



# Joy of Sound Krar Project

Chris Leeds Project Manager, 29/2/2020



The development of the JOS Krar is part of our work providing inclusive, participatory music making activities.

Joy of Sound has been creating bespoke and adapted instruments and equipment since its founding in 2000, with the aim of overcoming barriers to access experienced by the people we work with. Conventional instruments require very particular ways of handling and playing which are often inappropriate.

We originally used donated guitars, tuned percussion, various Indian instruments, small lap harps and a large Colombian harp. Very soon we added Zithers made from upcycled Autoharps.

We had previously commissioned several bespoke and personalised string instruments, for example:

Ladybird Harp



Double Zither



Psaltery



Daniel's Harp



Karimbeck



## Tuning

Joy of Sound uses a 'modal' tuning system for sessions, in the tradition of the Greek Lyre modes and Harp / Krar derivations from ancient African tuning systems. JOS instruments are pre-tuned to a basic Eb Major scale.

## First Contact with Krars



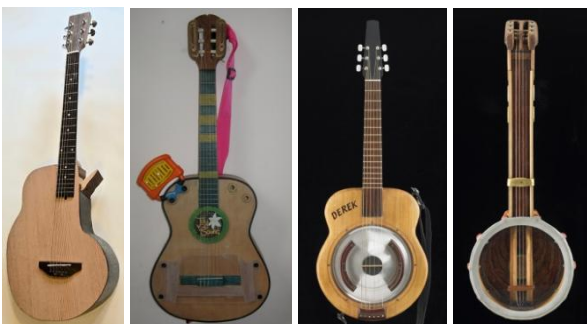
A London based musician who had been trained in the Ethiopian tradition made and donated a krar for JOS – but this instrument is electric, needing amplification, so not suitable for JOS's acoustic, non technology approach.

It was inspirational though in making us look for alternative instruments.

## Problems with guitars

Guitars have some advantages –they are commonly available second hand and cheap or donated. People like them as they relate to seeing them around. Spare parts available, quite rugged, easy to get a sound

However, in group play the extended necks and fretboard are obtrusive and vulnerable to damage, and indeed irrelevant or even inconvenient for non-guitarists (leading to inadvertent string blocking). Also, they can only be played in one standard orientation.



We developed various bespoke alternative shaped guitars that attempt to protect the instruments from damage, make them more robust and less obtrusive.

From the left: adapting the basic shape; introducing hidden tuning machines, rubberized edge and protective panels; using different soundboards – one of metal, and one with a drum skin which was part of the inspiration for early experiments with banjo type resonant drum heads for the Krars.

## Research

The first examples we obtained were Litungu, an instrument from the Luo people in Kenya. On first inspection these instruments appear simple with a square frame and strings stretched over an animal skin covered box as resonant soundboard.

Internet research and meeting players from different traditions revealed that there are many historical and regional variations in the construction and materials, and the number and configuration of strings.

The ancient Egyptian versions have an all wood construction, more like a modern harp. Greek Lyres would often use Tortoise shells & animal skin. African versions tend to use large Gourds. Most have the string arranged in a “V” shape fanning out from near the bridge, a system used to facilitate ‘blocking and strumming’ technique where a plectrum is used near the bridge. The strings are blocked by the fingers, and released to create melodies.

Litungu (Kenya)

Ancient Egyptian

Greek

Krar (Ethiopia)

