

No part of the candidate evidence in this exemplar material may be presented in an external assessment for the purpose of gaining credit towards an NCEA qualification.

A

The world is filled with designs. Us, the humans, we love to own 'thing' but people tend to choose designs that meets their priorities. Meaning, good design all comes down to client's priorities as well as perception of how designs can interpret with others. When we say 'Good design', most people will only consider the aesthetic aspects but good designs have a lot to consider before classifying them as 'good designs'.

I will be critiquing a technological outcome using my own criteria of what good and bad design is. The design I will be critiquing will be one of the famous product produced by top marketing company, 'iPhone' as I have some knowledge of the functionality and it's durability of the product from using the product.

What is good design?

A design can be classified as good design when factors, elements and design features are well combined, aesthetics as well as functionalities. Good designs are usually astonishing and fulfils its purpose. But quite often, clients / customers views a visual representation of a product to determine the value of a product.

Examples of bad design:



Recently one of the top released smartphones, Samsung Note 7 has been issued for several explosions. The phone has great visual representation as well as functionality but the durability of the phone has been compromised. The battery exploded due to the slight changes of internal design which added more pressure to the battery which made the battery heat up really quickly ended up exploding. This resulted in recalling more than \$17 billion worth of manufactured phones.

Another top cell phone marker Nokia had few battery incidents and had to recall 46million batteries in 2007. Although these are huge failures caused by human error, bad decisions and not knowing certain factors in designing, they are part of learning from design mistakes and improving future designs.

Example of good design:

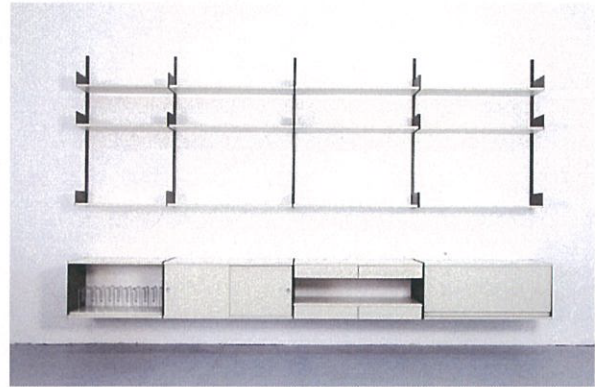


Computers have been developed past generations and main problems is and has been noises and overheating. The heat is caused by the components in the computer and to cool the components down, fans are needed which causes noise. However, computers these days have been developed to solve these problems. Multiple fans that has reduced sound noise can easily output the heat. Computers are efficiently designed to where the interior components can be placed in any exterior shell. Some exterior shells have has LED lighting feature which makes the product look aesthetically pleasing and overall shape is very futuristic which makes it look sharp. They are made out of strong plastics which makes the product incredibly durable yet affordable. Computers these days can last for at least 3 years without any major incidents.

Criteria of good design is constantly changing due to the factor of societal perceptions, environmental situations and technological advancement and to help classify designs as good designs, one of internationally recognised designer Dieter Ram has stated 10 major judgement criteria principles of good designs.

Dieter Rams

Dieter Rams is a German industrial designer who spent time studying architecture and interior decoration early in his life and studied industrial design when modernism movement happened. He was well acknowledged and understood methodologies of design to create principles that can be applied in general designs.



1. 'Good Design is innovative.'

Innovative design can be a breakthrough product or service and redesign of an existing product or service. A breakthrough product adds a before unseen value and function to the market and the user, while a redesign improves an existing product. Innovative design always develops in tandem with innovative technology and can never be an end in itself

2. Good design makes a product useful.

It has to satisfy certain criteria, not only functional, but also psychological and aesthetic. Good design emphasises the usefulness of a product whilst disregarding anything that could possibly detract from it.

3. Good design is aesthetic.

An aesthetic product has an inherent power of being able to fascinate and immediately appeals to its user's sense. Only well executed objects can be beautiful. The aesthetic quality of a product is integral to its usefulness because products used every day have an effect on people and their well-being.

4. Good design makes a product understandable

Good designs are based on its use and designed to improve a given situation for its user. The product should be self-explanatory.

5. Good design is unobtrusive

Products and their design should be both neutral and restrained, to leave room for the user's self-expression. Products fulfilling a purpose are like tools and are neither decorative objects nor works of art

6. Good design is honest

An honest design communicates solely the functions and values it offers. It does not attempt to manipulate buyers and users with promises it cannot keep.

