DRM – A case study

# My story

I am Joe Public and I love reading – anything. My bookshelves started groaning under the weight of all my books and storage became a problem. I couldn’t manage to get rid of books and I could hardly buy more.

It was thus inevitable that I would buy an e-reader. I would be able to store my books electronically – storage problem solved! Even better, I would be able to take all my books wherever I went! I would consequently have access to all my books anytime, anyplace, and would be able to pick and choose whenever I wanted to read, to look something up or just wanted to relax with an easy read. For a bookworm like me, this sounded heavenly!

So there I went to my nearest computer store to buy my *Kindle* (everyone was talking about it!) – what could be easier? The sales assistant is only to eager to sell the device to me and keeps on saying how cute and wonderful it is. Of course I have to buy a cover as well – the type with a reading light so that I wouldn’t bother others when I’m engrossed in my books in the evening. Needless to say, when I hurry home an astronomical amount was gone from my wallet/purse – but I deserve a bit of spoiling, I comfort myself.

At home, with great expectation, I switch my computer on, google Kalahari.com, click-click my way to the e-books and lose myself amongst all the choices. And then – with another sizeable hole in my wallet but with a smile on my face – I download the first additions to my new e-book collection, using my basic computer skills.

I plug my *Kindle* into my computer, smugly copy the e-books onto it and hey presto! Now I’m ready for the wonderful experience – reading my first e-book on my new *Kindle*! I press the Menu-button with anticipation and…NOTHING!!!

I plug my *Kindle* into my computer again - maybe I did something wrong - and search the folder on the Kindle. The e-books are there! I read the user manual again to make sure I did everything right. I did! So what now?

Well, I’ve always been able to find out what I needed to know. So, back at the computer, I anxiously open Google and begin searching… *My e-book reader does not show the e-books I uploaded...*

Mmm, luckily I’m not so stupid. I find quite a few other people asking similar questions. I’m relieved. I’ll quickly find out what the problem is and what I need to do. Well, the problem is that my brand new *Kindle* – which just cost me an astronomical amount – can’t read the file format (ePub) of the e-books which I so recently bought at great expense and downloaded.

With a bit of further reading, I quickly discover that *Kindle* is an Amazon-product and that this bit of technology can read only the file format (mobipocket) of the e-books sold through Amazon. Does this now mean that I’m forced to buy books exclusively from Amazon? What if I prefer Afrikaans books? What now? I could kick myself that I didn’t research more thoroughly before buying my *Kindle* and e-books.

I feel cheated and deceived, as well as annoyed with myself. Further research and reading required…

Google quickly provides me with a solution: I need to convert the files from one format to the other. The webpage also has a link to a programme that I can use to do it online for free.

Anxiously I navigate to the webpage that’s supposed to help me with the conversion, follow the instructions and load the first e-book file for conversion. The next moment I receive the message: *There was a problem converting your files – We attempted to perform the conversion you requested from* ***epub*** *to* ***pdf*** *but unfortunately the conversion failed.* More searching…

According to the information I find, the digital rights of the e-books should first be removed before the format can be converted. I follow the link, load the *e-Pub DRM Removal*-programme, run all my e-book files through it and look for the folder with the ‘rights-less’ files.

In the meantime, I follow another link to a conversion programme that is highly recommended. I download it and, filled with anticipation, start the conversion process – the night is almost over and I still wanted to read a bit on my *Kindle…*

I repeat the process, plug my *Kindle* into my computer, delete the ’old’ e-book files and drag the ‘new’ files over to my *Kindle.* Holding my breath, I unplug my *Kindle*, press the menu-button and…Wow! There are my books! Eagerly I open the first one and begin to read, page by page. At the end of the chapter, I turn the page… Oh no! The next words stare up at me: *Demo version*. I look at the other books, and ideed, they all contain only every second chapter! The chapters in-between are only one page long with the words *Demo version.*

My heart sinks into my boots. Now there is only one solution – I’ll have to buy the programme. Click-click back to the programme’s webpage. Another few rands later and my conversion programme is licenced and registered.

Once again I repeat the process. At last I press the menu-button, open the book and immediately page to the second chapter. What a relief when I see everything’s there. A quick page through the book assures me that it is complete.

