**Digital Turbine Technical Test**

Welcome to the Digital Turbine technical test. This test consists of a programming exercise and two essay questions. You are free to use any publicly available or open source APIs. Research is acceptable, but plagiarism will not be tolerated.

1. Create an Android application that consists of one screen with a scrolling list of apps that show the thumbnail and application name, and a second screen that displays the same information in addition to the package name, description, and star rating. Use the following URL as the datasource:

[http://ads.appia.com/getAds?id=236&password=OVUJ1DJN&siteId=4288&deviceId=4230&sessionId=techtestsession&totalCampaignsRequested=10](http://ads.appia.com/getAds?id=236&password=OVUJ1DJN&siteId=4288&deviceId=4230&sessionId=testsession&totalCampaignsRequested=10)

For every request to the URL above, add a parameter called “lname” and insert your last name as the value.

Bonus: implement or describe an efficient way of handling screen rotation in the application you created.

Jahirul: Handle Orientation Change: When a screen orientation change occurs, Android restarts the running Activity. To properly handle a restart, it is important that your activity restores its previous state through the normal Activity lifecycle, in which Android calls onSaveInstanceState() before it destroys your activity so that you can save data about the application state. You can then restore the state during onCreate() or onRestoreInstanceState(). For fragment you should use setRetainInstance(true) and use FragmentManager when activity restarted. If you want to support only single orientation add android:configChanges="orientation” into the manifest file or if you want to support different layout for each orientation you can use onConfigurationChanged. Basically in my solution I use FragmentStatePagerAdapter with viewpager.

1. Explain 2 instances where you have learned something only through experience (Ex: solving a production issue) and could not have learned about that problem through theoretical knowledge or reading through technical documentation.

Jahirul: For my last project POS system we use clover default order database and our own (only extra fields which is not available on clover database). Clover application also manage this payment part for our application. Initially features was implemented like calling web API download order and store on the local system. But sometime order database is not properly sync as clover run this sync periodically. When we try for payment we found there is not suc order, means in our database is there but clover order database not yet sync. For solving this issue I implement ContentObserver on top of clover order database. Any new order created on order database our system will notify and update local database. By this way clover system will update first then local. By this way I solved the data sync issue.

Again POS system there have printing functionality for each order. In a restaurant there may have multiple device, printer, kitchen printer. In clover SDK it really tough to find out which printing job will use. In our development environment we just have one device and one printer but customer complain printing done multiple times. After having 2 device and 2 printer we facing the same issue. Now I found that the printing job we use for clover it use only for single device station. For multi device station we need to use static printing job with printer id and for printing on kitchen printer just use clover default “fire” functionality. By this way I solved the printing issue.

1. Given the choice between writing ideal code and meeting a critical deadline, which would you choose and why?

Jahirul: Both are very important in my point of view. Without meeting team coordination will lost, everybody have understand what’s going on, actual business features are meet, only team meeting can decide to drop few items from this deadline which are less important/ not a blocker issues. But my suggestion is do the quick meeting with important items only and if position leave that person who is less involved for the particular meeting discussion. Of course coding is more important to finished up and meet the deadline. For meetup deadline I will use my time best can and if I feel it will be tough to meet I will do some extra hours.