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Phone Bloks

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Abstract: Now a day everyone uses the mobile phone. Every day released the number of new type mobile phone with upgraded features. The branded companies competitively released the phones with extra features. But, if a component of the phone get damaged the entire phone may be junked, it will leads, a single minute how many phones are thrown away aside? so it causes the E-wastage. That can reduce a huge amount of electronic waste by simply upgrading individual components, or "bloks" of our phones, rather than discarding the entire phone if something breaks or becomes obsolete. A Phoneblok comprised of two terms "Phone" and "Blok". A Blok is the base. A phone is the combined parts of the machinery required by a customer. So, a phonebloks is the new generation mobile phone which can be modified to its full extent. This in turn will reduce electronic waste, conserve natural resources, and protect consumers at the same time. Phone blocks reduce the e-wastage, time, payment of work.

Keywords: E-wastage, blocks, junk, mobile

I. INTRODUCTION

Phoneblok is a new generation Smartphone. A Phone is nothing but a phone comprising of blocks. Today electronic waste is increasing day to day due to many reasons like the device may be slow, damaged or a new device into the market.

Phonebloks is an independent organization with the purpose of encouraging the development and production of products that produce less electronic waste. It is a modular smartphone concept created and designed primarily to reduce electronic waste. While Phonebloks is not the first attempt at modular design in a phone, it is notable due to the extent of its modularity and the attention and support it has garnered. By attaching individual third-party components (called "bloks") to a main board, a user would create a personalized smartphone. These bloks can be replaced at will to replace a broken blok, to upgrade an existing blok, or to expand the functionality of the phone into a specific direction. Bloks would be available in Blokstore, "an app store for hardware", where users could buy new and used bloks as well as sell back their old ones.

Fig 1:Phonebloks

Phonebloks consists of a main board shown in fig:2 onto which bloks could be snapped on by the user like Lego bricks. Each blok is responsible for a unique function of the phone, much like a desktop computer has a distinct sound card, graphics card, processor, monitor, and power supply. As a result, instead of replacing the entire phone when it becomes obsolete or

broken, one could simply replace the defective or performance-limiting part. If the consumer wants a camera that suits his or her needs better, he or she could for example swap their small generic camera blok for a larger zoom camera from a manufacturer such as Nikon or Canon instead of buying a phone with a better camera. In theory, this would lead to fewer people throwing away their phones and contributing to the ever-increasing problem of electronic waste. Smartphones based on the Phonebloks system would be sold part by part, as well as in starter sets.
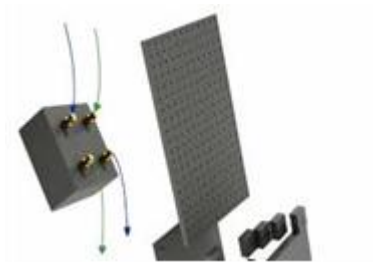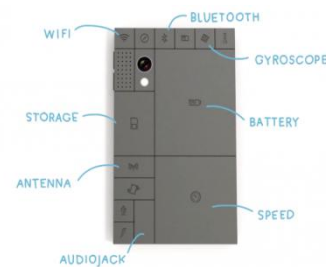

Fig 2: main board   *Fig 3: Back view of phone with bloks*

When assembled, the phone would have a screen covering the entirety of the front, volume buttons and headphone jacks along the outer edge, and bloks clicked into the back, forming a rectangular block shape overall shown in fig 3.

Fig 4: circuit board of phone for bloks

HOW PHONEBLOKS ARE BETTER

A Phonebloks is better compared to the Smartphones available in the market because

»   It is green.

»   A Modular Smartphone.

»   Customization to its fitness.

»   Mobile flexibility.

»   It can be up-to-date.

»   Easy to upgrade individual components.

»   Open source platform.

II. PURPOSE OF PHONEBLOKS

Stop the Waste

Electronic waste is a growing problem for a world in which the daily dependency and fascination with electronics is demanding and constant technological progress. When outdated or broken electronic products (such as phones, computers, VHS players, etc.) are thrown away, the waste is considered "e-waste". As more products are produced and distributed, more products are thrown away.

Customizable Mobile Phone

The main purpose of the phonebloks is get upgraded from the block level of a mobile phone instead of replacing to a new mobile phone. An online Blok Store will be made available where customers can build their own phone, exchange and review Bloks with other customers, and purchase accessories. In order to appeal to all budgets, three distinct models appealing to multiple income segments will be made available during the selection process. Afterwards, the customer will be able to make adjustments to his base-product to modify it according to his/her specific needs. Afterwards, the total price will be displayed and the purchasing/shipping process will be conducted.

Modular Technology

Modular design in phonebloks hardware is the same as modular design in other things (e.g. cars, fridges, even furniture). The idea is to build Phonebloks with easily replaceable parts that use standardized interfaces. This technique allows you to upgrade certain aspects of the computer easily without having to buy another computer altogether.

A computer is actually one of the best examples of modular design - typical modules are power supply units, processors, main boards, graphics cards, hard drives, optical drives, etc. All of these parts should be easily interchangeable as long as you use parts that support the same standard interface as the part you replaced.

How Modular Technology is used in Phonebloks

Modular technology is used to get done with a new mobile phone "Phonebloks". In Phonebloks, every hardware component called Blok. The Bloks usually are screen, wifi, memory, RAM, camera etc. Every Blok consists of four pins which are in connection with other Bloks by using base as intermediate to transmit signals. All the Bloks are put together with the help of two screws at the bottom of the mobile phone. The Bloks can be upgraded with the help of Blokstore available in desired shapes.

