This document outlines the requirements of the test app to be written as part of the Mobile App Developer recruitment process.

**Requirements**

We need you to write an iOS app which can import CSV files in this file format: Example File for Import

Loading data: We will run a number of test files through the app to assess output accuracy. The app needs to have the ability to import these test files one at a time. We will leave it up to you how you want the data to be provided to the app. This import can occur from a local source, online source or by opening the the CSV attached to an email.

Output: After the data file is loaded and analysed, the following output should be shown on the screen:

• Start of Period: time of day (hh:mm)

• End of Period: time of day (hh:mm)

• Period duration: hours and minutes (hh:mm)

How these output are presented is up to you. Calculating these output is detailed below.

**Determining Start and Finish**

• The data between the start and finish points is called a ‘period’

• Conduct an analysis of the last 150 EPOCHs of activity\_id. Calculate the % that equal 8 (=8). Call this rolling%.

• If rolling% >= 96% (ie. 144+ EPOCHS of the last 150) for 150 consecutive EPOCHS, then the period starts 150 EPOCHs prior to the first EPOCHs to meet 96% (ie. at the start of the analysed period - that is the very first sample to be analysed, or 150 EPOCHs prior to the first EPOCH to get the 96% trigger

• An alternative way of saying this would be:

• Determine rolling% for last 150 EPOCHS

• Roll this forward, EPOCH by EPOCH. If this 150 consecutive EPOCHs have >=96% equalling 8, then sleep begins 150 EPOCHs prior to the first EPOCH that is >=96%.

• Once this period has started, it ends when rolling% < 96% for 375 consecutive EPOCHs. The Finish would be at the start of the 1st consecutive sample to meet this criteria.

• The time of day for start and finish are shown in the ‘date’ column.

**Determining Period Duration**

• The period duration is not just start to end

• Let us assume each EPOCH = 10 seconds

• Period duration = accumulated duration of all EPOCH where activity\_id = 8 during the period. This should be reported as HH:MM. This means you may have 8 hours between the start and finish of a period, but only have a period duration of 7.5.

An example analysis of the above CSV file with correct outputs is available here in excel format.

If you have any questions, please email xxxx.