concert, Tenor**) and they are all (normally) **tuned GCEA**.

Like all political parties claim to be, the world of the ukulele is a "broad church" and the Baritone and Sopranino Ukuleles (tuned DGBE) and the Bass Ukulele (tuned EADG) make regular appearances at ukulele groups. They are going to have separate handbooks. In **this** book, assume that I'm only talking about a GCEA-tuned ukulele.

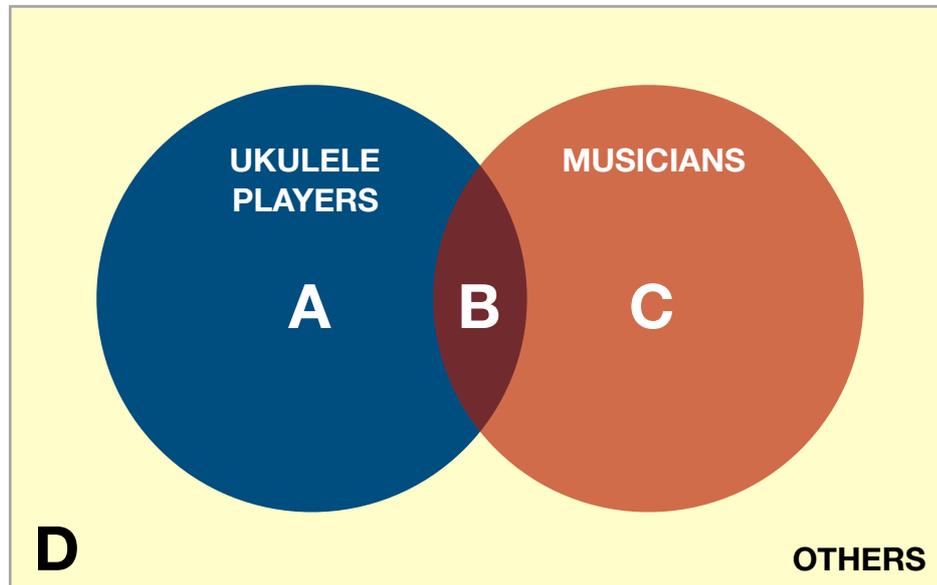
John Timney
North Tyneside
2019

⁴ Bay Uke, based in Cullercoats, North Tyneside.

⁵ No pun intended. Honest.

Who is this book for?

Unlike most (all?) other books dealing with music theory, you are **not going to be faced with much musical notation**. This book is for ukulele players, not musicians⁶. The Venn diagram below illustrates what I mean by that statement:



The blue circle is the set of all ukulele players and the pale red circle is the set of all musicians. There is a darker overlap between the two sets: those ukulele players who are musicians. Then there are those who don't play ukulele and don't understand music. I've called them "Others".

So who is this book for?

The "Others" (those in "D")?	Definitely not.
Musicians who don't play Ukulele (those in "C")?	Definitely not.
Musicians who do play Ukulele (those in "B")?	Probably not.
Ukulele Players who aren't Musicians (those in "A")?	Yes!

I see myself as a ukulele player who is not a musician. I'm in Zone A. The eventual aim of this book is, paradoxically, to move ukulele players with no knowledge of music (in Zone A) into the overlap zone (Zone B). This will, ultimately, reduce my readership to zero. I look forward to that day.

⁶ No disparagement intended.

How this Book Works

After you have worked through this book you will be a gold-plated **master** of the ukulele. You will have strum patterns to match any beat. You will be able to work out the fingering required for any chord you might come across. You will handle tabs with ease.

As if...

Let's go for smaller, realistic goals. You will possibly know a shed load more music theory than you do now. You should be able to pick a strumming pattern up from the rhythm and at least have a passing acquaintance with a lot more chords than the number you now know. You'll also know "why?" with chord names and you might be able to build chords to order. You might also be happy to have a crack at some tabs. You might also be able to write your own tabs.

This is not a book to simply **read**⁷. It is a book to help you **do**. There are possible suggested activities here. It is, in popular parlance, a **learning by doing** book. The activities are built into the text. Hopefully you will spot them as you go. Where they involve weblinks, I have left these in. If you are reading this as a PDF just click on the link. If you have it on paper, clicking won't do that much.

As a useful companion to this book, grab a reporter's notebook for scribbling down what you have done/found/learned for future reference.

As with **any** learning-by-doing book, we are going to make a number of assumptions before getting into the meaty bits. We will have to assume that you have a ukulele (although, if you haven't, there is something of a buyer's guide later on). We are also going to have to assume that you know a tiny, little bit about music. Not much, admittedly, but some basic facts.

⁷ Apologies for the split infinitive. It did feel good though.

Which Ukulele Do You Have?

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea". The actual home of the ukulele is far from Hawaii. The ukulele is based on several small guitar-like instruments of Portuguese origin, the Timple, the Rajão, the Bragaíinha and the Machete, introduced to the Hawaiian Islands by Portuguese immigrants from Madeira and Cape Verde.



One of the most important factors in establishing the ukulele in Hawaiian music and culture was the ardent support and promotion of the instrument by King Kalākaua. A patron of the arts, he nonetheless incorporated it into performances at royal gatherings. Clearly a king worth having! In the UK, I hope the House of Windsor takes note.

There are several standard ukulele types

Type	Length	Fretboard Length	Frets	Tuning (Common)
Sopranino	16 in (41 cm)	11 in (28 cm)	10–12	D5–G4–B4–E5
Soprano	21 in (53 cm)	13 in (33 cm)	12–15	G4–C4–E4–A4
Concert	23 in (58 cm)	15 in (38 cm)	15–18	G4–C4–E4–A4
Tenor	26 in (66 cm)	17 in (43 cm)	17–19	G3–C4–E4–A4
Baritone	29 in (74 cm)	19 in (48 cm)	18–21	D3–G3–B3–E4
Bass	30 in (76 cm)	20 in (51 cm)	16–18	E2–A2–D3–G3
Contrabass	32 in (81 cm)	21 in (53 cm)	16	E1–A1–D2–G2

The Concert, Tenor and Baritone ukuleles all have the option to have a “high” or “low” 4th string (the one nearest the ceiling when you are playing). Having a “high” string (a G on a tenor, concert or soprano, a D on the Baritone) gives what is called a **re-entrant string**. It means that it is *not* the lowest string in pitch. This is quite common in stringed instruments (lutes, banjos and a lot of South American instruments). It is very unusual on guitars (although I have seen it on a tenor guitar).

There are advantages and disadvantages to having a re-entrant string. Any chord you play is likely to have the four notes quite tightly bunched and this can sound very pleasant. Unfortunately this plus has a matching minus. Playing notes (as opposed to chords) with a re-entrant string is a little bit more difficult and if you are looking to do a lot of work with tabs (see much later in the book) you might like to have a “low” G (or “low” D on your Baritone).

Grab a ruler and check out the measurements of your ukulele. It will almost certainly closely conform to one of those in the table above. If your uke is bigger than 27 inches then you probably have a baritone ukulele, or worse case scenario, a guitar.

The strings on the ukulele are numbered from 1 to 4 (regardless of the type of ukulele). The string closest to your nose is 4 and that closest to the floor is 1. I've never understood why this is. It is counter-intuitive, but there we are.

Now, having found out which type of ukulele you have, you need to see if you are still reading the right book:

Type	Length	Fretboard Length	Tuning (Common)	This Book?
Sopranino	16 in (41 cm)	11 in (28 cm)	D5–G4–B4–E5	No
Soprano	21 in (53 cm)	13 in (33 cm)	G4–C4–E4–A4	Yes
Concert	23 in (58 cm)	15 in (38 cm)	G4–C4–E4–A4	Yes
Tenor	26 in (66 cm)	17 in (43 cm)	G3–C4–E4–A4	Yes
Baritone	29 in (74 cm)	19 in (48 cm)	D3–G3–B3–E4	No
Bass	30 in (76 cm)	20 in (51 cm)	E2–A2–D3–G3	No
Contrabass	32 in (81 cm)	21 in (53 cm)	E1–A1–D2–G2	No

If you have a Soprano, Concert or Tenor tuned GCEA you want **this** book. Otherwise, you want the **Baritone Book** or the **Ukulele Bass Book**.

Anatomy of a Ukulele

The named parts of your ukulele are shown below:



The bits on a ukulele are no different to the comparable bits on a guitar.

The **NUT** ① has four grooves cut into it to carry the four strings from the four **TUNERS** ② (positioned on the **HEADSTOCK** ③ with the makers name) to the **SADDLE** ④ at the far end of the ukulele. The distance from the nut to the saddle is basically the working length of each string and the 12th fret should be exactly half-way along a string. If it isn't, you have a duff ukulele. It happens.

The **FRETBOARD** ⑤ rides on top of the **NECK** ⑥ and is usually finished in dark brown or black wood. There are bound to be a few **FRET MARKERS** ⑦ to give you a quick visual reference for when you are playing notes or chords up the fretboard. The usual positions are on the 5th, 7th, 10th and 12th but there may be more and they might be in different positions.

The **BODY** ⑧ of the ukulele takes the sound from the strings and lets it resonate within its wooden cavity via the **SOUNDHOLE** ⑨. Often, there is some decorative device (the Rosette) around the soundhole. The **BRIDGE** ⑩ secures the strings so that they are positioned correctly on the **SADDLE** ④.

There are thousands of variations on the ukulele theme. It is quite common to have a pickup inside the body these days so that the output sound can feed through an amplifier. A cutaway body is another common feature that allows you to play high up the fretboard (known as "the dusty end" in some circles). If you use a strap you will need at least one "button" to secure the strap.

Ukuleles do not, as a rule, have a truss rod going the length of the neck. Guitars (especially those designed for steel strings) usually do. The truss rod is a piece of metal running the length of the neck that can be tightened/loosened to alter the height of the strings above the fretboard. Ukes without this have the neck bonded or glued to the body. Consequently, you can't fit heavy-duty, high-tension steel strings to a uke that really isn't designed to take them. You risk snapping it.

Buying A Ukulele

There is a huge market in ukuleles. They range from the very cheap to the very expensive and, as you might expect, you mostly get what you pay for. The really common rock-bottom-entry-level ukulele is typically a very inexpensive Chinese import. These are nearly always soprano-sized and the strings on them are terrible. They are often gaily coloured and the tuning keys often slip. On the plus side, they burn well and make great presents for very small children.

Let's assume that you don't just want some kindling (or a happy child).

My advice would be to go for something bigger than a soprano. A concert or a tenor ukulele is, I think, the ideal size for a beginner. There are some very respectable uke manufacturers out there and millions of web pages of advice. Personally, I think brands like Brunswick, Kala, Ashbury, Lanikai, Luna, Riptide and a hundred others are great. Really solid, well-made ukes in a thriving competitive market. If you are coming in at the bottom end of the market, Mahalo make good cheap ukes. In fact, Mahalo only make entry level ukes.

Traditional guitar makers like Cordoba, Ashbury, Fender, Tanglewood, Martin and others also make ukes and you can see the quality in their products. Ozark, who are well-known mandolin makers also do a good range in banjo ukes. They all cost, but you are not just paying for the name. They *are* good.

You might be looking for built-in pickups, integral tuners and other electronics. It might not be necessary though. Save your pennies for your second uke. One of the rules of playing the ukulele is that you are always looking for a better one.

Even if you have a really ordinary uke that came in a gaudy colour and you only got hold of it because your niece had left the headstock sticking out of a charity bag, don't despair. Changing the strings might be your first step to improving it.

Read on...



Putting Strings on Your Ukulele

Your ukulele is probably going to have **four** nylon (or similar polymer) strings. This isn't always the case. Akin to the 12-string guitar, you can get 8-string ukuleles⁸. These have doubled up strings, not eight different strings. The 8-string uke is great for strumming but quite a bit more difficult to fingerpick.

The choice of strings for your ukulele can be quite overwhelming. The major brands (*viz.* the ones that pop up first in Amazon) are Aquila, D'Addario, Martin and Stagg.



Within each brand, there is a lot of choice and different strings have different characteristics. The best advice I can give is to quiz other uke players; see what they use. Personally, I prefer D'Addario strings. I have used their strings since I was 15. The company opened its first shop in New York in 1918 so they had a couple of years of experience before I became a fan. Many uke players prefer Aquila. I really think it is a personal choice thing.

A lot of uke players **never** change their strings. They just play on (and on and on) with the set that was on when they bought the uke. I'm **not** one of these people and I change strings **regularly** (every 3-4 months or so). It isn't hard and always gives the chance to check over, clean and polish the uke. There is a very good video on YouTube showing how to change your strings.

*There is a very good YouTube video about putting strings on a uke.
Go to YouTube in your browser and type:
<https://www.youtube.com/watch?v=kyv7uOiXsbM>*

Once you have got your new strings on you are going to need to tune them all. Remember that new strings stretch like crazy and you will probably be re-tuning daily for a few days, maybe even a week, after you put the new strings on.



As for tuners, these are cheap and readily available. If you are playing in a group you will need **accurate absolute tuning**. If your tuner has the option, make sure it is set so that the standard A note is **440Hz**. You really can't go wrong with a tuner like this. If you are just playing on your own you can get away with relative tuning. I wouldn't advise this though. Tune up properly and accurately.

⁸ My current favourite uke is an 8-string baritone and my wife plays a 5-string tenor.

A Small Amount of Physics

You can skip this bit if you don't handle equations and/or numbers.

Although we remember Pythagoras for his "square on the hypotenuse..." stuff, it was in music that he made (I think) his most important contributions.

Imagine a taut string. Like a ukulele string. Not really that hard to imagine.

Pythagoras proposed that the fundamental frequency (f) is inversely proportional to the length (L) of the string.

$$f \propto \frac{1}{L}$$

So (this is what the "inversely proportional" stuff means), if you **halve** the length you will **double** the frequency. Pythagoras also found that the notes that "went well" together were related to simple fractions of the original string. A long time later, Marin Mersenne⁹ fleshed this out a great deal more and gave us three laws that can be combined into one equation.

In Physics-speak and plain English these are:

Physics	Plain English
Frequency is inversely proportional to the length of the string.	The shorter the string the higher the note. Frets help with this as an idea.
Frequency is proportional to the square root of the stretching force	Tightening up a string will make the note higher.
Frequency is inversely proportional to the square root of the mass of the string per unit length	Fat strings make lower notes than thin strings.

Put these together and you get:

$$f = \frac{1}{2L} \sqrt{\frac{F}{\mu}}$$

Where f is the lowest frequency (you *can and do* get harmonics mixed in), L is the length, F is the stretching force and μ is the mass per unit length.

Pretty obvious when you think about it.

⁹ "The Father of Acoustics" and an interesting guy all round.

Ukulele Accessories

If you type “ukulele accessories” into Amazon’s search box you will get a vast range of possible birthday and Christmas presents to suggest to your nearest and dearest.



You are going to need a bag to carry your instrument in. Make sure that it has a bit of padding and at least one good-sized pocket to put all your odds and ends in. Some of the flimsy bags that come with cheap ukes really aren’t up to the job. If your uke is anything like the pride and joy it is likely to become then it is worth protecting in a decent bag or (better still!) hard case.



Making sure that your uke is in tune is really important when you are playing in a group. There are always a couple of ukes that are “approximately” tuned and they sound awful! Close enough is **not** good enough.



