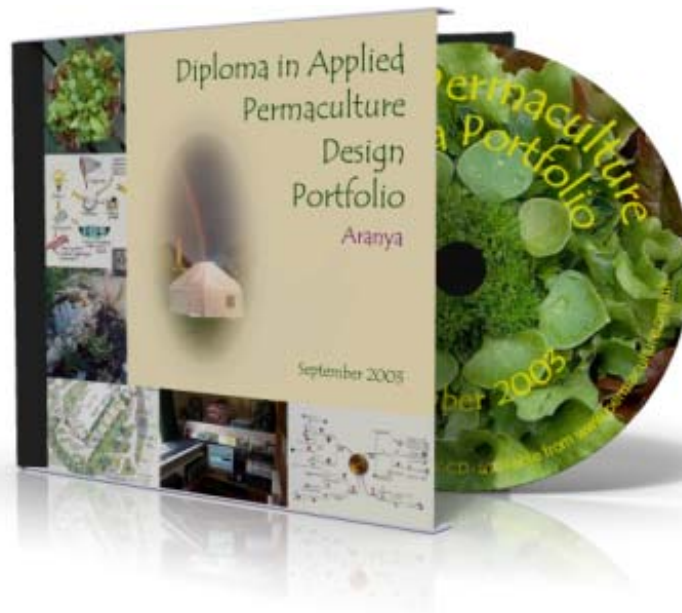# My Portfolio

Having been part of a peer group at three separate accreditation events, I was able to make various observations about the process. These led to me redesigning how I wanted to present my Portfolio. In particular, I want my peers & presiding diplomat to have plenty of opportunity to view my portfolio before my accreditation event, in order that they can make fully informed judgements about my work & make relevant comments. Thoughts about designing this then led me to noticing other yields that I could potentially harvest & my design grew to include getting Diplomats Best designs available on the WWW as a teaching resource.

The Design Process

Brainstorm:

This design initially evolved from my own observations over time at the three Diploma accreditations I had attended. I had been frustrated at the lack of time that had been available for me to view the student's Portfolios, even after their presentation. It struck me that all the work that each new Diplomat presents in their Portfolio is a fantastic resource that isn't being fully utilised at present. I knew this because I was one of those people missing out!

These observations led me to start brainstorming a way to present my own Portfolio in a way that overcame these difficulties & also to make mine & many other Diplomats work much more accessible to all those who could benefit from viewing it.

Client interviews:

I also had several different informal conversations with both students & recently accredited & more experienced Diplomats. What I was hearing was reinforcing my own feelings around the situation, so I sat down & conducted a client interview of my own needs. I then added in to that information, what I had been told by other Permaculturists. It was clear that there were multiple clients in this design.

Firstly there were my own needs during & after the accreditation process. Connected to that are the needs of my peers & presiding Diplomat during my accreditation event. Then there are the needs of Permaculture students on the Diploma pathway, especially their need to access high quality materials to assist their learning process. Then there are the needs of the Permaculture Association & the Diploma WorkNet, particularly around being able to easily disseminate the work that has been done at grass roots level around the UK & beyond; both to raise funding & to gather more people to the cause. Diplomats have needs relating to making a sustainable living from Permaculture.

Then there are the needs of the general public & their right to be able to access this important information in a way that is straightforward & easy to access. Most important of all are the needs of our environment & these tie in to all the other needs that I have already mentioned.

Introduction:

My client interviews have mostly taken the form of informal conversations that I have had with various people within the different clients groups outlined below. These essentially came before & then while the design was forming in my head & so they sit in the right place in the process. I have looked at the needs of the different client groups in this design from what I already know & from the content of these conversations. This information has provided me with the reasons for the inclusion of the different elements within the design. I have included only the needs here that could be met either directly or indirectly through the implementation of this design.

My own needs:

My own needs within the design are not just about me, but also include the needs of others & the Environment. This is because I feel most fulfilled when I see good things happening in the World & this stems from my ability to strongly empathise with others (& not just humans). So all the needs that are written on this page are actually mine too. My immediate needs from this design though are essentially two-fold:

1. To produce my Portfolio in a way that presents my work in a clear & easily accessible manner.
2. To provide me with one of the ten designs required to be in it.

These break down into more elements that fulfil smaller needs within these two & they are:

1. To inspire me to get on & write up my Portfolio a year after my projected accreditation date.
2. To use the process as an opportunity to revise what I have done these last seven years.
3. To use the opportunity to learn more about the process of creating good accessible web pages.

4. To smooth my accreditation process & make it free of pressure.
5. To feel that my work has a chance to inspire others by being more accessible than before.
6. To see the best designs that I've previously been unable to access.
7. To help other Diploma students to have an easier pathway than mine.
8. To provide me with an edge design that is perfect as a best design & to use for my presentation.
9. To provide me with an opportunity to give back to the permaculture community that has helped me so much in my own learning process.

For all the other clients in the process I am working from what I have learned from those aforementioned conversations & from my own awareness as a member of most of these groups. I understand the needs of a peer having been one, three times already. I am of course also a Diploma student. I have been training as a tutor for the Diploma WorkNet & I am familiar with it's remit & my place on the Council of Management of the Permaculture Association has given me a clear idea of the needs there. I can also project myself forward in time to anticipate my own needs as a Diplomat (especially knowing so many now) & (just about) remember what it was like to want to know more as a newcomer to sustainable living. As for the needs of the Earth, I think that they are obvious to anyone who just takes the time to stop for a while & really look around them.

My peers & presiding diplomat's needs:
1. To gain a clear understanding of my work so that they ask relevant questions & make informed comments at my accreditation event.
2. To provide them with opportunities to make those comments so that they feel listened to.
3. To find my Portfolio interesting & accessible, making their task easy.
4. To be inspired to want to accredit themselves & to give them a clearer idea of the process (peers).
5. To enjoy the process (so they will want to do it again!).

Diploma student's needs:
1. To have easy access to inspirational teaching materials.
2. To understand more about the Diploma process & what is required of them.

Diploma WorkNet's needs:

1. To bring more students into the Diploma process & ultimately produce more Diplomats.
2. For the needs of Diploma students to be met, so that they don't get lost along their pathway.
3. To publicise the work that existing Diplomats have done to demonstrate the importance of the WorkNet to those within the permaculture community who don't yet see it's value.

Permaculture Association's needs:

1. To have an excellent & extensive body of work to show to funding bodies.
2. To have an excellent & extensive body of work to influence legislators.
3. To be able to make this work available to as many people as possible to fulfil it's educational remit.
4. To maximise the use of this work to further research & enhance permaculture design processes.

Diplomat's needs:

1. To have their designs better promoted in order to get more permaculture design work.
2. To get more design work in order to help create a right livelihood for themselves.
3. To feel as if they are really making a difference & so be inspired to do more.
4. Those who teach would like better access to good designs as teaching resources.

General public's needs:

1. To be shown why they would benefit from bringing permaculture into their lives.
2. For permaculturists to inspire & provide opportunities for them to learn.
3. To have good access to the information that they need to live more sustainably.

Our environment's needs:
1. For humanity to learn to live truly sustainably on this Earth.
2. For those of us who are learning how to do this to show everybody else!

Initial O'BREDIM mindmap:

Having had ideas floating around in my head & on various pieces of paper for a while I decided to brainstorm a design for the process using a mindmapping program that I had recently obtained. This process in itself had a multiple yield as I was learning how to use the program at the same time as producing my design with it. I chose the OBREDIM process for this part of the design as I'm particularly familiar with it & many of my initial ideas fell neatly into its different categories.

Observations

Having attended three accreditation events, the first of my observations was that 45 minutes is a totally inadequate amount of time for the student to present & do justice to several years of work. Clearly, this is why the student also has to produce a Portfolio of their work, but to what end? My experience has shown me that their full Portfolio may only ever get viewed by a few lucky people & then just find itself getting dusty on a shelf or lost in a filing cabinet, when it could be doing much more to benefit permaculture.

