## Tester Position

## Take-home Assignment

### Preconditions:

The PACIS II at MTA / New York City Transit (NYCT) is the Public Address Customer Information Screens (PACIS) system.

MTA NYCT decided to change the way trains are announced on the signs of Shuttle Line stations (consists of only 2 stations, Times Square and Grand Central).

MTA NYCT has 2 web feeds (called GTFS and MTA Today) that serves the customers with live train information. The feeds are generated and provided by the PACIS II system.

The GTFS feed implements Google’s GTFS protocol to represent train schedule and movement information. The GTFS feed is regularly uploaded to MTA web servers from the PACIS II system.

Requirement:

Upcoming trains (based on their schedule) are introduced earlier in the system so countdown information can be shown few minutes before the train departs.

Trains displayed on the Times Square Shuttle line stations (Grand Central, Times Square) shall be included in the web feeds provided by the PA/CIS II system (GTFS feed, MTA Today feed) as soon as they are inserted into the PACIS system and GTFS feed.

Tasks:

**#0: Estimate the time needed to implement the remaining tasks #1 ... #3. Please provide effort estimation and estimated completion date as soon as possible.**

**#1: Black box tests / System testing**

**#2 White box tests / Integration testing**

Define test cases that cover the requirement. Choose the format of the testcase which you are familiar with. Try to be creative as you were not provided with all information you might need. Design one test case for either or both of #1 or #2, with all usual testcase elements included and fully described.

If you have questions, please feel free to ask.

**#3 Automated tests / System test**

For the automated test applicant should use any web or UI testing tool which is suitable. (e.g. Selenium)

Partial implementation is enough, as the applicant doesn’t have all needed information and tools. However, the automated test must run and work as described below.

MTA Web feed is available to the public.

Create an automated test which implements the following (similar to the #1 manual test, but only implements the feed part)

Download the live GTFS feed for the NYCT subway lines (1..6,S) from the MTA website. Store the gtfs feed into different files (include timestamp in the filename) in c:\temp\gtfs folder.

Second part of the automated test would be a comparison with the Shuttle station signage information – which will not be / cannot be implemented at this time.

To gain access to the MTA feeds one should register here:

<http://web.mta.info/developers/>

More info:  
<http://web.mta.info/developers/developer-data-terms.html#data>

Provide the solution (automated test case) with instructions so we can reproduce it on our end.

Solution should be kept to the minimum needed to periodically download and store the gtfs feed files. Few configurable parameters would be nice to have. You need to be creative here as well.

If you have questions, please feel free to ask.