



# TRAQUA TEST REPORT

This document provides a deep insight onto how each app component was testing to make sure its as realiable as possible. In addition, it tests to see if the endpoints answer as expect.

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# Chapter 1: Introduction

## Preface

Testing of the system is a constant task, therefore the contents of this report are subject to change until the point of project submission.

## Purpose

The purpose of this document is to track and report on the results of the test which have been conducted to ensure the promised quality of the project.

## Audience

This document is being prepared for team members, project leaders and stakeholders actively engaged in TRAQUA project. All interested parties should be received into the testing framework, strategies and results.

## Terms and abbreviations

**Passed:** The result of the test came out without any errors and the result confirmed the expected result

**Failed:** The test failed the expected outcome. This could be due to wrong output expectations, false input, insufficient functionality, or a code error.

**Unit testing / Postman test:** A way of testing a unit - the smallest piece of code that can be logically isolated in a system

**Integration testing:** A type of software testing in which the different units, modules or components of a software application are tested as a combined entity.

**Performance testing:** A testing measure that evaluates the speed, responsiveness and stability of a computer, network, software program or device under a workload.

# Chapter 2: Management

## 2.1 Overview of test management strategy

The test management strategy for TRAQUA focuses on structured, iterative testing, aligned with the development sprint and operational requirements of the smart bottle. The strategy includes planning, documenting, executing, and evaluating tests at both the component and system levels. Testing activities are synchronized with project milestones and updated regularly to reflect changes in functionality or architecture.

## 2.2 Roles and Responsibilities

The testing process is a collaborative effort, with team members assigned specific responsibilities based on their expertise:

TEAM MEMBER	ROLE	RESPOSIBILITY
<b>BERNARDO ALVES</b>	Test lead	Oversees testing process, ensures milestones are met, coordinates review and approval.
<b>BERNARDO ALVES</b>	Backend test coordinator	Designs and executed tests
<b>MARIA WŁODARCZYK</b>	Documentation Coordinator	Manages test plan/report consistency maintains traceability.
<b>MAXIMILIAN SALMI</b>	Data and component tester	Prepares and mainaintes test test and ensure components are up to the standard
<b>GUILLEM ROLDUA</b>	Stress tester	Stress tests each components to know their limit
<b>RIEKE PLATTHAUS</b>	Frontend test supporter	Validates interface feedback
<b>INES MARGRAND</b>	Frontend test supporter	Validates interface feedback

## 2.3 Testing Resources

The testing effort utilizes both software and hardware resources to simulate real-world environments:

### Hardware:

- Esp32 Wroom 32
- Personal Computer
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- 1 ESP32 Wroom32
- 1 OLED Screen
- 1 Cable USB-A microUSB
- 4 NCR18650B Battery
- 1 Holder for 4 x 18650 batteries in series
- 1 Balancing for 4 Li-Ion 18650 (4S) batteries, 16.8 VDC, 30 A

- 1 SEN0244 TDS Sensor
- 1 Accelerometer
- 1 Force Sensitive Resistor
- 1 Temperature Sensor
- 1 IRLZ44N MOSFET
- 1 Buck Converter
- 1 Magnetic Reed Switch
- 2 Glass Fuse 3 A 250 V
- 1 USB-A charging port
- 2 Status LED
- 1 ON/OFF Switch
- 1 12 V 1 A Power Supplier
- 1 DC Jack Terminal
- 1 Prototyping Board

**Software:**

- Latest node.js software
- Arduino uno software
- Webstorm or similar ide

**Test Data:**

- Values from ESP32

## 2.4 Test planning activities

Test planning was initiated during sprint planning and continuously refined in later sprints. The following steps were carried out :

- Test plan creation: Outlined the “test plan” document, defining strategies, screenarios and expected behaviour.
- Use selection: Proritized high impact user flow such as see temp see ph level.
- Review process: Test cases and outcomes were reviewed in team meetings and validated by test lead.

## Chapter 3

This chapter will describe the evaluation in all test including the defect, the severity of each test and the status of each test. It must be said that the group could not test all aspects of the code. Some had to be done in a certain “simulation”.

Results	Number	Percentage
<b>Passed</b>	9	100%
<b>Failed</b>	0	0%
<b>Total</b>	9	100%

Test	Status	Remarks
<b>TC01</b>	Passed	Nan
<b>02</b>	Passed	Nan
<b>03</b>	Passed	Nan
<b>04</b>	Passed	Nan
<b>05</b>	Passed	Nan
<b>06</b>	Passed	Nan
<b>07</b>	Passed	Nan
<b>08</b>	Passed	Nan
<b>09</b>	Passed	Nan