These Portfolios are currently a seriously underused resource, which could be inspiring new students to do equally excellent work on their own Diploma pathways. The Best Design is an required element of the Portfolio for this very reason & yet even these are currently not easily accessed by anyone with an interest in reading them. I'm sure that I am not the only person who would love to read about the excellent work that's being done by Permaculturists at home & abroad.

It was only when I was a peer for the third time that I had been able to look at the students Portfolio properly beforehand & that was because she lived locally to me & I was giving her some feedback a couple of weeks before her presentation.

On the previous two occasions, four extensive Portfolios had been placed in front of me for a frustratingly short amount of time on the day of the accreditation itself. From my perspective as a peer, I knew how much better equipped I was to carry out my task, having seen the student's Portfolio in advance & so I decided this is what I wanted to design for myself. However the practicalities of producing a minimum of five Portfolios on paper was not a task I wished to take on, even without taking into account the cost of doing so. I could see why it hadn't been done before.

Boundaries

Financial cost was certainly a boundary issue with producing a stack of paper Portfolios & one that would deter most people. This however came up against one of the other boundaries; which was good access to the Portfolio for the presiding Diplomat & peers before & even at the accreditation event.

This of course leaves the student in a position where they have to work even harder to convey what they have been doing (& how they cover all the Assessment Criteria) in what is a very short time to make their presentation. This puts unnecessary pressure on students, on a day which is supposed to be a celebration for them, when they have already done a lot of hard work to get to that point. Those students who find it more difficult to communicate what they been doing verbally are then at a further disadvantage. Finally, there is the ecological cost of using all that paper, but this just takes me onto the need to do a proper Life Cycle Analysis of printing one (or several) Portfolios on paper against any other presenting options that I may come up with. This I do on the Life Cycle Analysis page.

Resources

Looking at the resources that I had available, helped me to clarify the options that I had to design an alternative for myself. My first & most important resources are my ideas, without which I would be totally lost & none of this would be happening. The other resources effectively work as a Guild, each element on it's own cannot provide a solution to the problem, but bringing them together creates new possibilities.

The resources that I have & that can only increase in their value through this process are my own skills. I already have the design skills that I have developed during my Action Learning Pathway & these will improve as a result of the experience I get from undertaking this process. I also have website designing & general computing skills from already having created four websites & a large number of web pages.

These pages are also resources in themselves as I can use them as basic templates into which I can input my Portfolio content, avoiding lots of boring technical page setting up. The next elements within the design that will benefit from me utilising them are the services provided by the Post Office & by the web servers, as this is the reason that they exist in the first place. The third resource is the excellent work already done by other permaculturists producing Best designs & Action Learning Pathways during their own Diploma work. These I would love to have a chance to look at myself & there is an opportunity here to design into this process, good access for all to this inspiring work. I also feel that the Diplomats themselves can ultimately only benefit from this process as it could get them more permaculture work as a result. This is another element of the Guild that benefits from the presence of the others in the process.

The only elements within the design, that do not gain from being used are my computer assets. Ultimately, the more they get used, the more they wear out. Having said that, they have been made to do a job & if I didn't use them properly I wouldn't be getting the most out of them. On my Life Path I am constantly making choices that weigh up long term benefits against short term negative environmental impacts & my computer is a perfect example of this. It can be a destructive tool or it can be used for great good & this process is another opportunity for me to do something really positive with it.

As far as my Portfolio is concerned, a lot of the documents & photos that I am using were already in the digital domain as word documents or digital photos. I'd even already scanned in my design drawings. A Portfolio in digital format can be burned to blank CDs with my CD burner.

Writing text is just as easy on the computer as on paper & more easily corrected & for those few other paper documents I can input them with my scanner. The only thing my printer will be needed for is to print the cover for the CDROM. As for my time.... that's going to fly past just as fast whether I use it to do this or not!

Evaluation

Much of this evaluation I have already hinted at elsewhere, but there are more elements to be added. The reason that advance access to the Portfolio for peers & the presiding Diplomat would be an improvement is that they would be much better equipped to ask relevant questions & give useful advice when they get to the accreditation event. It would also enable them to feel less under pressure on the day as they would already be familiar with what the student had been doing.

The student will also get a fairer evaluation of their work as a result of this process & will be less worried about missing anything out (something that is almost inevitable in such a short time slot). So, I've looked at the needs of the accrediting student & the peers & Diplomat, but there are other clients in this design to consider outside the accreditation event. There is also a potential yield here to fill the needs of both other permaculture students & the general public & they both involve education. The body of excellent work that already exists just needs to be made available in accessible formats to generate an even greater yield, that of inspiring new Diploma students & informing six billion people about how effective good permaculture design can be!

That of course brings us to how & I suspect you've already worked that out by now as you're no doubt perusing it. Whereas paper copies are difficult to duplicate, post & afford (in more ways than just financial), a digital copy can be transferred as simply as via a telephone line & be made available to anyone with access to a computer. Although at one time this would have been a relatively small percentage of us, nowadays most of us have access either at home, at work, at school or college or at a local library or internet cafe.

The time is right to go digital for the obvious benefits that await us there. A Portfolio in this format could be easily copied to several CDROMs & posted cheaply to the peers & presiding Diplomat a couple of weeks before an accreditation event. Portfolios can them be published either in part or completely on the World Wide Web, where they can be accessed from all over the World. As far as existing work is concerned, the Permaculture Association already has an excellent website; a resource that gets more extensive every day & the Diploma WorkNet has it's own pages within the site. We need look no further for somewhere for all this inspirational work to be made available.

As far as environmental impact goes, that depends to a degree on the end user. While a known quantity of paper & ink is required to produce each paper Portfolio, a digital one may consume as little as a small amount of electricity or as much as all the elements within the Life Cycle of a CDROM & all the necessary computer equipment plus the paper that somebody may still print it all out on.

Design

So, now onto the design. I am doing my Portfolio in website format, using web pages from other sites I have made to save time. The paper documents & photos that I have are being scanned in to the computer & put into a format that will work just as well on the World Wide Web as on a CDROM. The next part of the design uses the relative location principle. Whereas in a paper Portfolio, each element has to be ordered sequentially, in digital format, interlinking of pages is instant & unlimited.

I will be sending out my Portfolio on CDROM to my peers & presiding Diplomat two weeks before my accreditation event (more details of this process are given under Implementation). I'll be making my Portfolio available to other students & anyone else who may be interested after the accreditation event, by placing a slimmed down version of it on my own website. The full version, complete with sound files & full resolution versions of all my documents & photos will still be available on CDROM, but until broadband access is much more common, few people are going to want to download files that big & neither do I want to upload them with just a dial up modem! Having it available on the WWW though, potentially gives a virtually unlimited output.

With this design I am working at the Edge & suggesting a new way to produce a Diploma Portfolio, with extra yields. One of these yields would be the ease that such work could be uploaded for access via the WWW. Once the existing body of Diploma work has been transferred into the digital domain, it would make the process much easier if a Diploma or at least a Best Design was produced in the format as part of the Accreditation Criteria. An area in the Diploma WorkNet pages can be created to display Best designs, Action Learning Pathways & also provide links to full Portfolios on other sites. These Best designs could also be put on a CDROM for the Permaculture Association to send to potential funding bodies & to sell to raise funds directly. In time this may become a 'Yearbook' CDROM of all the Best designs from each successive year.

My design has set out to attain four main objectives:

1. The presentation of my Portfolio in an attractive, informative & easily accessible form.
2. To provide me with one of my Ten designs.
3. To improve the dissemination of inspirational permaculture design work.
4. To do some Edge designing & push the existing boundaries out a bit further.

Implementation

The implementation of my design starts here with my 'finished' CDROM (the CDROM Design page covers the process of structuring my Portfolio). I need to check whether it meets its objectives, so I am planning to send it out to a few friends first to give me feedback on its structure via a questionnaire that I will send with it. I will have one last Design Support Tutorial & use the feedback from that to make any last changes to the content. I will get in touch with my potential peers to discover if they have access to a computer with a CDROM drive & if so, invite them to be in my peer group & let them know that I will be sending the disc. Then I will be copying the final version of my Portfolio onto several CDROMs & sending them out to my peers, presiding Diplomat & Design Support Tutor, a couple of weeks before my accreditation event. I'll follow this up by checking that each peer & the presiding Diplomat have received their copies of the CDROM OK & that they work on their computer!