Your uke needs to be safely stored at home and also when you are out playing. A simple floor stand does the job extremely well. These are often able to be folded up so you can use them wherever your uke is.



The capo is an oft-neglected piece of kit. However, I think it is indispensable. With a concert uke or smaller you probably won’t use it beyond the 3rd fret but on tenor and baritone ukes you can use a capo to the 5th fret. Great for providing an alternative mix of notes.



A lot of ukulele players just use their fingers and thumbs to strum their uke. I have no issue with this but using a plectrum (alternative name: pick) is not a problem either. I **always** play with a plectrum. It delivers a much more uniform sound. I use Jim Dunlop (0.38 and, more frequently, 0.46mm thickness). Uke players often use felt picks.



Putting a strap on your uke allows you to stand with it, comfortably, for a long time. You may need to screw a button into the soundbox but that isn’t hard. Guitar straps are, usually, **not** suitable. Mandolin straps are fine.

Pickups and Amplifiers

Most ukuleles have nylon or similar polymer (often fluorocarbon) strings. That means that the type of pickup that you would see on an electric guitar won't work on a uke. There are ways around this of course, and pickups of a different type are fitted into a lot of ukes these days. You can, for a very low outlay, obtain a pickup that literally clips on to your uke.



Something like this Cherub pickup costs well under £10 and it can be clipped on to the headstock of your uke and then connected directly into an amplifier. As you can imagine, the actual quality of the signal isn't marvellous but it certainly works.



If you are a bit more serious about this whole amplification thing you might like to fit an internal pickup (a stick-on one like this or an "under the bridge" one). Again, these are pretty inexpensive and work really well. You need to be a little bit brave when you are drilling a hole through the body of your beloved ukulele but it doesn't take more than an hour to do the whole operation. I've done this to a soprano uke that I built from a kit and it worked fine.

When you have a pickup installed you are going to want to amplify the sound. To be honest, virtually any amplifier will do, from small portable amps to big meaty amps. Think what you will be using it for before making the outlay.



You might also like to experiment with effects boxes. My ageing Zoom 505 has given years of fun even if the quality of the music produced has been a bit on the low side. Then there are microphones (if you are amplifying your uke you must amplify your voice, right?), drum machines, percussion of all sorts...

The Basic Elements of Music

We are going to launch into the music side of ukulele playing now. At this point, I'm assuming that you have a ukulele and that it is in tune.

There are three basic elements in music: **rhythm**, **melody** and **harmony**. Whenever you hear a song being played (in modern western music, at least) you will almost certainly hear all three at once.

You will hear the tune (the melody), the beat (the rhythm) and an underlying accompaniment or background of chords and additional singing (the harmony). The chords you play during a song are important because they add a lot of extra sounds. You might hear this described as “colour” and the comparison to light is quite appropriate.

We see lots of colours, from deep red all the way through to violet. If we saw things in just one colour it would be pretty dull compared to the many colours we do see.

This is where chords come in. Instead of just playing a single note (analogous to seeing in monochrome) we play several notes at once. It gives us a lot more to listen to. Our ears and brain can cope with complex mixtures of sounds with virtually no problem.

When it comes to getting your hands dirty with sheets of music, to be honest, a lot of what you will come across as a ukulele player are “songsheets”. These are, usually, the lyrics of a song with the chords given mixed in with the lyrics.

For example, the Bob Dylan classic "Blowing In The Wind":

The [F] answer my [G] friend is [C] blowing in the [Am] wind
The [F] answer is [G] blowing in the [C] wind

Chords like this (the [F], [G], [C] and [Am] above) are called **inline chords** when they are written out this way. The type of brackets is immaterial. You will see **(Cm7)**, **[Cm7]** and **{Cm7}** in songsheets. I prefer the **[square brackets]** and I will be sticking to these right through this book.

Inline chords are really useful for getting a lot of information on to a single side of A4. Written out in full properly annotated music, a song might take a fair number of sides of A4, not one. With a songsheet, long and/or complicated pieces are typically reduced to a single side. Even Don McLean’s “American Pie” fits on to two sides of A4! Most guitar songsheets have the chords above the lyrics and take twice the number of lines. I honestly don’t know why guitarists do this. Convention, I suppose.

So the same piece for a guitar would be:

F G C Am
The answer my friend is blowing in the wind
F G C
The answer is blowing in the wind

I think the ukulele way is far better.

There is - somewhere on the internet - the songsheet for just about every song ever written. Beware! So many of these are very poor interpretations of the real music. Someone in their bedroom bashing through a song on an out-of-tune guitar then uploading it to a website with no quality control is, sadly, commonplace for songsheets. There are, however, exceptions and I think Richard G at Scorpex is a real treasure. I would make sure that Richard's site (<https://scorpexuke.com>) is in your bookmarks.

There are lots and lots of good songbooks out there on the internet. Explore, but be aware that there is a LOT of rubbish as well as the good stuff. If you are looking for published paper books (as opposed to PDFs) the Little Black Book series of songbooks are, in my opinion, wonderful.

It is also worth remembering is that not every song is ukulele friendly. Most are but there are some that, frankly, don't work.

For my part, I like to work from the published music and create a songsheet that bears at least a passing resemblance to how the songwriter intended it. I also try very hard to put the song in the key it is sung in. This allows the uke player to play along with the track on CD, YouTube or wherever. Often, a song will require a capo to enable you to play along with the original. It is amazing how often the capo is needed on the first fret.

If you were looking to develop something of a "house style" for songsheets there are several things to consider.

- Is the font suitable? Lots of fonts are actually quite difficult to read. The Helvetica (or Arial in Microsoft's world) family works well. You wouldn't want a songsheet in **ANYTHING ORNATE** for example.
- Is the font size appropriate? You may be producing songsheets for players with indifferent eyesight. I think 12 point is fine but others prefer 14 or 16 point.
- Is the chord format OK? There are some songsheets out there that don't specify any chords at all - just a four number instruction: [0003] for [C] for example. I hate these!
- Are the chords easy to spot? Making them a different colour is a good idea. Making sure that they stand out when semi-buried in a word is also a good move: **a[C]lone** is harder to see than **a-[C]-lone**.
- Are you going to include chord diagrams on the songsheet? Not a bad idea if your players are low/middle ability. As a baritone ukulele player, I have to say that the common or garden songsheet with chord diagrams for a GCEA uke is no use to me at all (unless I put a capo on the 5th fret).
- Is there a link to where you might hear the song? The best songsheets have these. Mine usually don't. Enough said.

Lots to worry about then.

Rhythm

We are going to start the actual music section with rhythm because you don't even need a ukulele for this. The rhythm or **beat** of the music we are listening to is, 99% of the time, held throughout the song. Most¹⁰ popular music is written to be sung along with or danced to and having frequent and repeated beat changes overcomplicates things. You couldn't really dance to something that changed rhythm. Try it. You'll mostly fall over.

Before launching into this though, I need to clarify a difference that exists between UK English and American English when it comes to what notes are called¹¹. In *The Canterville Ghost* (1887), Oscar Wilde wrote: "We have really everything in common with America nowadays except, of course, language." This really does apply in the names of notes in music:

UK Term	USA Term	Beats
Semi-Breve	Whole Note	4
Minim	Half Note	2
Crotchet	Quarter Note	1
Quaver	Eighth Note	1/2
Semi-Quaver	Sixteenth Note	1/4

As this book is written by an Englishman in England, I will be using UK terminology. I see nothing wrong with the US system, but it isn't the one I'm used to.

The basic rhythm of a piece of music is specified, in the fully written-out sheet music, by the **time signature**. This is usually written in the form of two numbers at the very start of a piece of music. The number on the top tells you how many beats and the number on the bottom tells you what notes are being used to specify the beat. The most common bottom numbers are **crochets** (specified by a 4) and **quavers** (specified by an 8).

The most common time signature is four beats to the bar. A "beat" is usually a crotchet. Four beats in a bar is usually given denoted by a 4 on top of another 4, **without** a dividing line - it isn't a fraction. Writing this on a songsheet has always been a little problematical. I've seen 4/4 and 4:4 and also 4_4 which is, I suppose, as good as it gets but the numbers are quite small if they are going to fit on the same line. I'm going to use the second version in this book where it is needed.

Common time signatures: 4 2 3 6
 4 4 4 8

¹⁰ This book is all about *western* music. In front of the word music, mentally insert "western" every time.

¹¹ My thanks to Tim in Seattle for the heads-up on this.

So 4:4 means 4 beats of 4 crotchets in a bar. That is an example of a time signature and 4:4 is easily the most common¹².

To count something like this you chant:

① 2 3 4 | ① 2 3 4...

with the emphasis on the ① and the | symbol shows where the bar ends.

A close relative of 4:4 is 2:4 where there are only two beats to the bar and to count this one you say “① 2 | ① 2 | ① 2...” with the emphasis on the ① again.

Songs that are in triple time (or waltz time if you are a "Strictly Come Dancing" fan¹³) are usually in 3:4 time. Sticking with Bob Dylan for examples, “The Times They Are A-Changing” is in this 3:4 time.

This is counted out as:

① 2 3 | ① 2 3 | ① 2 3....

For reasons more to do with the speed of the song (I think), some triple time songs are written in 3:8. Three quavers per bar. To be honest, I’m not sure whether a 3:8 piece played at half the speed of a 3:4 piece is, in fact, the same. Perhaps this is why 3:8 is quite scarce.

There are more complicated time signatures which are combinations of the simpler time signatures above.

For example, 6:8 time (a fairly common time signature) is really a combination of 3:4 and 2:4 which you would count as:

① 2 3 ② 2 3 | ① 2 3 ② 2 3....

The rarely used 9:8 time signature (basically a triple-triple time) is counted as:

① 2 3 ② 2 3 ③ 2 3 | ① 2 3 ② 2 3 ③ 2 3...

And my all-time favourite time signature is 12:8 - a combination of 4:4 and 3:4 :

① 2 3 ② 2 3 ③ 2 3 ④ 2 3 | ① 2 3 ② 2 3 ③ 2 3 ④ 2 3 ...

There are some really weird time signatures out there, but they aren’t going to trouble us much.

Every so often you will find 5:4 inserted into a bar (Cat Stevens does this regularly). Songs in 6:4 time work in the same way as 6:8. The legendary “Carmina Burana” is (partly) written in 2:2. When Leonard Bernstein wrote “America” for “West Side

¹² It is also called “common time” and sometimes just has a capital C for a time signature.

¹³ Called "Dancing With The Stars" in the USA.

Story” he changed the time signature every bar! It is written as a bar of 6:8 followed by a bar of 3:4 over and over again¹⁴:

① 2 3 ② 2 3 | ① 2 3 | ① 2 3 ② 2 3 | ① 2 3 ...

Fantastic stuff.

Get YouTube up in your browser and have a listen to the following:

I'll Never Find Another You: <https://www.youtube.com/watch?v=KmactMIhrRM>

The Last Of The Mohicans Theme: <https://www.youtube.com/watch?v=9tjdsqwGGVg>

Different Drum: <https://www.youtube.com/watch?v=UMVvRImExKc>

Catch The Wind: <https://www.youtube.com/watch?v=J8hjEYTpWE8>

See if you can work out the time signatures.

Getting the time signature right is (obviously) pretty important. You will need the time signature to develop strum patterns later. Getting the **tempo** (speed) right is also important. There are lots of relatively vague musical statements about the speed at which something is to be performed. For example, *andante* is a bit quicker than *adagio* but not as fast as *allegro*. Not all that helpful really. None of these words really tell you **exactly** how many beats per minute (**bpm**) a piece of music should be played at. This is a serious omission if you are coming to the piece fairly cold. How fast is fast?

Sometimes a thoughtful composer will put a little symbol on a piece of music that might look like:

♩ = 100

This tells you that there are 100 crotchet beats per minute. I personally think it is good practice to actually tell you the number of beats per minute. So where do we find out what the tempo is in the absence of help like that above? Well, we measure them by listening to the piece of music and working out the number of beats per minute on a website such as the one in the activity below.

If you want to practice working out a tempo, go to <https://www.all8.com/tools/bpm.htm> and put on some music in the background (or in another window on your browser). This lets you work out how fast a piece of music is going (in bpm - beats per minute). If you try “Brown Eyed Girl” by Van Morrison you should end up with a beat of around 148 bpm.

After a while you will get to be able to approximate tempo quite well. Most songs lie between 100 and 200 bpm. Soft, gentle songs might stray under 100 but not many go higher than 200 bpm. Listen to “Don’t Get Me Wrong” by The Pretenders for a song that comes in at around 205 bpm. I think “Me And Julio Down By The Schoolyard” by Paul Simon might even be a little quicker.

¹⁴ Called a Huapango incidentally.

When you are putting “mash-ups” together¹⁵ the **first** thing you try and look for are songs with very similar tempo. Changing key between songs is easy because you are just changing chords. Changing tempo is quite tricky.

Strum patterns are clearly going to be related to the beat of a piece of music and there is (as far as I know) no wholly accepted system of notation for strum patterns on the standard songsheet. You may see DU DU DDDD or something similar (with D = down U = up) or you may see up and down arrows but you never really get an idea of the length (in time) of each strum.

A lot of ukulele classes I've been to seem to spend a lot of time on strum patterns and (in my opinion) this is effort misplaced. Spending a long time on the strum pattern lessens your time getting the chords right. Just go for it when you are strumming. If you know the song then you will "feel" the strum pattern. I know this point of view will create howls from the purists but I'm happy to risk that. We'll come back to strum patterns much later (promise!), but (for now) I'm just going to kick them into the long grass.

¹⁵ You will do this. I guarantee.

Melody

When it comes to melody, let's start at the very beginning.
A very good place to start.

This bit is really about **singing**. Singing the tune, basically. The words to the song from "The Sound of Music" provide us with our jumping off point for grabbing the basics of melody. As ukulele players, for "melody" you can read "singing the main bit". Anything else comes under "harmony".

In 99% of ukulele-friendly, popular modern western music we have the very familiar do-re-me-fa-so-la-te-do scale of notes. You might think, as you are singing this to yourself (admit it, you are), that the notes are equally spaced. They're **not**. Put on a number line resembling ukulele frets they look like this:

0	1	2	3	4	5	6	7	8	9	10	11	12
do		re		me	fa		so		la		te	do

You can play four different sets of these notes (called a scale in music) on the four different strings of your ukulele¹⁶. Let's talk through it. Go to your 1st string (the A string; the one furthest from your nose). Play the "open" string. No fingers on any frets. Think of that as "do". Put a finger on the second fret. That's "re". Fourth fret; "me". Fifth fret; "fa". And so on until you get to the 12th fret where, as the song goes, you get back to "do". Not the same "do" though. It is an octave higher.

The "oct" bit comes from the Latin for eight¹⁷. Whoa, whoa, whoa.... Octave? 12th fret? Hmm. Well, on our western scale there are **eight notes** in an octave. Count them on the number line above. If you play the open string followed by the note you get on the 12th fret. you will hear that they are the same; but different.

Go grab a ruler from somewhere. Measure the length of the string from the nut to the bridge. Now measure from the 12th fret to the bridge. It should be exactly half of the full length of the string.

By playing the string with your finger on the 12th fret you have halved the length of the string. Almost certainly, you will have a dot (a fretboard marker - nearly always unhelpfully invisible to the player whilst playing) on the 12th fret. You probably have several other dots in other places along the fretboard. We'll come back to these.