7. Good design is long-lasting

A good design is long-lasting. In a society of over consumption, a good design has an important objective. It builds on sustainability in the sense that design and materials are durable and not just a trend. Waste and over consumption is not a part of good design.

8. Good design is through down to the last detail

Nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the consumers

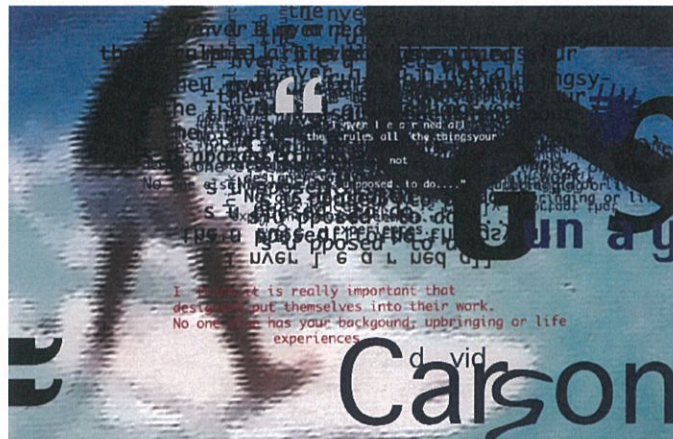
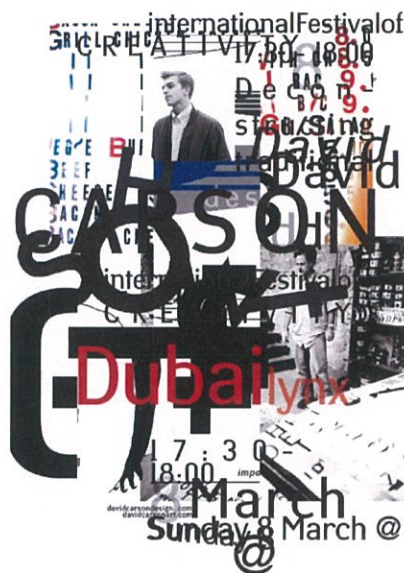
9. Good design is environmentally friendly

Design conserves resources and minimises physical and visual pollution throughout the lifecycle of the product.

10. Good design is as little design as possible.

Dieter Rams strongly advised “Less, but better” highlighting the fact that this approach focuses on the essential aspects thus, the products are not loaded with non-essentials. The desirable result would then be purer and simpler.

David Carson



There have been other known designers that have conflicting principles to Dieter Rams. David Carson, one of the famous graphic designer has quite unique design style. Carson is a graphic designer, art director and surfer. His work for the magazines beach culture and ray gun in the 1990s brought a new approach to type and page design with traditional layout systems. He continued to explore the possibilities of graphic design, particularly typography as a form of expression across print and video for both commercial and cultural clients.

How and why views of design change

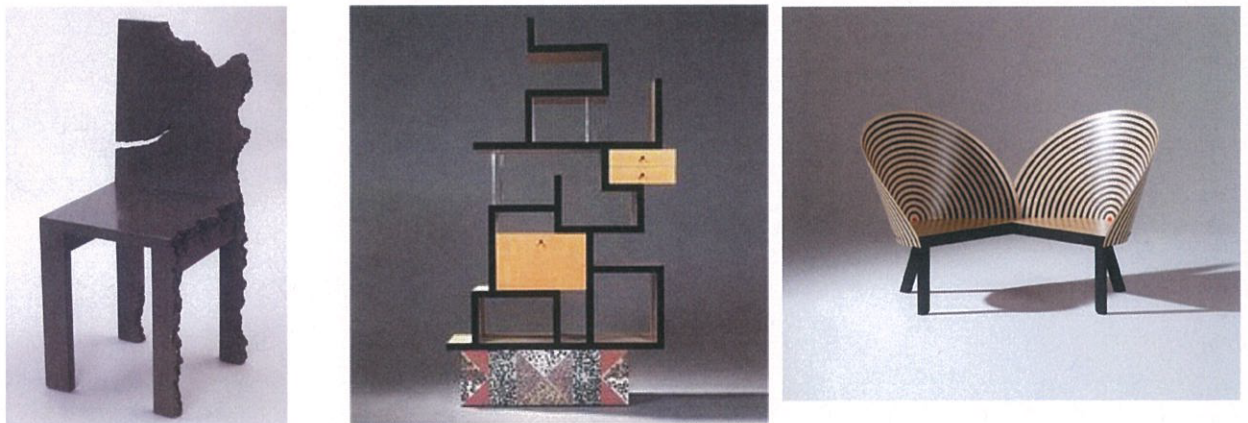
Every designers have different understanding and viewpoints. Those different viewpoints can be influenced from many design movements in history, culture difference and mainly personality.