After my accreditation I plan to trim the Portfolio of it's 'Documents' folder & sound files & upload the remainder to the web server that hosts my own website. This I plan to link to from the Diploma WorkNet pages, where I will be developing the webspace to hold the Best Designs & Action Learning Pathways of current & future Diplomats. I plan to transfer existing work into the digital domain for placement on the Diploma WorkNet pages & to afterwards be put onto CDROM. Newly accrediting students could provide their own Best designs in digital format or pay an extra fee to cover the cost of somebody else (it could be me) transferring them on their behalf. My own Portfolio CDROM I would continue to make available for a fee via my own website where I will have uploaded my slimmed down version. I will also be sending a CDROM to both the Permaculture Association & the Academy after my accreditation event as part of the process.

Maintenance

The maintenance phase of this design starts near the beginning, with the continual observation & re-evaluation of how the elements are coming together. Most of these observations will be coming from me as I'll be the one who is testing it's structure as I go along.

There are things though that I probably won't notice, so along the way I will also be seeking feedback from others with different needs to my own. I have already mentioned getting friends to peruse my CDROM to give me feedback about whether they found any links that weren't working properly or something was hard to find. This I will achieve using a questionnaire about how easy the CDROM was to use & I got Steve to fill in the first one when giving me my second Design Support Tutorial. The comments & suggestions from this first phase of feedback will be used to Tweak my CDROM to maximise it's usability.

The CDROM will then go, in it's Tweaked form to my Design Support Tutor for his own feedback regarding my Portfolio content. This will once again give me an opportunity to make final changes before sending the CDROM out to my peers & presiding Diplomat. At my accreditation event I also plan to use the opportunity to hand around another questionnaire, slightly adapted from the earlier one, in order to get any more relevant feedback, but this time from people who are much more familiar with permaculture.

I shall also be getting feedback after the accreditation event via the questionnaires on the CDROM & these will also be on my website. I shall include one short questionnaire for people without much time & a longer one for those who would like to give me more feedback. These will allow me to update the webpages & CDROM contents on an ongoing basis if needed... & yes, I would value your comments on your own experience with my Portfolio too. Thankyou for taking the time to read it!

I plan to use a similar system for the Best Design pages on the Diploma WorkNet site. Feedback questionnaires will be included both within the webpages & on any CDROMs that are produced. A webcounter, which may already be in place on the Diploma WorkNet pages would give good feedback about how often these pages are being accessed & if we need to do a bit more promotion for them! Of course, there will also be a continuous stream of new Best Designs coming into the system to be uploaded to the Diploma WorkNet pages. No doubt, more ideas will emerge as the design evolves, but for now this is as far as this part of the process has taken me.

Life cycle analysis:

Introduction

I wanted to clarify whether a CDROM provides a less environmentally damaging way of producing a Diploma Portfolio than a file full of paper & photographs. To achieve this I needed to do a full Life Cycle Analysis of the two different versions of the Portfolio & to compare them with each other. This process looks at the energy & materials required to produce each element of each Portfolio from its initial harvesting as raw materials, through its processing into the end products, then look at its durability & ending with its disposability (though you might ask why someone would want to throw away such inspiring & educational material!). I will do this for each in turn, as best I can using the knowledge I have about each process, starting with the standard format to date, the paper version.

Paper Portfolio

Overview

From my observations, a standard paper Diploma portfolio has consisted of one or more A4 lever arch files containing pages of text, drawings, photocopies & photographs (or colour pictures printed out of a computer onto paper). This requires raw materials, the technologies to mould them into basic materials (paper, ink etc) & then other technologies to allow them to convey the information we wish to communicate (pen, camera etc). I'll start with the technologies & move on afterwards to the basic materials (where our mind usually stops when thinking about where something comes from (i.e. the ink came out of the pen....!).

Technologies

The technologies required to produce a basic paper portfolio are a bit less complex than those required for a CDROM, but they still use modern technologies. Unless of course we are hand making a very basic paper & applying naturally produced inks with a quill to write the text & illustrate everything with drawings (it would be nice to see this done actually!).
All the portfolios that I have seen though have used modern paper, ink & photos in abundance, all of which utilise modern technologies. Any photographs will have required a camera of some description, either traditional or more recently digital. The former of course uses chemical technologies for film development, the latter data storage. Both types of camera require high technologies to produce them in the first place. Modern pens are quite high tech themselves, a long way advanced from a natural feather.

Paper & Card

Most modern paper comes from huge plantations of mostly monocultured conifers, usually planted & managed in a way that makes them a very poor wildlife habitat. Paper pulp also has various bleaching agents added to whiten it (even if it is coloured afterwards). That said, I'd assume that most permaculture students would be using recycled paper, but even this may have been bleached to remove the residual inks from its original use. Modern paper is not exactly a natural product, just because the pulp comes from trees.

The trees are cut down with large machinery & processed in huge mills (probably automated with computer technology), using large amounts of power, all of course 'borrowed' from our fossil reserves. Bleaching agents are added & after more factory processing it finally ends up in the shops.

Ink

The modern inks that fill the pens that we so much take for granted nowadays are chemically produced. Natural inks just don't have the qualities required to function efficiently in a modern high tech pen. Then there are also the portfolio photos to consider, which could be chemically or digital produced. I will put them all in together here for convenience, although they are different processes. The traditionally produced prints require the use of what I've been told (by amatuer photographers who do their own developing & printing) are quite dangerous chemicals. Digital photos use data storage, but would still be printed out in a paper portfolio & this requires ink (& unless its a dedicated camera printer, the whole printer / computer interface to go with it). Photocopying is also a chemical process & a portfolio may also contain any number of these as well. They all use chemical inks & high technology processes to generate them.

Durability

The durability of a paper portfolio is pretty good, it can be dropped, trodden on, thrown about & abused in most ways without affecting its readability too much. It is of course vulnerable to fire & water damage. Like most things it could also get lost, but it's bulk gives it a bit of an advantage here over a CDROM. One thing is certain though, compiling one would be enough work, to do another, especially if the first one was unavailable to copy from, would be a daunting task.

Duplication

Once one has been made, each extra Paper portfolio uses the same quantity again of all the materials used to make the first one, apart from the film in the camera & the developing process.

Pollutant outputs

The paper bulk would biodegrade, but the inks involved may well leave toxic residues in the soil (or atmosphere if incinerated to generate heat). The pollutant outputs of the technologies & processes required to make the raw materials though I suspect to be a different matter entirely!

CDROM & Web Based Portfolio

Overview

To my knowledge, a Diploma portfolio has not been produced in web page format on a CDROM before. Mine however will consist simply (in material terms) of a CDROM in a plastic case, with an insert card that I print out from my computer. Of course there will be at least five of them, to enable me to send them to each one of my peers & presiding Diplomat before my accreditation event. I will mail them in recycled jiffy bags. Until broadband internet access is commonplace, it would not be practical to email such a large amount of data, or to expect someone to be able to peruse it all (sound files & high resolution documents included) online. There is obviously a complete reliance on technology with this format, but my raw material for data storage is a single blank CDROM.

Technologies

It is not just the blank CDROM that needs technologies (& high tech ones at that) to produce it, the data that is stored upon it also requires the manufacture of computer hardware & software to generate & decode it & to store it on the CDROM. Without the technology it would not exist as an option & I suspect the sustainability of the whole computer industry is more than a little suspect! That said, the technologies are there & available to us now & they provide many extra possible yields to us than can be generated by paper documents alone in our work to educate people about permaculture.

As for the photos on a CDROM, they could be either format as before, but digital pictures are much more suited to this format & would only require the camera manufacturing technology to take images of the real world into the digital domain.