At last I can read my books…

‘Wait…’, my conscience suddenly starts bothering me. Didn’t I act wrongly when I removed the DRM and converted the e-book files? I had better find out more…

# Background reading

## The digital era

The digital era has changed many things. One thereof is the ease with which electronic material can be copied, duplicated and distributed. Think about music, videos, films, computer games and programmes, as well as e-publications – in other words, software piracy.

It has become a major headache for the industry, and rightly so. It loses billions of rands each year as a result of the piracy of software. It is therefore just logical that the industry has begun searching for solutions to try and put a stop to this extensive problem.

## What was the situation previously?

Before things were electronically available, they were difficult to duplicate and distribute. In the case of music, for example, people bought it in the form of vinyl long-playing records. Although it probably wouldn’t have been impossible to make copies of these records, it would have been very expensive and would have required special equipment and technical knowledge. Everyone therefore had to buy their own records and as a result, copyright was easily enforceable.

The worst that could happen was that people could get together and listen to each other’s records, and could lend or swap them out. There were however cases where *bootlegging* was used – the recording of sound (or these days also video’s), such as when an artist performs live, and the distribution of these records without consent.

With the arrival of cassettes and cassette players, things began changing. You could buy empty cassettes and record sound. After that, followed computers, digital sound, magnetic and optical storage media, and devices like CD-writers. The rest is known to everyone.

Printed media, like books, is likewise protected by copyright. Books and magazines could also be lent or swapped out. Copies could be made with photocopy machines, but it was often more expensive to copy a whole book than to buy one.

Copyright laws did not, however, make provision for the digital era. The distribution of digital material over the Internet using file-sharing networks, led to traditional copyright laws becoming out-dated in practice. The nature of the Internet also made it unpractical to prosecute people for these offenses.

## Stop software piracy

The extensive software piracy/piracy of digital material (music, videos, computer games and programmes, movies and e-publications, etc.), and the resultant loss of income, compelled the industry to attempt to do something about it. It led to digital rights management (DRM).

### What are digital rights?

*Digital Rights Management* is any type of technology that is used to try to prevent the piracy of digital material. It comprises several techniques used by copyright holders to control access to and the use of digital material. It therefore endeavours to control the following aspects with regards to digital content:

* to be able to watch it
* to be able to print it
* to be able to change it
* to be able to do anything possible with it

A digital rights management system thus attempts to determine the copyright of a piece of digital content, manage the distribution of copyright material and to control what the consumer can do/can’t do with the content or how a consumer may use it.

### DRM-technology and implications

Some of the techniques used, include:

* A record company uses a type of CD that contains information that makes ‘ripping’ difficult.
* A film company includes programmes in their DVD that limit the number of copies that can be made.
* The company you work for, blocks the forwarding of email to limit the distribution of potentially sensitive material.
* A publisher sets his file server up in such a way that access to, as well as copying and printing of e-publications is limited.

Although these techniques attempt to address a legitimate problem, they resulted in many companies crossing boundaries. The problem with some of these techniques is that they either violate people’s – the clients’ – rights, or their right to the reasonable use of the products they have paid for.

When you buy a digital product, you have the right to make copies for own use – that is the core of reasonable use as contained in copyright law. However, many of the DRM-techniques don’t take this into account, as it is precisely the nature of copying and distributing electronic material that makes this clause difficult to apply – if one is allowed to copy digital content, then one can of course distribute it easily.

Many DRM techniques also include spyware that documents everything the legal owner of the digital content does, and then sends it to the supplier/copyright holder – an obvious violation of privacy. Furthermore, this spyware is often very difficult to uninstall. In addition, this spyware creates a *rootkit* – a programme in a hidden area of the operating system – within which it is concealed and can’t be found. This creates a security risk, as other harmful programmes like viruses, can also hide there and stay on the computer indefinitely without being traced – not even by antivirus software.

Some techniques limit the use of digital material to the machine on which it was originally installed. This results in the user not being able to use it on another device that also belongs to him/her, or that the user won’t be able to install it on a new computer that he/she bought, or not even being able to make a back-up. This is a violation of reasonable use.