Having worked through the 1st string (starting at A) try the 2nd string. The same pattern is repeated but the notes are different. On this string you are starting at E, not A. The 3rd string starts at C, but the pattern through the octave is the same. Likewise with the 4th string. It starts at G and ends up an octave higher. You have just played four different scales.

The four scales that you have just played all start with an open string and end an octave higher. There are some frets that you haven't used yet. Let's have a look at them.

¹⁶ Soprano, Concert or Tenor: GCEA Tuned

¹⁷ octopus: eight legs. octagon: eight sides. octane: eight carbon atoms. October: Erm...

If you slide back down the fretboard to the open string (“do”) you will notice that the next note in the scale (“re”) is on the second fret, not the first. So what is on the first fret? Well, it is in between “do” and “re”. The difference between “do” and “re” we call a **tone**. So the note in-between the two is a **semitone**. A note that is a semitone **higher** is called a **sharp** and is given the symbol #. So the note above “do” is, if you like, “do sharp” or “do#”. A note that is a semitone **lower** is called a **flat** and this is denoted by a special musical symbol, ♭. So just as valid as “do sharp”, the note could be “re flat”. Just about every ukulele book world-wide uses the letter b to replace the ♭ sign and we will keep to that convention here when we are talking about **chords** but we will use the proper ♭ sign when we are talking rather more formally about music. So expect to see [Bb] in songsheets (viz. B-flat) but B♭ when we are talking about musical scales and chord structure.

If we take the number line we used above for the 3rd string (the C string) and replace it with “real” notes we get:

0	1	2	3	4	5	6	7	8	9	10	11	12
C	C#	D	D#	E	F	F#	G	G#	A	A#	B	C
C	D♭	D	E♭	E	F	G♭	G	A♭	A	B♭	B	C

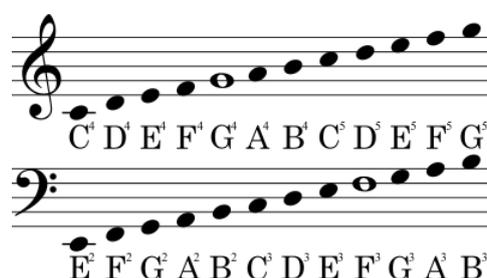
...depending on whether you want the “inbetweenish” notes as sharps or flats. I’ve put the “do-re-me...” notes in bold and, as you can see, there are no sharps or flats in the scale that starts with C. This is called the **C Major** scale. On a piano it runs from middle C up eight notes using only the white keys.

Notice that E# (or F♭) doesn’t really exist. The same is true of B# (or C♭). It’s just a consequence of the way, in western music, we have laid out the notes that make our scales.

 I’ve mentioned “scales” a few times now and you are probably already aware of different scales in different songs. The only ones we are going to worry about here are the major scales and the minor scales. When you see “real” music written down it is on a system of lines and spaces and each set of lines (called a **stave**) has a symbol (called a **clef**) at the start. More than 99% of popular music is covered by just two clefs, the **treble clef** (top left) and the **bass clef** (bottom left).

For us ukulele players, a lot of this is immaterial. You don’t get clefs on songsheets. On a songsheet you are likely to get a title, the performer, some lyrics and a lot of inline chords.

Just as a point of reference the notes (without sharps and flats) on the two clefs are:



C⁴ D⁴ E⁴ F⁴ G⁴ A⁴ B⁴ C⁵ D⁵ E⁵ F⁵ G⁵

E² F² G² A² B² C³ D³ E³ F³ G³ A³ B³

You will notice that the “curl” of the treble clef forms a cross on the line for the G note. The treble clef is often called the **G-clef**. Similarly, the two dots on the bass clef show the position of the F note and the bass clef is sometimes analogously called the **F-clef**.

Most singing is written on a treble clef. As you might expect a bass line is written using a bass clef. That said, playing a Bass Ukulele (like the wonderful U-Bass or similar) you will be using the same songsheets as the rest of your group. The Baritone ukulele uses a treble clef, just like the Soprano, Concert and Tenor.

The Major Scales

Again, just a reminder, we are working with a GCEA-tuned uke in this section. It can have a low or high G string. It matters not. So, let's put the four different strings of your ukulele on to our fret number line to see the consequences of key changes. I'm only going to use sharps here (#). We will come across flats more later.

0	1	2	3	4	5	6	7	8	9	10	11	12
A	A#	B	C	C#	D	D#	E	F	F#	G	G#	A
E	F	F#	G	G#	A	A#	B	C	C#	D	D#	E
C	C#	D	D#	E	F	F#	G	G#	A	A#	B	C
G	G#	A	A#	B	C	C#	D	D#	E	F	F#	G

Notice that the key of C Major (on your 3rd string) doesn't contain any sharps (or flats for that matter). The key of G major (on your fourth string - whether it is a high G or a low G) contains an F#. The key of A major contains three sharpened notes (F#, C# and G#) and E major contains four sharps (F#, C#, G# and D#). You are probably wondering if there is any pattern here. Of course there is! Music is built from mathematical principles¹⁸ so patterns abound.

The keys that contain sharpened notes are given in their "do-re-mi.." format below. I've only taken it to 5 sharps. Not much is written with 6 sharps or above and confusing notes such as E# (a.k.a. F) creep in. I've also put a number (in red) underneath each do-re-mi note. We are going to need these a lot in the coming pages.

Key	Sharps	Do	Re	Me	Fa	So	La	Te	Do
		1	2	3	4	5	6	7	8
C	0	C	D	E	F	G	A	B	C
G	1	G	A	B	C	D	E	F#	G
D	2	D	E	F#	G	A	B	C#	D
A	3	A	B	C#	D	E	F#	G#	A
E	4	E	F#	G#	A	B	C#	D#	E
B	5	B	C#	D#	E	F#	G#	A#	B

Four of these scales can be played directly on your ukulele because they correspond to open strings. You don't have a D string or a B string on your uke. That said, you could start more or less anywhere on the fretboard and pick out a scale. The way the ukulele is tuned means that the range of the strings overlaps.

*Play the note on the 4th fret of your 3rd string.
It should be the same as your open 2nd string.*

¹⁸ Pythagoras (yes, him) worked out the relationships in music based on simple fractions. Triangles? Meh.

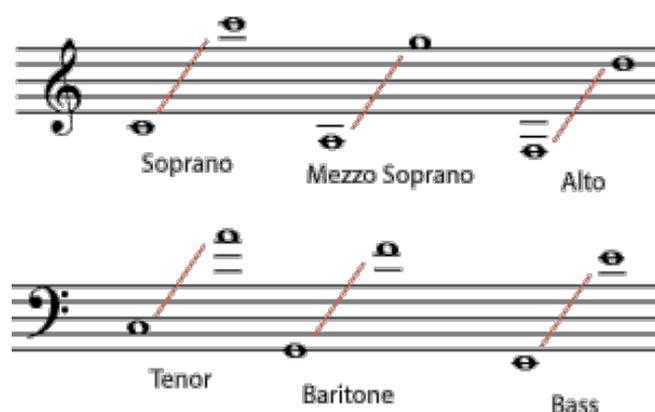
None of your scales so far contain any flattened notes but, as you might expect, there are scales with flats just as there are scales with sharps. The table below is the flat analogy to the table of sharp keys above.

Key	Flats	Do	Re	Me	Fa	So	La	Te	Do
		1	2	3	4	5	6	7	8
C	0	C	D	E	F	G	A	B	C
F	1	F	G	A	B \flat	C	D	E	F
B \flat	2	B \flat	C	D	E \flat	F	G	A	B \flat
E \flat	3	E \flat	F	G	A \flat	B \flat	C	D	E \flat
A \flat	4	A \flat	B \flat	C	D \flat	E \flat	F	G	A \flat
D \flat	5	D \flat	E \flat	F	G \flat	A \flat	B \flat	C	D \flat

So the two tables above contain eleven keys for you to **sing** in. Somewhere between A and G there will be a key that your voice is happy with.

Sit yourself at a piano (if available) or with your ukulele and find your vocal range. A lot of people will tell you they are “tone deaf” or that “they can’t hit a note”. This is not usually true. Only around 5% of us are genuinely tone deaf. Not being able to hit the right note is usually because the note isn’t within your range. So find your range.

Once you’ve found your range you can work out what you “are” in terms of soprano, alto, tenor or bass. You are very likely to fit (approximately) into one of the following ranges:



That “top C” is almost *de rigueur* for sopranos although some female voices can get quite a few notes higher. The late, great Minnie Ripperton comes to mind. Similarly the bottom E on the bass clef is a tricky reach for most male voices. So when you encounter music written in four voice parts (often labelled SATB for soprano, alto, tenor, bass) you’ll know where to position yourself. Incidentally, if you have ever listened to Thijs Van Leer from the 70's band Focus you may wonder whether this SATB stuff is worthwhile. He is all of these and more.

If there is a song you are keen on singing but some of it lies outside your range there are a couple of things you can do. You can use a capo (as shown in the ukulele accessories section) on your uke to make all the notes a bit higher. So, if you are struggling to get **down** to some notes in a song, put a capo on the second fret and every note jumps up a tone. On the soprano and concert ukes this is a pretty limited tactic because the frets get close together very quickly. On a tenor uke you might be able to get to the 5th fret with practice. This doesn't help if you need to lower the notes. A capo can only raise the notes so it only helps if you can't get *down* to some notes. Capos are great when you want to play along to things on YouTube. A lot of bands put a capo on the first fret.

The other (much better) way is to **transpose** the song to a different key. What you do here is shift ALL the notes (and the chords, as it happens) by the same amount, up or down, as you need.

Let's take our Bob Dylan example from earlier:

The [F] answer my [G] friend is [C] blowing in the [Am] wind
The [F] answer is [G] blowing in the [C] wind

This might be too high for you to sing, so what you could do is drop each chord (and therefore each note in the song) by three notes, so your [F] became [C], your [G] became [D], your [Am] became [Em] and your [C] becomes [G]. What you then have is:

The [C] answer my [D] friend is [G] blowing in the [Em] wind
The [C] answer is [D] blowing in the [G] wind

Of course, it might be that the original was, in fact, too low for your voice and (in the absence of a capo) you might feel that making all the notes a bit higher might be a good plan. So let's put everything **up** a few notes, making [F] into an [A] taking everything from C major to E major. This would give you:

The [A] answer my [B] friend is [E] blowing in the [C#m] wind
The [A] answer is [B] blowing in the [E] wind

Why [C#m] rather than [Cm]? Well, we have shifted the key from C major to E major and, in that key, we have C# rather than C. When you look at this transposition you probably think, no, some tricky chords there. [C#m]? [E]? Back to the drawing board...

We will do a more on transposing songs later when we are into chords in a big way. For now, just keep the concept at the back of your mind.

The Minor Scales

There was a strongly dropped hint earlier about there being minor scales as well as major scales. Time to have a look at these. Unfortunately, they are a little more complicated than the “do-re-mi...” of the “Sound of Music”.

In music theory, the term **minor scale** is more complicated than the term **major scale** because it generally refers to **three** scale formations – the **natural minor scale** (or Aeolian mode), the **harmonic minor scale**, and the **melodic minor scale** (ascending or descending) – rather than just one as with the major scale.

Fortunately for us, we can sidestep a lot of this theory by simply not worrying about it but let's take a simple example.

On your ukulele play the scale of A major on your 1st string. You did this some while back so it will all come flooding back.

What you have just played is (with the frets numbered):

0	1	2	3	4	5	6	7	8	9	10	11	12
A		B		C#	D		E		F#		G#	A

As you now know, the key of A major has three notes sharpened to ensure that it follows the “do-re-mi...” pattern. What if we don't sharpen these notes and just play the natural, unsharpened notes?

0	1	2	3	4	5	6	7	8	9	10	11	12
A	B		C		D		E	F		G		A

You have just played the natural minor scale that is A minor. It sounds very different. Sad. Haunting. From your knowledge of ukulele chords so far, you will probably recognise that minor chords sound, in some way, "sad". You can see what has happened to make the scale of A major into A minor. The 3rd note, C#, has been flattened to a C; the 5th note, F#, has been flattened to an F and the 7th note, G#, has been flattened to G. This means that the key of A minor has, like C major, no flats or sharps and is thus called the **relative minor** of C major.

The relative minor of any major key is easily found. It is the “la” note of the do-re-mi...sequence. That is the 6th note. So, starting at the root note of a scale, count six notes further on to give yourself the relative minor. That's all you need to know about minor scales. We aren't going to even touch harmonic and melodic minor scales.

We're going to leave the whole melody thing at this point and move into harmony, a much bigger and (to be honest) more interesting subject.

Harmony

Pythagoras got a mention earlier. He was, as you will remember, a mathematician and philosopher in ancient Greece. We all know the “square on the hypotenuse...” stuff but (in my humble opinion) his *greatest* gift to humankind was working out that the notes that sounded “nice” together were related by simple ratios, 1:2, 3:2 and suchlike. He did this, as you are, with a stretched string. Without going into the whole history of music and the development of the musical scale (a massive tome if ever there was one), what we have today is an approximation of these fractions to give us an “even-tempered” set of notes.

J.S.Bach wrote a lot of material (in “The Well-Tempered Clavier”) to get our western ears used to this scale of notes. I strongly urge you to go listen to this on YouTube: <https://www.youtube.com/watch?v=nPHIZw7HZq4>

Many pages ago I described harmony as adding “colour” to sounds and the next few sections explore this in quite a lot of detail. Our music is based around the combination of “pleasing” sounds. These sounds are all related to notes on the do-re-mi... scale.

The use of the word “pleasing” is controversial. Sounds that were once thought “pleasing” by the vast majority now aren’t. A lot of what we call Gregorian plainchant is thought quite jarring to 21st century ears. A lot of the dissonance¹⁹ in jazz is thought the same. Some composers deliberately use sounds that don’t “go” well together to make a point. So, when you hear something later in this book that you think sounds awful, it might just be you.

A lot of sounds come in and then drift out of fashion. In the early part of the 20th century, the use of diminished and augmented chords was rife. These days? Hardly ever. The suspended 4th and 2nd seems, likewise, to be passé these days although ABBA's music from the '70s and '80s is abundantly sprinkled with them. I'm guessing that the power chords of heavy rock will go the same way. I hope so.

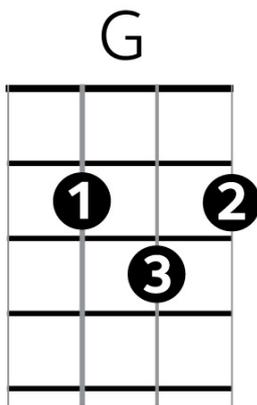
Whatever you think of various combinations of notes, **any** combination of notes is technically a **chord** and we are going to have a good look at a lot of these.

¹⁹ A lovely word meaning "lack of harmony"

Chords and Numbers

The ukulele has four strings so (obviously) the maximum number of notes that you can play **together at one time in a chord** is four. Guitarists (with their six strings) can play chords with up to six notes in. Not us. So, for example, a chord like [G11] which has six notes in it²⁰ cannot be played on a ukulele. We might like to think we are playing [G11] but it will always be an *approximation* of it. Even guitarists have this as a problem with some chords. The chord [G13] should have seven notes to make the full chord. This requires seven strings. Not possible even on a standard guitar, so something would need to be left out. What do we leave out? That's where an interesting discussion starts.... A lot of these (often jazz-based) chords come from piano keyboards where a lot of different notes being played together isn't really an issue. Having ten digits, we can have up to ten notes in a piano chord.