A traditional camera would need all the associated chemical technologies already mentioned, plus scanning technology too. I would expect that for a while longer at least, CDROM portfolios are still (like mine) likely to contain scans of old project photos alongside any digital images that may be there too. In this sense, there is little to choose between the paper & the CDROM formats.

CDROM
A blank CDROM stores data digitally (as ones & noughts) by a process in which the 'burner' uses a laser to alter the colour of a dye sealed within the plastic disc. This can then be read again by most modern CD players & CDROM drives & the data transfered back into words & pictures (a great deal more than I could write on it with a piece of chalk!). A CDRW (re-writable) disc uses a similar process, but with a reversible dye.
It is obviously a high technology product that requires dust-free manufacturing plants, plastics & chemical processes to produce it.
It's not something that I could ever knock up in my garden shed!

Durability
The durability of a CDROM is not as good as the early proponents of the CD would have us believe. They do get damaged by scratches, are vulnerable to heat & I certainly wouldn't use them part-time for frisbee practice! When they fail, they usually do so completely & there is rarely any warning. What they have in their favour is the ease by which they can be duplicated; maybe a more accurate life-time comparison would be several CDROMs to last as long as one paper portfolio (assuming that it didn't just quickly end up getting dusty on a shelf).

Duplication
Once one has been made, each extra CDROM portfolio uses only another blank CDROM & a little electricity to power the copying process.
Oh...& all the technology to still work of course.

Pollutant outputs
The biodegradability of CDROMs I would guess to be pretty poor & I would not be surprised to find out that incineration releases toxic elements into the atmosphere & the soil. But is there any more plastic & chemicals in a CDROM than in a stack of photos?

Conclusions

 While the paper portfolio seems at first glance to be the least environmentally damaging option, I have discovered that the paper is probably the only potentially sustainable element within it. But even that has probably been produced in an unsustainable way! It is what we don't see that needs most consideration & it seems that both formats actually use a lot of modern technologies & fossil fuels to produce the materials that they consist of. As far as materials go, without doing a detailed analysis to quantify everything, I have to consider there to be no great ecological disadvantage either way. Also a detailed analysis would contain so many potential variables; even just looking at energy consumption, which could come from any number of sustainable & non-sustainable sources & be used in efficient or inefficient processes. It is all well beyond the scope of this exercise.

 Comparing a single paper portfolio with a single CDROM seems to have pluses & minuses on both sides. Each can only be used by a single user at a time & both are transferable. The CDROM may be easier to carry & post, but it is probably a bit less durable & far less biodegradable on the whole. That said, a paper portfolio, if damaged, is far more work to replace than the CDROM. This is when the CDROM comes into it's own & the Life Cycle Analysis has to take into account the potential yield of each format. With each extra copy, the CDROM starts to become much more energy efficient (Input / Output Analysis). Put the contents of the CDROM on a web server & the yield becomes virtually unlimited in terms of the number of people that could access the information & potentially be inspired to go out & change our World. The Life Cycle of that one piece of data on the web server could generate enormous yields, which could not hope to be matched in terms of energy efficiency by either of the other two. While the CDROM offers cross-referencing & multimedia options unavailable in a paper format, the main reason for choosing it is the copyability & dissemination potential of the digital format & ultimately the ease with which it could be uploaded to the WWW. But of course, this does all rely on the technology to make the communication work & without it the CDROM would become no more use than as a rainbow-making bird scarer for the garden.

So take away all technology & a paper portfolio could still be created, albeit in a very crude form, but the chances are that in such a society, people wouldn't travel far from their own communities & such information & inspiration would be transfered by word of mouth as it was in the past (& we'd probably all know how to live sustainably anyway!). But that's not where we are, we do live in a technological society & we have the choice to either label it 'evil' for the resources it uses up, or to utilise it to spread the word about a different way of living. Whether we use it or not, it will be there & it will be being used to spread propaganda to promote the continuation of the stripping of Earth's resources in the name of 'economic growth'. I feel that it is now time for us to use the digital domain to promote permaculture; through the development of CDROM resources & via the World Wide Web, with all the potential yields that they provides us with.

Now it's time to do an Input / Output analysis for the CDROM version of the Portfolio.

Input / output analysis:

One of the elements that came out of the Mindmapping process was that there seemed to be a lot of potential outputs from the design. Therefore I thought that it would worthwhile to do a full input / output analysis & see if the process really did follow the principle of 'Minimum effort for maximum effect'.

Introduction
I have looked already at the life cycle of each of the two portfolio options & have decided that the CDROM has no clear environmental disadvantage over the paper version. However, I've noted that the CDROM has the added advantage of being internet-ready which opens up far more potential yields than either of these two 'hard-copy' formats.

I am now going to consider the inputs & outputs (the energy efficiency) of producing my portfolio in the CDROM format & then uploading it to the WWW.

Inputs

In the previous Life Cycle Analysis I have looked at the physical inputs required to produce a CDROM portfolio. I noticed that if I was to generate outputs (inspire people) by using the CDROM format alone, a single copy would be the least energy efficient amount to produce. The inputs that went into mining the raw materials, processing them & turning them into technologies like my computer required a certain amount of energy which will have been used whether I burn even a single CDROM or not. Each extra CDROM requires a comparatively much lower input of a blank CDROM & the electricity required to power the process.

Now I will consider the non-material inputs to the portfolio; in essence the data that goes into it & the inputs required to generate it. As above, regardless of how many copies of my portfolio I distribute, I will have essentially put the same amount of my own energy into producing it. Therefore, I can more or less consider my non-material inputs to be constant, as the time that would be required for me to burn a few CDROMs or upload my portfolio to the WWW is insignificant compared to the time it has taken me to produce it in the first place.

The work that I am including in the portfolio I have done anyway, so I am using these outputs from previous design work as inputs to this process. Certain practices, such as taking part in Action Learning Sets I have done as part of the Diploma process, but even these which have required my input of time & energy have yielded their own impalpable outputs (clarity, joy, connection, etc.). For now though I will keep focussed on the production of my portfolio itself. My main input specific to this process has been the time & energy required to assemble these elements into a coherent & easily accessible form that could inspire others (generate outputs). A little extra time (input) invested into this process, could make this a much better generator of inspiration & carrier of information (outputs).

Outputs

The only material outputs from this process are the burned CDROMs (at least five to cover my accreditation needs), but these are essentially just a vehicle for the information (I haven't created the CDROMs, only stored data on them).

This is their only efficient output; it would make no sense to go to all that trouble just to produce a bird scarer for the vegetable plot, although this is still a better input for a damaged disc (output) than filling a hole in the ground!

An obvious output for myself from all this is the Diploma in Applied Permaculture Design, but how I use that as an input into other processes is entirely up to me. The other main output from this process is as an inspirational resource for others to read & act upon. Initially, my informational output is going to become an input to the Diploma WorkNet's collection of best design work. This will increase the value of this resource, effectively as a by-product of my own output. A lot of other good design work (outputs) already produced by existing Diplomats, will also be utilised as inputs to the Diploma WorkNet pages.

From there, it will all become a collective output, increased in its value by the fact that it has been accumulated in the one place. This is where the output has the potential to be virtually unlimited; both because of the increase in its value from being collected together & the vast number of access points to it now available (computers linked to the WWW). Whether or not the readers act though is only partly down to me (the quality of my portfolio) & other Diplomats (ditto their best designs), as it still requires the readers own interest & enthusiasm (inputs) to go with it in order for them to generate more outputs themselves (good permaculture work).

Conclusions

So, we've seen that a single access portfolio (i.e. a CDROM) is the most energy inefficient output of this process. Each new CDROM copy, with it's small extra physical input of a blank CDROM & a little electricity to power the burning process (which could be generated sustainably), creates a net improvement in the input / output ratio. In other words, the amount of energy input to the whole process balanced against the potential output of each copy of the portfolio. A thousand copies could potentially reach a thousand times as many people as one copy, yet still use less than double the energy required to make one, over the whole process.