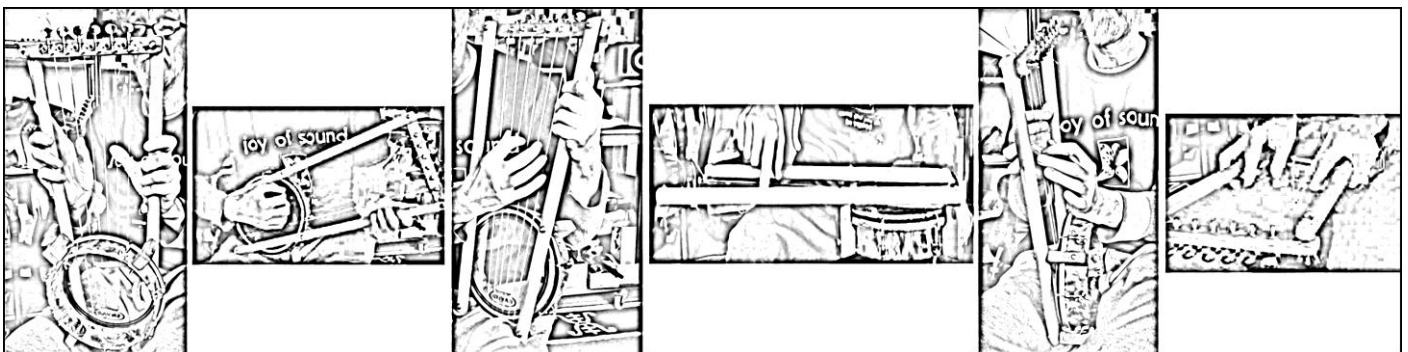
Nyatiti (Kenya)



Other variations include the Ugandan Endongo which has strings arranged in two ‘sets’, the Ethiopian Begena which is a large bass instrument with a ‘buzzing’ bridge.

## Advantages of the Krar

The chief advantage of the JOS Krar is that it may be held and played in a variety of orientations. They may be strummed or plucked with fingers, or used with a plectrum, and used on a stand may be played one handed.



## 2014 - 15

The first attempts to make a copy of the Litungu revealed the hidden sophistication in its construction, and that the materials and techniques are not easily replicated. Traditional instruments generally made using gourds and animal skin, or complex carpentry, requiring expert knowledge and experience.

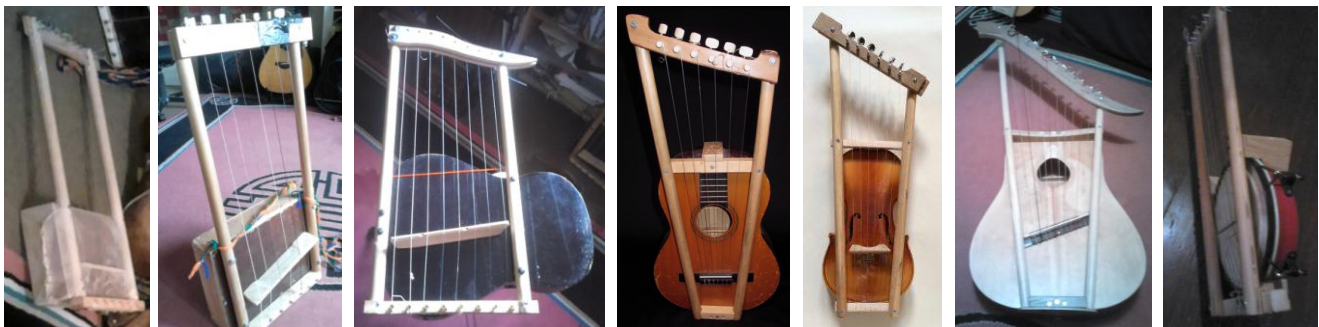
We wanted a design that was easily made from components readily available here in the UK. We worked towards finding alternatives, eventually settling on two approaches, one using readily available small frame drums as resonators, and the other involving up-cycling existing instruments. Other parts like guitar style tuning machines and hardware fittings are commercially available.

