Emotional design

Profession

11/23/2012 Writing Design | Aaron Jeffries| K0059524| How emotional design has changed in the automotive industry? | Contents Introduction3 Emotional Design3 Model T3 Timeline Design – 1911 - 19604 E-Type Jaguar5 1960’s Cadillac 60 Special6 Timeline Design – 1960 - 20006 The Experience7 Timeline Design – 2000 - Current Date7 Global Warming9 Hybrid Cars9 Future Design - Concepts10 Conclusion11 References12 Introduction If you looked at the world of motoring today, then you would think of status.

Cars are now seen as a necessity and are used to 'show off' and display what type of person you are, your job, how muchmoneyyou earn and your prospects. Emotional design has changed over the years from making you feel like the worlds at your doorstep to showing you care about theenvironment. The purpose of this dissertation is to research and show how these changes have taken place. Emotional Design Emotional design is a way that a designer makes people feel about themselves when using and interacting with a product.

Emotional design plays a big part in designing as it defines how a product is used. As Donald Norman says, if a product is aesthetically pleasing, its functionality increases. ‘ Emotions have a crucial role in the human ability to understand the world, and how they learn new things. For example: aesthetically pleasing objects appear to the user to be more effective, by virtue of their sensual appeal. This is due to the affinity the user feels for an object that appeals to them, due to the formation of an emotional connection with the object. ’ Model T

The 'Ford Model T' was the first ever mass produced car on moving assembly lines with completely interchangeable parts, from September 1908 until

October 1927. This car was considered to be the first affordable vehicle marketed to the middle class. During the time of production 15 million Model T's left the factory and into the public making it the first revolutionizing car in the history of automobiles. Mr. Henry Ford -" I will build a car for the great multitude. It will be large enough for thefamily, but small enough for the individual to run and care for.

It will be constructed of the best materials, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessing of hours of pleasure in God's great open spaces. " Although the Model T had a huge 2. 9L, 4 Cylinder engine, which only produced 20bhp giving it a top speed of around 43mph. With is 2 speed gearbox and roomy interior it was a great car for families and for everyday commuting, as Henry Ford intended his design to be.

Its curb weight being at 540KG it was pretty light compared to modern cars of the same size. Technologywas at a minimum in the Model T making it not very safe in terms of today, but back when the T was designed people hadrespectfor the road and crashes were not as often as now thus no need for safety technology. In 1915 the use of electric headlights were introduced to the Model T. The magneto, the main source of power, was upgraded to supply the headlights and a horn with power. Timeline Design – 1911 – 1960 The first introduction to car luxury was in 1911, the electric starter motor.

Mr. Charles Kettering, a worker for Cadillac, created the electric ignition and starter motor making cars able to start themselves from the cockpit making the users experience easier as you could immediately start your car as soon

as you are seated. The next introduction to modern luxury in 1926 is the first hydraulic power steering system. Francis Wright Davis uses a Pierce-Arrow to develop the technology. It works by integrating the steering linkage with a hydraulic system. This makes it a lot easier to steer a car than before.

This makes the driving experience a lot more enjoyable as you do not have to use a lot of force to move the steering wheel. Again this is another move towards the more emotional designed vehicles as driving a car becomes more of a luxury task In the 1930s, plastic surgeon Claire. L Straith and physician C. J. Strickland advocated the use of seat belts and padded dashboards. Strickland founded the Automobile Safety League of America for auto mobiles. In 1931 Mercedes-Benz introduced the first modern independent front suspension system. This gave cars a smoother ride and better handling.

By making each front wheel virtually independent of the other though attachment to a single axle, independent front suspension minimizes the transfer of road shock from one wheel to the other. This is one huge step forward in the world of motoring as it makes the ride of the vehicle smoother giving a better experience but this can still be classed as a design for function more than a design for aesthetics. 1935 the first flashing indicator signals were used on cars. The signals use a thermal interrupter switch to create the flashing signals.

These transistor circuits began taking over thermal interrupters in the 1960s. This is a great invention to let other vehicles know which direction traffic is heading helping the user to have a safer journey. In 1936, the Hudson Terraplane came with the first back-up brake system. Should the hydraulic

breaks fail, the brake pedal would activate a set of mechanical brakes for the back wheels. This was quite a good feature and helped auto mobiles along with safety developments. Cruise control was developed in the 1950's by Ralph Teeter.