This all changes though when we use the WWW to distribute the information, this effectively creates a situation where a single data copy (i.e. disc; the web server's hard drive) can be accessed by anyone in the World with internet access. So in this case it would more energy efficient to have only enough CDROM copies to provide a safe data backup & utilise the WWW solely to distribute the information. The electricity required to do this could even be generated by sustainable means.

Information is a resource which increases with use, whereas unused information becomes outdated, effectively a pollutant if it is sitting unused as a paper portfolio on a shelf somewhere. Information is however only a potential resource until it is turned into something solid (people use it to create genuine resources using good design). It is therefore a worthwhile use of energy to put existing poorly accessible resources in a much more accessible place (the WWW) & make this usage much more likely. There are plenty of great resources out there begging to be utilised as inputs to the Diploma WorkNet 'design bank', they just need to be harvested.

Now it's time to look at the CDROM design itself.

CDROM design:

Having decided to create my Portfolio in web page format to be distributed on CDROM, I set about designing how I was going to do this.

Objectives:

To best utilise the many different opportunities available to me to convey my information:

  * Text.
  * Pictures (photos, documents, drawings).
  * Sound clips.

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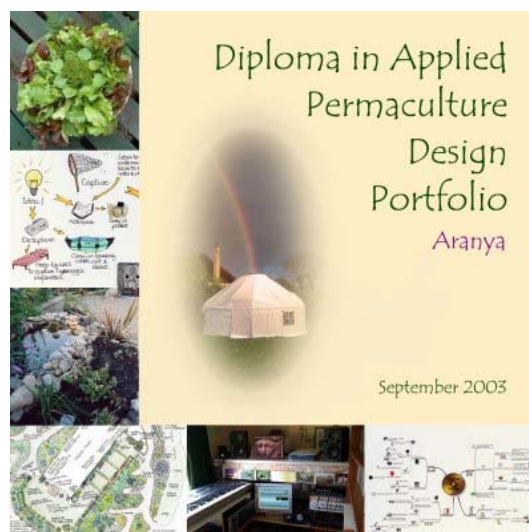
To present my Portfolio in an accessible manner:

  * To Diplomats, students & the general public.
  * To people with all degrees of computer literacy.
  * To obtain feedback from the above clients groups to aid me in
    maximising the effectiveness of my design.
  * To provide an effective example of a new way to produce a Diploma
    Portfolio & demonstrate all the additional yields that can be
    harvested from using this format.
  * To use the design as one of the ten I need to include in my Diploma
    Portfolio.

Content:

 I already know the content I need to include in terms of the Academy's criteria, so what I am looking at here is the way in which I present this information. A paper Portfolio would include text & pictures & this is no different here. However, the opportunity exists in this format to also include some sound clips to enhance my presentation. I already have a lot of my work in the form of Word documents & so these are easy to include. The other text I am going to have to type in, but this will at least provide me with the yield of improving my typing skills!

 I would still have had to have written it or typed it & printed it out anyway, so there is no more work involved with that. I also already have many of my designs scanned into the digital domain & a lot of my photos taken this last year have been on my digital camera. The remaining photos, documents & drawings I can scan in & having them in this format provides an extra backup of them as well as making them potentially much more versatile. I can produce the sound clips easily using my recording equipment & I will place icons to click on to play them (if they played every time a page was launched it could prove to be very irritating for the user!). I am able to include sound clips, despite their relatively large file size because of the high storage capacity available on a CDROM. This is currently a much more realistic option for doing this than the WWW; which despite also having a high storage capacity, is let down by the relatively slow data transfer rate, at least until broadband access becomes commonplace.

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CDROMs are also very compact, making them easier than paper Portfolios to store or to send through the post. They are also much easier to duplicate than a paper file.

Structure:

Having decided upon the content, I need to provide a structure in which it can be placed & that fulfills my needs regarding good accessibility. What I am designing here is a way to guide the user through my Portfolio, so that they essentially start at the beginning & finish at the end, whilst retaining some flexibility in the precise path that they take in between. I already have other web pages that I have created for other sites & these provide ideal templates for my Portfolio pages, saving me the time of setting them up from scratch. Using the tree structure which is a common pattern in nature also makes navigation around the pages much easier.

The relative location of pages is the other key element in designing the structure. By designing the CDROM to autorun directly to an introductory page, the user gets the information they need first, when they need it; first. From there the only link button is to the Home page where I have placed the ten options in my recommended order of access, starting at the top left & proceeding to the right in the same way that we would read a page of text. The first button links to a page about Portfolio navigation & gives all the hints & tips required for the user to find everything. Of course, the user has a choice to skip this but they may well miss out on some content as a result.

I have continued to use this pattern for all the link buttons on each page. As well as the buttons, there are also links embedded in the text & in pictures, which take the user to relevant sections of other pages. This provides the opportunity for the user to find their own unique route through, while always having a recommended direction to take next. I have grouped pages together logically in order to help the user & this has required the use of two additional sub-indexes for the Designs & the Extra pages. Each design has it's own set of pages with interlinks between them too.

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Some words or phrases link to the Glossary or the Bibliography, which provides further cross referencing. The Site map provides an opportunity to go anywhere from anywhere with just two clicks as it links to & from every page.

Accessibility:

Whereas the previous section dealt with making the Portfolio accessible in a structural sense, this section deals with making the information available to all the different client (user) groups. While some users will be very good at finding their way around their computer, others may not know what to do with my CDROM, other than putting it in the CD drive (hopefully!). To this end I have created an introductory page that will autorun, just as long as the autorun feature on the computer is enabled. Just in case it isn't, I have also included instructions for launching the CDROM manually on the inside of the inlay card.

On the back of the case it also recommends the optimum screen size for viewing & points out that sound files need the right hardware & software to get to hear them. Not all users are going to have a good knowledge of permaculture & it's terms & so I have included a Glossary to explain them. There are also other things that may need explaining to even seasoned permaculturists & they are defined here too.

I have included a lot of pictures on each page, both to illustrate the processes I have undertaken & to break up the text & make the pages look more aesthetically pleasing. Not all the pictures that I have included are easily read at the size I have displayed them at. While they are usually there for aesthetic reasons (i.e. brainstorming design processes), the user may want to be able to look at them in more detail.

To facilitate this & to help those with less good eyesight than myself I have provided full screen versions of these pictures, which can be viewed by double clicking on the smaller version. If these are still not big enough to read, the user has the option of viewing a full resolution version within the 'Documents' folder on the CDROM (which also uses the tree structure to arrange files in easy to locate folders).

Feedback:

 The key of course to 'ironing the creases' out of a design is to use feedback from clients. I aim to achieve this using a questionnaire, which I am providing in two different formats.

 The technological option is to use one of the versions on their own pages within the CDROM. I have provided a quick version & a more detailed version, depending on the time the user has available to reply. The user just has to click a few boxes & email it back to me by clicking on the submit button. Not everyone has internet access though & so I have also produced a paper version as an alternative. Some friends are going to give me feedback about the CDROM's general accessibility before I send out the final accreditation version. I also intend to get feedback on the content, from the Diplomat who is going to give me my last DST.
The feedback that I got from Steve at my previous DST & on the first questionnaire to be filled in (see left) was particularly useful to me in altering a few things for better accessibility. I am also having an Action Learning Set a few days before my target accreditation date, which will be another good opportunity to show other permaculture people my Portfolio & to get some questionnaires filled in & I will be asking my peers & Diplomat to do the same for me at my accreditation event.

