

Making Music



Living the way I do, I have a lot that I want to say, yet I often had difficulty getting things down on paper. Then I realised how much music had influenced me during my life & that I needed to use song to carry my emotions along with my words. A new phase of my life started, learning to play instruments & write songs. I needed to design my learning process, so the logical structuring of music theory did not interfere too much with my intuitive creativity. Finding the right balance was what I wanted to achieve with this design.

The Design Process

For this design I am once again going to base the process around the SADIM design framework; Survey, Analysis, Design, Implementation and Maintenance.

This is a design that I produced to help guide me in my process of making music. I have always loved music & can still recall the words of songs from my childhood, simply because they were attached to a melody. Many of these words didn't have anything of real consequence to say & yet I still remember the



exact sentence structures. It struck me that songs are clearly a very powerful communication tool & I'm very aware of the different emotional states that some songs are able to stir inside me. I could see how valuable it would be to be able to combine some positive inspirational words with a catchy melody.

I had also been exploring the healing power of sound & felt that this could be an important element of my music too. I had bought two crystal singing bowls, each of which made a beautiful tone, rich in harmonics. If I could also make use of these in my songs then that would be something unusual about them that might also catch people's attention. There were a few CD recordings of crystal singing bowls available, but not combined within song structures. I had all the enthusiasm that I needed, I just had to learn how to do it.

As I had suffered a long term writer's block, I decided to have a go at writing songs myself, but initially I wasn't sure how to go about it. I had the basic music education at school, but no more & didn't really remember much about it. I wrote down some words & tried to make them scan, but it didn't seem to be going anywhere. I knew I was going to be better off if I could play some kind of instrument, so I bought myself a guitar.



It was an instrument that I had always wished I had learned, so I figured that it was time to have a go at it. At that time I was seriously considering going out to stay at Ecoforest for a few months over the Winter & there were a couple of residents there who played that I could have learned with. As it happened, it didn't turn out that way, so I got myself a book instead & tried to teach myself. At this point I also bought myself a digital multi-track recorder & a book called 'Home recording made easy'.

Whilst I was making progress, it seemed as if I was just finding out about more things that I was going to have to learn. What started out as a simple idea was becoming much more complicated & was going to need a re-think. This was the point from which I set out with this design.

Survey

Firstly I needed to decide what it was that I was wanting to achieve with this design & so I noted down the key elements:

- * Transferring the words & melodies in my head successfully onto a CD that people can listen to....

...and to enable me to do this:

- * Learning about music theory, without losing my creativity.
- * Learning to play some musical instruments to use in my songs.
- * Deciding what recording equipment I needed to do all this well.
- * Then learning how to get the best out of the recording equipment.

This is actually rather a lot to be asking of one design, but if I tackle the elements one at a time I can develop a process that will help me to achieve my aims. Firstly I will start with my observations.

Observations:

Overall process:

- * It's not as easy as I'd like for people to be able to hear the songs in my head!
- * Recorded songs are often much more complex than they first appear.
- * It's going to take some time to do this well.
- * I could use the skills that I develop to help do recordings for other musicians.

Music theory:

- * Is a left brain interpretation of a right brain activity.
- * I had read that the more music students become familiar with theory, the less creative they become.
- * I will need to learn some to understand how keys, chords & harmonies work.
- * It is easiest learned in combination with playing an instrument.

Musical instruments:

- * People, myself included have preferences for different sounds.
- * Different instruments seem to require different skills.
- * Some instruments are cheaper &/or a lot easier to learn.
- * A keyboard seems to be the easiest way to send MIDI information.
- * Instruments can also be 'virtual' & stored as banks of MIDI playable sounds on a synthesizer chip or a computer hard drive.