A blind man that sensed by ear the cars on the Pennsylvania Turnpike travel at uneven speeds which he believed to be the main cause in traffic accidents. Cruise control is a mechanism that helps the driver to set the car at a steady pace. Although cruise control was seen as unpopular in the 50's, it is a feature that you can see in up to 70 percent of vehicles now. This feature can be seen as both a safety feature and an aesthetic feature depending on its user. Although the design was meant to be used as a safety feature, people use this again as a better drive rather than a safer drive.

In the 1960's, car sales had almost tripled since the Ford Model T and more companies were mass producing cars more than ever before. Cars were now at a level of safety and technology which was considered enough to start designing for more beautiful, exotic cars for consumers to show their status. As you can see from my research design from the 1910’s till the 1960’s is around 85 percent for safety and functionality rather than designing for aesthetics. As the E-Type Jaguar rolled out the factory, I believethat design changed from this famous landmark. E-Type Jaguar

The E-Type Jaguar is considered to be the most beautiful designed car ever built. This car is one of the most iconic, aesthetically designed cars to be mass produced. Head designer, Malcolm Sayer designed this vehicle as a rear wheel drive grand tourer in a two seater coupe form and as a two seater convertible. Several years later a four seater version of the coupe was

released. Mr. Enzo Ferrari – " This is the most beautiful car ever made" The E-Type came in 3 different version, Series I, II, and III. The series one arrived at 1961 with a triple SU Carburettor 3. 8L 6-Cylinder Jaguar XK6 engine from the XK150S producing 300bhp.

This was an incredible landmark to make a car that could do 0-60mph in 7. 1 seconds. 'All E-Types featured independent coil spring rear suspension with torsion bar front ends, and four wheel disc brakes, in-board at the rear, all were power-assisted. Jaguar was one of the first vehicle manufacturers to equip cars with disc brakes as standard from the XK150 in 1958. The Series 1 can be recognized by glass-covered headlights (up to 1967), small " mouth" opening at the front, signal lights and tail-lights above bumpers and exhaust tips under the number plate in the rear. '

All of these features can be classed as being the type that can be shown off as the development of technology for needs has gone and the development of improved performance was introduced. Another clue to the E-Type Jaguar being an item to show off is the price range and customer market. The Series 1 was priced in-between ? 5, 380 - ? 5, 900. '3. 8-litre cars have leather-upholstered bucket seats, an aluminium-trimmed centre instrument panel and console (changed to vinyl and leather in 1963), and a Moss four-speed gearbox that lacks synchromesh for first gear (" Moss box"). '

These are all features that are designed for its look. The E-Types interior was very sophisticated and classy for its time. No other manufactures could offer this quality at these prices. Compared to the main competitors such as Ferrari and Lotus, Jaguars E-Type was 30% cheaper. There are questions to be asked of why it is this shape? Is it because of the sporty aerodynamics?

Or was the design created so that it looked sporty and different to any other vehicle that was available on the market? This answer would define weather this car is or isn’t the start of designing based on aesthetics.

The E-Type Jaguar in my opinion was the start of designing for looks, performance and price. This was the start of the development of cars with the 'next best' features. A competition between companies to make the newest, popular car. 1960’s Cadillac 60 Special The 1960’s Cadillac was America’s version of the E-Type Jaguar, a next level classy car that was seen as a status icon. With its smooth lines and its famous ‘ zap! ’ rear fins, it was one of the most recognizable 1960’s cars around. The car came with a 6. 4L which produced a whopping 325bhp.

This car seen the newest technology on the car market such as the option extra -Air suspension, utilizing freon-filled shock absorbers. Power steering and hydraulic brakes came standard on this model. The exterior designing of this model was one of the most thought filled design to date. Its thin chrome trim that runs from front bumper to rear and back around again made the car stand out. Other Cadillac’s also featured the stylish chrome which set Cadillac apart from its competition. The rear fins also set the design apart from the rest of the competition. The fins were inspired from an air fighter jet.

The price of the Cadillac was just over $5000 which was higher than ever for a Cadillac but was still in the price range of the middle to higher class of people. Overall the Cadillac 60 was one of the most aesthetically pleasing cars of the time and became famous for it. I believe that this shaped the design of cars from America, as this Cadillac was seen as the icon for all

Americans, if you owned a Cadillac you were the coolest guy around. Timeline Design – 1960 - 2000 During the 1960's the government became aware of the emissions coming from cars and decided to introduce technology to reduce these emissions.