Some of the systems also create a problem for libraries and the lending of e-books, as they limit the lending of an e-book to only 26 times. Many librarians view this as misuse, especially when one considers that a printed book can be lent out for an unlimited number of times.

Added to all of the above, is my story of how I could have been prevented from using e-books - that I paid for and obtained legally - for their intended purpose, or how I could have been bullied into buying from a specific company.

## What others say

Many people describe DRM as **Digital Restrictions Management** because it infringes upon the rights of the consumer in order to protect the rights of the copyright holder.

An organisation against the severe restrictions of DRM says:

*Amazon came out with their newest line of Kindle e-book readers today, including the appropriately named "Kindle Fire".*

*To quote their TV commercial: "The instruction we find in books is like fire. We fetch it from our neighbours, kindle it at home, communicate it to others, and it becomes the property of all."*

*This device does not kindle that fire -- it extinguishes it, with more of the same digital restrictions.*

<http://www.defectivebydesign.org/topic/kindle>

Others allege that DRM is only about financial gain.

*DRM does not actually implement the fundamentals of copyright law, and is rather a mechanism for enforcing licence and contract restrictions on digital data. However, we believe that DRM does have a place in the digital distribution of copyrighted works*

*http://pubs.cs.uct.ac.za/archive/00000231/01/fair\_use\_acm.pdf*

## Everyone has rights!

Of course companies and artists/writers have the right to protect their intellectual property, just as I as a consumer have the right to reasonably use that which I obtain legally and pay for, the right to choose where and from whom I buy these products, as well as the right to privacy.

The question now, is whether any DRM system can protect the rights of the copyright holders and consumers equally.

# My *Kindle*, my e-books and DRM

What I now know:

DRM limits what you can do with your e-books, controls on which devices you can read them, and prevents you from converting your e-books from one format to another.

When you therefore want to use another e-book reader or when the supplier of your e-book reader no longer supports the e-books you have bought, you may lose access to your e-books.

So, in order to read your e-books on all your devices, or to ensure that you will be able to read your e-books in the future, the DRM on your books should be removed.

This is precisely what the programme I bought does – it removes the DRM and converts it to a format that another device can read. Nevertheless, the suppliers of this software clearly state their viewpoint on the ethics thereof:

**None of the developers and maintainers of these tools or this site are in favour of e-books being ‘pirated’. We expect people to use these tools only to gain full access to e-books they have bought themselves. De-DRMed e-books should not be uploaded to open servers, torrents, or other methods of mass distribution. No help will be given to people doing such things, and no links to such books should be posted here. Authors, Publishers and E-book retailers all need to earn money to be able to carry on making great ebooks available. Reference?**

**There are currently four main e-book formats: Mobipocket, Topaz, ePub and PDF. The Amazon Kindle uses Mobipocket, Topaz and inbuilt PDF. The most other e-book readers use ePub, but with different DRM schemes.**

## What now?

Did I act wrongly when I removed the DRM of my e-books and converted them to a format my *Kindle* could read?

Would I still have bought a *Kindle* if I had been better informed?

Would I be acting wrongly if I lend my e-books to, or swap them out with other people, as I would my hardcopy books?

Would I be acting in a wrongful manner if I were to freely hand out and distribute my e-books, in their new format without DRM, to others?

What can be done to protect the rights of both copyright holders and consumers of digital material?

Would digital material, like computer software and games, etc. necessarily become cheaper when both parties’ rights are protected and widespread software piracy has been put a stop to – so that it could be more affordable for everyone and therefore would possibly limit the demand to make illegal copies?

Would it help if people refused to buy devices and media that are protected with DRM? Would this remove the motivation behind DRM?

Is open-source software (OSS) the answer?

# Conclusion

DRM is controversial. It addresses a legitimate problem, but simultaneously has been shown to also violate the rights of consumers.

There is clearly a need for DRM-standards in order for a system to be developed that protects the rights of both copyright holders and consumers of digital material.

It is also clear that Joe Public is not sufficiently knowledgeable regarding DRM, and that it is necessary for them to be better educated on the topic to enable them to make informed decisions – at least until DRM-standards and systems have been developed to the point where it protects both parties’ rights equally.