A sequence of trial builds were made with varying results:

- Skin covered box type – moderately successful – needs expertise, quite difficult to make, skin stretched, also vulnerable to damage or splitting
- Wooden rectangular box – worked, robust but not great sounding, fairly easy to make
- Up-cycled Guitar body using a ‘straddle’ bridge – difficult to make, worked, but not great sounding
- Up-cycled Guitar body using original bridge – good sounding, very stable, fairly difficult to construct
- Up-cycled violin body, more difficult to make, bridge somewhat unstable, sounds great
- Up-cycled larger guitar with 10 strings with bespoke replacement bridge, great sound, very stable
- Using a small drum as the resonator banjo style – easy to make, quite cutting / punchy sound

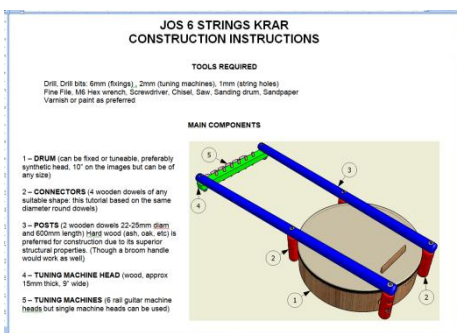
We tried a variety of strings – acoustic guitar steel, Spanish guitar, harp strings, fishing line and strimmer line, eventually settling on fishing line for low cost and reasonable sound. Guitar tuning machines were chosen (as opposed to friction type pins) for ease of use, and being available either re-cycled or new.

Skin type      Wooden box      Up-cycled instrument variations      Drum type



## 2016 - 17

We started to test out the krars with our regular music workshop participants and at various outreach events.



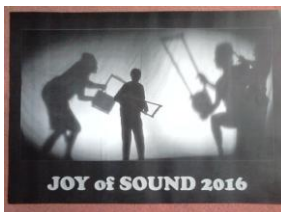
Working from the observations made, we developed a design brief and commissioned 10 prototypes of a ‘JOS Travel Krar’ to be made. The design was a combination of all elements – frame drum resonator, 6 fishing line strings and blocks of 6 guitar type tuning machines.

The brief stated that the instrument should be ‘Portable and Transportable’ – it should fit into a standard suitcase and be easily be dismantled and re-assembled, lightweight but robust, and should be reasonably cheap to make.

We used 3D design software to refine the design and to develop an instruction guide.

We also developed the idea that there would be three ‘models’ – a ready-made frame drum, a kit-form of the frame drum type, and a ready-made type from up-cycled instruments.

They were also used to great visual effect in a performance piece 'Fragile'.



## 2018

With the design now defined, we were ready to take the next step: making a substantial number of instruments for distribution to our three JOS workshop locations, and for potential sales. We also devised 'Making and Playing' workshops where we would have participants make a krar from a kit of parts and then join in playing.



In May / June we approached the **City Bridge Trust** for funding and completed the on line application. The funding, amounting to £6,662 was approved in late September, with the first instalment of funds received December 26th.



The aims also included hosting live events to facilitate exploration and education around the cultures and traditions of three of the main regions or countries that use currently these types of instruments: Ethiopia / Eritrea, Kenya and Greece.

JOS had previously worked with involving the Eritrean and Ethiopian communities around our base in the Brixton area of London, and we had several meetings with community leaders and local businesses to build our links and arrange possible venues for events.

We also set about finding UK based exponents of the various traditions, eventually settling on Ethiopian performer Haymanot Tesfa in London, Kenyan Nyatiti maker and player Rapasa Nyatrapasa, and The Lyre Ensemble.