Whole CDROM Design:
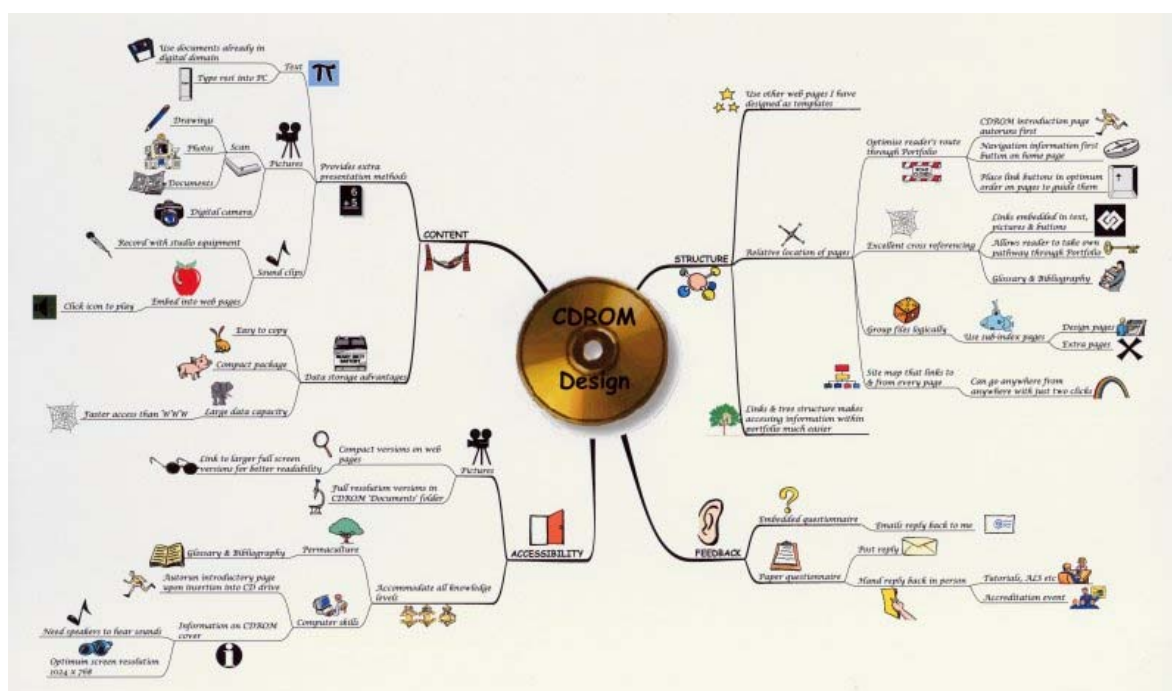
Principles:

In this section I look at some of the other principles that guide effective permaculture design & see how my own design can satisfy these. I use the definitions provided by Bill Mollison in the Permaculture Designer's Manual to clarify the essence of each principle, before going on to illustrate how it can be applied here.

Diversity
"It is not the number of diverse things in a design that leads to stability, it is the number of beneficial connections between these components"

One of the main areas of my design concerns bringing together the best design work of all the different Diplomats & their different skills. Up to this point there has been the same degree of diversity, but components have not been beneficially connected together. Putting all this important design work in one place achieves this & each designer benefits from having the value of their work increased as a result (a student is much more likely to access a website or buy a CDROM full of different designers' work than that of just a single one). In turn, designers can also become aware of other designers doing work of interest to them (for collaborations or learning purposes) & so more beneficial connections can be made there too as a result.

In my own portfolio I create these connections between the different web pages. Where a subject has connections with another I can easily insert a link between the two. This has the effect of guiding the reader through the portfolio on their own path, whilst demonstrating these connections by allowing a high degree of cross-referencing which would be virtually impossible within the paper format. This creates a feeling of being able to go anywhere within the structure from anywhere, very easily.

Energy Cycling (Self-Regulation)
"The purpose of a functional & self-regulating design is to place elements or components in such a way that each serves the needs & accepts the products of other elements."

New & existing outputs from the accreditation process (Best designs) become inputs to the Diploma WorkNet 'design bank', which in turn becomes an increasingly valuable learning resource to serve the needs of other Diploma students & the general public. Diplomats & Teachers educate the public, who in exchange provide them with a percentage of their income. Design course graduates can become Diploma students who continue to benefit from the input of Diplomats in exchange for their funding & then in turn they produce more valuable work themselves to help educate yet more people. The 'Design bank' becomes a hub around which all this can operate most effectively & the WorkNet is also funded by it's students.

Guilds

"An harmonious assembly of species clustered around a central element. This assembly acts in relation to the element to assist its health, aid our work in management or buffer adverse environmental effects."

Good examples of guilding in my design are the clustering of the postal service & WWW, my computer setup & my website & general computing skills around the design work done by myself & existing diplomats. Together these effectively create a new resource of easily accessible & inspiring information. These designs are of course already in existence, but without the computer setup to digitise the data, my skills to carry out the operation or the postal service & WWW to distribute it, it would not be such a 'healthy' system. Similarly, the Diploma WorkNet 'design bank' can be seen as the central element around which designers, tutors, teachers, students & the general public are clustered. Each maintains the system in a healthy way, by either feeding in information or utilising it in different ways, to increase its value. Of course individuals could also be moving from a position of accepting outputs to providing inputs & move from being one 'species' to another (all groups within the system apart from the general public probably have the potential to feed into the system as well as accept its outputs).

In my portfolio, I cluster sound clips with lots of photos, drawings, documents & mindmaps around the text, to enhance my communication of ideas.

Take away any of the elements & it becomes a less effective communication tool; particularly relevant in an age when younger people are so used to seeing the multimedia presentation of information.

Minimum Effort for Maximum Effect

"Make the least change for the greatest possible effect."

This principle is utilised when placing the existing best design work onto the WWW where its accessibility becomes almost unlimited. Transferring these designs into the digital domain is a relatively small amount of work compared to the energy already input into the designs' presentation in paper format. This 'least change' creates an increase in value by combining the designs in a diverse collection, making them available as an educational resource to anyone with internet (WWW) or postal (CDROM) access & provides other spin-offs too, such as promoting permaculture generally to funding bodies. Designing my portfolio in CDROM format from the beginning can also be seen as a 'least change' (I was still going to put the same work into creating a paper portfolio). This format gives me more options to convey the information I have to impart & to duplicate it much more easily too. In turn, the CDROM format creates the opportunity for a further 'least change', that of trimming a few big files away & uploading it to the WWW for a massive increase in potential access (effect).

Multiple Function (Yield)

"Every component of a design should function in many ways."

Diploma Portfolio: Provides a record of the students work for accreditation purposes. Helps the student revise their design work as they compile the portfolio. Helps the student gain skills in presentation (layout, creative use of materials, learning use of software?). Provides example(s) of best design work to add to the 'design bank'. Mine provides me with the basis for my accreditation presentation.

Best Designs CDROM: Helps students on Diploma pathway, aids teachers in demonstrating good design work. Raises funds for the Association directly (selling it) & indirectly (impressing funders). Helps designers to become aware of each others work for inspiration, learning & collaboration.

WorkNet 'Design Bank': Helps students on Diploma pathway, aids teachers in demonstrating good design work. Provides the general public with good access to examples of good permaculture design for educational purposes. Provides instant access for potential funders to view examples of good permaculture design.

Accreditation Event: Opportunity for me to present a summary of the design work I have done on my pathway. A place to offer a new way of producing the Diploma portfolio. An opportunity to present how the new 'design bank' will work on the WorkNet. A celebration!

Multiple Supply

"Every essential function should be supported by many components."

CDROM Portfolio: Text is enhanced by the use of different images & sound clips, all of which provide a description of what I have been doing. Important documents have full page versions within the web pages for enhanced readability. The client can also choose between the lower resolution files within the web pages & the high resolution files that don't fit into the more user-friendly format.

Accreditation Presentation: My talk will be backed up by projected images, paper designs on display & an opportunity to peruse the CDROM on a computer.

Design Work Dissemination: Paper (most portfolios & 'best designs' currently in existence), CDROM & WWW will give access to good design work to just about anyone, anywhere should they want it (with the help of a few good translators!).

Relative Location

"Place a component in relation to other components or functions & for more efficient use of space or nutrient. Look for products that serve special needs, not otherwise locally available."

This principle is particularly important in the way I have designed the structure of the website & CDROM. Obviously it would be very confusing if I put sound files relating to one page on a different page for instance & the same goes for putting pictures next to the relevant text of course. However, I have had to think about the order in which people will need to peruse my Portfolio so that it makes the most sense to them.

