Mapping the Experia-Z - Overcoding of material resources, humans and animals via the lens of mobile technologies (2014)

Strategy: 'Un-blackboxing/De-Punctualization'

REAL TIME

Consumer Experience

Users

Advertising the Experia Z

Marketing of phone to different types of users.

Radio

Online

Fabulatory Narrative

Other users

Advertising

Fabulatory System

Unconscious Affects

Intuition Reps

Perception of obsolescence

Desiring effects

A combination of effects and affects drive a feeling of desire in the user.

Users are drawn towards the Experia-Z

Purchase of Experia Z

Purchase of Phone

"Experience the best of Sony in a smart phone"

Data Centres

Cabling

Noosphere

Cloud

Data Capture and storage

Unboxing and Activation

Affective Transmissions

HD Image

Interface to a virtual life

Applications & Functionality

Exposure to new products

Perception of Obsolescence

Purchase of new phone

Disposal

Disposal: Usually in landfill as it is expensive to recycle.

Disposal Sites

Guayong China

Disposal Site

Disposal Site

Disposal Site

Extraction Rate effected

Interface: to set rules

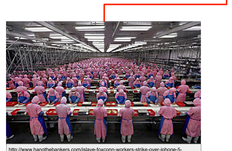
NASDAQ + other trading systems

Automated Software Algorithms

Extraction rate effects

SUPPLY CHAIN SOFTWARE + INTERFACE

Feedback loop

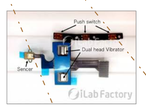


http://www.hangthebankers.com/slave-foxconn-workers-strike-over-iphone-5-demands/

Black Boxing of COMPONENTS

Component/Part

Phone's Capacitor

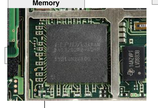


Phone's Screen

Image Source: http://www.digitaltrends.com/mobile/sony-xperia-z-and-zl-leaked-ahead-of-ces-unveiling/

Phone's Circuitboard

Phone's DRAM Memory



Phone's Memory ROM Chip

Phone's Software/OS

Graphical Interface

Source Code - algorithms

Cybernetic feedback loop

Rules derived from the first Turing machine

Phone's Network

Cloud

Data Centre

Storage hard disks

Cabling

Power supply

Elemnent

TANTALUM

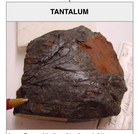


Image Source: http://en.wikipedia.org/wiki/File:Tantalite.jpg

Coltan's full name is columbite–tantalite. The niobium-dominant mineral in coltan is called columbite, and the tantalum-dominant mineral is called tantalite. Tantalum is necessary in allowing battery-powered electronics to hold a charge when unplugged from an electrical power source. It consists of a powder that is compacted for use in passive capacitors and has been a key factor in reducing the size of the mobile phone.

Palladium

Image Source: http://en.wikipedia.org/wiki/File:Tantalite.jpg

Palladium is nowadays more and more used in electrical appliances such as wide screen televisions, mobile phones and laptops, in the form of the multi-layer ceramic capacitors, of which more than 400 billion are made each year.

Read more: http://www.terrotech.com/periodic/elements/pd.html#ixzz2Kbw4ZG4

TUNGSTEN

Also known as wolfram, is a chemical element with the chemical symbol W and atomic number 7 , extracted from wolframite rock (shown).

http://en.wikipedia.org/wiki/File:Wolfram_evaporated_crystals_and_1cm3_cube.jpg

Neodymium

Nd

Neodymium makes phones' speaker, microphone and vibration possible in the form of small but powerful magnets. It's also an important component of wind turbines and electric cars.

A rare earth, it can be expensive and difficult to extract and process. Neodymium is a chemical element with the symbol Nd and atomic number 60. It is a soft silvery metal that tarnishes in air.

INDIUM TIN OXIDE

Indium's major use is as indium tin oxide (ITO), a very thin, transparent and electrically conductive material used in most flat screens, including smartphones and large TVs.