-Modernism



With the development of technology, Modernism began to break through at the end of the 19th century into the beginning to the 20th century. Developments began in Western society to find new ways to shape human culture and improve the constructed environment. Many creative disciplines from design and art was covered by Modernism to influence architecture, music and literature. Artists had strategically re-think their practice because of the power of machines. The results were revolutionary and still influences designers to this very day. The new technology provided the opportunity for mass production. By making life easier, simplicity was emphasised and “Less is more” became the inspiration to many designers. Dieter Rams was highly influenced by modernistic design in this period of time and this is shown through his 10 principles. [1]

-Post Modernism



Postmodernism was originally a reaction to modernism, a cultural movement which had become increasingly rigid and inflexible, and irrelevant to the complexity and fluidity that characterizes contemporary society. The individual and originality is prioritized over the universal; decoration and visual richness takes the place of simplicity and clarity; frivolity, experiment, and a delight in the imperfect are embraced. In part, this reaction can be seen as an entirely appropriate creative response to the increasing blandness and conformity of

modernist design. Once again individual differences are celebrated, and the 'invisible' modernist designer stepped back in to the limelight as the contemporary 'artist-designer' and superstar. When looking at David Carson's work there is a coherence a very definite style running throughout his works. His expressive raw use of photography full of texture, colour, vibrance and excitement is masterfully balanced against cool, soft focused images creating visually rich contrast within the design is seductive to the viewer without overcomplicating the design. Carson success is due to the person he is. The colours he uses the rendering of his photography they all carry the romance of his lifestyle he was a world famous surfer that tamed nature which he continues to do as a graphic designer taming typography and layout but preserving the means in which they occur creating a spectacle out of the error and sponainuaty. It is because of this emotion this overwhelming personality that David Carson is successful and is a true post modernist giving us richness depth freedom and Emotion and connecting with his reader through that personality. [2]

My judging criteria

I personally believe that Dieter Ram's design principles contains more relevant aspects to current generation design style. However David Carson expresses more of his personality through designs. The fact that Dieter Rams is an industrial designer whereas David Carson is a graphic designer and they both have different kind of technology therefore the judging criteria must be different.

I have created my own judgment criteria to judge whether my iPhone is designed well enough to be classified as 'Good design'

- Sustainability (Environmental and Economic)
- Functionality (Fit for purpose and User orientated)
- Durability / long lasting (construction, materials and aesthetic)

Judging a technological outcome

I have chosen to critique my iPhone 7 since it is a daily use product. I have bought this phone recently after using iPhone 4 and I have discovered huge differences between these two phones