This is why the CDROM has an introductory page that autoruns, telling the user about the different files that are on it. Similarly, the first picture button on the Home Page is Portfolio Navigation as this contains the important information about how to find everything that is in the Portfolio. All the link buttons on the web pages are laid out in the order in which it would make most sense to view them & rather than clutter up the text with explanations, I've included a Glossary which is linked to, whenever a potentially unfamiliar word or phrase is used. I have tried to ensure that each element sits in it's ideal place within the overall layout of the Portfolio.

The positioning of best designs on the WorkNet pages certainly fulfils the criteria for providing products that serve special needs, not otherwise available locally. Before being placed on the WWW, a student would have to do a lot of searching to find anything of similar value to them on the Diploma pathway. The same could be said of it's value to other client groups, such as the Association who could make great use of a CDROM to show to potential funding bodies.

The Problem is the Solution
"Everything works both ways. It is only how we see things that makes them advantageous or not."

Am I pushing my luck by classifying having to write up this Portfolio as a problem? Or the deadline that I have set myself to finish it by? The former certainly produces plenty of yields, not least in inspiring me to design in the WorkNet's 'Design bank' into the process. It also becomes a good research resource, something to promote my design work to potential clients with & it will earn me my Diploma which will also help me in that same department. Plus, I am able to use it as the basis of my presentation without having to create any more visual aids. The deadline is providing me with the motivating force to finally get it all written up, whereas without it I may have ground to a halt again under the considerable workload.

Unlimited Yield

"Yield is not a fixed sum in any design system. It is the measure of the comprehension, understanding & ability of the designers & managers of that design."

Putting all this information, whether it be my Portfolio or the Best designs onto the WWW, increases the potential yields enormously by allowing it to be accessed by almost anyone, anywhere in the World & for all number of reasons. Producing CDROM versions increases the potential yield even further by catering for those people with computers & postal access, but without an internet connection.

Final design:

With all these things considered, we are now ready to look at my Final Design. I have taken the Design, Implementation & Maintenance elements of my OBREDIM mindmap, rearranged them into these new categories & combined them with the CDROM design mindmap elements to make this Final design mindmap. Let's look at it in more detail...
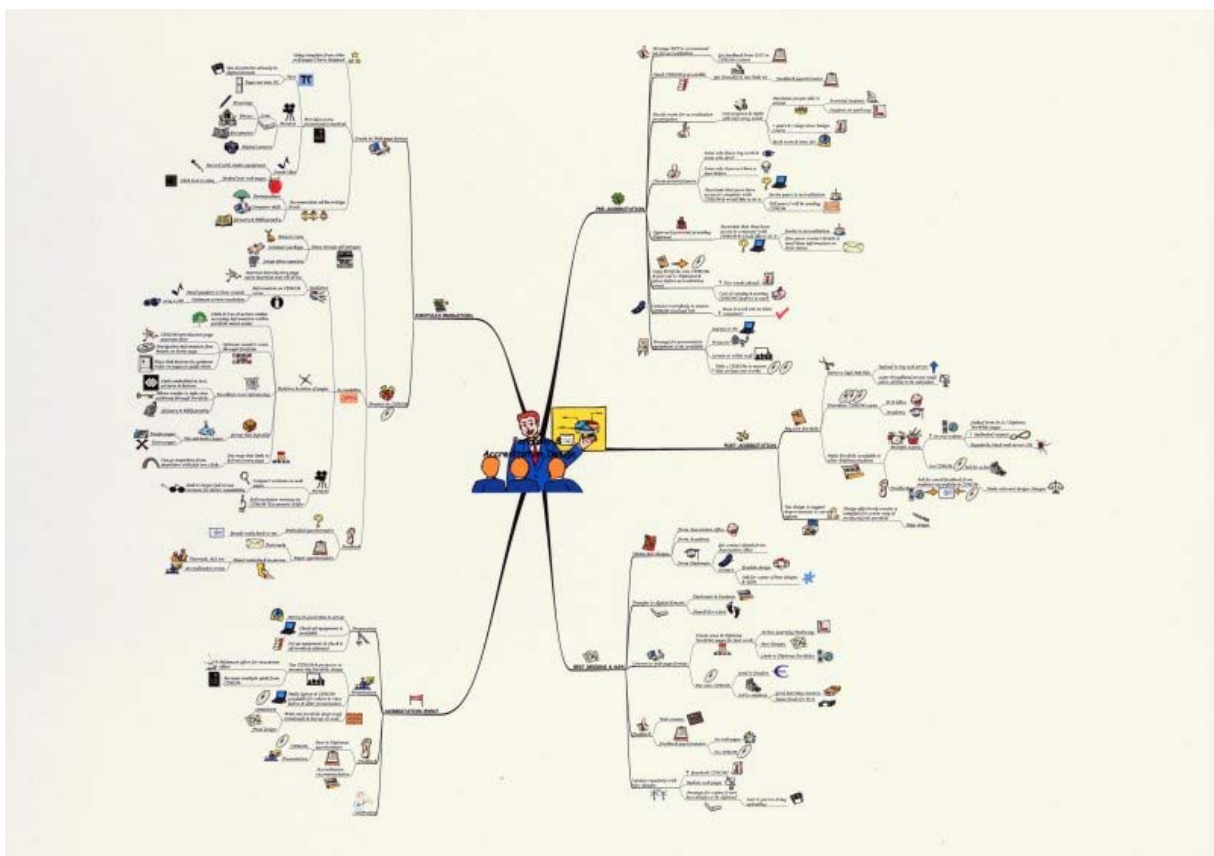
The Final Design

Portfolio production:

I've initially created my Portfolio in web page format for several reasons, one of which is the extra methods of presentation available to me. While I am making use of the potential for including sound clips, along with the text & photos, I could also have included video clips if I had any of relevance. I am using web pages that I have created in the past as templates here, as this has saved me time in setting out the page layouts. I am designing for several different client groups & so I must ensure that I accommodate all levels of knowledge; both in terms of computer skills & permaculture experience. To this end I have included a Glossary of terms, which is linked to from any potentially difficult word or phrase. I have also included a Bibliography of my recommended books for people to be able to find out more about a subject if they wish.

I am choosing to present my Portfolio initially on CDROM because of the advantages it has; a large data storage capacity in a compact package that is easy to copy, to name but three. I am designing the page layout using the principle of 'relative location', i.e. placing related items together. I have done this in several ways, the first of which is simply using folders & sub-folders, a structure that is more useful to me as the designer, but invisible from a web page viewing perspective.

The structure that the reader sees is based around a main index page (Home page), two sub-index pages (Designs & Extra pages) & a set of pages for each of the ten designs. I have provided linking buttons on each page which guide the reader to the next page(s) of relevance. I have placed buttons in a particular order so that the left or top left button is my first recommended place to look & the next to its right & so on, in the same way that we might read down a page. I have provided an introductory page which autoruns upon the insertion of the CDROM into a drive (as long as the autorun feature is enabled on the computer). This helps anyone with little computing knowledge, that may not know how to look at the contents of the disc.

For those who don't have autorun enabled I have included instructions on the CDROM case on how to launch it manually.

On the Home page, reached directly from the introductory page, I have placed my main index. The top left button links to a page about Navigating the CDROM; an obvious place to start as so much more can be found within the pages with a few hints about where to look. After this I have placed the buttons so that they introduce me & then lead the reader through my pathway & onto my ten designs. The Designs sub-index has them arranged chronologically & each design has it's own set of pages with similar structures & layouts of linking buttons, differing only where a design has extra pages added. The linking buttons are laid out logically again in the order of each design process.

Not all links within the Portfolio are linear however & this is where this format provides another advantage over paper. Throughout the Portfolio I have interlinked related items so that the reader can get a more thorough understanding of what is being presented & to follow their own unique path. The Extra pages that I have included do not relate directly to the Assessment criteria & so do not appear on the Home page, they are however linked to from different places in the text where they are relevant & have their own sub-index which can be reached from linking buttons at the bottom of most other pages. The Site map provides an extra way of getting around my Portfolio & is a way of ensuring that nothing has been missed, as all pages are linked to from here. Each of my own photos, drawings or documents can be viewed more easily in the 'Documents' folder on the CDROM, where I have provided copies at a higher resolution. Smaller pictures that are not easily read on screen can also be clicked upon to bring up a full-screen version of them.