## 2019 City Bridge Trust funded activity timeline

	January 2019	February 2019	March 2019	April 2019	May 2019	June 2019	July 2019
Making	CL Sourcing components. Produce first kit and video of kit making process	CL batch of 10 kits. HA violin and 5 guitar hybrids	CL second batch of 8 kits,	2 sold to Certitude	HA Placement at MERU making 15 'Ready Made'		
Outreach & Presentations	Set up email group and facebook page	Feb 1 <sup>st</sup> Visit SOAS, meet potential musicians. Feb 13 <sup>th</sup> Preliminary visit to QEF	Mar 27 <sup>th</sup> Meeting at Swiss Cottage School	Apr 16 <sup>th</sup> Meeting at The Rattle	May 10 <sup>th</sup> Canterbury University	Jun 16 <sup>th</sup> Visit V&A Museum, meet HT Jun 19 <sup>th</sup> Kensington Town Hall	Jul 10 <sup>th</sup> Workshop at Powis Square event
Workshops & Events	Jan 23 <sup>rd</sup> Krar Group introductory session	Feb 6 <sup>th</sup> , 27 <sup>th</sup> Krar Group	Mar 6 <sup>th</sup> Deptford Methodist Mission Mar 13 <sup>th</sup> Krar Group	Apr 3 <sup>rd</sup> , 24 <sup>th</sup> Krar Group Apr 13 <sup>th</sup> Trial workshop at QEF	May 1 <sup>st</sup> , 8 <sup>th</sup> Krar Group May 11 <sup>th</sup> Paid workshop at QEF	Jun 29 <sup>th</sup> Workshop at V&A Museum	Jul 17 <sup>th</sup> , 24 <sup>th</sup> Krar Group
	August 2019	Sept. 2019	October 2019	Nov. 2019	Dec. 2019	January 2020	Feb. 2020
Making			CL Cello & Begena versions		Dec 4 <sup>th</sup> Meet PC re making hybrids	Jan 21 <sup>st</sup> Meet HA, PC re making	HA and PC making 10 guitar hybrid CL making Banjo hybrid and 2 kits
Outreach & Presentations	Aug 14 <sup>th</sup> presentation for DMLab at Hackspace, Somerset House	Sept 24 <sup>th</sup> HT visited St Barnabas session	Oct 11 <sup>th</sup> Canterbury University Oct 22 <sup>nd</sup> Presentation at Voluntary Arts 'Get Creative'	Nov 6 <sup>th</sup> Meeting at Brixtonia Nov 6 <sup>th</sup> Presentation SLMS Nov 14 <sup>th</sup> meet British Museum people Nov 19 <sup>th</sup> Walworth Get Creative		Jan 11 <sup>th</sup> Collect secondhand instruments from Folkies	Feb 22 <sup>nd</sup> Presentation for Hackoustic
Workshops & Events		Sept 25 <sup>th</sup> Krar Group Sept 29 <sup>th</sup> . Paid workshop at QEF	Oct 9 <sup>th</sup> , 23 <sup>rd</sup> Krar Group Oct 25 <sup>th</sup> JOS Krar Night event at BCCA	Nov 13 <sup>th</sup> Krar Group Nov 20 <sup>th</sup> Krar Night at the Brixtonia Cafe	Dec 16 <sup>th</sup> Krar Group Dec 20 <sup>th</sup> Xmas Krar Night at St. Peters	Jan 6 <sup>th</sup> Krar Group	Feb 5 <sup>th</sup> Krar Group Feb 17 <sup>th</sup> Krar Night at the Volcanic Cafe

There were a total of **46 events** in which the Krar Project was either featured or was the sole purpose, in 24 separate locations, with over **800 engagements** with individuals.

This included:

- 11 workshops or performance events open to the public, with an estimated 477 visitors
- 12 presentations or workshops to closed groups (Institutions, clubs or membership organisations), with 194 participants;
- 17 meetings of the Krar group with 102 attendances
- 6 meetings or scoping visits involving 31 individuals.

### **Organisations Engaged**

**St. Peter's Heritage Centre, Vauxhall, St. Barnabas in Hackney and the Salvation Army in Kensington:** Thanks are due to the many JOS volunteers and workshop participants who 'road tested' the krars, helping shape the krar design and the aims of the project at our three regular workshop venues. We held the main public event of the Krar Project at St. Peter's.

**The JOS Krar Group:** the group was set up to meet regularly in order to develop our approach to how krars are tuned and played, and how they work in group play (they are traditionally mainly solo instruments). Attendees were drawn from a core group of 16 JOS volunteers and 7 invited guests and associates.

**Medical Engineering Resource Unit (MERU):** based in Epsom, has collaborated with JOS on many projects since around 2008, and generously offered use of their facilities for the Krar project.