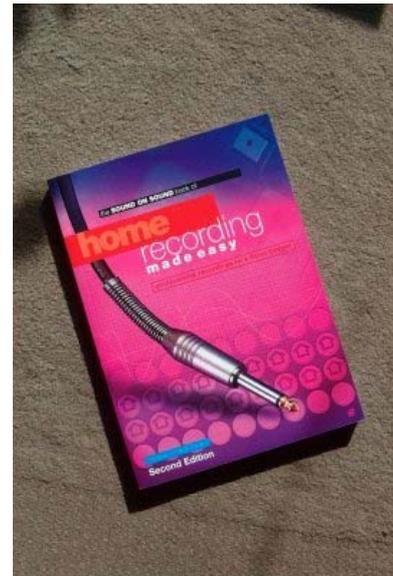
What equipment do I need?:

This question just raised yet more questions:

- * What quality result do I want?
- * What can I afford?
- * What do I plan to record (instruments, voices, MIDI etc.)?
- * What are the pros & cons of different set ups?
- * How do they relate to my own needs?
- * How adaptable/versatile/upgradeable are they?
- * What recording format is the best for me to end up with?

To really answer this question then, I first needed to clarify my needs & then ascertain what would be the most efficient set up for me to have to suit them.

I therefore had to do some research to find out what was available & what the pros & cons of each system actually were. I was going to need more books to do a lot more reading. But firstly...



What are my actual wants?:

- * CD quality recordings.
- * I can afford a good enough quality studio set-up.
- * For maximum flexibility I would be best opting for a set-up that will record both audio & MIDI.

Research:



With this in mind I was able to do some more research. This involved buying a few more books as the library didn't have any on such a specialised subject as music recording. I also subscribed to 'Sound on Sound' magazine, who published some of the good music recording books I had bought. This subscription also gave me access to their archives on the WWW, including the reviews that they had done for different equipment. With all these to help me I was able to determine that the choices I had boiled down to:

1. Either a computer-based or a hardware-based recording system.
2. Using digital or analogue recording technology.
3. For a computer based system, choosing between a PC or a Mac.
4. Choosing between different manufacturers.
5. How many inputs & outputs were required (how much I would want to record at once).

The main question that I had to address was the first one. The pros & cons of the two set-ups were:

Computer-based system:

Pros:

- * Highly upgradable.
- * Highly expandable.
- * Can run on an existing PC.
- * Controllable parameters can be almost unlimited.

Cons:

- * All the processing done by the computer's main processor.
- * Audio recording uses a lot of processing power.
- * Not as reliable as hardware.
- * Recording software doesn't like anti-virus software.

Hardware-based system:

Pros:

- * Dedicated hardware more reliable than software.
- * No processing problems with dedicated ROM chips.
- * More 'hands-on' control.

Cons:

- * Not very upgradable.
- * Takes up more space than software!
- * More expensive than software equivalents.

It also appeared that for the meantime, although it never took off as a home-based system, DAT (Digital Audio Tape) is still the preferred medium of studios for mastering & producing CD masters from.

..And coming back to my original questions...

What is my best learning strategy?:

This again requires me to do some more research into what is available & make a decision about that first. I can however also research the following to help me to make my choices:

- * What am I better off learning first?
- * What learning resources are available (books, internet forums etc)?
- * How do I best learn (what methods are most effective)?
- * I also need to remember that I'm bound to make mistakes!!

What I discovered about these things I will incorporate as part of my analysis below, but before I get to that it is also worth me looking at what limitations & resources exist for me here:



Limitations:

- * My time available to learn.
- * My musical talent.
- * The range & quality of my singing voice.
- * The rate at which I have good ideas.
- * My finances.
- * The quality of the equipment (relates to finances available).
- * Space available to house the equipment.
- * Available teaching resources (people, books etc.).
- * The quality of the teaching resources.

Resources:

- * Office space with electricity supply.
- * My finances.
- * My time.
- * My ideas, curiosity & enthusiasm.
- * My singing voice.
- * A lifetime of listening to music & knowing what I like.
- * My computer, printer & internet access.
- * My guitar.
- * My crystal singing bowls.
- * Zoom digital multi-track recorder.
- * Dictaphone.
- * A couple of relevant music books & the local library.
- * A quiet place to live (avoids the need for soundproofing).
- * My design skills!

Before I can answer all the questions that I have posed above, I first have to do some analysis of what I already know about my needs & have found out about the different studio set-up options available to me.

Analysis

To begin with, I am going to apply Permaculture principles to the process to see which of the different options would suit my needs the best.

