PROJECT ARA

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What is Project ARA?

- Project Ara is a platform for creating modular smartphones.
- Runs on the android operating system.
- This device has a platform which includes structural frame, such as a display, camera or an extra battery.
- Allows users to swap out default modules or upgrade individual modules according to their needs.
- If you want a good camera phone just replace the older camera with the new one without changing your phone.

How does it works?

Project ARA has two core components:

- The ENDOSKELETON
- The MODULE

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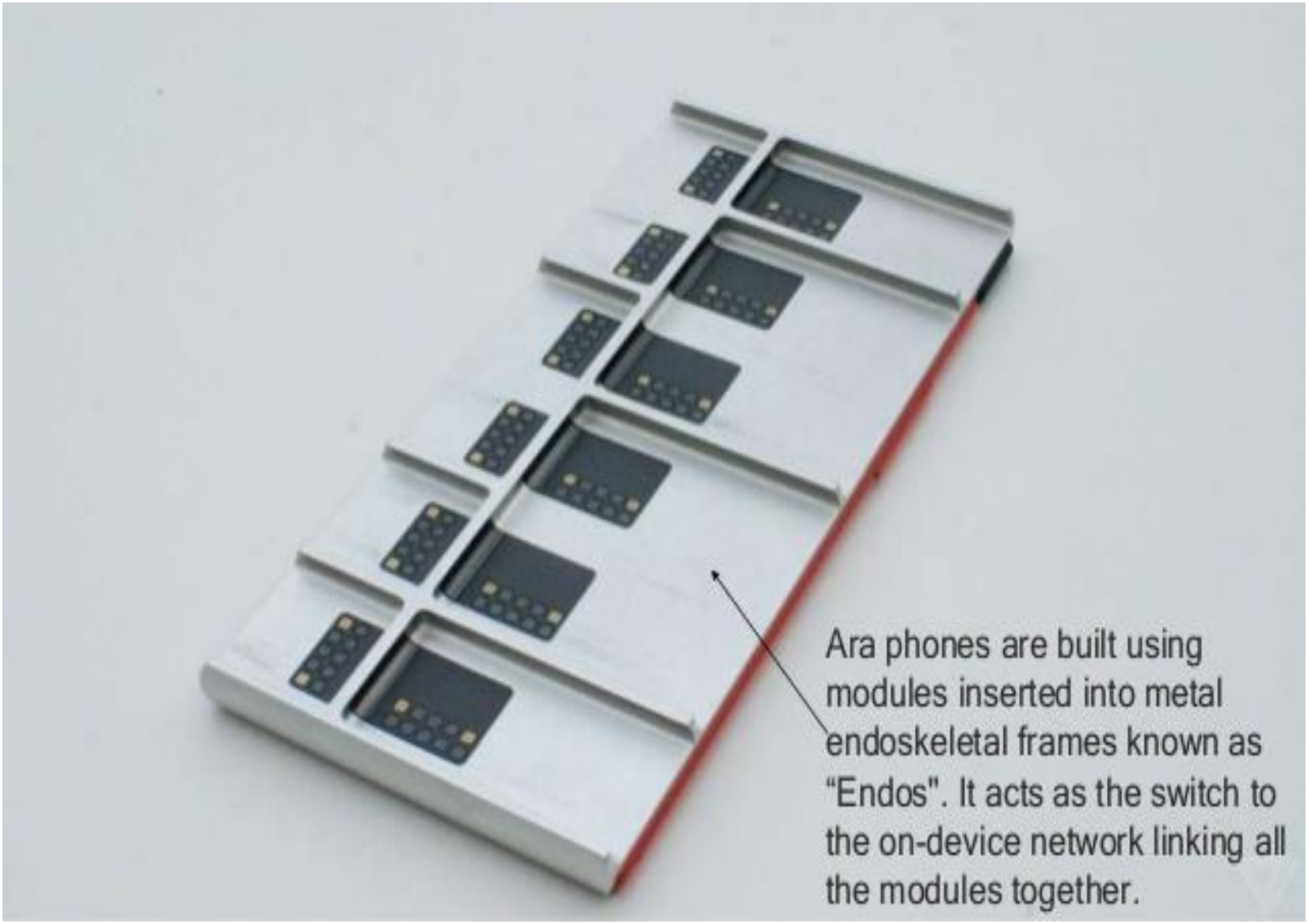
Ara phones are built using modules inserted into metal endoskeletal frames known as "Endos". It acts as the switch to the on-device network linking all the modules together.

Modules can be anything like a display, processor, keyboard, battery, camera, gamepad, etc.
Modules can be built by any developer using the open source MDK (Module Developers Kit) which is already available.

Contributors in Making MDK

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Technology Used

Technologies used in Project ARA:

- UniPro
- Capacitive M-PHY
- ElectroPermanent Magnets

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UniPro

- UniPro is a high speed internet protocol that project ARA uses to allow its modules to communicate to each other.
- They share a common low level language for communicating and building a network.
- Which offer high-bandwidth, and low power connections between the modules.
- UniPRO 1.6 is used in Project Ara

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Capacitive M-PHY

- A physical layer spec which is developed by MIPI alliance and made to work with UniPro.
- For project ARA, M-PHY is a capacitive interface, which means that the points won't be worn down over time from swapping modules in and out of the phone.
- M-PHY is requiring less pins and providing more bandwidth per pin with improved power efficiency.

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Electropermanent Magnets

- Electropermanent magnets are used for affixing the modules in place in the ‘ENDO’.
- Normal Electromagnets magnetize depending on if current is running through them – that would be a battery drain.
- But Electropermanent magnets only use current to flip magnetization on and off.
- It is able to retain its magnetized state without drainig additional power.

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Advantages
&
Disadvantages

Advantages of ARA phones :

- Phone is very cheap.
- You only buy the features that you want.
- Your phone could last indefinately.
- Repairs are easier and cheaper.
- You could have two versions of your phone.

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Disadvantages of ARA phones :

- It will be bigger and heavier than a smartphone.
- The connectors are bound to cause problems.
- Certain combinations won't work.
- It won't be optimized.

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SPIRAL 2,
First Ara Phone

SPECS

- It packs a 1280 x 720 display, dual application processors including Marvell's PXA1928 and NVIDIA's Tegra K1, 5-megapixel camera, 3G, Wi-Fi and Bluetooth connectivity.
- Battery is 20% to 30% smaller than an average smartphone battery,
- Initially, 11 working modules will be available to buyers, with the number supposed to reach 30 by the end of the year. The first modules collection will include a better camera, and 4G LTE support.

Source: http://bgr.com/2015/01/15/project-ara-spiral-2-specs-and-release-date/

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THANK YOU