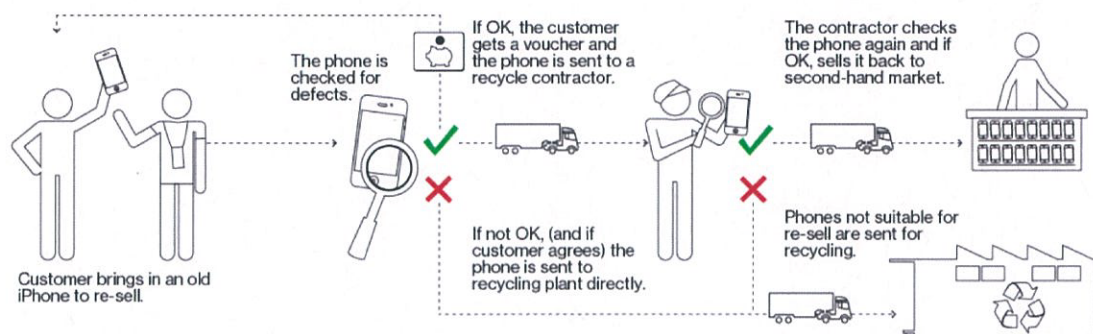
Sustainability

iPhone is designed and manufactured by a company called 'Apple'. Some materials and components are collected by apple's suppliers and combined to create an iPhone. This brings up a lot of interesting facts about Apple's supply chain, where it has to manage a huge number of suppliers and funnel their work into a single device. This is what makes Apple a fascinating company to research and understand. In order for it to operate economically, it has to source parts from various different countries and continents, manufacture and assemble the parts in another, have warehouses located around the world to supply enough devices for the whole world and finally be able to distribute it to its customers at a reliable speed.[3] Material wise, iPhone contains 62 different types of materials. Apple started a program called 'Reuse and

Recycle' trade-in program for the iPhone over three years ago, little information has been known about what exactly happens once the iOS device has been boxed up by the Apple employee. When going through the in-store recycling program, users are told the device's memory is erased and that the device will then be recycled. Although vague, recycled seems to be the best choice of words in the situation. The device may end up being sold into a secondary market, or depending on the state of the device, headed straight for recycling.

Breaking Down the iPhone

Re-sell or Recycle?



Graphic: Pekka Aalto

Bloomberg

[5]

Functionality

In terms of functionality of the phone, iPhone seems to improve as technology improves. It is getting smarter, faster and easier with constant update of software updates. Major improvements are generally made in each generation of iPhone. In 2007, the CEO of apple announced first iPhone. The first generation of iPhone contained all new technologies such as several sensors to enhance the experience, like an accelerometer that could automatically rotate the screen to match device orientation, a proximity sensor that could automatically turn off the screen when close to the face, and an ambient light sensor that could automatically adjust brightness. Although it was lack of GPS, support for cellular data, Apple developed these main problems to classify iPhone as 'Good design'. New generations of iPhones were created every year and this lead up to the point where we now have finger print protection to keep the privacy of user's personal information, superior camera quality, speed and sound quality.

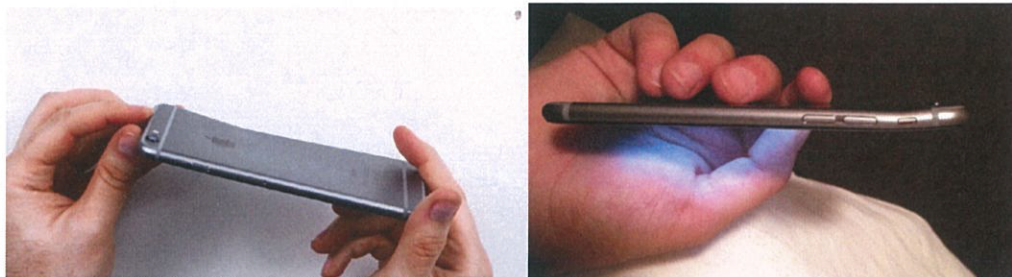
Durability / Long Lasting

As functionalities of the phones improved, changes were needed in visual representation needed changes. Different materials are used to make aesthetic changes. However, durability and strength of the iPhone seems to be only factor that is not improving. Since iPhone is getting slimmer and lighter, it seems like the phone can easily be broken if the user does not be very careful with it but third party companies always come out with cases that will prevent this from happening but the whole reason why the phones are getting slimmer is to improve the visual look of it. iPhone 4th generation

consisted of a glass front and back. This generation of the phone is probably the worst design out of all. The phone can be destroyed really easily.



To fix this problem, Apple has come out with solution by replacing the glass back with aluminium on 6th generation. But this became another failure as iPhone was easily bent in user's pocket and by changing the back material, iPhone became more slippery and hard to get a grip resulting in dropping a lot.



Another major problem water damage. A lot of iPhone users have been struggling with water damage since the 1st generation. Water can easily enter the phone damaging the display of the phone which can cost up to \$130. Recently Apple has announced and released the latest iPhone. It contains water proof feature which solves the major problem by removing head phone jack as well as reducing holes that allows water to enter but by removing the head phone jack, people will now not be able to listen to music while charging.

Conclusion

In conclusion, iPhone has many factors that makes itself very aesthetically pleasing, and desirable piece of technology. It has been developed to be called 'Good design' by enabling access to internet, emails, many different apps and entertainments. But knowing the fact that this valuable product can easily be broken when accidentally dropped, it is quite uncomfortable using it. Although the phone offers so much to the users, it can also be very susceptible to breaking. I wouldn't call iPhone, a good design but I personally think it certain is learning from mistakes and can see the company trying improve the problems to get their product to be called as 'good design'.