I am seeking feedback from those who use the CDROM to improve its structure & I am aiming to achieve this by asking users to fill in a questionnaire for me. One is embedded in the CDROM itself, which will email me back the information inputted by the user. The other is a paper version which will need to be given to me by hand or posted back to me.

Pre-accreditation:

 Having completed the Portfolio, I'll be copying it onto several CDROMs. These I will send out to a few friends just to give them a testing in terms of their accessibility & I will use their feedback to tweak anything that needs it. At the same time I will arrange a DST to ensure that I am ready to accredit. The feedback from my tutor I will use to tweak any of the content that may still need it before it is viewed by my presiding Diplomat & peers. I have decided to aim for accrediting at the Permaculture Association's AGM & Annual Convergence in Leeds, as this would provide the best opportunity for as many people as possible to be able to see the process if they wish. As a trustee I will be there anyway, so it will not involve me making an extra journey to achieve this. I have already made known my desire to accredit at the event & I am pencilled in if I am ready on time.

 I am choosing my peers using several criteria, the first of which is that they are going to be at the event themselves. I am looking for a balance of those who know some of my work already & some who don't & those who are new to the Diploma process & those looking to accredit themselves soon. It would also be good to give those who haven't been in a peer group before the opportunity to do so & a good balance of males & females in the group would be preferable too. The last two criteria involve them having access to a computer with a CDROM drive & being keen to fulfill the role for me. I have already approached a Diplomat, who I know from a distance but who is currently only a little familiar with my work & he is more than happy to fulfill that role for me on the day. Once I have clarified who my peers are I can send him their contact details so that he can send them on the information they need to carry out their duties.

 Once the CDROM is ready I can post it to my peers & Diplomat, giving them enough time to have a good look at what I have been doing before they come to my accreditation event. I will phone them all up a few days later to ensure that they received them alright & that they worked OK in their computers. Then all I need to do is to ensure that the equipment that I will need on the day is going to be available for my use.

Accreditation event:

I will arrive at the AGM early to enable me to both carry out my duties as a trustee of the Association & to get my presentation equipment set up in good time. I will be taking two copies of the CDROM, just to be sure that I will have one that works OK & I plan to use it to make my presentation a 'minimum effort for maximum effect' one. I have arranged for a computer screen projector to be available at the venue & also a laptop or computer to plug it into. This will enable me to use a tour of my CDROM as the basis for my presentation on the day, where I can focus on my Best design. This will have the multiple function of using elements of my design to present the design itself, which explains how I have designed the whole process including the presentation itself! (confused?).

I will make the CDROM available on a computer before & after the presentation for others to view if they wish & I will be printing out my Portfolio mindmaps at a large scale & putting them up on the wall to be viewed as well. I will ask for feedback from my peers & Diplomat on the day in the form of a questionnaire, both about the CDROM & the presentation, then use this to further tweak the content. I would like to think that after that, all there will be left to do on the day will be to celebrate!

Post-accreditation:

After my accreditation & any last tweaking as a result of feedback, I will be sending copies of my CDROM to both the Association & the Academy. I will then pare away the larger files & upload a slim-line version to my website where it can be linked to from within the Diploma WorkNet pages. Later on, when broadband web access is more common, it may be practical to upload the whole Portfolio. I will also be making the CDROM version available to anyone who would like a copy (advertised from my website version), which will provide a multiple supply of the information. Feedback received from the CDROM & the website will provide ongoing opportunities for me to optimise the Portfolio. The design effectively offers a new way of producing a Diploma Portfolio with extra outputs.

Best Designs & Action Learning Pathways:

I will be placing my own Best design on the Diploma WorkNet's new 'Design bank' pages & this will be simple, having it already in web page format. I will be aiming to gather up the Best designs that have been produced as part of the Portfolios of all the existing Diplomats & I will start at the Association's office & at the Academy. Any Best designs that have gone astray over the years could be collected by contacting Diplomats directly. Having these designs on the WorkNet pages could only be of benefit to the Diplomats, so it would be in their interest to provide them.

It would be a lot easier if each Diplomat was to provide their own work in digital format, but if necessary paper documents could be scanned in, perhaps for a fee. Once transferred into the digital domain, I could create a set of Best design web pages which would become a valuable resource for several different client groups.

It can also be put onto CDROM, for sale as a potentially more detailed resource. Students would value it as an inspirational learning tool, the Association as a resource to send to potential funders, the WorkNet as an example of the work it is producing, Diplomats as a bit of good publicity & the General public as an introduction to the diverse ways in which permaculture design can be applied.

Feedback could be gleaned from questionnaires on-line & on the CDROM & from the web counter already in place on the Diploma WorkNet's pages. As new Diplomas are awarded, each new Best design can be uploaded to the 'Design bank'. This would be much more easily facilitated if it was built in to the Diploma process that this is either provided in digital format or an extra fee included to pay for the scanning work.

In time, maybe there will be enough students accrediting annually, for a yearbook CDROM to be produced including all their Best designs.

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Design Review

What went well

 Apart from the time it has taken me to create my Portfolio, I think the process has all gone generally well.

 CDROM: In particular, the structure of the CDROM came together easily, ready for me to input my information. I had the layouts of the other websites that I had done & the different pages that I could use as templates, saving me a lot of time setting up the positioning of text & pictures on the pages. Getting this much done gave me a real sense of having started & was a good incentive for me to get on with the task.

 Mindmaps: The Mindmaps all came together really well & I enjoyed learning to use the new program. It certainly produced a different (but not necessarily better) end-product to drawing them by hand, but eliminated that frustrating possibility of running out of space on the paper. I certainly felt that it really contributed to the design process for me & I will be using it again.

 Client feedback: If I had any doubts about whether or not my ideas about getting the Diploma portfolio Best designs onto the WorkNet pages would be approved of, they were quickly dismissed. The feedback that I have received about my design to date from members of different client groups has been very positive.

What was challenging

 Technical issues: These were the main areas of difficulty in the process of producing the CDROM. Although I had become quite familiar with the software, there were new elements that I was aiming to incorporate on the CDROM & these posed new challenges for me to overcome. Getting the CDROM to autorun upon insertion into a drive turned out to be quite simple, although it took a visit to an online technical forum to find the easiest way of doing it.

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Embedding sound files into the pages wasn't well described in the software manual. I knew how to record them, but getting them to play from the page was another matter. In the end it seems as if I am relying upon the end user having the software to play my mp3 files. However, if they have the necessary sound card & speakers that they also need to hear them, then they will almost certainly have the software as well.
I also wanted to be able to use an online questionnaire, where the reader just clicked a few boxes & emailed it back to me, but this again was not as simple as the manual suggested & my attempts just produced a blank email instead. At the time of accreditation this is still the case, but I hope to resolve this as soon as I can.

Life Cycle Analysis: I was concerned that I wouldn't know enough about the statistics relating to the production of the different elements of the two portfolio formats. However, having carried out the Life Cycle Analysis exercise I realised that there were too many variables within the system to be able to do that accurately anyway & so a more general investigation was actually the most appropriate thing here.

Element placement: This was something that I had difficulty with in a few designs, but is more relevant here because it concerns the placing of the different elements of the design process on seperate webpages (part of the CDROM design!). At first I put the OBREDIM Mindmap on the Final design page, but then realised that it didn't actually belong there, so what was I to put on the Final design page? As you can see, in the end I just created a new mindmap which combined together the relevant elements of the OBREDIM & CDROM mindmaps.

What I would do differently

I would allow myself a bit more time to write up my Portfolio & not give myself such a close target accreditation date so early on in my writing up process. The time constraint has motivated me to get on with the task, but at times I wasn't enjoying doing it very much. It seems that I once again underestimated the time it would take me to do a job; on this occasion completing my Portfolio.