Minimum effort for maximum effect: Software sequencing of MIDI data allows me to record layers of music & not have to be a skilled musician; hence saving me years of practice! My purpose is to turn what is in my head into a recording & not to be an accomplished instrumentalist. My existing computer could be used as the basis for a software-based studio set-up. A computer can host a whole studio in software form for a lot less money than buying hardware. Filling up a dictaphone tape with ideas & then transferring them onto my studio equipment in one go.

Multiple supply: It would be wise to make recordings in more than one format for maximum versatility; both for backups & as final masters. Music theory & instruments are more easily learned by utilising both books & playful experimentation. Backing up the software effects with a hardware unit gives two supply options & reduces the load on the computer processor (reverb uses a lot of power!). By learning how to write music I have more than one method by which I can record my musical ideas. The more different sounds that I have available, the more likely I am to find one that fits a particular idea.

Multiple yield: A keyboard is able to control a whole host of virtual instruments via MIDI. I learn how to use the new equipment & make music at the same time. Both music theory & instruments can be learned at the same time, just by reading & playing.

The problem is the solution: Having to learn how to use the equipment will entail a certain amount of playful experimentation that could yield some interesting musical ideas.

Relative location: I need to keep some way of recording my ideas near me as often as possible; this I can achieve with a notebook for words & as I can't yet write music, my dictaphone for words & melodies. Having my studio in my home means that I can go in there & work whenever I feel inspired to.

Stacking: By utilising the capabilities of a sequencer, I can 'stack' one layer of music at a time on top of the previous & build up a song.

So going back to analysing my original needs:

Overall process:

I need to give myself the maximum number of opportunities to capture my musical ideas & to do this I need to keep a notebook & dictaphone to hand as often as possible. Listening carefully to other recordings will give me many more ideas about how popular records are built up. NLP has a technique called 'modelling' where to successfully achieve something, you simply model the behaviour of successful achievers! Music is no different; listening to the ways that recordings are built up & crafted can help me to produce something similar. The styles that are most popular are the ones most likely to be listened to... just so long as there is something a bit unusual in there too.

There is also an opportunity here to utilise the skills that I am acquiring for my own needs to help other musicians who are of like mind (i.e. eco-logically inclined). This will be an additional yield, providing me with more experience, a bit of income & the Earth with some more good songs about living lightly upon Her.

Music theory:

Music theory is more easily learned when playing an instrument; a good balance of left & right brain hemisphere function is engaged & I am also using my time to produce the multiple yield of learning both at once. To avoid learning what I don't need to know; once I get beyond the basics, I should just learn what I need to know as it occurs.

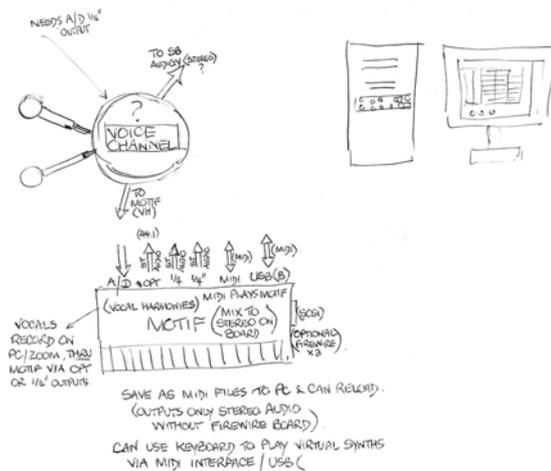
Musical instruments:

Some instruments require the dexterity of both hands & this again provides a good balance of left & right brain hemisphere functioning. Both guitar & keyboard are good examples of this although the way they are both played is very different. Learning to play a keyboard seems to give me the most versatility in terms of what I am aiming to achieve & mainly because of the MIDI options.

Popular sounds will be the most effective communication tools; this is another good reason to learn guitar & keyboard, the latter can also provide me with a rhythm section too. I can always add extra virtual instruments to my computer hard drive & expand my range of playable sounds.