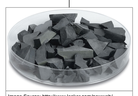


Image Source: http://www.leaker.com/newsweb/deposition/_materials/gallphoto/Photo-MA-EVMTOw.jpg

Indium is quite rare in the Earth's crust and is mostly obtained as a by-product when refining other metals such as zinc, where it's found at a level of less than 1g for every 10,000 tonnes of zinc ore. Although valuable, there is currently very little recycling from products such as TVs and phones as it's difficult to extract. Indium's current primary application is to form transparent electrodes from indium tin oxide (ITO) in liquid crystal displays and touchscreens, and this use largely determines its global mining production. It is widely used in thin-films to form lubricated layers

GOLD

Gold is used to coat the phone's wiring. Most of the earth's gold lies at its core having sunk down there in the planet's youth. It is around 2000 metres below the surface of our research site. Gold is a chemical element with the symbol Au and atomic number 79. Virtually all discovered gold is believed to have been deposited later by meteorites. Gold is the best material to use for the little connectors that connect the various parts of a cell phone together, because the only materials with better electrical conductivity(silver is the best, followed by copper) quickly corrode in air, leaving the connectors with a thin layer of terribly low conductivity corrosion products.

Gold mining

TIN

Tin is used as a solder on the phone's circuit boards Indonesia is the world's biggest exporter of tin.

Around 90 per cent of Indonesian tin comes from Bangka and its southerly sister island, Belitung. Mining ruins the landscape, leaving gray, sandy and acidic sub-soil peppered with craters where once there was lush forest. Despite some efforts there is little effective restoration by the mining companies. Efforts at replanting often fail as even the toughest trees, such as acacia, may struggle to grow on what's left after mining. The companies also say that their efforts are frustrated by individual or small groups of miners reopening old mines after they have left.

In some places, clean drinking water has become much harder to find, and the soil has not just lost fertility but been dug away, making it hard for families to grow their own vegetables. Meanwhile doctors suspect that many reported malaria cases in recent years might be linked to the hundreds of abandoned mines that fill with stagnant water, allowing mosquitoes that carry the malaria parasite to thrive.

Image Source: http://asiancorrespondent.com/11448/environment-group-questions-apple-link-to-controversial-bangka-mines/

Tin mining

Silicon

Made from silicon derived from Sand

SOURCE MATERIAL

Image Source: http://upload.wikimedia.org/wikipedia/commons/6/63/Ferrocolumbite-Manganotantalite-mn3-36b.jpg

COLTAN

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Image Source: http://en.wikipedia.org/wiki/File:Wolframite_from_Portugal.jpg

WOLFRAMITE

Tungsten is found in the minerals wolframite (iron–manganese tungstate, (Fe,Mn)WO4), scheelite (calcium tungstate, (CaWO4), ferberite (FeWO4) and hübnerite (MnWO4)

Key source: China produced 51,000 tonnes of tungsten concentrate in 2009, which was 83% of the world output.

Image Source: http://en.wikipedia.org/wiki/File:Neodymium2.jpg

China currently controls 97 per cent production of rare-earth elements. Rareearth mining and refinement activities produce hundreds of thousands of tonnes of contaminated by-products, including radioactive materials. The largest mine, at Bayan Obo in Mongolia, is so big it could house the whole of Sheffield.

China produces 83,000 tons of the world's output

Zinc mining

Indium is extracted from the mining of other metals such as zinc. The world's biggest zinc mine is Red Dog mine in Alaska, United States(citation needed). More than 50 countries around the world mine zinc ore, with Australia, Canada, China, Peru and the USA being the largest producers. About 80 percent of the world's zinc is mined underground, while 8 percent is mined via open pits with the rest using a combination of both methods.

Formation

Gold formed in the earth's silica mantle as a result of a large scale meteorite shower. This was perhaps a pure coincidence at the moment when the earth was hit by around 20 billion tonnes of asteroid material.

Image Source: http://www.thehistoryblog.com/wp-content/uploads/2012/09/china1.jpg

Geographical Material Sources

Mining Process

Image Source: ABC AUSTRALIA

Coltan is mined by hand by groups of workers who dig basins in streams by scraping off the surface mud. They then wash the water around the crater, which causes the Coltan ore to settle to the bottom where it is collected. A team can "mine" one kilo of Coltan per day and a Coltan miner can earn around US$200 per month.

Image Source: http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20120609000008&cid=1102

Other Impacts

Image Source: http://www.cookiesound.com/2011/09/coltan-we-all-have-blood-in-our-hands/

As a result of clearing land for mining and also bushmeat eaten by miners the Mountain Gorilla population is being hugely depleted.

Image Source: http://www.afterday.com/blogs/a-waste-recycling-recycle-your-mobile-phones-save-gorillas/

Key source: Democratic Republic of Congo

Neodymium Mining

Most of the world's neodymium is mined in China.