**Deptford Methodist Mission:** a community resource centre group where krars were used in session with 17 mixed participants in the Deptford Mission Club for Elderly and Disabled people.

**The School of Oriental and Asian Studies (SOAS):** we visited and contacted them to recruit krar players and students pursuing relevant studies.

**Swiss Cottage School:** is a special needs school where a JOS associate is working. We visited promoting JOS and the krar project. Though found to be impractical for ordinary classes, 'Making and Playing' workshop is a possibility through their Research and Development team.

**Certitude:** is a London-wide organisation that works with Learning Disabled people. One of our JOS volunteers runs music sessions for them. They purchased two krars for the sessions, and one of the participants likes them so much she has been given one of them for her own.

**The Rattle:** is a part of a global collective of music makers and people who work in music – we approached them via a JOS associate who works with them with a view to running workshops for them.

**Borough of Kensington and Chelsea (RBCK):** we included the krar project in our presentation / workshop at the Borough's Town Hall event around disability, and later used the krars for a public event for the Powis Square Community group.

**Victoria and Albert Museum (V&A):** We made a couple of visits there, once to secure the services of Haymanot Tesfa, a renowned Ethiopian Krar player, and then to do a workshop / presentation for the Exhibition Road Open Day celebrations event.

**British Library:** The connection came about through our maker, Hugh Aynsley, applying for a post there working in the Sound Archives Department with recordings of Ethiopian and Eritrean heritage. Hugh's hands on experience and knowledge led to them visiting our session in Kensington, and subsequently offering 2 paid workshops to take place in 2020 – one a general open to the public event, and then another with specially recruited participants to include a Making and Playing element.

**Voluntary Arts:** is a National charity. We made presentations at two 'Get Creative' events, one at the Greenwood Centre, and one at Walworth Living Room. This activity will lead up to VA's main Get Creative event in May.

**Brixtonia and the Shawl Volcanic Cafe:** are venues in the Brixton / Stockwell area that hosted 'Krar Nights' engaging with local Ethiopian and Eritrean communities.

**Bonnington Centre:** in Vauxhall is a local venue which JOS has been involved for many years, and they hosted a Krar Night event

**Drake Music Lab / Hackspace, South London Makerspace and Hackoustic:** These are organisations like clubs whose members are engaged in making things, including musical instruments and equipment, often using re-cycled, up-cycled or re-purposed parts materials. We made several presentations with the aim of recruiting more makers for JOS projects.

**Folkies:** is a music shop in Kilburn who kindly donated their old stock of guitars that were awaiting repair, but were not viable for the business. Out of the over one hundred instruments around 10 were selected as potential for up-cycling into Krars. (Others will be repaired and passed on or traded). They have one of our krars on display as they often have enquiries about obtaining this type instrument.

**Queen Elizabeth Foundation Neuro Rehabilitation Service:** The centre is part of a large national charity working with disabled people. They work with people having brain injuries, or recovering from stroke. We made four visits there, one to introduce the project, a second to run a 'taster' Making and Playing' workshop, and then we were invited to run 2 (paid) workshops with larger groups of patients. These workshops were a great opportunity to explore the potential of the Krar project for Occupational Therapy.

**Canterbury University:** JOS has gives a regular yearly guest lecture on the whole range our work to students on the Occupational Therapy course. We included one brief presentation on the krar project, and followed up with one in which we used just the krars and included a 'Making and Playing' element.

## **Our Makers**

With thanks for previous work to:

**Ian Burrow** who was involved with JOS as a Design Student at London Met, made the first bespoke guitar that used a drum skin as a soundboard, as well as developing other solutions for JOS.

**Dmitri Gourkine** had been an associate of JOS through our partnership working with MERU. His work was crucial in refining designs and making the first 10 prototypes. He has also collaborated on many different instruments and adaptations for JOS.