In 1963 a positive crankcase ventilation was introduced which reduced emissions by routing gasses back to the cylinder for more combustion. Further research and development was done until the 1970's when catalytic converters were introduced. By the end of the century, emissions were reduced by 95 percent compared to that of in 1967. 1966’s era seen a fully developed electronic fuel injection system which delivers a carefully specified fuel and air mixture directly into the cylinders to keep the car’s engine running efficiently as possible.

With further developments two sensors were placed before and after the catalytic converter detecting how much oxygen is in the emission mix, to transfer data on how efficient the catalytic converter is working with the fuel and air mix and if there is the need to change the fuel and air mix to leaner or richer. In the 1970's air bags changed from being an optional extra to becoming standard on all vehicles. Air bags were originally introduced only on the driver’s side but in the late 70's they started to appear on the passenger side standard as well. 985 sees the ABS, Anti-locking Braking System, to be available on cars. Lincoln produced the first ever American car to offer this feature. The designer, Teves from Germany designed ABS to use a computer to detect each movement and hydraulic pressure from each wheel and adjusts the pressure so that the wheels continue to move rather than locking up during an emergency stop. This is defiantly a piece of

technology to be seen as designed for safety. Cadillac in 1997 introduced the first automatic stability control system. This is used to increase safety in emergency handling situations.

This is yet again another design for more safety. The Experience In the beginning of designing cars, there was no designing for experience. As stated above, the ‘ Ford Model T’ was designed purely for functionality to get from A to B. Later in the production years of the Model T, lots of different versions were designed such as the, two door coupe edition 1909-1912 and the C-cab wagon 1912. All designed still on functionality rather than aesthetics. As the years went by designers became more clever and inventive with automobiles safety such as the first repeating signal lights and the padded dashboards.

These modifications shaped the world of motoring that we see today as these features can still be seen today. As design continued over the years people wanted more and more features on their car as people want the best qualities they can get from a car they can get in their price range causing designers to put as much technology and features they can into their next designs. Such as car stereo systems, airbags, air conditioning and anti-locking braking system. Later years in the 80’s shown that depending on the customer the design would change immensely on how the user would see its pros and cons.

In these years there is little difference between designing for fun, safety, functionality and aesthetics. Some features of a car can match all of the types because of how it’s used. Different owners have different views on features, for example High Intensity Distribution (HID/Xenon) bulbs. Young

adult’s use them for fun and for aesthetics to give a new look to a car with bright, blue bulbs. It looks sleek and gives an edge over a standard car. An older person age 30-50 would see them also as being an aesthetic feature but also used for functionality as they provide better lighting for roads.

The elderly aged 60+ would see them as being a hazard or for safety because of them being very bright for people driving the opposite way, or find them safe because of their daytime driving capability to be able to see during the day whilst driving. Another example of this is to have for example Anti-locking Braking System (ABS). This can be seen in different ways depending on its user. The user that owns a car with ABS when all his friends don’t, would tend to brag and show of the fact he has ABS rather than see it as a safety feature, he sees it as being a step ahead over his friends cars.

This shows that the experience has become more enjoyable for the users as they feel as if they have the best money can buy making the vehicle more appealing. Timeline Design – 2000 - Current Date A great advancement for the driving community was Automotive Navigation Systems. The earliest sign of this was in the 1970’s. The technology was developed for people to have instructions of travelling from A to B in the safest and fastest way. Extensive refinement was under taken to develop the technology as it was not ready for public release. In the late 1980’s the technology was finally released.

It had a colored screen display with digital maps for user to see whilst using. A dispute was taking place as to who released it first. A company called ETAK was the first to release a practical device which stored road information on cassette tapes. After development Global Navigation System was first seen in a car released in 1994. This version lacked in accuracy and was re-

developed in 2000 which worked perfect using global positioning to give real time updates on maps. This technology in my opinion is the start of in-car technology that was a glimpse into the future. A design which shown what is to come with technology.

This was a huge breakthrough as no one had seen technology quite like it. The design was intended to be a functional design to give the effect of people feeling safe that if they do appear to get lost, an answer is there with you. It gives people a sense of bravery to explore the roads a lot more knowing that wherever you end up. There is always someone there to guide you home. High Intensity Discharge lamps were first developed for lighting large areas easily such as, gymnasiums, large public areas, warehouses, movie theaters, football stadiums, outdoor activity areas, roadways, parking lots, and pathways.