So, in this book, we are restricted to those chords which typically contain four notes. Easy. We will, every so often, describe differences for chords where there is a high-G or a low-G string but, to be honest, they are few and far between.



Most chords here will be displayed as a chord diagram. The diagram for the chord of [G] is shown to the left. The top line (unless specified otherwise) is the nut (have a look back at the anatomy section). Where a string is pressed down it carries a number - this refers to the finger doing the pressing. 1 = index finger, 2 = middle finger, 3 = ring finger and 4 = little finger. Where there is no finger pressing down on a string it is assumed to be an "open" string. If it is NOT to be played (a rarity) there will be an x on the nut. Another way of describing a chord is to use the finger positions in a four-digit number. The [G] shown in the diagram would be "translated" as {0232}. Although this is a really quick way of writing out a chord, it doesn't give very much information as to which fingers to use and, although we do employ this notation in this book, the diagrams are probably the best way.

The finger positions in chords are, like it says on food packaging, "serving suggestions". In general, notes you are trying to create on the first fret are looked after by the first finger (index finger). On the second fret the second finger takes preference. On the third fret, the third finger. However, it doesn't always work like this so don't get hung up on it. Your aim should be to produce clean sounds. Which fingers you use is always going to be a moot point. Friends of mine also use their thumbs "over the top" of the fretboard; the "gorilla grip" I've heard it called.

You will know already that a lot of chords contain numbers (e.g. [Am7]) and you might be reasonably wondering where these numbers come from. Well, they are the numbers of the various notes in the various keys. You saw these above in the melody section. But when you did see these, they were brought to an abrupt halt at 8 (the octave). Playing something like [G9] requires a note beyond 8 and into the **second octave**. It is easy enough, you just go through the notes again. For any

²⁰ An 11th chord is 1 + 3 + 5 + ♭7 + 9 + 11 - six different notes. Not possible on 4 strings.

note greater than 8, subtract 7 to give you a quick idea of what you are looking for. So for [G9] you need to have the 9th note, which equals the 2nd note (9 - 7 = 2) in the second octave. This is, of course, A.

The table below shows all the notes numbered in various keys. I have taken it up to 13 because, sometimes, you get chords which specify a 13th chord (even though they are technically unplayable on a ukulele) and I have also included all the major keys, rather than stopping at five sharps and five flats. This produces a few funnies (as in E# and C♭) but I've left them there for correctness, rather than for common sense. There are also some “doubles” such as F## (F double-sharp = G). The importance of a key can be judged from its colour: red=important, orange=less so; yellow=unimportant

KEY	#	♭	1	2	3	4	5	6	7	8	9	10	11	12	13
C	0	0	C	D	E	F	G	A	B	C	D	E	F	G	A
C#	7	0	C#	D#	E#	F#	G#	A#	B#	C#	D#	E#	F#	G#	A#
D♭	0	5	D♭	E♭	F	G♭	A♭	B♭	C	D♭	E♭	F	G♭	A♭	B♭
D	2	0	D	E	F#	G	A	B	C#	D	E	F#	G	A	B
D#	9	0	D#	E#	F##	G#	A#	B#	C##	D#	E#	F##	G#	A#	B#
E♭	0	3	E♭	F	G	A♭	B♭	C	D	E♭	F	G	A♭	B♭	C
E	4	0	E	F#	G#	A	B	C#	D#	E	F#	G#	A	B	C#
F	0	1	F	G	A	B♭	C	D	E	F	G	A	B♭	C	D
F#	6	0	F#	G#	A#	B	C#	D#	E#	F#	G#	A#	B	C#	D#
G♭	0	6	G♭	A♭	B♭	C♭	D♭	E♭	F	G♭	A♭	B♭	C♭	D♭	E♭
G	1	0	G	A	B	C	D	E	F#	G	A	B	C	D	E
G#	8	0	G#	A#	B#	C#	D#	E#	F##	G#	A#	B#	C#	D#	E#
A♭	0	4	A♭	B♭	C	D♭	E♭	F	G	A♭	B♭	C	D♭	E♭	F
A	3	0	A	B	C#	D	E	F#	G#	A	B	C#	D	E	F#
A#	10	0	A#	B#	C##	D#	E#	F##	G##	A#	B#	C##	D#	E#	F##
B♭	0	2	B♭	C	D	E♭	F	G	A	B♭	C	D	E♭	F	G
B	5	0	B	C#	D#	E	F#	G#	A#	B	C#	D#	E	F#	G#

So, use this table for reference purposes.

Families of Chords

In any major key, you will find that there are chords that “go well” with each other. Think of these as “families” of chords.

If we get rid of all the unimportant²¹ keys from the previous large table we can look at the families of chords in the main, important keys that we play music in every day. I know that some of will protest at C# major being removed (amongst others) but we need to keep this in the real world a bit. All the keys from five flats to five sharps are included. That’s plenty.

KEY	#	b	1	2	3	4	5	6	7
Musical Designation			I	ii	iii	IV	V	vi	vii
C	0	0	C	Dm	Em	F	G7	Am	Bdim
D ^b	0	5	D ^b	E ^b m	Fm	G ^b	A ^b 7	B ^b m	Cdim
D	2	0	D	Em	F#m	G	A7	Bm	C#dim
E ^b	0	3	E ^b	Fm	Gm	A ^b	B ^b 7	Cm	Ddim
E	4	0	E	F#m	G#m	A	B7	C#m	D#dim
F	0	1	F	Gm	Am	B ^b	C7	Dm	Edim
G	1	0	G	Am	Bm	C	D7	Em	F#dim
A ^b	0	4	A ^b	B ^b m	Cm	D ^b	E ^b 7	Fm	Gdim
A	3	0	A	Bm	C#m	D	E7	F#m	G#dim
B ^b	0	2	B ^b	Cm	Dm	E ^b	F7	Gm	Adim
B	5	0	B	C#m	D#m	E	F#7	G#m	A#dim

To recap: a chord is formed from two or more notes being played together or (in an *arpeggio*) slightly apart or “spread out”. The ukulele has four strings so the maximum number of notes that can be played together simultaneously is (obviously) four.

The "Musical Designation" line is important when you are looking at song structure (which we will be doing towards the end of the book). Where a chord progression is given as:

I - vi - IV - V

...you are looking at the first chord, the 6th chord in minor form (hence the lower case letters), the fourth chord and then the fifth chord (often as the 7th rather than just a major triad).

So, for this progression in C Major this is [C] [Am] [F] [G7]. For D Major it is [D] [Bm] [G] [A7] and for A^bMajor it is [A^b] [Fm] [D^b][E^b7]. Take this further; the famous

²¹ From a ukulele point of view.

canon in D major by Pachelbel doesn't **have** to be in D Major. The chord progression is:

I - V - vi - iii - IV - I - IV - V {and then repeat ad infinitum}

So in D Major it is [D] [A] [Bm] [F#m] [G] [D] [G] [A] but you can easily play the same sequence in another key. Just look up which Roman numeral applies to which chord in the table above.

How about G Major? [G] [D] [Em] [Bm] [C] [G] [C] [D]
 What about B Major? [B] [F#] [G#m] [D#m] [E] [B] [E] [F#]

My guess is that if you play Pachelbel's canon in B Major rather than the D Major in which he wrote it, you might be looking at a world first. Go for it!

A good proportion of ukulele players put their fingers in a particular position (for a chord that they know) and strum away. They know, for example, that the chord [C] is {0003}. Knowing that the fingers in these positions results in a [C] chord **may** be enough for you.

But it may not be.

It depends on where you want to be on the Venn diagram from a few pages back.

It is fine knowing that {0232} is a [G], but why is [G7] {0212}?

Why, also, is [Dm] {2210}? Why is...? The questions mount up quickly.

Let's have another look at an earlier table with only the popular keys left in it:

Key	1	2	3	4	5	6	7	8
C	C	D	E	F	G	A	B	C
D	D	E	F#	G	A	B	C#	D
E	E	F#	G#	A	B	C#	D#	E
F	F	G	A	B \flat	C	D	E	F
G	G	A	B	C	D	E	F#	G
A	A	B	C#	D	E	F#	G#	A

When we build chords we always adopt the same “**recipe**” or combination of notes in that key. So, for example, when we build a “major” chord (such as [C] or [G] or [D]) we use the 1st, 3rd and 5th notes in the scale. We are going to represent this as {1+3+5} in the text below. This formula for a major chord works across **every** key. The notes are always different but the **gaps** between the notes that make up the chord are always the **same**. The chord of [C] is {C+E+G} and the chord of [G] is {G+B+D} but in each case the 1st note is combined with the 3rd and the 5th.

The same is true for minor chords where the formula is 1st, flattened 3rd and 5th. So we get [Am] with {A+C+E} and [Bm] with {B+D+F#}. Different notes but the same underlying combination of 1st, flattened 3rd and 5th.

The chords we will be looking at are:

Chord Type	Example	General Construction ("Recipe")
Major	[C]	{1 + 3 + 5}
Minor	[Cm]	{1 + \flat 3 + 5}
7th	[C7]	{1 + 3 + 5 + \flat 7}
Minor 7th Major 6th	[Am7] [C6]	{1 + \flat 3 + 5 + \flat 7} {1 + 3 + 5 + 6}
Suspended 2nd Suspended 4th	[Csus2] [Csus4]	{1 + 2 + 5} {1 + 4 + 5}
Major 7th	[Cmaj7]	{1 + 3 + 5 + 7}
Diminished Diminished 7th	[Cdim] [Cdim7]	{1 + \flat 3 + \flat 5} {1 + \flat 3 + \flat 5 + $\flat\flat$ 7}
5th (Power Chords)	[C5]	{1 + 5}
9th Chords Added 9th Chords	[C9] [Cadd9]	{1 + 3 + 5 + \flat 7 + 9} then omit 3 or 5 {1 + 3 + 5 + 9}
Minor 6th Chords Minor 9th Chords	[Cm6] [Cm9]	{1 + \flat 3 + 5 + 6} {1 + \flat 3 + 5 + \flat 7 + 9}

Major Chords

All the major chords are **triads**²² made up from the same pattern of notes. Not the same notes, the same **pattern** of notes. They all contain the {1+3+5} notes in the key. This combination of notes is, like I noted before, akin to a recipe; mix them together and you get a major chord.

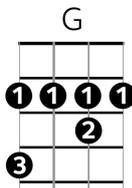
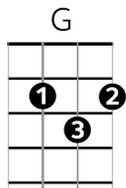
Major Chord = {1+3+5}

What this tells us is that a [C] chord is made up of a {C+E+G}. A [D] chord is {D+F#+A} and so on.

The major chord is **always** built to this recipe.

For the ukulele, with its four strings, *any* one of the notes in the major triad could be repeated. Similarly, these notes might not always be in the order {1+3+5}. They might be {5+3+1} or {3+1+5} or any other combination. These are called **inversions** and they are really common on a ukulele where getting the notes in the “right order” is sometimes impossible. To be honest, there is no “right order” and you (theoretically) can play any inversion you like. Some inversions require serious digital contortion and the dislocation of finger joints so these are best avoided. More often than not I think of "inversions" as "versions"; different versions of the same chord. It helps demystify the process.

Let's take a couple of examples:



Common [G] chord			[G] chord inversion		
String (L to R)	Note	Number	String (L to R)	Note	Number
4	G	1	4	B	3
3	D	5	3	D	5
2	G	1	2	G	1
1	B	3	1	B	3

You will notice that the common [G] chord is {1+5+1+3} so the note that is doubled up is G. The inversion is {3+5+1+3} so the note that is doubled up is a B. Both are perfectly OK as [G] chords. There isn't a "better" or "preferred".

²² Three notes. Nothing to do with oriental gangsters,

Minor Chords

A major chord just has the letter of the chord within square brackets. So [C] means the chord **C major**, [G] means **G major** and so on. For minor chords we add a small “m” after the tonic note. So the chord of **C minor** becomes [Cm]. Sometimes you will see this as [Cmin] but not in this book...

The **only** difference between a major chord and a minor chord is that the 3rd is **flattened** in the minor chord. So [C] is {C+E+G} and [Cm] is {C+E \flat +G}. Wherever the 3rd is in the chord, it needs to be taken down a fret to give the flattened third.

Minor Chord = {1+ \flat 3+5}

Minor chords always sound a little sad, wistful, melancholic. To be honest, that is probably the easiest way to spot them. Our ears are good at “happy” and “sad” sounds.

Sometimes it is easy to spot that a minor chord has been formed. Think of the [D] chord, {2220}. In terms of the notes, that is {A+D+F#+A}. The 3rd note in the key of D is F#, so [Dm] would have an F instead of the F#. So that 2 on the second string would become a 1 and the whole chord would be {2210}. Major to minor.

Just as we saw with major chords, the notes might not be in ascending order. Repeat after me: Inversions are very common on the ukulele.

Have a look at some common minor chords:

	Am		Dm		Em		Gm	
String	[Am]		[Dm]		[Em]		[Gm]	
4	A	1	A	5	G	\flat 3	G	1
3	C	\flat 3	D	1	E	1	D	5
2	E	5	F	\flat 3	G	\flat 3	G	1
1	A	1	A	5	B	5	B \flat	\flat 3

The only one of the four chords where the order of the notes is {1+ \flat 3+5} is [Am]. All the others are inversions of the basic minor triad.

7th Chords

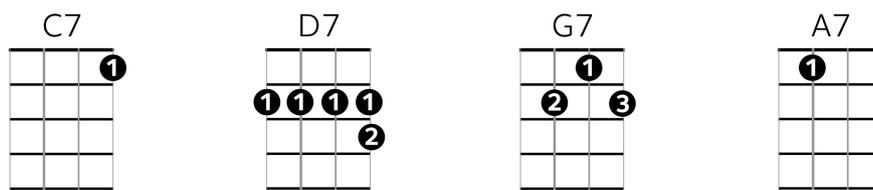
The 7th chords are built around a major triad {1+3+5} but then they have a **fourth** note added – a **flattened 7th**. When you are playing a piece of music on the ukulele you nearly always have a choice with 7th chords – to play or not to play?

7th Chord = {1+3+5+♭7}

To be honest, the number of times you can (for example) get away with playing [G] rather than [G7] is nearly 100%, but then again, it might be just as easy to do it right as my Dad used to tell me. Often.

This is the first chord we have looked at where you need all four strings on the uke so it does limit you a bit when it comes to possible inversions of the 7th chord. With a chord like [C] you have three notes and four strings. For [C7] you have to put in the extra note (a B♭ in the case of the [C7] chord) so you are a little more restrained in your choice of finger positions. You don't have the same "degree of freedom".

Again, with ukuleles, there is no real "preferred order" to the notes.



String	[C7]		[D7]		[G7]		[A7]	
1	B♭	♭7	C	♭7	B	3	A	1
2	E	3	F#	3	F	♭7	E	5
3	C	1	D	1	D	5	C#	3
4	G	5	A	5	G	1	G	♭7

Not one of these chords is in "piano" order. All are "mixed up" and it is worth saying it again, it really doesn't matter when you have a ukulele in your hands.