The makers for the City Bridge funded instruments were:

**Chris Leeds**, made the 'kit form' frame drum type krars and several up-cycled instrument versions, and also acted as Project Manager.

**Hugh Aynsley**, made the 'ready-made' frame drum krars and up-cycled versions. The City Bridge funding helped towards JOS gaining a month long 'placement' at MERU where Hugh was able use their workshop facilities and to receive training on various manufacturing machines and processes.

**Patrick Carpenter**, assisted with making the last of the up-cycled instruments.

## Photo Galleries

### Outreach and Events

#### Working with a mixed group of elders at Deptford Methodist Mission



#### And with younger people at St. Peters and 'Get Creative' at Walworth Living Room



#### Incorporating 'Making and Playing' at Canterbury University for the Third Year Occupational Therapy students



**'Krar Night' at the Brixtonia Cafe, working with the local Eritrean and Ethiopian communities**



**'Krar Night' at the Shawl Volcanic Cafe, Stockwell – the Shawl Community provides important social cohesion and networking for people of Eritrean heritage in the UK, as well as traditional food.**



**Our event hosted by the Bonnington Centre in Vauxhall. Our special guest was Haymanot Tesfa, a renowned Ethiopian Kara player and singer who took part in a krar workshop, and gave a performance of traditional and modern Ethiopian music.**



**The main event of the Krar Project was our Christmas Celebration held at St. Peters. Our special guest was Rapasa Ratrapasa, a master of the Nyatiti, the Kenyan type of Krar. He gave a workshop on his collection of instruments, and an evening performance which also featured his colleague Melisa Yildirim playing the Turkish Kamancha, and JOS associate Diego Laverde playing Colombian harp.**



These pictures are from presentations at the Victoria and Albert Museum, for the Voluntary Arts 'Get Creative' project at the Greenwood Centre, Kentish Town, the Medway campus of Canterbury University for their Occupational Therapy course students, and at the South London Maker Space in Herne Hill.



During our presentation DMLab (Drake Music) held at Somerset House, Ziggy Green made the cartoon shown here. He works for Private Eye magazine, and it was featured issue #1503.



We had around 20 meetings of the JOS 'Krar Group' held at our base in Brixton where we explored the potential ways of using krars in group work. We had a wide variety of attendees including foreign visitors, krar experts, film makers and volunteers.



These pictures feature our trip to Folkies music shop in Kilburn, where we collected around a 100 old instruments that were destined for scrap. Some of them were indeed scrap, but after we sorted through there many repairable, and around a dozen that will be turned into Krars.