More recently, HID lamps have been used in small retail and even residential environments because of advances in reduced lumen bulbs. Ultra-High Performance (UHP) HID lamps are used in LCD or DLP projection TV sets or projection displays as well. Further development of the HID lead to the design of the car head lamp in 1991. HID bulbs give a new look to a vehicle. The bright, blue tint of the bulb gives a new, stylish look compared to a standard yellow, halogen bulb. Xenon headlamps were introduced as an option on the BMW 7-series in 1991. This first system used an unshielded, non-replaceable burner which later was completely replaced.

The first American-made effort at HID headlamps was on the 1996-98 Lincoln Mark VIII, which used reflector headlamps with an unmasked, integral-igniter burner made by Sylvania. ‘ Studies have demonstrated drivers react faster

and more accurately to roadway obstacles with good HID headlamps than halogen ones. ’ This shows that the design helps driver’s safety on vehicles. But as discussed above, depending on the user gives a whole new feel to the design. Again the feel of the design brings the user to feel as if their design is the best that money can buy as it looks better than other cars on the road.

In 2002, Toyota introduced the first version of the active night vision system, also known as Night View on the Lexus LX 470 and Land cruiser Cygnus. This uses the headlight projectors emitting infrared light, a CCD camera then captures that reflected radiation, this signal is then processed by computer which produces a black and white image which is projected on to the windshield. This design also give a sense of safety as in later cars it will detect pedestrians and warn you of what the camera has seen so you are aware of dangers on the road.

This can make the driver also feel at ease knowing that he/she can see a hazard before the human eye can. In 2004 a device called Intelligent Parking Assist System (IPAS), also known as the Advanced Parking Guidance System (APGS) was invented and introduced to the Toyota Prius Hybrid. This is a clever device that uses cameras and sensors to warn the driver of oncoming objects whilst parking. After upgrading and development, Version II was released and first seen in the Lexus LS luxury sedan in 2006. This included a system to help the driver as it would park itself. The user would pull up alongside a parking space.

The cameras and sensors would then detect whether the space was big enough for the car. The user would then input where they wanted to park the car and then the user could sit back whilst the car would park in that space if

possible. There were several problems with this version as it had trouble detecting when hazards and objects came in the way of the vehicle such as, cats, humans and push chairs. Room for improvement was needed so another version, Version III, was released. Version III was released again in the newest version of the Toyota Prius and the Lexus LS in 2009.

This newest version had a new feature which detected how it would maneuver the wheels to fit the car into a parking space without hitting other traffic or oncoming traffic. Adaptive High Beam Assist was first seen in 2009, released by Mercedes Benz on the E-Class. This is a device used to automatically adjust the head light so the beam just reaches other vehicles ahead, thus always ensuring maximum possible seeing range without glaring other road users. This is a great invention as it helps the driver’s visibility without putting other drivers in danger.

This makes the driver feel at ease by not putting any other drivers in danger. Global WarmingGlobal warming played a huge part in the early 2000’s on how people viewed the world. With fossil fuels running low and fuel prices constantly rising, the public needed an answer to solve the opening ozone layer and the fact that sooner or later. There will be no fossil fuels left. Inventors then came up with the idea of renewable energy such as running cars on water, solar and battery power rather than petroleum. This was then implemented into cars such as the hybrid Toyota Prius.

This car showed the world that answer is there it just needed more time to advance before the first fully electric driven car was produced. After a few years the government came up with the idea of the scrapage scheme. This was where money was guaranteed for you old vehicle if you bought a new

one. This scheme got thousands of people buying new cars which not only helped the total emissions but, helped the economy along as well. All seemed well but no one really looked under the covers of how glorious this scheme was to the world. The scrapage scheme in my eyes bullied people into buying new cars.

The full scheme forced people to feel guilty by not buying a new car and help save the world by reducing their carbon footprint. Therefore this scheme was emotionally designed to make people feel like they were doing well for the environment. Hybrid Cars In 2001 the Toyota Prius was brought to the market which changed people's views on how cars will help then environment. A car that was run on battery and petrol was a great idea on several levels. The Prius helped with having little emissions, fuel costs, average mpg and car life expectancy.

In my opinion it was a step forward but the Prius was not just designed for helping the environment. It had ' different' features which the public had never seen before giving the owners bragging rights. Such as the dashboard features giving you feedback on your emissions and where energy is coming from. If you're doing well for the environment you get a blue glow over your dashboard, or oppositely you get a glow of red sensing you're not doing very well for the environment. Thus in a way encouraging you to drive in the way Prius designers want you to drive.

