

Test Scenarios for the SoberJack device



To evaluate the complete system, the following test cases will be performed. The first case illustrates the devices capability to detect an intoxicated individual. The second case demonstrates when all inputs to the system are acceptable, no restrictive action is taken. The third scenario illustrates a violation of the system. Ideally we would have liked to fit the device to a vehicle but due to the lack of funding and potential risks this was not possible. Rather, we encourage you to use your imagination and relate the test cases to their real world scenarios. Please see each case below for further details.

TEST 1
<p><u>Actions to be performed</u></p> <ol style="list-style-type: none">1. The individual will present them self in front of the camera and hold their position stationary for a period of 100 seconds.2. The individual will then turn on the breathalyzer and provide a drunk breath sample while ensuring they remain within the camera capturing frame.
<p><u>Expected Result</u></p> <p>The breathalyzer will detect the breath sample to have exceeded the allowable BAC level and consequently a fail state will be registered. A failure indication would be present on the respective LED and on the user interface. In a real world scenario this implies the user is not permitted to operate the vehicle.</p>
TEST 2
<p><u>Actions to be performed</u></p> <ol style="list-style-type: none">1. The individual will present them self in front of the camera and hold their position stationary for a period of 100 seconds.2. The individual will then turn on the breathalyzer and provide a sober breath sample while ensuring they remain within the camera capturing frame.3. The individual will remain within the capture frame of the camera for the next 2 minutes in which the first verification image will be taken for authentication. Successive verification images will be taken randomly.
<p><u>Expected Result</u></p> <p>Upon detecting a BAC level below the legislated limit, a pass state will be registered. The pass state entails indication of the respective LED and on the user interface. This mimics the real life case in which the user is allowed to operate their vehicle. Within the next 2 minutes, additional processes will ensure that the individual in the image frame was indeed the individual who performed the breathalyzer test. Additional tests will be performed randomly.</p>
TEST 3
<p><u>Actions to be performed</u></p> <ol style="list-style-type: none">1. The individual will present them self in front of the camera and hold their position stationary for a period of 100 seconds.2. The individual will then turn on the breathalyzer and provide a sober breath sample while ensuring they remain within the camera capturing frame.3. The individual will then leave the camera capture frame and a new individual will present them self. The new individual will remain within the capture frame of the camera for the next 2 minutes in which the verification image will be taken for authentication.
<p><u>Expected Result</u></p> <p>Upon detecting a BAC level below the legislated limit, a pass state will be registered. The pass state entails indication of the respective LED and on the user interface. This mimics the real life case in which the user is allowed to operate their vehicle. Within the next 2 minutes, additional processes will ensure that the individual in the image frame was indeed the individual who performed the breathalyzer test. Since a mismatch will be detected, the user interface will display a violation.</p>