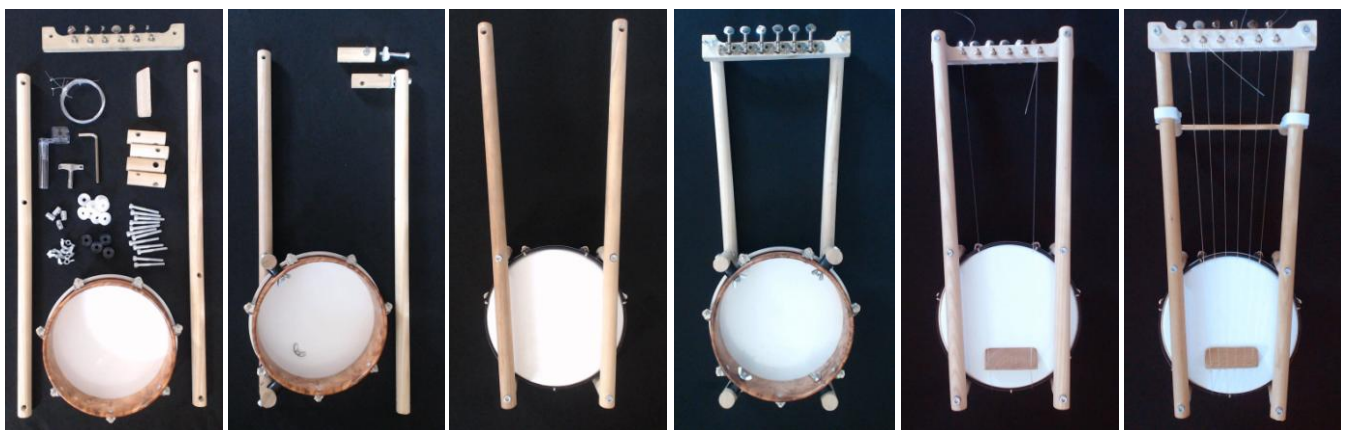
## Instrument Making

These pictures show some of the steps involved in making the 'kit form' of the JOD Travel Krar



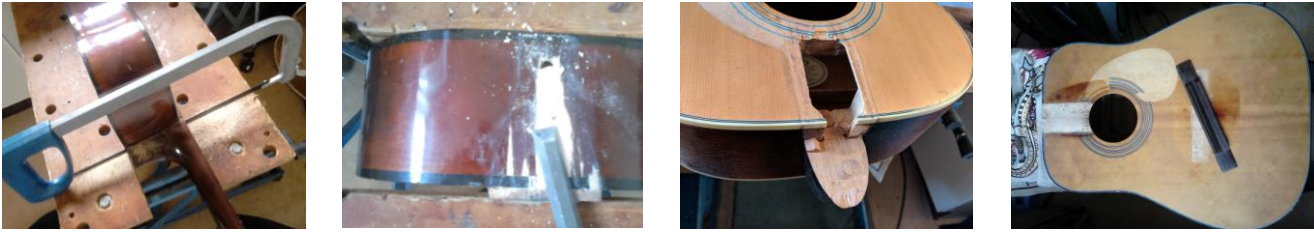
A total of 20 kits were produced.

The pictures below show the steps involved in constructing a krar from the kit of parts.



These show some of the work needed to convert broken guitars, cellos and banjos into Krars. The tasks vary greatly depending on what instrument id used, and what condition it is in.

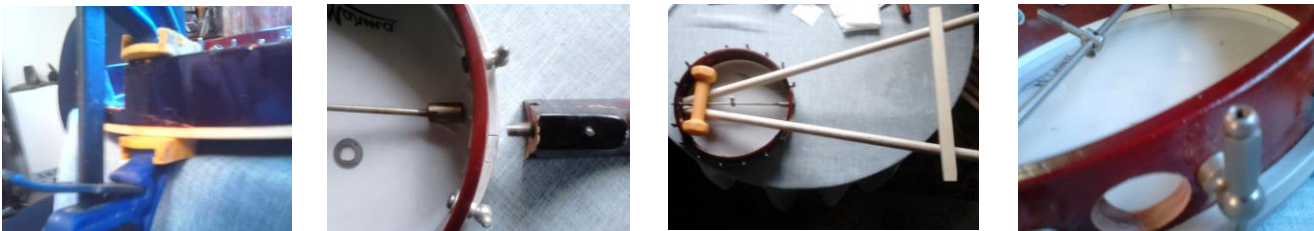
The first step is to remove unwanted parts – the neck, finger- or fret-board, and other fixings.



Methods may range from unscrewing to sawing or separating parts by loosening glued joints using a hot iron.



Then some repairing of damage or making good as needed, and making extra fixings.



Next is a stage of deciding the shape, position and size of the posts and tuning machine block so that the strings will clear all body work and be at a good playing configuration.



The base of the instrument is generally determined by the instrument's construction in terms of internal blocks available for attaching components, and accounting for the shape of the surfaces.



The middle of the instrument is where the width and angle of the posts are determined to make e.g. a rectangular shape, or more of an exaggerated 'V' shape, according to taste . Cover plates are generally added yo hide fixings and any damaged surfaces.



Ready Made Krars are all of the type with a frame drum used as resonator, but unlike the kits which are all identical and roughly rectangular, with the next batch we experimented with several different sizes and shapes, giving a wide range of choices.