What equipment do I need?:

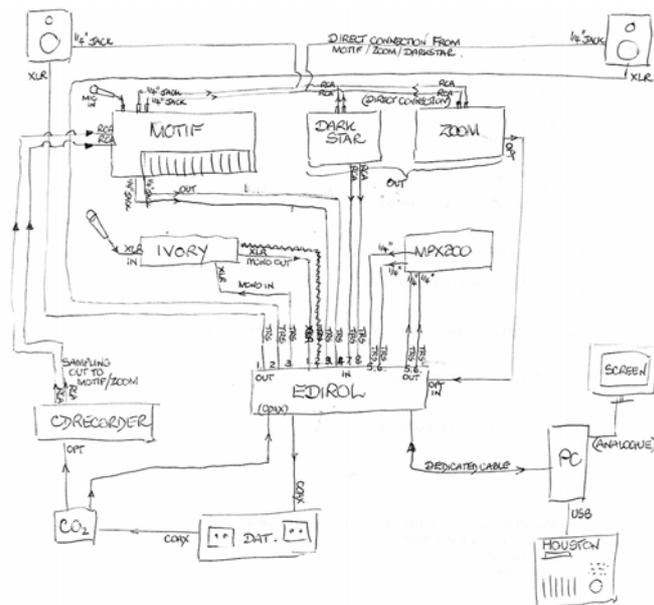
Clearly it seems to me that for my purposes, where I am not (yet?) an accomplished musician, the computer-based option makes the most sense. It is very easily upgradeable via software downloads & hardware add-ons. I already have a computer & so I just need to purchase some software for it & a keyboard & I will immediately have a much more versatile set-up. Being able to have a whole selection of virtual instruments available as software gives me the most options for sound creation. A software sampler will also allow me to record my fixed tone instruments (such as my crystal singing bowls), pitch shift them to pure notes & combine them to make chords & harmonies, making them much more versatile.



The main drain on memory for a computer-based system is producing realistic reverbs, so a hardware unit providing this facility would be a good addition. Also to provide a good signal for audio recordings, a good pair of microphones & a microphone preamp unit would also be a good investment. Buying units that also provide other facilities & effects would give me more options again (multiple supply).

If I am going to produce recordings that could be used by a mastering house (& I might as well, just in case), then a DAT recorder will also be a useful piece of equipment. A pair of studio monitors will be needed to enable me to hear what I am recording back. Ordinary hi-fi speakers usually have built in emphasis in some part of the frequency spectrum to give them their distinctive sound.

Studio monitors are designed to have a level response so that the listener gets a true picture of what they are producing. I could also decide to opt for a dedicated music optimised PC that I could run without it being full of other software & in particular anti-virus software. This PC would not be connected to the internet, but obtain updates for its software via the general purpose PC.



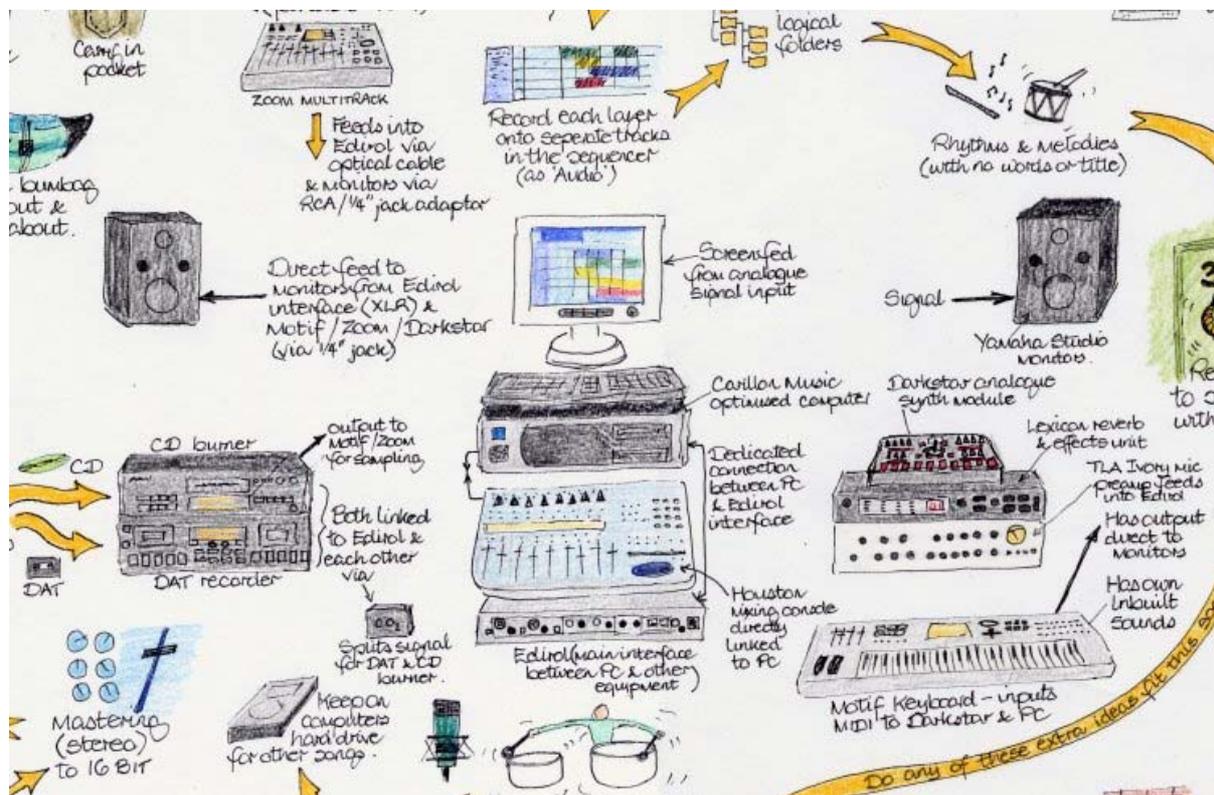
What is my best learning strategy?:

My own experience tells me just getting on & playfully experimenting with it, whilst working my way through the various books & manuals. I can look for answers to queries that I might have, both on-line in technical forums or by asking my musical friends. Whilst experimenting I am likely to come up with some interesting musical ideas that I might use later on, so this becomes another multiple yield situation for me.

So with all this information analysed I am nearly ready to put it all together into a final design. I just need to produce a generalised flow diagram of the whole process from the ideas appearing in my head, through to producing the finished CD so that I have a skeleton time-base on which to hang the whole design. This flow chart was produced by combining my own preferences for working with the finer details of the recording process that I have been reading about. Inevitably when trying to fit a process this involved onto a single sheet of paper, a lot of technical elements have been simplified. This is however just a guide for my own learning process & I have this detail already well-documented elsewhere.

The Final Design

Studio set-up



I have opted for a dedicated computer based system with a few items of hardware for specific jobs. As well as this being specifically optimised for audio use with a more suitable processor & motherboard than the one I currently have, it also avoids all my other software slowing down what is already a power-hungry process. Should anything go wrong with either PC, the other could serve as an emergency backup for the duties of the other; another example of multiple supply. The computer interfaces with the other equipment in two ways. The main interface is through the computer's sound card which is connected via a dedicated cable to a hardware unit made by Edirol.

This unit has the option to connect up to 8 inputs & 8 outputs at any one time & is expandable as other units can be connected to the system using extra sound cards. Up to four can be chained together giving 32 inputs & 32 outputs, though one unit is fine for my current purposes.

I have chosen to use a keyboard to produce sounds & input MIDI data to control other modules, such as the DarkStar synth & some virtual software instruments. This gives me a multiple supply of sounds to use, controlled from the one instrument, minimising my learning needs. I can sample CDs if I wish using my hardware CD burner connected up to the keyboard, the digital multi-track recorder or the computer. A hardware unit provides reverbs without overwhelming my computer processor & also some other built in delay-based effects.

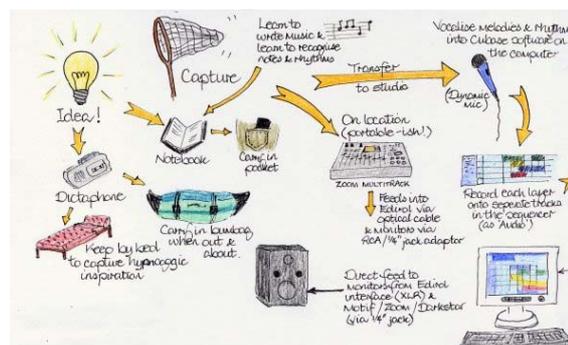
I can record audio via a pair of microphones & a microphone preamp, which boosts the small signal to a level which can be used in the computer. The microphone preamp has a Compressor, Equaliser & a Gate which can also be used as hardware processing for signals from the computer. I can use this to record vocals, acoustic instruments & to sample fixed tone instruments such as my crystal singing bowls. I can take these recorded signals, pitch shift them to pure tones & use these to create chords or harmonies to go on my recordings. I am using different types of microphones as their different characteristics are suited for different purposes.