Bibliography

- [1]: <http://www.creativebloq.com/graphic-design/easy-guide-design-movements-modernism-10134971>
- [2] <https://shapeswithourhands.wordpress.com/2010/01/19/post-modernism-and-david-carson/>
- [3] <http://www.macworld.co.uk/feature/apple/are-apple-products-truly-designed-in-california-made-in-china-iphonese-3633832/>
- [4] <http://www.visualcapitalist.com/extraordinary-raw-materials-iphone-6s/>
- [5] <https://9to5mac.com/2016/02/17/recycled-iphone-what-happens/>

Assessment Schedule – 2016

Technology: Undertake a critique of a technological outcome's design (91617)

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria.

Issues from the Specifications

Achievement	Achievement with Merit	Achievement with Excellence
<p>Undertaking a critique of a technological outcome's design involves:</p> <p>explaining the concept of good design and;</p> <p>why criteria for judging the quality of design change</p> <hr/> <p>explaining views of design and judgement criteria used to determine the quality of the design of technological outcomes</p> <hr/> <p>appraising the design of a technological outcome using design judgement criteria.</p> <hr/>	<p>Undertaking an in-depth critique of a technological outcome's design involves:</p> <p>discussing why contemporary judgement criteria are important for design decision making</p> <hr/> <p>evaluating the quality of the design of a technological outcome using design judgement criteria.</p> <hr/>	<p>Undertaking a comprehensive critique of a technological outcome's design involves:</p> <p>discussing the impact of judgement criteria on design decision making</p> <hr/> <p>justifying the evaluation of a technological outcome's design.</p> <hr/>

Grade: High A

The headings and structure of the essay have enabled the candidate to readily meet the Achieve criteria. The quality and quantity of evidence fall away during the actual critique. To convincingly access the Merit requirements, the actual critique should be an area of greater emphasis within the essay.

The content is more descriptive rather than explanatory. The candidate does not explicitly discuss why contemporary criteria are important – there is some description but not what could be deemed discussion.

This is an example of how candidates can use a range of factual information that is informative but do not explain/evaluate these facts within the critique in enough depth to get to Merit.

Another way of perceiving the level of this critique is to consider it as a solo speech, rather than a two-way debate.

Appendix 1

Markers must exercise professional judgement to decide if a report demonstrates understanding. The following appendix provides guidance for markers making this judgement.

A report must use information to demonstrate understanding.

Reports described wholly or substantially by one or more of the statements in the left column demonstrate understanding.

Reports described wholly, or substantially, by one or more of the statements in the right column do not demonstrate understanding.

Where the report is made up of both used and reproduced information, the marker must decide if the report is successful against the standard when the reproduced information is ignored.

Evidence of use of information	Evidence of reproduction of information
<p>Candidate's report describes and explains the candidate's use, in their practice, of information relating to the standard.</p>	<p>Information is presented in isolation from the candidate's Technological experiences. It offers nothing or little to suggest the information is related to a course of instruction at level 8.</p>
<p>Information from the candidate's practice, research, the practice of others, and teaching is related to the candidate's technological experiences.</p> <p>The report describes experiences you would expect to come from a course of instruction derived from The Technology Learning area the NZC.</p> <p>These could include but are not limited to</p> <ul style="list-style-type: none"> • testing and trialling within a modelling process • developing a conceptual statement • developing a conceptual design • development of a brief • material selection • refinement of a brief • development of a prototype • development of a one-off solution • further examples may be added. 	
<p>Information from research, the practice of others, or teaching is reported in the candidate's own voice.</p>	<p>Information is NOT in the candidate's voice. The word choice, sentence structure, sentence length, punctuation and so on are not what a candidate could be expected to produce.</p>
<p>Referenced, complex research information unchanged by paraphrase is related to other information in a manner that unambiguously constructs meaning. (very rare)</p>	<p>Unreferenced, complex, research information is presented as though it is the candidate's own work.</p>
<p>Where the marker suspects a report is a deliberate attempt to deceive, the report should be referred to the panel leader using the Irregular Booklet process.</p>	