



Breathalyzer Implementation

For the implementation of breathalyzers in the XTime system, they will be processed as another form of random search. The user will configure the random factor on the clock point. There will not be a global factor on the system parameters like with the random searches. Each reader will be configured to indicate that it has a breathalyzer attached and how long the timeout for a test result is. If the reader has a breathalyzer attached, input 1 will be used to indicate that a positive test was completed and input 2 will be used to indicate a negative test result.

A person will only be requested to do a breathalyzer test if all the other access validations have been passed.

Clockpoint screen

The Param tab of the clock point screen must get a check box to indicate whether breathalyzer tests must be done. If this is ticked, there should be an edit control to capture the random factor.

ClockPointParam table

The clock point param table needs two new parameters.

The first is ALCOHOL.ENABLE as a Boolean parameter to indicate whether breathalyzer testing is enabled.

The second is ALCOHOL.FACTOR as an integer parameter to store the selection factor.

Terminal screen

The param tab of the clock point screen must get a check box to indicate whether a breathalyzer unit is attached. If the check box is ticked, there must be an edit box to enter the timeout in seconds.

TermParams table

The terminal parameter table needs two new parameters.

The first is ALCOHOL.ATTACHED as a Boolean to indicate whether a breathalyzer unit is attached.

The second is ALCOHOL.TIMEOUT as an integer to store the timeout period.



EventType table

The event type table must get three new event types:

80 – ET_BREATHALYZER_REQUESTED – flag set

81 – ET_BREATHALYZER_FAILED – flag remains

82 – ET_BREATHALYZER_TIMEOUT – flag remains

Master table

The Master table must get a new field MST_ALCOHOL to indicate whether the person has failed his last breathalyzer test. When a person fails the test, this flag will be set to 1. This will cause him to be requested to blow every time that he clocks at a reader with a breathalyzer, until he passes the test. Then the flag will be reset to a 0. This will prevent a person from just clocking again after a failed test and then not being randomly selected and thus being let on site.

ServerApp

The ServerApp must be changed to send the clock point and terminal parameters to the controllers.

The ClockPoint record will get the Boolean for breathalyzer validation in bit 0x10 of Booleans3 and a new field AlcoholFactor as a word/short for the random factor.

The Terminal record will get a new settings field called Booleans3 and the Boolean for breathalyzer attached in bit 0x01 of Booleans3. It will get a new field AlcoholTimeout as a word/short for the timeout period.

The TagHolder record will get a new Booleans field called Booleans3 and the Alcohol flag will be in bit 0x01 of Booleans3.

Controller code

The controllers must, if a person is going to be granted access, check whether the reader has a breathalyzer unit attached and the clock point has alcohol testing enabled. If so it must do a random selection similar to the random search to see whether this person should be requested to blow. If the tag holder has the Alcohol flag set, he must be requested to do the test without the random selection.

When a person is selected to do an alcohol test, the reader must prompt the user to do a breathalyzer test and wait for a response from the test unit, or for a timeout to occur. It must also record a clock transaction to indicate that the person was selected for a breathalyzer test.

If the person passes the test, the response that the system was going to issue can be issued and if the tag holder had the Alcohol flag set, the flag must be cleared. Otherwise the failed or timeout responses must be given and the Alcohol flag must be set on the tag holder.