I can control the mixing process in a much more hands-on manner using a mixing console, which is connected to the computer via MIDI through a USB connection. The screen provides me with a visual guide to what I am doing & the active studio monitors allow me to hear what I am creating accurately. The studio monitors have two inputs, so they can accommodate a signal from the computer or directly from another module, such as one of the synths. A DAT recorder & the CD burner allow me to produce different formats of red book compatible masters & the CD burner on the computer could burn CDs to sell directly if I need them. A signal splitter (CO2) allows me to use both the CD burner & the DAT recorder at the same time.

Capturing ideas

In order to capture the ideas that I have I need to be prepared. Having a notebook &/or dictaphone to hand helps to avoid situations where I have to hum a tune for an hour or so until I get to somewhere I can record it.

I have most of my ideas first thing in the morning in the hypnagogic state just after waking, so the dictaphone needs to be kept by my bed whenever I am at home.



If I go out it can go with me in my bumbag & a little notebook that I have is ideal for noting down ideas for lyrics that I might think of. As I learn to read music & recognise different pitches, then I may be able to record much more information just in the notebook, though the lo-fi dictaphone can still capture a surprising amount, including rhythms & timbres. A further, but much less portable option that I have is the digital multi-track recorder. This will make CD quality recordings 'on location' with a pair of good microphones, but still needs a mains supply. Once I have my recordings I can go into the studio, which for ease of use is in my own home.

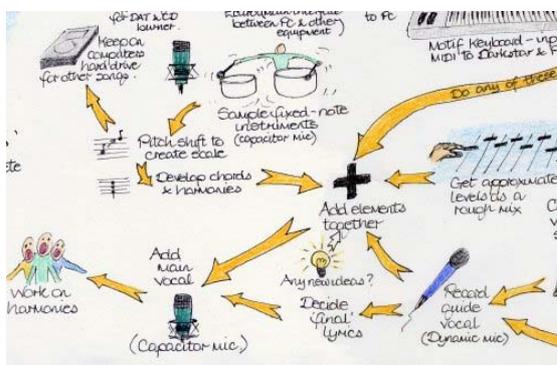
My first job in the studio is to transfer my ideas onto the computer. The recording software is called Cubase SX & it enables me to do a great number of things, the basics being the recording of both audio & MIDI data. I plug the microphone directly into the Ediol as I'm only going to use this recording as a guide & then vocalise my melodies, words & rhythms into Cubase using individual tracks for each 'instrument'. I then have this as a guide from which I can later make proper recordings of different instruments.

Into the studio

Each song I place into a separate file & I keep all my own ideas in one folder, while the recordings I do for others go in their own folders. Everything that I record goes onto the hard drive storage of the computer, but this alone is not sufficient for safe keeping. Once I have recorded my ideas into Cubase I will start re-using the dictaphone tape again, so I need to make back-up copies of my recordings. This I can do using rewriteable CDROMs & extra copies of these can also be stored away from the studio for extra data safety.

I could use a basic microphone for this as it isn't intended to be used in the final mix, but then again if it is a really good take I might want to keep it. It could then be worth the effort of setting up the microphone properly to record this & I have read stories of famous artists who have ended up using these takes on final recordings as it was a relaxed & natural take. With all of this done I can adjust the different volume levels on the mixing console & do some rough panning too to get an approximate mix.

Adding it all together



This is the point at which the song is really starting to come together. Any new ideas that I might have as a result of working on the mix get added here, as do any of those 'homeless' melodies & rhythms that fit, that I filed away previously. I can also add any samples to the mix that would suit it. These

days there are a lot of artists who sample sections of old recordings to use as part of their own & there are also lots of different 'samples' CDs available to buy, which unlike the former don't have any potential copyright issues.

