



Ministry of Communication and Information Technology  
(MCIT)

Digital Egypt Pioneers Initiative (DEPI)

Track: Software Development / Software Testing

Round: 3<sup>rd</sup> round

Group code: YAT546A-CAI3-SWD6-S6

Under the supervision of Instructor: Abdelrahman Osama

Graduation Project title: Trello API + Orange HRM

Trello API:

<https://developer.atlassian.com/cloud/trello/rest/api-group-actions>

Orange HRM:

<https://opensource-demo.orangehrmlive.com/web/index.php/auth/login>

## Detailed Description

This project focuses on a comprehensive quality assurance approach by implementing various testing methodologies on two distinct platforms. The first part involves the Orange HRM web application, a Human Resources Management System, where we will perform detailed functional testing on the user interface and key features. The second part of the project includes a full-scale API testing exercise on the Trello API to ensure data integrity and proper functionality of its backend services. This dual-project approach allows us to demonstrate expertise in both manual and automated UI testing, as well as API testing.

## Project Insights

- **Cross-Domain Testing Expertise:** Acquiring hands-on experience testing a task management system (Trello) and a human resource platform (OrangeHRM), demonstrating adaptability to diverse business domains.
- **API and UI Testing Proficiency:** Developing the ability to distinguish between API-level validation (responses, status codes, data handling) and UI-level validation (workflow accuracy, data integrity, and user experience).
- **Authentication Verification:** Designing and validating authentication flows for both APIs and web platforms, ensuring secure and controlled access to resources.
- **Structured Test Case Design:** Practicing creating reusable, maintainable, and extensible test cases that support scalability for future system enhancements.
- **Assertion and Validation Techniques:** Applying multi-level assertions to confirm expected outcomes, reinforcing the reliability and accuracy of test results.
- **Error and Edge Case Analysis:** Identifying potential failure points and systematically tested system resilience under invalid or unexpected conditions.

- **Comprehensive Reporting:** Producing clear, actionable test reports that enhanced visibility into execution results and accelerated issue resolution.
- **System Reliability and User Trust:** Strengthening overall system dependability through rigorous testing, contributing to improved user confidence and cross-platform reliability.