Minor 7th & Major 6th Chords

The minor 7th chords are built around a minor triad {1+ \flat 3+5} but then they have a fourth note added – a flattened 7th added in. They are quite a common sight in ukulele music.

Minor 7th Chord = {1+ \flat 3+5+ \flat 7}

Major 6th chords are less common but are simply the major triad plus a 6th.

Major 6th Chord = {1+3+5+6}

So why are we looking at these two chords in the same section? Well, the eagle-eyed amongst you will have spotted something curious about minor 7th chords. Every minor 7th is, in fact, a version of the 6th chord of the relative major. Let's look at [Am] becoming [Am7] and [C] becoming [C6] :

[Am] = {A + C + E} ⇒ [Am7] = {A + C + E + G}

[C] = {C + E + G} ⇒ [C6] = {C + E + G + A}

The notes in [Am7] are identical to the notes in [C6]. The order is different but the notes are the same (i.e. they are versions of each other). The question then arises: when do I use [Am7] and when do I use [C6]? To be honest, that is a really tricky one. For piano players and, often, guitarists it is an easy one because [Am7] would ideally have an A as its root note and [C6] would have a C. Not so for the ukulele where the chord shapes are usually identical. So, without saying that it doesn't matter which you use, it rather depends on the **context** of the music²³. It really doesn't matter though.

Just for reference, the following (more common) chords are equivalent:

Minor 7th	Major 6th	Notes in Both
[Am7]	[C6]	{A + C + E + G}
[Bm7]	[D6]	{B + D + F# + A}
[Cm7]	[Eb6]	{C + E \flat + G + B \flat }
[C#m7]	[E6]	{C# + E + G# + B}
[Dm7]	[F6]	{D + F + A + C}
[Em7]	[G6]	{E + G + B + D}
[Fm7]	[Ab6]	{F + A \flat + C + E \flat }
[F#m7]	[A6]	{F# + A + C# + E}
[Gm7]	[Bb6]	{G + B \flat + D + F}

²³ Don't you just love a get out of jail card!

Suspended 2nd and Suspended 4th Chords

A suspended chord occurs when the third is **omitted**, and then **replaced** with either a 2nd for a "sus 2" or a 4th for a "sus 4". The suspended 4th is slightly more common in popular music. The dissonance between the fourth and fifth or second and root creates what musicians call "tension". You always feel that the suspended chord should be going to somewhere or leading to something.

Sus 2 Chord = {1+2+5}

Sus 4 Chord = {1+4+5}

The abbreviation for suspended is **sus**, so you will see, for example, [Csus2] or [Csus4] written into the music. We tend to leave the spaces out of chords so you are unlikely to see [C sus4]. You might also see [Csus] without specifying whether it is a 2 or a 4. It means 4 if it isn't there but I don't approve.

All of the above are suspended **major** chords. What happened to the **minor** chords you ask? Well, the only difference between a major triad and a minor triad is the **flattened 3rd** and in a sus2 or a sus4 chord there is no 3rd (flattened or otherwise) to worry about. So a chord such as [Am sus4] simply doesn't exist as such. [Asus4] and "[Am sus4]" are identical.

It is relatively common to have a suspended 4th as part of a 7th chord. For example [G7sus4] is used quite a lot in the key of C major. The only difference in the composition of this chord is the added \flat 7th to give a recipe that looks like {1+4+5+ \flat 7}.

An interesting feature of sus4 and sus2 chords is that a sus4 in one key is a sus2 in another. We saw a similar thing in the case of minor 7th and major 6th chords. Take [Dsus4] as an example. According to our little recipe above, this contains the notes {D+G+A}. Likewise, the chord [Gsus2] contains {G+A+D}. The same notes in a different order. We come across different inversions all the time on the ukulele. The common sus4/sus2 relationships are given in the table below:

Suspended 4th	Suspended 2nd	Notes in Both
[Asus4]	[Dsus2]	{A + D + E}
[Bsus4]	[Esus2]	{B + E + F#}
[Csus4]	[Fsus2]	{C + F + G}
[Dsus4]	[Gsus2]	{D + G + A}
[Esus4]	[Asus2]	{E + A + B}
[Fsus4]	[Bbsus2]	{F + B \flat + C}
[Gsus4]	[Csus2]	{G + C + D}

This is a handy table to remember as it saves you learning a lot of new finger positions.

Major 7th Chords

Some of the most beautiful chords, when played as individual notes, can sound awful when strummed. I think that the Major 7th chords fall into this category. However, even though these might sound a bit “off” compared to major chords and minor chords they add a lot of colour to a piece of music.

Major 7th Chord = {1+3+5+7}

The Major 7th chords (usually shown, for example, as [Cmaj7] or [Gmaj7] but you might come across them as [CM7] - but not here) are composed of the major triad {1+3+5} with a 7th added. They differ from the normal 7th chords in that the 7th is *flattened* there. So, [C7] would be {C+E+G+B \flat } but [Cmaj7] is {C+E+G+B}. The proximity of the C and the B makes the chord a little jarring but, at the same time, quite beautiful. These chords have something of a “haunting” sound.

The commonest Major 7th chords are:

Major 7th	Notes {1 + 3 + 5 + 7}
[Amaj7]	{A + C# + E + G#}
[Bmaj7]	{B + D# + F# + A#}
[Cmaj7]	{C + E + G + B}
[Dmaj7]	{D + F# + A + C#}
[Emaj7]	{E + G# + B + D#}
[Fmaj7]	{F + A + C + E}
[Gmaj7]	{G + B + D + F#}

Go on YouTube and listen to “Old Friends” by Simon and Garfunkel. The opening few lines are alternating major 7th chords.

Diminished and Diminished 7th Chords

Just like the **maj7** chords in the section before, these chords have something of an "off" sound but are really beautiful chords when they are in the right context. After telling you about diminished chords we can then more or less forget them as the diminished 7th chords are so much more useful and accessible.

A diminished chord (often denoted with a **dim** or a ° sign: [Cdim] or [C°]) is really one step further on from a minor chord. You will recall that the minor chord was a triad made up from {1 + b3 + 5}. In the diminished chord the 5th becomes a flattened 5th (b5th):

Diminished Chord = {1+b3+b5}

Diminished 7th Chord = {1+b3+b5+b7}

You can see the progression in a table for the chords with an A root:

Chord	Recipe	Notes
[A]	{1 + 3 + 5}	{A + C# + E}
[Am]	{1 + b3 + 5}	{A + C + E}
[Adim]	{1 + b3 + b5}	{A + C + Eb}
[Adim7]	{1 + b3 + b5 + bb7}	{A + C + Eb + Gb}

Going from the [A] to [Am] is achieved by flattening the 3rd and going from [Am] to [Adim] is effected by then flattening the 5th. The trouble with straight diminished chords is that they are often quite tricky to play on a ukulele. Far easier are the **diminished 7th** chords. These are (in structure) very similar to the diminished chords but they have a **doubly-flattened 7th note** as well. That bb7 was no typing mistake (although there will be plenty in this book!).

So the [Adim7] chord contains four **equally spaced** notes. You can see this easily in a line-up of notes starting with A:

A A# B **C** C# D **D#** E F **F#** G G# **A**

The notes in the [Adim7] chord are highlighted. (You might need to recall here that Eb is D# and Gb is F#). The four notes in the chord are evenly spaced along the line. This even spacing means that *several* chords contain exactly the same notes. In the example above where we looked at [Adim7], the same notes are found in [Cdim7], [D#dim7], [Ebdim7], [F#dim7] and [Gbdim7]. Six chords for the price of one! It also means that dim7 chords repeat every four frets. If you play [C#dim] as {1212} you can also play it as {4545} and again as {7878}. Awesome.

When you next see a piece of ukulele music with diminished chords in, have a quick check whether it really means "diminished" or "diminished 7th". It probably doesn't matter in all honesty. If in doubt, play the diminished 7th.

Augmented Chords

Just like the diminished and diminished 7th chords, augmented chords can sound slightly jarring to 21st century ears but they can be really effective in providing a transition through a chord sequence. They are often shown with an **aug** label (e.g. [Caug]) or with a plus (+) sign (e.g. [C+]). I think the latter is ever so slightly more popular whereas I think "dim" and "dim7" are slightly more popular with diminished chords.

An augmented chord is derived from a major triad but the recipe has the 5th **raised** half a tone (sharpened).

Augmented (+) Chord = {1+3+#5}

If you think of the [A+] chord, this would mean that the notes you would need to be in the chord are {A+C#+E#}²⁴. A little like the diminished 7th chords, this gives a regular spacing along the notes and augmented chords can be called several things without changing your finger positions:

A A# B C **C#** D D# E **F** F# G G# **A**

This regularity means that [A+] and [C#+] (and [Db+]) and [F+] are all versions of one another. This time you get four chords for the price of one.

Augmented chords used to be very popular in Edwardian music hall material but that popularity has waned somewhat.

They do still crop up though. If you go and listen to the opening few bars of "Mamma Mia" (the song, not the musical) by ABBA. It is [D][D+] repeated.

²⁴ E# is F

5th Chords

Every chord we have looked at, so far, has had three or more notes in its makeup.

Enter the 5th!

5th Chord = {1+5}

A 5th chord, like the name suggests has only two notes: the root note and the 5th. This makes for a very raw sound but, nevertheless, they get used a lot, especially in rock music where they are given the general title of "Power Chords". Cigar Box guitars are commonly tuned like this. I have such a machine tuned G, D, G'. It plays power chords almost exclusively.

There is a place for 5th chords on the ukulele too. If you play the four strings of your ukulele with a finger pattern of {0033} you will be playing [C5]. In this [C5] chord the notes are {G+C+G+C} and there is no 3rd added in.

Similarly if you play the chord shape {0235} you will be playing [G5].

The big (only?) advantage of 5th chords is that, lacking a 3rd, you can play a 5th instead of playing a major or a minor. So if you see [Cm] coming into view and your fingers just aren't "there", play [C5] and few people will be any the wiser.

The big disadvantage is that the chord shapes are often quite difficult. [C5] and [G5] are fine but most of the others are a bit on the tricky side.

I'm assuming that 3rd chords also exist where the recipe is just {1+3}.

To be honest, I've never seen them. I have **once**²⁵ seen "fourth" chords (e.g. [F4]) which are just {1+4}. For example [G4] would be {G+C} but, hang on, that is just [C5] reversed. May be that's why...

²⁵ For the life of me I can't remember where.

9th Chords and Added 9th Chords

The added 9th chord (e.g. [Cadd9]) and the 9th chord (e.g. [C9]) look as though they have a lot in common and, indeed, they have. When you have a lot of strings available (e.g. six on a guitar) there is a real difference between the two. On the four strings of a ukulele, not so much.

For the record, the recipes for making these chords are:

9th Chord = {1+3+5+ \flat 7+9}

Add 9th Chord = {1+3+5+9}

You can see a problem with the 9th chord straight away. It needs five notes. Five strings required. Only four available.

So how do we get round this? You can omit the 3rd or the 5th to add in the \flat 7th and the 9th – the choice is yours. If it is a minor 9th you are trying to play you should leave the 5th out because the 3rd is important in the minor chord. In a major chord it is safe to leave the 3rd out.

Oddly enough, even though they have so much in common, these chords sound quite different. If we take [F9] and [Fadd9] as examples you might see why. [F9] is best played as {0310} which gives the notes {G + E \flat + F + A}. There is no C (the 5th) in this chord. Regrettable but we only have four strings. [Fadd9] is best played as {0010} which gives the notes {G + C + F + A}. If you play [F9] and [Fadd9] on your uke you will spot the difference in sound.

In guitar and piano music you will also see 11th chords and 13th chords. These just add to the whole problem! Let's look at all of these "odd number" chords and their associated emoticon:

7th Chord = {1 + 3 + 5 + \flat 7} 😊

9th Chord = {1 + 3 + 5 + \flat 7 + 9} 😬

11th Chord = {1 + 3 + 5 + \flat 7 + 9 + 11} 😞

13th Chord = {1 + 3 + 5 + \flat 7 + 9 + 11 + 13} 😡

A full 13th chord is made up of seven notes! That is a major triad plus a seventh, ninth, eleventh and the 13th. Since this is impossible to play on a six-string guitar and even more impossible on the ukulele, the fifth and the third are often left out (and sometimes even the root!). For example, [C13] consists of the notes C, E, G, B \flat , D, F and A. This is clearly getting silly. We look for simpler alternatives where possible. A lot of these chords are simply beyond the scope of the ukulele.

Minor 6th , Minor 9th & Minor 11th Chords

The minor 6th chord seems to crop up quite a lot and, for all that it contains a certain amount of dissonance, it has its place here.

Minor 6th Chord = {1+ \flat 3+5+6}

So, for something like [Am6] we would have the notes {A+C+E+F#}. It is those last two notes that provide the jarring dissonance of the minor 6th.

Sometimes the minor 6th can be a chord en route to somewhere else. For example, [Em7][Em6][C][Cmaj7] where the D in the [Em7] runs through C# in the [Em6] and the C in [C] leading to the B in [Cmaj7]. Pretty. The problem with any minor 6th is getting all the notes involved.

There are few examples of minor 9th around. The recipe is technically impossible to fulfil on a ukulele:

Minor 9th Chord = {1+ \flat 3+5+ \flat 7+9}

The fact that this contains five notes means that something has to give. Probably not a good idea to drop the \flat 3 (after all, this is what makes it a minor in the first place) so the obvious combination would be {1+ \flat 3+ \flat 7+9}. If, instead of dropping the \flat 3 we omitted the \flat 7 we would not have a minor 9th but a minor with an added 9th: {1+ \flat 3+5+9}. For example, [Bm add9] (often written as [Bmadd9] without the space) would be {B+D+F#+C#} which is quite a pleasant chord

The minor 11th chord is nowhere near fully playable on a ukulele:

Minor 11th Chord = {1+ \flat 3+5+ \flat 7+9+11}

The usual approximation is:

Minor 11th Chord = {1+ \flat 3+ \flat 7+11}

This works but is not really all that close to the real thing.

Chords You've Never Seen Before

It happens to us all.

You are bouncing through some piece of music that you probably should have studied a bit better when, a few lines further on from where you are, you see a chord that you have never seen before. This happened to me recently when [G7+5] hove into view. It was four lines away (I wasn't singing at the time) so I had time to think. Do I just play [G7]? No, that won't do because the 5th is part of the [G7] chord and it wants me to sharpen the 5th. What about [G+]? That might do but the 7th is missing from that. OK, so what **is** the 5th? G→A→B→C→**D! D is the 5th**. So I need a D# (or an E^b - same thing) rather than a straight D in the [G7] chord. [G7] is {0212}. The D in that chord is on the 3rd string so the chord would need to be {0312}. Gotcha. Put my fingers in the normal [G7] position {0212} and then use my spare (little) finger to make it {0312}. A few seconds later, danger had passed and my [G7+5] had worked. To be honest, [G+] would have worked too but I probably panicked.

There are a few lessons in this. The obvious first is that a quick look at the chords **before** you start playing is always a good idea. The second is that knowing where the notes are on the fretboard is really helpful. The third is that knowing how chords are put together is a major plus.

A lot of ukulele music already has the chord patterns for standard GCEA-tuned ukes on the page as graphics. But a lot doesn't. Being able to formulate some kind of chord shape that satisfies the music becomes something of a regular occurrence.