A third option though is to sample my own instruments & use the pitch-shifting facility within Cubase to create notes that the original instrument is not capable of producing. I can file these away for use in any of my recordings & if they work in this particular context I can use them to create chords or harmonies within the song. With all this in place I have hopefully reached a point where I can add the final vocal track, but this of course requires me to come to a 'final' decision about my lyrics. Of course nothing is actually final until it is mastered, but as the vocals affects the whole song structure, it is good to get this as good as clarified here.

Implementation

Putting all this into practice has been not quite so straightforward, but mainly because of the steep learning curve that I have had to follow with all the new equipment. The first part of the design is generally going well; waking up in the morning I often find myself with plenty of musical ideas & if I allow myself to float in & out of the hypnagogic state I can pull quite a lot of an idea together. I bought the dictaphone originally to help me with dream recall & this has also been ideal for this job too (multiple yield!). My notebook is already filling up with ideas, some of course better than others & a track list for a CD which is a long way from being finished (some of the 'tracks' are still merely titles!). I have discovered that the dictaphone is best kept by my bed, but I don't always remember to take it when I go out... usually when I get a good tune appear in my head. Going into the studio & putting all these ideas down is a very satisfying experience, but already I have a glut of ideas that I haven't got around to doing anything else with yet. Having them in this form works well though as I can focus on vocalising one instrument at a time & layering them on top of each other, making it much easier to recall the tune that was actually in my head at the time than from the lo-fi dictaphone.



I have discovered that unless I am clear about vocalising rhythms & timbres one at a time, I can listen back to something & not get what it was about at all! I have found myself getting annoyed at my inability sometimes to find the right sound for the idea that I have. There is something inherently frustrating about not being able to just take the idea in my head & plonk it directly onto a CD!

I have stumbled up against my lack of knowledge with the equipment & have sometimes taken a lot of time just to sort out why there is no sound coming out of my studio monitors for instance.



A strange new percussion instrument called a 'Hang' that I was loaned to play with & sample to add to my library of sounds; yes I know what it looks like...

There are so many interconnecting elements here, especially within the software itself, that this kind of thing happened quite a lot to begin with. I have found that the easiest way to learn has been to get on & develop my ideas & look up what I need to know as I go along. I have found that in general the design works well, most of the challenges have been in working out the finer detail.

I have found that I need to be aware of the acoustics of being in a small room & how that affects frequencies within the bass region. If I'm not careful this can give me a false idea of how my music will sound, so I need to keep playing commercial CDs through the same system, to give me a sound to aim for.

I have done some sampling of my own & in the process come up against the limitations of using microphones. However quiet it may be outside, when I had a swarm of flies buzzing around indoors it made recording the quiet fades of the crystal singing bowls for instance, impossible. Choosing my times to do such things is also crucial it seems. As yet I haven't done any serious mastering, but I know that when I get to that stage I will learn that as I go along too. As for learning the instruments, I found that the guitar gave me problems holding down strings on the frets without touching the strings either side.



The crystal singing bowls

I found the keyboard much easier in that respect & that is where I have made my most progress. I will be returning to the guitar to have another go soon though; when I can fit it into my busy life! In the meantime I continue to play with it all & learn as I go. As for opening up the studio to other like-minded musicians, I have put together a web page that was later adapted to be part of Paddox Farm's own website.

The easiest thing for me to record so far has been my singing voice. I have recorded a particular favourite song of mine that was written by one of the people I lived with in Eire.

Maintenance

With this design, I am really filling in the finer detail as I go along & to date don't really have enough experience with it to come to any firm conclusions about what tweaking to do. I am however remaining very aware of what does & doesn't work well so as to instigate any improvements in phases as I go along.

Design Review

What went well

Keyboard (later): After hitting a bit of a block with coordinating my left & right hands to play at the same time, I managed to break through & do it. This was quite a revelation after finding it so hard at first & it felt good to be doing something that helped to develop right & left brain coordination.

Getting ideas: They have been coming thick & fast, usually when I'm in some kind of semi-meditative state; either driving or gardening for instance. My most creative time however is first thing in the morning when I can play with an idea in my head & most easily float around the hypnagogic state where my right & left brain hemispheres are most in communication. Clearly this is something that I cannot afford to do when driving!