This therefore changes the way I see how designers make cars as instead of using the features to their advantages and enjoying your driving experience, you are forced to drive in the way that the designer intended the vehicle to be driven. This then takes away all emotional design of the vehicle. Yes you

would get the sense of achievement when the dashboard is blue but the way for example the jaguar E-Type made people feel special, made people feel as if they were in a different league. The Toyota Prius takes away these emotions and makes the user feel like a good person rather than feeling above the world.

Future Design - Concepts In the Volvo V40 an airbag has been designed to protect pedestrians in the event of a crash. This technology works by detecting when the front bumper has come in collision with human shaped legs and will deploy an airbag from the top of the bonnet. The airbag covers the shuttle panel and the two pillars on either side of the windscreen. This therefore covers all harder metal parts of the front of the car that could potentially cause a fatality in the event of a crash. This technology will be introduced in 2013 and will come standard in the V40.

This could be the future of design, now that safety inside the cockpit is at an all time high with, seatbelt airbags, curtain airbags and more. Pedestrian safety now could be the future of safety design. In 2013 Cadillac will release their newest technology which is a vibrating driver's seat. Although it sounds to be a relaxing feature, the vibrations are a way to receive tactile feedback to help keep drivers safe. Say for example a driver falls asleep on the motorway travelling at high speeds. The car starts to veer off to the nearest lane.

The seat will vibrate giving them feedback to say the car is going over the line which would then wake the driver up making the driver safe again. This is a clever design giving the driver a safer feel knowing that in case of emergency, they will be safe. In this circumstance this can be seen as a bad

thing if the technology is giving to the wrong person. If a driver is tired they now have an excuse to drive as the technology will wake them up if worst comes to worst. Therefore the driver will be taking advantage of the technology by using not as it was intended.

Conclusion In conclusion my research has shown that the world has changed over a hundred years. Going through designing for safety features, then for novelty, for functionality, then the experience. So overall you can see that over the years designers have changed their ways from functionality to the experience. Emotional design is not what it used to be. Emotional design 70 years ago was based around how the user feels when using the product, now emotional design is used to make people feel as if they need new features in a car such as, Remote Central Locking.

Remote Central Locking in the 1980’s was an optional extra but now people feel as though it is a must have. Emotional design has changed from the meaning it originally had 100 years ago, from design that made the consumer literally feel certain personal emotions such ashappiness, succession or power to the designers now using it to inspire consumers to purchase cars based on social conformity, guilt or what can be viewed as ‘ brain washing’ through broad marketing techniques. The switches in focus between designs that have revolutionized the car over many years are undeniable.

What a consumer would feel for the brilliant Model T is not what they would seek when purchasing a modern car today. Some blame emotional designs part in play for this change in society, others may praise it. When using emotional design today designers don’t take as much consideration as in

previous years to the consumers personal interpretation they can simply make the consumer feel and seek what their design is meant to offer, changing the entire market to conform to them rather as previously a designer had to design for their intended market.

To simplify emotional design is not molded around the consumer anymore but instead around what a consumer should look for when purchasing the product itself. This then leads to the question of what designers will come up with next. Is the world of designers going to come up with another way to make people safer whilst driving a car? In my opinion very unlikely as there is so many safety features now that you couldn’t be safer. Are designers going to design for functionality?

Also very unlikely in my opinion as driving a car couldn’t be easier, no need to park yourself, pretty soon no need to drive yourself. Through the last years forced design has been implemented to make people feel as if they need to buy an electric car. If you don’t buy one you are made out to be a bad person. Will emotional design not be used to make a product better for a ‘ buyer’ but for the designer to have a control over how society sees a person? References Top 10 Cars That Changed the World, http://www. shortlist. com/shortlists/10-cars-that-changed-the-world

Maribeth Keitz. Greatest Achievements, (2012) http://www. greatachievements. org/? id= 3880 C. C Weiss. Vibrating Safety, (28, Mar. , 2012) http://www. gizmag. com/gm-launches-vibrating-seats/21964/ Automobile Safety, http://en. wikipedia. org/wiki/Automobile_safety Ford Model T, http://en. wikipedia. org/wiki/Ford_Model_T Olivia Solon, Volvo's V40 car features airbag for pedestrians, (12, mar. , 2012) http://www. wired. co.

uk/news/archive/2012-03/12/volvo-airbags-pedestrians Donald Norman (2005). Emotional Design: Why we love (or hate) everyday things. London: Basic Books