When you are confronted with a chord you haven't seen before, try this:

- The chord will have a first letter ranging from [A] to [G]. Start with the major chord of this shape and work from there. You may (eventually) find that there is a better inversion of this chord but we can cross that bridge a little later.
- Is it a minor chord? If so, you need to have a ^b3rd. Start with the letter and move on two letters to the 3rd. Identify your 3rd and flatten it. [D] is {2220} [Dm] is {2210}. [A] is {2100} [Am] is {2000}. [G] is {0232} [Gm] is {0231}. You can see the 3rd getting flattened in each case.
- What comes after the main instruction? Get ready to count here. You need to know the sharps and flats in the root key. For a [C]-based chord it may be [Csus2] with the 3rd replaced by the 2nd, [Csus4] with the 3rd replaced by the 4th, [Cdim7] with the 5th flattened and a ^bb7th added in, [C5] with no 3rd at all, [C+] with a sharpened 5th, [C6] with a 6th added, [C7] with a ^b7th added, [Cmaj7] with a 7th added, [Cadd9] with a 9th added.
- Add these additional notes to your shape and you've got yourself a chord. With practice you can do this in about 5 seconds. Earlier on it might take a bit longer.

Questionable Chords

Consider the chord {2020}. This is the famous "Hawaiian D7". On a GCEA tuned uke this contains the notes {A+C+F#+A} which, let's face it, looks like [D7]...without having a D in the chord! Chords which don't contain the root note are always open to question and always need a little explanation as a footnote. It might be better, to be honest, to give them a name which describes them better than "[D7] without a D" and, to be honest, [D7]* doesn't do it either.

Armed as we now are with a little knowledge²⁶ about how chords are constructed we can look at these chords a little closer.

Let's return to the example above. So we know the notes are: {A+C+F#+A}. The A is clearly the root note (there are two of them!) and the C is a flattened third. We are looking at [Am] thus far. The F# is the 6th note in the key of A major so {2020} is [Am6] on a standard uke, not "[D7] without an D".

Just about any chord with a missing root can be redefined as another chord that might be better named. The chord "[Cm6]" appears every so often as {0330} on the standard uke. In notes this is {G+E♭+G+A}. There is no C in this [Cm6]. Admittedly, all the other notes appear in [Cm6] but the lack of a C is, I think, a problem. The chord could be [D#-5]. Hmmm. There root note is a G (it appears twice and is the lowest note as well) so it could well be a [G]-something. The A is a suspended 2nd (replacing the 3rd) and the E♭ (or D# if you like) is a sharpened 5th. So [Gsus2+5] is probably the right description of the chord. This wouldn't have a C in it anyway. If the chord was re-cast as {5330} it would have a C as the root and would then be [Cm6] for sure!

There are plenty of chords like this.

Beware.

²⁶ A dangerous thing?

Slash Chords

When you browse through guitar music you will regularly see what are called "slash chords" such as [C/G]. This, in the guitar world, means "C major with a G as the bass note" and on a guitar you would play that as {332010}. In the ukulele world, you can still infrequently find these slash chords (named for the slash symbol / rather than for anything else) but the meaning is (sometimes!) different. Where you see [Am/C] in ukulele music it really means "double up on the C" or "emphasise the C" rather than telling you what the root note is.

[Am] you will know as {2000} and the notes for this are {A+C+E+A} so you are doubling up the A. Where you get [Am/C] you are doubling up the C so the chord is {2003} and the notes are {A+C+E+C}. It is still an A minor but the "spare" note has been made into C rather than left as the A.

Another common ukulele slash chord is [F/C]. The usual [F] chord is {2010} and the notes in this are {A+C+F+A}. With [F/C] you are being "encouraged" to try another inversion of the F major chord: {2013} which is {A+C+F+C}. Again, it is just an inversion of [F].

The inversions of [G] that we looked at earlier could have received the same treatment. The basic [G] chord is {0232} which is {G+D+G+B}. If we played this chord as {3232} we would have {B+D+G+B} and so the slash version of this would be [G/B].

So there is a clear difference here between the guitar and the ukulele. Beware when you come to take some guitar music and transform it into uke music. The slash chords are subtly different.

Transposing: Changing Key

Most of the time, we ukulele players are just bashing out someone else's music, but there will come a point where the key it is written in is simply not suitable for your voice (or that of your singer, if not you). This is where you need to be able to change key. If you need to go **up** a little you can always use your capo, but there are times when even this will not do and a capo is no use at all if you want to go down (e.g. when the key a song is written in is simply too high for your voice).

Changing key is known as **transposing**.

If you have your ukulele music in an editable format (e.g. Word on a PC or Pages on a Mac) you can change it within the software. **Be careful when doing this.** Imagine transposing from C major to G major. If you are changing all the [C] chords to [G] you may already have some [G] chords in the song. So when you change *them* to [D], all the ex-[C] chords change as well. Utter chaos!

What I do (because I always use [] square brackets for chords) is to change the right-hand bracket to a curly bracket so that my chords look like []. This means that I can transpose the chords and change the curly bracket back to a square bracket as I do so. Unchanged chords will have a curly bracket in there and be relatively easy to spot.

If you are changing key on the fly as you play it gets a little harder. Most of us can go up or down (a little harder) a key ($C \Rightarrow D$ or $G \Rightarrow F$ for example) but it usually pays to scribble the new chords on to the music rather than overload an old brain when it is already busy.

The big trick in transposing is to make sure that the "flavour" of the chord remains. If, for example, it starts as a minor 7th it must end as a minor 7th.

The table on the next page will help in transposing. It won't give you any help in keeping the "flavour" of the chord but it should help in getting the "shift" right. There are some notes doubled up. In every case I have put the less common one (in usage terms) in brackets. For example: Bb (A#).

Transposition Chart

G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G
Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)
A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A
Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)
B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B
C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C
C# (Db)	D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)
D	Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D
Eb (D#)	E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)
E	F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E
F	F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F
F# (Gb)	G	Ab (G#)	A	Bb (A#)	B	C	C# (Db)	D	Eb (D#)	E	F	F# (Gb)

Instructions:

- Always start at the column with C at the top (shaded light yellow).
- Decide how many notes **up** (moving right) or **down** (moving left) you want to go.
- Locate this column.
- Any note in the central column becomes a note in your new column.
- Remember to keep the "flavour" of the chord.

Example:

Transpose [C] [Am] [F] [G7] [Dm7] [A+] up so that the [C] becomes [F]

Start at the central column. The "new" column is seven to the right.

So:

[C] ⇒ [F] [Am] ⇒ [Dm] [F] ⇒ [Bb] (or [A#])
 [G7] ⇒ [C7] [Dm7] ⇒ [Gm7] [A+] ⇒ [D+]

How Chords Form

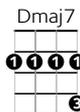
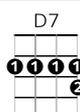
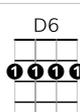
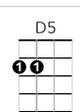
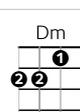
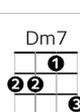
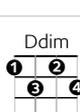
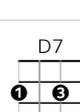
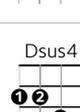
You can get charts with hundreds of chords on just about anywhere. I'm more interested, here, in showing how families of chords develop by rearranging the fingers, sharpening some notes, flattening others. I think this is best done as a chart with added notes. Not all the chords in the family are shown and not all families are present either.

The [C] Family

Chord	Shape	Notes
[C]		The major chord (any key) is {1+3+5} so for C major, with no sharps or flats that is the notes {C+E+G}. The standard [C] chord is an inversion of this: {G+C+E+C} so the root note is doubled up.
[Cmaj7]		The [Cmaj7] chord is very similar to [C]; only one note is different. Any major 7th is {1+3+5+7} so this would be {C+E+G+B} on a piano. On the ukulele it is {G+C+E+B}.
[C7]		The 7th chord has a flattened 7th in addition to the major triad, so the general form is {1+3+5+b7}. So we have {C+E+G+Bb} on a piano but {G+C+E+Bb} on the ukulele.
[C6]		That note has been sliding down the 1st string. The [C6] chord is made up the notes {1+3+5+6} (viz. {C+E+G+A}). On the ukulele we can't play them in that order. We have {G+C+E+A}. This is identical to [Am7]
[C5]		The 5th chord contains only two notes {1+5}. We would expect to see only C and G in [C5] and that is exactly what we have: {G+C+G+C}. Because there is no 3rd, you can use [C5] instead of [Cm].
[Cm]		The minor chord has (unsurprisingly) a minor triad: {1+b3+5}. This would be {C+Eb+G} on a keyboard. On the ukulele it is {G+Eb+G+C} so it is the G (the 5th) that is doubled up.
[Cm7]		The minor 7th has a minor triad plus a b7. We know (from [C7]) that the b7 is Bb so this explains the barré chord across the third fret; the notes are {Bb+Eb+G+C}. Incidentally, this is also [Eb6]
[Cdim7]		The chord that is usually called [Cdim] is actually [Cdim7]. Any dim 7 chord has {1+b3+b5+bb7} and this would be {C+Eb+Gb+Bbb}. Recall that Bbb is A and what we have in this chord is {A+Eb+Gb+C}.
[C+]		An augmented chord is {1+3+#5} which would be {C+E+G#} on a keyboard. Here we have {G#+C+E+C} - a simple inversion.

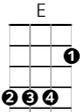
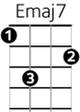
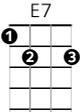
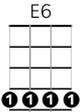
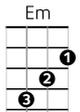
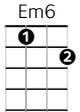
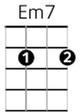
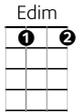
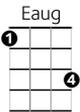
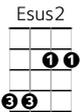
The [D] Family

A lot of ukulele music is written using [D] and other chords from this family

Chord	Shape	Notes
[D]		The mix of notes is {1+3+5} so for D major, with two sharps that is the notes {D+F#+A}. The standard [D] chord is an inversion of this: {A+D+F#+A} so the 5th is doubled up.
[Dmaj7]		The [Dmaj7] chord is very similar to [D]; only one note is different. Any major 7th is {1+3+5+7} so this would be {D+F#+A+C#} on a piano. On the ukulele it is {A+D+F#+C#}.
[D7]		That C# slides down a fret to become a C (which is a flattened 7th in the key of D). The general form is {1+3+5+♭7}. So we have {D+F#+A+C} on a piano but {A+D+F#+C} on the ukulele.
[D6]		That note keeps sliding down the 1st string. The [D6] chord is made up the notes {1+3+5+6} (viz. {D+F#+A+B}). On the ukulele we can't play them in that order. We have {A+D+F#+B}. This is, incidentally, also the [Bm7] chord.
[D5]		The 5th chord contains only two notes {1+5}. We would expect to see only D and A in [D5] and that is exactly what we have: {A+D+A+D}. Because there is no 3rd, you can use [D5] instead of [Dm] but it is not an especially easy chord to play.
[Dm]		The minor chord has a minor triad: {1+♭3+5}. This would be {D+F+A} on a keyboard. On the ukulele it is {A+D+F+A} so it is the A (the 5th) that is doubled up.
[Dm7]		The minor 7th has a minor triad plus a ♭7. We know (from [D7]) that the ♭7 is C so this makes this chord {A+D+F+C}. In the words of Eric Morecambe, all the notes are there but not in the right order.
[Ddim7]		The chord that is usually called [Ddim] is actually [Ddim7]. Any dim 7 chord has {1+♭3+♭5+♭♭7} and this would be {D+F+A♭+G♭+C♭♭}. Recall that (C#)♭♭ is B and what we have in this chord is {A♭+D+F+B}.
[D7] Hawaiian		This chord is often played as [D7] but it does not contain a D. [D7] should contain {D+F#+A+C} but this chord is {A+C+F#+A}. It is actually [Am6].
[Dsus4]		The recipe for a sus 4 chord is {1+4+5}. That would be {D+G+A} on a keyboard. The chord we have here is {A+D+G+A} so it is the 5th that is doubled up.

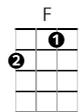
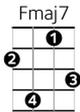
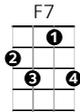
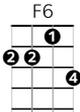
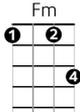
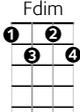
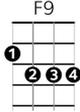
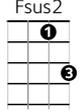
The E Family

The [E] chord and family have, traditionally, been rather neglected. [E] is not an easy chord to play. There are a number of chords here that aren't "easy".

Chord	Shape	Notes
[E]		The mix of notes is {1+3+5} so for E major, with 4 sharps (F# C# G# and D# to worry about) that is the notes {E+G#+B}. The standard [E] chord is an inversion of this: {B+E+G#+B} so it is the 5th that is doubled up.
[Emaj7]		The [Emaj7] chord is very different to [E] even though only one note is different. Any major 7th is {1+3+5+7} so this would be {E+G#+B+D#} on a piano. On the ukulele it is {G#+D#+E+B}.
[E7]		That D# slides down a fret to become a D (which is a flattened 7th in the key of E major). The general form of a 7th chord is {1+3+5+♭7}. So we have {E+G#+B+D} on a piano but {G#+D+E+B} on the ukulele.
[E6]		The [E6] chord is made up the notes {1+3+5+6}. On the ukulele we can't play them in that order. We have {B+E+G#+C#}. This is, incidentally, also the [C#m7] chord.
[Em]		[Em] is a really common chord but takes some playing on a uke. The notes for the minor triad are {E+G+B} and the notes we have here are {G+E+G+B} so it is the flattened 3rd (G) that is doubled up.
[Em6]		[Em6] is a simple chord {0102} and is a minor triad plus a 6th: {1+♭3+5+6}. On the ukulele this comes as {G+C#+E+B} so the order is {♭3+6+1+5} - quite a jumble.
[Em7]		That C# in [Em6] drift up a fret to become a D in [Em7] so the eventual outcome is {G+D+E+B}. This chord is also [G6] on a ukulele.
[Edim7]		If you compare this to the chord above you can see that two notes are flattened: the D becomes D♭ and the B becomes B♭. This makes an inversion of {1+♭3+♭5+♭♭7}.
[E+]		If you flip back a couple of pages you will see that [E+] is the same as [C+]. This is because of the regular spacing of notes within an augmented chord.
[Esus2]		The recipe for a sus 2 chord is {1+2+5}. That would be {E+F#+B} on a keyboard. The chord we have here is {B+E+F#+B} so it is the 5th that is doubled up.

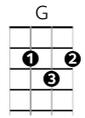
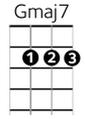
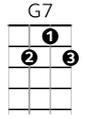
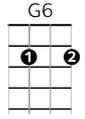
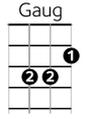
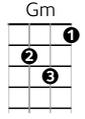
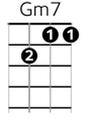
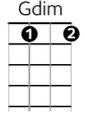
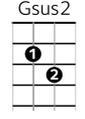
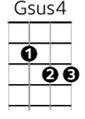
The [F] Family

This is one of the most common keys for GCEA-tuned ukuleles.

