**1. Dalvik Virtual Instructions**

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| Opcode(hex) | Opcode Name | Explanation | Example |
| 00 | nop | No Operation | 0000 – nop |
| 01 | Move vx, vy | Moves the content of vy into vx. Both registers must be in the first 256 register range. | 0110 – move v0, v1 Moves v1 into v0. |
| 0E | Return-void | Return without a return value | 0E00 – return-void |
| 14 | Const vx, lit32 | Puts the integer constant into vx | 1400 4E61 BC00 – constv0, #12345678//  #00BC614E  Moves literal 12345678 into v0. |
| 1E | Monitor-exit | Releases the monitor of the object referenced by vx | 1E03- monitor-exit v3  Releases the monitor of the object referenced by v3. |
| 22 | New-instance vx, type | Instantiates an object type and puts the reference of the newly created instance into vx | 2200 1500 – new-instance v0,  [Java.io.FileInputStream//type@0015](mailto:Java.io.FileInputStream//type@0015)  Instantiates type@0015 (entry #15H in the type table ) and puts its reference into v0. |
| 27 | Throw vx | Throws an exception object. The reference of the exception object is in vx. | 2700 – throw v0.  Throws a n exception. The exception object reference is in v0. |

**3. Differences between Mobile computing and Cloud Computing**

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**Cloud computing**, allows us to store our files and folders in a “cloud” area on the Internet, allowing us access to all of our files and folders wherever we are in the world – but we do need a physical device with Internet access to access it.

**Cloud Computing** isn’t that much better. Sure, you can have all your files synchronised between devices so wherever you go, you’ll always have access to your files, but the technology doesn’t fully exist yet. It’s getting there, but it’s slow and temperamental, difficult to use and often the average user (even me, an advanced user) gets confused as to where the files are actually stored and/or where else they are stored. Even though you don’t need to carry round a laptop with you, you still need some physical device to access your service which almost defeats the point anyway. Having everything in your very own secure cloud so you can access anything anywhere is put back by the fact you have to find a computer to use anyway.

**Mobile computing** is taking a physical device with us. This could be a laptop or a mobile phone or some device which enables us to telework – working wherever we go because of the small size of the device we’re using.

In **Mobile Computing,** You can hold up to 2GB-4GB on even the cheaper ones, you do need a computer to use it but at least you can fit everything you need to physically store your files in your pocket.

**3. Example for an application simulating context-aware computing:**

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Application Name: WiFi Chat , an Android mobile application.

Justification: Wi-Fi proximity is the main idea behind Wi-Fi chat. If two users can see the same Wi-Fi access point (Wi-Fi network) then it is very

probable that both can see each other. In other words, it is very likely that both are close to each other. Close in the geographical sense, of course.So, WiFiChat lets them create discussions (forums) as well as live web chats associated with Wi-Fi access points.