TestBees

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Abstract

The project focuses on developing a web application, TestBees, aimed at managing software testing processes. This tool offers capabilities for test planning, execution, and reporting, specifically optimized for the aerospace and defense industries, such as Turkish Aerospace Industries (TAI).

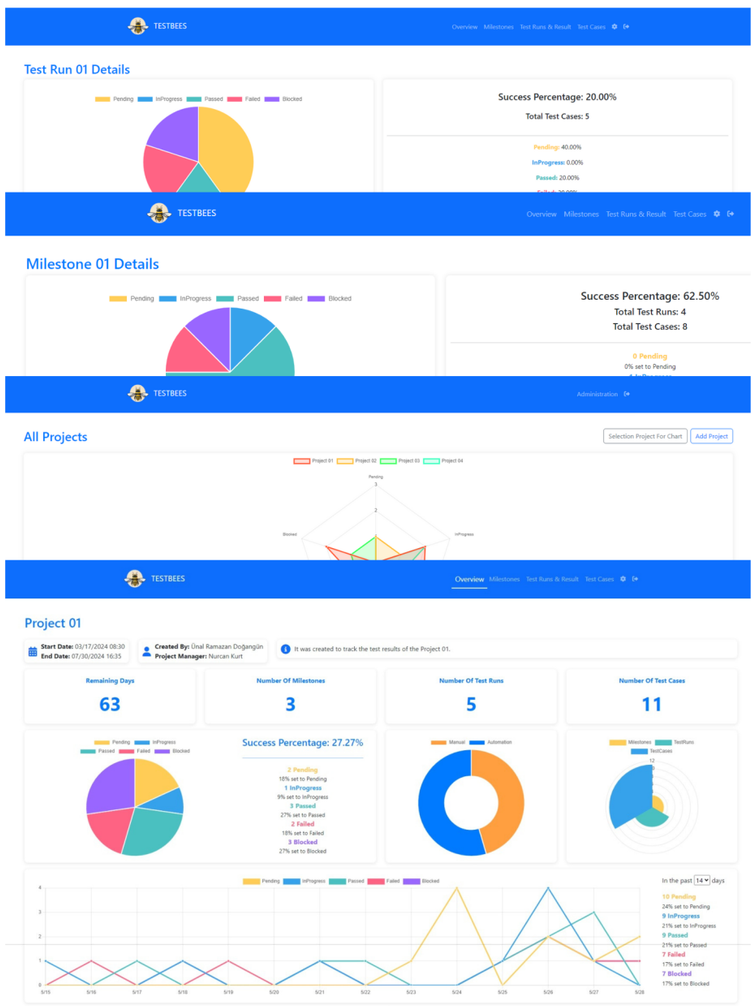

Figure 1 - Finished Product

Introduction

In today's world, software projects are becoming increasingly complex, leading to longer testing processes. Our primary goal is to challenge this complexity by automating end-user acceptance tests of software products to optimize and accelerate testing processes. In this direction, we aim to create an effective test management environment, providing advanced tools to manage and monitor every stage of the testing process. Additionally, alongside our provided test management solutions, we aim to enhance software quality and provide greater visibility at every stage of the development process by generating detailed and comprehensive reports.

Solution

We developed a test management application with comprehensive capabilities to streamline the software testing process. Our tool provides a centralized platform for efficiently organizing, executing, and monitoring tests throughout the development lifecycle. With this application, teams can easily create, prioritize, and assign test cases. Additionally, we have implemented an automated test case creation method using record-play logic for a desktop application developed in a specific language as per the client's requirements. This method allows users to record their actions and replay them, enables the use of automatically generated test cases as preconditions, facilitates the sequential execution of test cases, and automatically extracts steps.

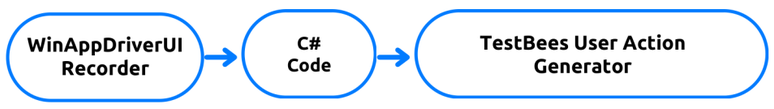

Figure 2 - Automation Record Approach

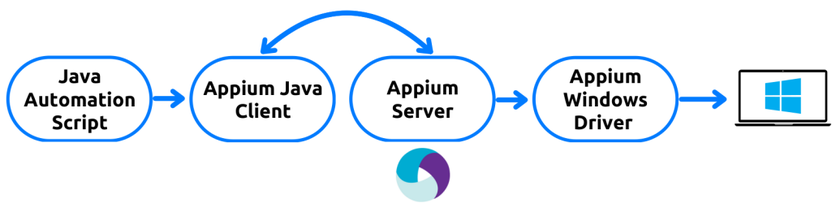

Figure 3 - Automation Play Approach

Company Info

TestBees is developed under the 2023-2024 LIFT UP Industry Focused Graduation Projects Program by Turkish Aerospace Industries and supported by the TÜBİTAK 2209-B University Students Research Projects Support Program for Industry.

Results & Conclusion

TestBees allows users to perform test management easily and effectively thanks to a user-friendly interface. Additionally, the automation features make repetitive user acceptance tests faster and more efficient. By eliminating the time-consuming and error-prone aspects of manual testing, the accuracy and speed of test processes are significantly enhanced. Our application generates detailed reports on test cases and test results, offering a clear overview of the testing status and facilitating informed decision-making. Our application is designed to improve the user experience and optimize test management.

Acknowledgement

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