Chord	Shape	Notes
[F]		The mix of notes is {1+3+5} so for F major, with one flat (B \flat) that is the notes {F+A+C}. The standard [F] chord is an inversion of this: {A+C+F+A} so it is (unusually) the 3th is doubled up.
[Fmaj7]		The [Fmaj7] chord is very similar to [F]; only one note is added. Any major 7th is {1+3+5+7} so this would be {F+A+C+E} on a piano. On the ukulele it is {A+E+F+C}.
[F7]		That E slides down a fret to become a E \flat (which is a flattened 7th in the key of F). The general form is {1+3+5+ \flat 7} which is {F+A+C+E \flat } but we have {A+E \flat +F+C} on the ukulele.
[F6]		That note keeps sliding down the 3rd string. The [F6] chord is made up the notes {F+A+C+D}. On the ukulele we can't play them in that order. We have {A+D+F+C}. This is, incidentally, also the [Dm7] chord.
[Fm]		The minor chord has a minor triad: {1+ \flat 3+5}. This would be {F+A \flat +C} on a keyboard. On the ukulele it is {A \flat +C+F+C} so it is the C (the 5th) that is doubled up.
[Fdim]		The chord that is usually called [Fdim] is actually [Ddim7]. Any dim 7 chord has {1+ \flat 3+ \flat 5+ \flat \flat 7}. The diagram of the chord leaves out the 7. Common. But wrong.
[F9]		The recipe for a 9th chord is {1+3+5+ \flat 7+9} and it is immediately apparent that five notes can't fit on to four strings. What we have here is {A+E \flat +G+C} which is [F9] without an F. Hmmm.
[Fsus2]		This is quite a common chord (hence its inclusion here). Any sus 2 chord has a {1+2+5} mix of notes. This has {G+C+F+C} so it is the 5th that is doubled up.

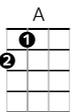
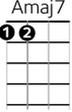
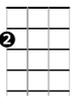
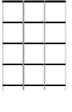
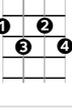
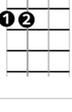
The [G] Family

About 80% of ukulele songsheets have one or more chords from this family.

Chord	Shape	Notes
[G]		The recipe for a major chord is {1+3+5} so for G major, with one sharps (F#) that is the notes {G+B+D}. The standard ukulele [G] chord is an inversion of this: {G+D+G+B} so the root note is doubled up.
[Gmaj7]		That middle note of the triangle in [G] slides down a fret to give the [Gmaj7] chord. Any major 7th is {1+3+5+7} so this would be {G+B+D+F#} on a piano. On the ukulele it is {G+D+F#+B}.
[G7]		That F# slides down another fret to become an F (which is a flattened 7th in the key of G). The general form is {1+3+5+♭7}. So we have {G+B+D+F} on a piano but {G+D+F+B} on the ukulele.
[G6]		That note keeps sliding down the 2nd string. The [G6] chord is made up the notes {1+3+5+6}. On the ukulele we can't easily play them in that order. We have {G+D+E+B}. This is, incidentally, also the [Em7] chord.
[G+]		An augmented chord has a sharpened 5th so we are looking for some combination of {1+3+#5}. With the [G+] shown (there are others) we have {G+D#+G+B} so the #5 is actually on the 3rd string.
[Gm]		All minor chords have a minor triad: {1+♭3+5}. This would be {G+B♭+D} for the [Gm] chord. On the ukulele it is {G+D+G+B♭} so it is the G (the root note) that is doubled up.
[Gm7]		The minor 7th has a minor triad plus a ♭7. We know (from [G7]) that the ♭7 is F so this makes this chord a combination of {G+B♭+D+F}. We have {G+D+F+B♭} here. This is also the [Bb6] chord.
[Gdim7]		If you flatten (slide down a fret) the two fingered notes in [G6] you get [Gdim7]. A dim 7 chord has {1+♭3+♭5+♭♭7}. The [G6] we had above was {G+D+E+B}. Moving those fingers gives {G+D♭+E+B♭}.
[Gsus2]		[Gsus2] should have {G+A+D} with the A replacing the B of the major chord. The diagram shows this with a {G+D+G+A} combination.
[Gsus4]		A bit like the chord above, [Gsus4] needs {G+C+D} with the C replacing the B of the major chord. This diagram shows {G+D+G+C} - not a B in sight.

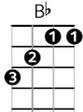
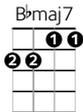
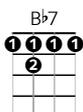
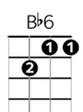
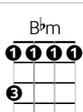
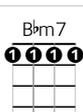
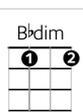
The [A] Family

There are three sharpened notes in A major (F#, C# and G#). You need to remember this when counting out the components of chords.

Chord	Shape	Notes
[A]		The standard recipe for a major chord is {1+3+5} so for A major, with three sharps that is the notes {A+C#+E}. The standard ukulele [A] chord is an inversion of this: {A+C#+E+A} so the root note is doubled up and it is in the "right" order. There has to be a first time!
[Amaj7]		That note on the 4th string slides down a fret to convert the [A] chord to [Amaj7]. The A becomes a G# in doing this to give {G#+C#+E+A}.
[A7]		That G# in [Amaj7] slides down another fret to become an G (which is a flattened 7th in the key of A). The general form is {1+3+5+♭7} but we have a different order here {G+C#+E+A} = {♭7+3+5+1}.
[Am]		All minor chords have the minor triad: {1+♭3+5}. This would require the C# in the major chord to become C. On the ukulele [Am] is usually played as shown in the diagram: {A+C+E+A}. Perfect.
[Am7]		The easiest ukulele chord (and doubles as [C6] when it needs to). The [Am] chord has one of its A notes converted to a G to give {G+C+E+A}.
[Adim7]		There is a surprising amount of finger reshuffling to go from [Am7] to [Adim7]. From [A] we need to flatten the 3rd (C# to C) and also the 5th (E to E♭) and double flatten the 7th (G# to F#). This gives us the {A+E♭+F#(=G#♭♭)+C} needed for this chord.
[Asus4]		Any sus 4 chord is {1+4+5} so we would need {A+D+E} in some combination to qualify as [Asus4]. What we have here is {A+D+E+A}. Perfect.

The [Bb] Family

The key of B major has two flats (B \flat and E \flat). A number of the chords in this family appear in ukulele songsheets. It is a very popular key in early 20th century music for reasons that probably involve clarinets.

Chord	Shape	Notes
[Bb]		The oft-repeated recipe for a major chord is {1+3+5} so for B \flat major, with two flats that is the notes {B \flat +D+F}. The standard ukulele [Bb] chord is exactly this: {B \flat +D+F+B \flat } so the root note is doubled up.
[Bbmaj7]		That note on the 4th string has slid down a fret making an A out of the B \flat . The A note gives us the [Bbmaj7] chord: {A+D+F+B \flat }
[Bb7]		That note on the 4th string slides down again to give us an A \flat which fits nicely in the [Bb7] chord: {A \flat +D+F+B \flat }. This chord is nearly always played as a barré chord.
[Bb6]		That note keeps sliding down the 4th string to make the [Bb6] chord. Any 6th chord is made up the notes {1+3+5+6}. On the ukulele we can't easily play them in that order. We have {G+D+F+B \flat } = {6+3+5+1}. This is, incidentally, also the [Gm7] chord.
[Bbm]		Start with a minor triad: {1+ \flat 3+5}. This would be {B \flat +D \flat +F} for the [Bbm] chord. On the ukulele it is {B \flat +D \flat +F+B \flat }. The row of ① across the first fret tells you this is a barré chord.
[Bbm7]		The minor 7th has a minor triad plus a \flat 7. These are all contained in this simplest of barré chords: {A \flat +D \flat +F+B \flat }. This is also the [Db6] chord (like you'll ever see that one!).
[Bbdim7]		Diminished 7th chords, you may remember are "cyclic". This has the same notes as [Gdim] for that reason.

The [B] Family

Very few songs are written in [B] with its five sharps (F#, C#, G#, D#, A#) but a number of chords from this family are often used (e.g. [Bm] and [B7]) so we had to include a few of them here.

Chord	Shape	Notes
[B]		Yet again, the recipe for a major chord is {1+3+5} so for B major, with five sharps that is the notes {B+D#+F#}. The standard ukulele [B] chord is exactly this: {B+D#+F#+B} with the root note is doubled up.
[Bmaj7]		That note on the 4th string slides down a fret to give the [Bmaj7] chord. Any major 7th is {1+3+5+7} so this would be some combination of {B+D#+F#+A#}. On the ukulele it is {A#+D#+F#+B} - back to front.
[B7]		That note slides down another fret to become an A (which is a flattened 7th in the key of B). The general form is {1+3+5+♭7}. So we are looking for a combination of {B+D#+F#+A} and we have {A+D#+F#+B} on the ukulele.
[Bm]		That note on the 3rd string needs to be flattened to a D to give us the right mix for [Bm]: {1+♭3+5}. So we need some combination of {B+D+F#} to make [Bm]. What we have in this barré chord is {B+D+F#+B} which is as good as it gets.
[Bm7]		The [Bm7] chord needs an A note in there somewhere. This simple barré chord gives us that: {A+D+F#+B}.

Strumming

The "book" way of strumming a ukulele proposes: Strum with the index finger of your right **hand**, fingernail side down. When you strum down, you should be hitting the strings with your nail. When you're strumming up, with the fleshy **tip** of your finger. It is important to use your **wrist** rather than your whole **hand**.

That's exactly what I **never** do, but I'm in the minority.

I always use a pick²⁷. I have three preferred picks, all made by Jim Dunlop: a 0.38mm pick for being quite quiet when I don't really know the song, a 0.46mm pick for when I'm happy to be heard and I know the song well and a 0.60mm pick when I'm the only one who knows the song and thus required to make a lot of noise.

I think the pick (or plectrum) is the best way to play the uke. I'm regularly outvoted on this by my peers.

I understand that there are copyright issues over putting strumming patterns on songsheets and, whilst I don't believe this to be true, it might explain the paucity of information on how to strum songs.

There is a fairly standardised (but a long way from universal) notation for strumming.

- **d** : down strum.
- **u** : up strum.
- **–** : pause or missed strum i.e. moving your hand either up or down but not hitting the strings. They are most useful to give you an indication of the timing of the strums.
- **X** : indicates a "chunk". Strumming down and following through so the underside of your hand lands on the strings creating a 'chunk' sound.
- **(d)** or **(u)** : A muted down/up strum. Strumming as normal but with your fretting fingers resting on the strings to stop them ringing. It sounds like a chunk but you can do them with strums in either direction.
- **d** or **u** : when in bold that means the strum is emphasised (i.e. give it a bit more volume).

There is also (sometimes) information given as part of an inline chord. Easily the most common is the **splang** which is where you give a dramatic single strum. Often seen at the end of a piece. Look for an exclamation mark as in **[G]!**

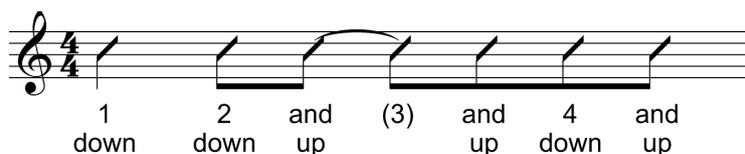
The simple time signatures can be played really easily with this notation:

4:4 Steady **d d d d | d d d d...** **one** two three four

3:4 Waltz time **d d d | d d d...** **one** two three

²⁷ AKA Plectrum

There is a rhythm, the Calypso pattern, that is so well used that it is worth a longer look.



To play this calypso strum on ukulele, strum:

down, down up, up, down up while counting 1, 2 and, and, 4 and.

There are millions of songs (not all of them Calypsos) that use this beat.

A lot of reggae/ska music has a very interesting variation on the normal strumming pattern in that the strings are muted on down strokes but played on up strokes.

*Go and listen to The Specials and "Message to Rudy" for a classic ska beat.
(<https://www.youtube.com/watch?v=cntvEDbagAw>)*

Muting strings is a really good technique to perfect. It is easiest when you are using barré chords (where your first finger spans the fretboard) because you can just raise it ever so slightly to kill the vibration of the strings. To play along with the specials you need to play:

(d) **u** (d) **u** | (d) **u** (d) **u**

The real essence of strumming is your ability to take the beat of the song and match it to the up/down movements of your strumming hand. The best way to increase your proficiency with strumming is to play your uke. Lots.

Beginnings and Endings

When you are leading a song (with whatever size group you are in) you will have the job of starting it and finishing it. If you are not leading then you need to be aware of what the leader is doing. There is **no escape** from beginnings and endings.

The **beginning** of the song will need to be counted in. Some leaders take absolutely no notice of the tempo (as in beats per minute) or the time signature of the song and begin everything with "1, 2, 1,2,3,4". This simply doesn't work. It particularly doesn't work when the song you are singing is in triple time.

The time signature may or may not be noted on the songsheet. It usually isn't, so - Rule #1 - you **need to know the song**. The time signature is going to determine your beginning. It will probably be in 4:4 or 3:4, or some variant of these. Just before you start a song, get the tempo fixed in your head. Tapping the body of your uke helps. A quick strum through of the first line before you launch the song will give you the starting note.

For 2:4 or 4:4 songs you can count in thus:

Spoken: ① ② ③ ④

There is a catch to this. Some songs don't have an introduction and the singing doesn't start on the first beat of the bar.

For example, the Herman's Hermits classic:

There's a [F] **kind** of hush [A7] all over the [Dm] world to-[F7]-night

The "There's a" takes up two beats, so you would count this in as:

Spoken: ① ② "There's a"...

And you would hope that the rest of your group would join you at "**kind** of hush" where the bar actually begins at "kind".

For songs in triple time (3:8, 3:4, 6:8, 9:8, 12:8) you need to count through a bar before launching off.

For example, if you were going to have a go at Simon & Garfunkel's "America" you would need to count your team in with a few triplets:

Spoken: ① ② ③ ② ② ③

Intro: [C] [Cmaj7] [Am] [C] [F] [Fsus4] [F]
 [C] Let us be [Cmaj7] lovers we'll
 [Am] Marry our [C] fortunes to-[F]-gether [Fsus4] [F]

That count works for 3:4, 3:8 and 6:8. It isn't so great on the relatively rare 9:8 and 12:8. You are better to count through a full bar.

A lot of songs have a very general introduction. You might want to tell the audience about the song while you are playing an intro which means that it can't be a specified length. This is called a **safety** and you may well see these noted on songsheets²⁸. A safety might go on for many bars and might be one chord or a sequence to be repeated:

Intro: [C] {safety}

Intro: ||: [C] [Am] [F] [G7] :|| {safety}

The ||: and :|| denote the start and end of a section to be repeated. The {safety} instruction basically means "as many times as necessary".

If you are playing a safety you will need to tell your group it is ending. And then count them in to the main body of the song appropriately.

When the song is off and running you can breathe easily for (usually) just over 3 minutes. Then you have an **ending** to negotiate.

Your biggest hope, when performing, is that the audience will go wild with applause. To fulfil their part of this agreement the audience need to know **when** to go wild with applause; they need a **definite ending**. In my experience, "fade out" is one of the worst possible instructions you can give a uke group and the audience is simply left bewildered. Make your ending as definite as possible. Even if it is the terribly cliched "cha cha cha" ending. However you do it, make the ending crisp and definite.

My advice? Get a group of uke players together (this is usually the opposite of herding cats - uke players coagulate freely) and practice some beginnings and endings.

²⁸ You'll certainly see them on my songsheets.

Tabs

So far we have only talked about the ukulele as a purveyor of chords. It is, of course, much more capable than that. The uke is, like most other stringed instruments, capable of playing a tune. If you doubt that statement, go listen to [Jake Shimabakuro play "Bohemian Rhapsody" on YouTube](#).