Fig 5: Bloks used in Phonebloks   *Fig 6: Screws used to put Bloks together*

III. REASONS FOR REPLACING THE BLOKS

The Bloks in this Smartphones are replaced because of following reasons, if

» Bloks are damaged.

» Any upgrade is required.

» Broken Bloks.

» Unused components.

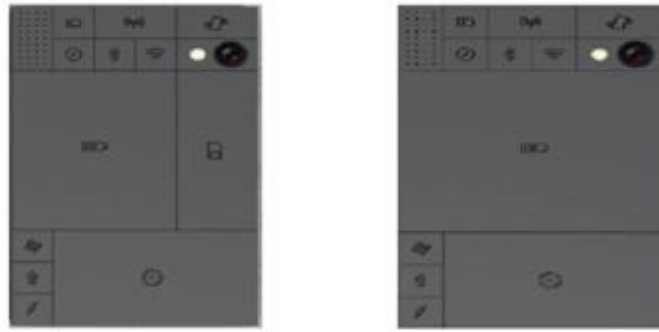If every is stored is online then there is no need of any internal memory and we require more battery backup

Sajja et al.,

International Journal of Advance Research in Computer Science and Management Studies
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Fig 7: Upgrading of Battery

If you are interested in taking photograph then you can upgrade to a better camera without replacing the entire device.
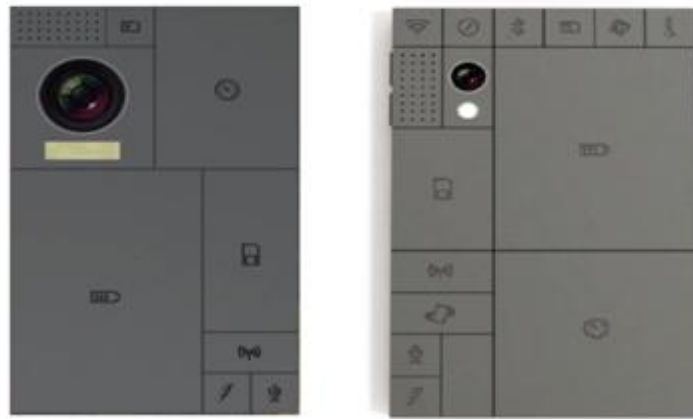

Fig 8: Upgrading to better camera

IV. COMPONENTS IN PHONEBLOKS

The main components of Phonebloks are

» Base

» Blok

Base

The base is like spinal card in human being. It is responsible for connecting one Blok to all the remaining Bloks. All the Bloks are injected into the base with the help of the pins present in each Blok. The Blok is connected to the Base and the Base connects to everything over the Base
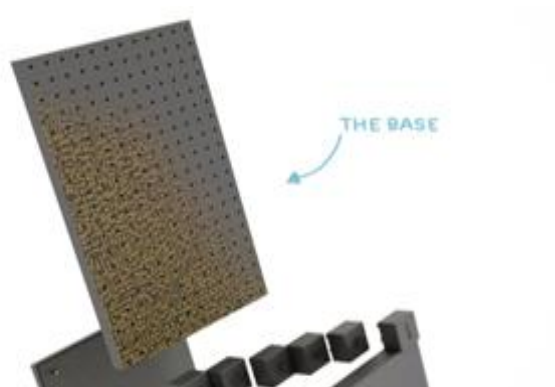

Fig 9: The Base

Bloks

Bloks are the hardware required to make entire phone. These are placed over the Base to communicate with all other hardware with the help of Base.
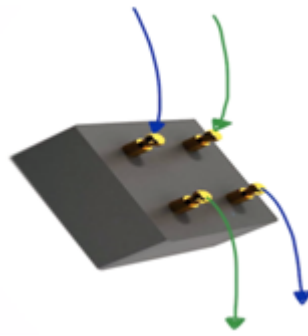

Fig 10: Bloks

V. ISSUES FOR PHONEBLOKS

While many people support the concept's development into an actual product, there are objections as to the concept's viability and ultimate impact.

1)Economic Issues:

One challenge this concept faces is the great amount of money and manufacturing required in order to make the Phonebloks system a viable competitor with other major smartphone developers. Without many manufacturers making bloks, there would be a limited selection of bloks to choose from, taking away from the open-source appeal of the system.

2)Technical Issues:

Because all bloks are external of the main board, signals have significantly farther to travel between components. This extra distance could lead to noticeable delays between components. In addition, the quality of connection needed would require expensive pins and sockets, and developing a system to allow the user to arbitrarily place bloks would be very difficult. The end product would likely be much thicker than today's smartphones, and bloks would be at risk of dislodging from the main board. RF design of a modular phone is also a major challenge. Antennas integrated into the main body of the phone would require RF routing to the RF modem(s) in the modules and could limit the frequencies on which the phone could operate, necessitating different phones for different networks. Antennas integrated into modules could be less efficient due to limited space and EM interactions with adjacent modules, limiting range.

3)Potential increase of e-waste:

If put into practice, the concept could actually increase e-waste output. They argue that by producing constantly better components, the consumer would have more pressure on them to replace several parts every few months; frequent replacement of bloks could add up to more waste on average than getting a new phone every two years.

VI. CONCLUSION

It is a good way to prevent electronic waste. We can upgrade our phones with any latest and high capacity modules anytime. Multiple companies work on single product unlike single company working on multiple products and hence deliver the purest product to the customer. In Future will reduce the financial, technical and potential increase of e-waste.

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Sajja et al.,

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