Capturing ideas: In general I have been able to successfully get these ideas recorded; whether they be words going down into my notebook (my first way of capturing those that came up whilst I was gardening) or melodies onto the dictaphone. The latter system works best when I am half asleep in bed as the action of pressing a button & speaking is much less disturbing to this creative state than sitting up with a pen & paper.

The one catch though that I have discovered is that my mind is able to dream up a perfect illusion of me recording my idea onto the dictaphone, when in reality I haven't. This has even at times occurred more than once before I was able to pull myself out of the dream state & realise this. One day I finally woke up to realise that I clearly had dreamt it as the dictaphone was in another room!

Pulling songs together: When I have found time to get into the studio for a couple of days at a time I have found the process of pulling an ideas together very productive. I was surprised at how quickly I was able to get a basic song structure pulled together from one or two ideas. The process enables more creative input as it progresses & I have often found myself at the end of the day with something far more exciting than I could have imagined from my simple starting point.

Action learning: The process of playing with song ideas & learning what technical details that I need to know along the way has been an excellent example of action learning. I am constantly re-evaluating what I have done & making adjustments as I go along. I have learned about both music theory & equipment operation at the same time as creating music that I hope will ultimately inspire people to think about their actions & make changes to help create a more sustainable society.

What was challenging

Keyboard (initially): To begin with I found coordinating my right & left hands to play the keyboard together apparently impossible. Each hand would play perfectly well on its own, but ask it to play at the same time as the other & one of them would fail miserably.

Guitar: I quickly discovered that I had problems holding down the strings on the fretboard without accidentally touching other strings at the same time & part-muting them. If I couldn't do this when I had all the time I needed to find the right place, how was I ever going to be able to do it quickly & without looking? This made me feel frustrated & caused me to stop practising in favour of the keyboard & other distractions. Having stopped I now need to find the resolve to go back & start again.

Dictaphone: This has been a brilliant tool for me in capturing my ideas. However remembering to take it out with me has been a bit more of a challenge. I don't want to keep it in my bumbag as then I won't have it handy by my bed every morning, but then I sometimes go out & leave it behind instead. It is also quite heavy to carry in my bumbag, despite its size. A more reliable way would be to buy a second dictaphone, but I don't feel that I can justify that, at least not yet!

Learning curve: This has been steeper than I had anticipated. Having so many new pieces of equipment to learn how to use, especially when it is all plugged together has been challenging. When something isn't happening as I want it to, there are often several different possibilities for where the problem may be & I have to do a quick bit of learning about all of them to find out where it is. That said I have always enjoyed learning new things, I have just found it a bit frustrating at times how much reading I have to do before I get to do the creative bit.

Microphones: Whilst I have been impressed by the quality of recordings that the microphones I have bought are capable of, the process of using them has been another challenging experience. Microphones can have different directional patterns in which they pick up sounds; some the same amount from all directions (Omni), some front & back primarily (Figure 8) & some mainly front, decreasing as you move around to either side (Cardioid). This is one element that can affect what gets picked up on a recording & clearly there are the sounds that I want to record & those that I don't. I have also been surprised at how loud apparently distant sounds can be picked up, such as a car driving past in the distance, if I don't set the microphones up appropriately. All of these things I have had to learn the hard way.

What I would do differently

Music at school: I just have a feeling that if I had done music as an 'O' level subject at school, then this would be quite a bit easier now. I'm also aware though that I chose what I did for a good reason & it has got me to where I am today. If I learned it then I wouldn't have the fun of learning it now!

Guitar: I would have bought a nylon strung guitar to learn upon as these are apparently easier on fingers whilst they are still unused to playing. The metal strung guitar that I did buy does sound lovely, but I have found playing it hard work & that has made me choose to do other things instead.

Designing: I would have designed the process earlier on, rather than wait until I had already bought some items. I could say that I didn't in the end need to have bought the digital multi-track recorder for myself for instance, but that said the three recordings that I have done for other people so far have all been outside of my studio & couldn't have been done without it. Despite this, these kind of things are serendipitous & any design really wants to be started as soon as possible, even if only to start gathering information.