The usual way of getting the information across that you would need to play the tune is in the form of the "tab" which is short for tablature. For those ukulele players who aren't musicians, the tab is a really fast and simple way to learn how to play a tune. To be honest, I find the GCEA-tuned uke with a "high" G string is a little problematic here. The high G is a re-entrant string and is a full octave higher than it is when replaced by a "low" G. The high G is normally left out of tabs and the tune is hammered out on strings 1 to 3. For a low G, all four strings can be used.

The basic idea behind the tab is that it tells you where to put your fingers. Let's have an empty tab frame (of four bars) to get the ideas across:

```
A |-----|-----|-----|-----|
E |-----|-----|-----|-----|
C |-----|-----|-----|-----|
G |-----|-----|-----|-----|
```

You will notice that the font I'm using on the frame has changed from Helvetica Neue to IBM's Courier New. There is a really good reason for this. Courier was developed with all characters having the same width. If I put two alphabets next to one another you will see the effect:

```
Helvetica Neue:  ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
Courier New:     ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789
```

In the Helvetica font, the letters have different widths.

The letter I is much narrower than its neighbour H, for example.

In Courier New, all the letters have the same width.

I has the same width as H. This means that the letters will always line up directly beneath one another.

This property is good news when you are writing tabs for the ukulele.

Let's take some of that frame above and put the scale of C major on it.

```
A |-----|--0-2-3-|3-2-0---|-----|
E |----0-1-|3-----|-----3-|1-0-----|
C |0-2-----|-----|-----|----2-0-|
G |-----|-----|-----|-----|
```

So, when you play this tab you start with the C string being open (0). The next note is also on the C string on the second fret. The third note is on the E string, open. Then the fourth note is on the E string with your finger in the first fret (1). And so on. The vertical lines | are to show you where the bar-lines are. A lot of tabs omit these. Wrongly in my opinion.

Tabs like this can show you where to put your fingers to get a particular note but they don't tell you how long the note actually is. Unfortunately, there isn't a good way of doing this easily. A proper program for writing tabs usually costs real money. I tend to make do with using a fixed number of spaces in each bar. In the example above I have used eight spaces per bar. That means we can define notes down to 1/8 of a bar; a quaver. Were I to use 16 spaces we could go to as short as a semiquaver.

The same C major scale in quavers (half beats) and minims (two beats) are:

```
A | -----023 | 320----- |
E | --013--- | ---310-- |
C | 02----- | -----20 |
G | ----- | ----- |
```

```
A | ----- | ----- | ----0--- | 2---3--- |
E | ----- | 0---1--- | 3----- | ----- |
C | 0---2--- | ----- | ----- | ----- |
G | ----- | ----- | ----- | ----- |
```

It takes a bit of organising to show the note lengths this way but once it's done, it's done.

Of course, you don't just have to have single notes on your tabs. Notes can be played together. Chords, in other words.

Try this (nice and slowly):

```
A | ----2-0- | 2-3-2-3- |
E | 0-1-0-1- | 3-5-3-0- |
C | 0-2----- | -----0- |
G | ----- | ----- |
```

So for the first chord you play an open C string and an open E string together. Then comes a chord with a finger on the E string first fret and the C string second fret. You get the idea.

Let's leave tabs there. There is lots more to learn but we can save it for the next book.

Ukulele Maintenance

Ukuleles, like every instrument, need to be cared for but this isn't really difficult. I'm assuming that your uke lives (with you) in a relatively safe environment and not a war zone. I'm hopeful that the worst you have to face is the odd bump, the oil on your fingers, the heat of the sun, the changes in humidity and general wear and tear. If you want your uke's life prolonged, whether it is laminated or made from solid wood the following might be of some guidance.

Hold securely when playing

Dropping a uke from a sitting position is seldom fatal but the bodies can crack. This gives a buzz when you play and it sounds rough. Dropping your uke from a standing position might be a **lot** more costly. Prevention is much better than a cure. Fixing a cracked uke should be done by an experienced luthier but you might want to carry out a bit of a cost/benefit exercise here. Luthiers aren't cheap. Your uke might not be worth it. {Gasp}

Several things on your uke are prone to damage. Scratches and dents to the body are obvious (to all). It is possible to break the joint where the neck meets the body. Dropping and impacting the tuning heads might cause real problems in tuning your uke. The tuners bend surprisingly easily and the gears are easily knocked out of true. The bridge/saddle might (in extreme cases) become detached but these can be glued back easily enough with epoxy resin. All in all, dropping your uke from a height it is one of the worst things you can do to it.

Be careful with your plectrum and capo

When you are using a pick, make sure that it does abrade your uke's body, especially when strumming that little bit harder. That may cause ugly scratches and ukes seldom have the scratch resistant panels found on a lot of guitars. If you use a capo, be gentle. Improper placement and removal of a capo can cause neck dents.

Watch out for the build-up of dirt

Ukuleles are prone to grease buildup from natural dirt and the oil from your hands. The result is a sticky instrument that is unpleasant to play. To prevent this from happening, make cleaning your uke after every playing session a habit. For the body, thoroughly wipe it with a microfibre cleaning cloth to remove dirt and dust before storing it. When removing built-up grime or dried oil and sweat, clean it with a slightly damp cleaning cloth and make sure to remove all smudgy marks on the body. Dry it with another clean cloth after. If your uke is painted or has a shiny finish, you can use polish products to keep its gloss.

The fingerboard is slightly harder to clean but a microfibre cleaning cloth will do the job fairly well. Very carefully rub the fingerboard with the cleaning cloth to remove dirt and oil. You can also slip the cloth underneath the strings to clean there as well.

Storage

Never leave your uke by a fireplace, heater, oven, radiator, in a car or in a place with direct sunlight. The heat can warp your uke's wood and make it brittle and much more prone to cracking and breaking. Avoid placing your uke (even in its case or bag) in a place where it might drop. Keep your uke away from places where it might get wet from spilled liquids.

Changing your strings

The truth is, there is no one rule stating when or how frequent you should change your strings. It is really up to you. I tend to change mine three or four times every year on the uke that I play most often. But there are things that signal the need for a new set of strings. Ukulele strings do not deteriorate as fast as guitar steel strings. However, they do pick up oils from your hands. Make it a habit to wipe them after playing to remove the picked up oils. Doing so will prevent dirt from sticking to your strings.

From time to time, run your fingers along the strings in search for nicks or grooves cut into them. These notches or cuts are caused by the pressure from the frets or the natural stretching of the strings. These can affect your uke's tuning and intonation and any nick is a sign of imminent breaking.

Brand new strings tend to go out of tune often because they are still stretching. This problem gets solved when they are finally stretched to their optimal tension. If you find your strings constantly going out of tune, you might consider restringing with a high-quality (cost ⇔ quality) set.

Also, while you have your old strings off and before you put your new ones on, take the opportunity to clean your uke really thoroughly.

Humidity

Humidity is a measure of the amount of water vapour in the air. The wood used in ukuleles, although processed and cured, still absorbs and releases moisture. After all, wood is an organic material. Too high and too low humidity can both harm your ukulele. Keeping the right amount of moisture in your ukulele's wood in relation to the humidity is a must to keep it in top condition. Your ukulele should be stored in a place with 40% – 60% relative humidity. When there is too much humidity in the air, the wood tends to swell, the tuning keys and frets corrode quickly, glued joints loosen, the neck might bend. Heightened fret action and neck bending are the usual signs of swelling in ukuleles. When there is too little humidity in the air on the other hand, the wood gets dry. This leads to the shrinking of top and back of the uke, loosening the braces and causing fret buzzing due to the lowered fret action. When wood is deprived of moisture, it is much easier to crack and break it.

I would **not** consider (as was suggested on a uke blog I read recently) buying a hygrometer to monitor the humidity. You feel and respond to humid conditions much quicker than your uke. If the room you are storing your uke in feels hot, stuffy and humid, your uke will be absorbing moisture and going wrong. Being too dry is, in the UK especially, much less of a problem.

Bags versus Cases

If you travel for shows or gigs, it is smart to buy a hard-shell case with a latch that locks to protect your uke from possible accidents. Keeping your uke locked in a hard-shell case is the safest way to travel with your instrument whether on a plane, bus, train or even just your own car. Bags are always going to be cheaper but they don't compare favourably against a good case.

Take care of your uke. Properly cared for, it will last you long enough to save up for a new one.

Song Structure

Sooner or later you are going to want to write your own material or - at the very least - seriously tinker with somebody else's material.

I have a problem with a lot of "I wrote this" material. There seems to be a notion out there - not everywhere, admittedly - that songs written for the ukulele **need** to be funny. I suppose I hold George Formby partially responsible for this. Everything he sang (I don't know if he actually wrote any of it) had a comedic cast to it. There is no real reason why this **must** be the case but the "funny little ukulele" motif seems to be extremely durable.

So let's suppose you want to write (or tinker with) some music, serious or otherwise, for the ukulele. The first thing you are going to need is a tune²⁹.

There are plenty of sites on the internet which will give you all manner of simple chord progressions to get you off and running writing your own music. Now, I just used the term "chord progressions" without explaining it and this is going to need some adumbration. We met these earlier in the "Families of Chords" section. A chord's position in the family is denoted by a Roman numeral. We use capitals for major chords, lower case for minors:

I	ii	iii	IV	V	vi
[C]	[Dm]	[Em]	[F]	[G7]	[Am]

In every case below, I'll be using chords from C Major, but you can, of course, use any key you want to use,

Two chord songs:

The easiest songs (you probably learned ukulele on these) have two chords...

[C] {four bars} [G7] {four bars} or [C] {two bars} [G7] {two bars}

Songs like "You Never Can Tell" (Chuck Berry) and "Dance The Night Away" (The Mavericks) fall into this category.

"That Was Your Mother" on the Graceland album (Paul Simon) uses [C] and [F]

Three chord songs:

There are millions of these! Often the structure is:

[C] [C] [F] [G7] or [C] [F] [G7] in a triple-time structure. Have a listen to "Twist And Shout" (The Beatles) to hear this in action.

An extension of this three chord structure is 12-bar blues.

Each chord in this sequence is one bar long:

12-Bar Blues: [C] [C] [C] [C] [F] [F] [C] [C] [G] [F] [C] [C]

Now, you can tinker on with this *ad infinitum*...

Try this: [C] [C7] [C] [C7] [F] [F7] [C] [C7] [G7] [F] [C7] [C]

And this: [C] [C] [C] [C] [Fm] [Fm] [C] [C] [G7] [Fm] [C] [C]

²⁹ The tune trumps the lyrics in most cases. We remember Verdi and Puccini, not their librettists.

But you will get bored pretty quickly (it is 12-bar blues after all).

You can add a "turn around" in the 12th bar. Instead of the [C] to end, put in a [G7] and then you can start again.

Four chord songs

In the late 50's & 60's there were a lot of songs that had a simple [C] [Am] [F] [G7] theme running through them and you might do a lot worse than make this a starting point for your *opus magnus*. This is called the **I-V-vi-IV Progression** and Wikipedia has an ever-growing list of these songs.

If you are going to use as well-known sequence like this, you might like to push it into keys that are less familiar to you. As you struggle with the chords you will probably come up with some chord progressions that you hadn't initially thought of.

Try these:

C major:	[C]	[Am]	[F]	[G7]
E major:	[E]	[C#m]	[A]	[B7]
G major:	[G]	[Em]	[C]	[D7]

You might like to use what is called the **I-vi-ii-V Progression**. Starting with [C] this becomes [C] [Am] [Dm] [G7]. You can see that the [F] chord has been replaced by its relative minor: [F] \Rightarrow [Dm]. Again, the list of this type of song is very long.

Some interesting chord progressions come about when you throw in a chord that nobody was quite expecting. Don't be too ambitious here, but there are notes lurking in little-used chords that might be of some use. For example, if you are singing the **note** C you will feel happy with [C] and [Am] and [F] to go with that. But what about [Fm] and/or [Ab]? They both contain C and might be a welcome change from the predictable.

Five chord songs

There are lots of these and a good percentage use the **I-V-vi-iii-IV Progression** which is [C] [G] [Am] [Em] [F] in the C major chords.

If you want to get into these progressions in a big way there is an excellent website:

<https://www.hooktheory.com/theorytab/common-chord-progressions>

Plagiarism/Recycling

You also might like to delve back into the repertoire of classical music for inspiration. For example, the extremely well-known "Canon in D Major" (Pachelbel) which has the chord sequence:

Canon in D major: [D] [A] [Bm] [F#m] [G] [D] [G] [A] {then repeat}

You can do a LOT with this. Up the tempo, change the key, change the beat; whatever you want.

Indeed, you could do this with any number of classics. You wouldn't be the first! Billy Joel used Beethoven's "Sonata Pathétique", Ralph McTell and the Beach Boys both used Bach's "Jesu Joy of Man's Desiring" to make very different songs, and Paul Simon purloined Bach's "St Matthew's Passion" for his "American Tune". There are plenty of other examples. It isn't quite plagiarism. More like recycling.

Let's assume that you have a tune so we can move on.

When it comes to lyrics we are blessed in the English language by the range, number, variety and malleability of the words in our dictionary. We have a huge range to choose from. But how to get started? One technique is to take a set of lyrics from elsewhere and rewrite them in your own words. Keep the lyric patterns (initially) and stick to the same theme. You'll find that, pretty soon, you will have a song lyric that looks quite different from where you started. Polish it up, give it your style, add your tune and {gasp} you have your own song. And it needn't be a funny little ukulele song.

When you are happy with what you have written, learn how to perform it. Let's face it, nobody in the world is going to do **your** song as well as **you**. Listen to some early Bob Dylan masterpieces. They are so rough! But brilliant. I wouldn't put it on YouTube straight away. Perform it at a few "open mic" sessions first. There may be several things you would want to tweak before releasing it on an unsuspecting world. Audiences are usually full of constructive critics. They will tell you what they like and don't like and - perhaps most important - how you could make it better.

Whatever you do, whatever you produce, enjoy doing it.

Joining A Uke Group

There are ukulele groups all over the UK, USA, Canada, Australia... Wherever.

The best/fastest way to find one near you is to get on to Google and type your area and "ukulele group". This will get you some results.

Alternatively, information is available at:

<https://www.gotaukulele.com/p/ukulele-clubs-and-societies.html>

<http://ukulelehunt.com/2010/03/10/ukulele-clubs-and-groups-in-the-uk-and-ireland-2/>

<https://ukulele.social/LocalGroups>

<https://www.ukulelemusicinfo.com/ukulele-clubs-and-societies/>

Some groups have entry standards. Most don't. Enthusiasm counts as highly as talent. A good singing voice is often more useful than a good playing technique.

Usually there is a fee to join the group and a weekly fee to be paid for the sessions you go to. From what I can see around the UK, this won't bankrupt you. The group I am part of charges £5.00 as an annual subscription and £2.00 per weekly session. So, for about £100 a year I get a great deal.

If you are an absolute beginner, it might be worth getting some tuition before joining a group. Some groups have a teaching function but most don't.

Whatever group you join, have fun.

When you have joined your group you will quickly come to the realisation that the "World Of The Ukulele" is quite massive. Before long you'll be at festivals and concerts. It really is a lifestyle choice.

Another Rule #1: Enjoy!

Contact Details

Well, that's it. I hope that some of this has been useful.

If you are a baritone uke player, look for the book on that and bass players will need their own book. Get in touch if you would like either.

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