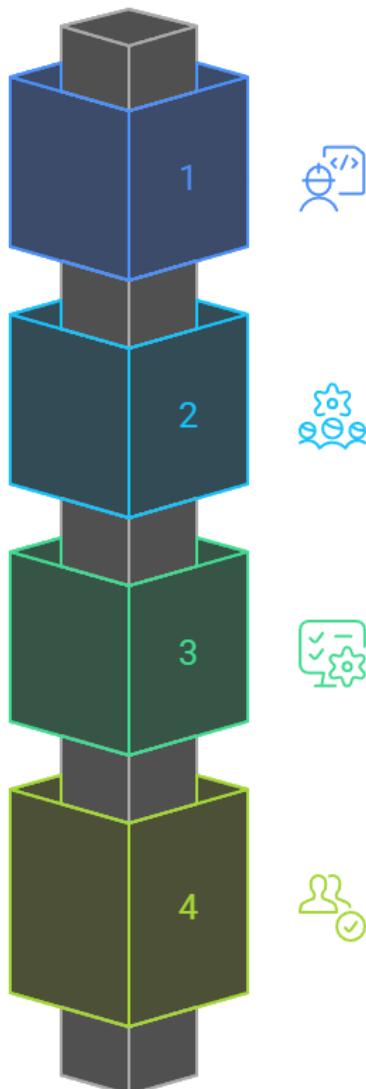


Test 01

Section	
Status 1	Not started

Đạt được Kiểm thử Phần mềm Toàn diện



Unit Testing

Kiểm tra các thành phần riêng lẻ để đảm bảo chúng hoạt động độc lập.

Integration Testing

Xác minh sự tương tác giữa các module và dịch vụ.

System Testing

Đánh giá toàn bộ hệ thống để đáp ứng các yêu cầu phần mềm.

Acceptance Testing

Xác nhận rằng hệ thống đáp ứng nhu cầu kinh doanh của người dùng.

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Summary:

Giai đoạn kiểm thử	Ai test?	Loại kiểm thử tiêu biểu
Unit Test	Developer	Functional, Regression
Integration	Developer / Tester	Functional, Compatibility
System Test	Tester (QA)	Functional, Non-functional, Usability, Security, Performance
Acceptance Test	Người dùng, khách hàng	Functional, Usability

To ensure that the project [...] fully meets the customer's requirements, we will apply a comprehensive testing strategy that covers all four main levels/stages of software testing. Each level will be executed by the appropriate role, with suitable test types selected to maximize defect detection efficiency and verify both functional and non-functional aspects of the system.

1. Unit Testing

- **Who performs:** Developer
- **Purpose:** This is the first level of testing, focusing on verifying the smallest testable parts of the application — typically individual classes, methods, or modules. The goal is to ensure that each unit works correctly in isolation before it is integrated with other parts of the system.
- **Test types used:**
 - **Functional Testing** to verify that each function performs exactly as described in the specifications.
 - **Regression Testing** to confirm that modifications to the code do not introduce new defects into existing units.
- **Details:** At this stage, developers will test [...], such as validating business logic, data manipulation, and internal calculations. Automated unit tests can be implemented to provide fast feedback during development, ensuring

that the core building blocks of the system are stable and reliable from the beginning.

2. Integration Testing

- **Who performs:** Developer / Tester
 - **Purpose:** This level validates that different modules or components interact correctly when combined. It ensures that interfaces, data flows, and service calls between modules behave as expected.
 - **Test types used:**
 - **Functional Testing** to verify that combined components perform the expected business processes when interacting with each other.
 - **Compatibility Testing** to check that the integrated modules operate correctly across different environments (e.g., operating systems, browsers, hardware platforms).
 - **Details:** In this stage, we will test [...], such as ensuring that the authentication module communicates correctly with the database, that API calls return expected results, and that integrated workflows (e.g., checkout process, data synchronization) function without errors.
-

3. System Testing

- **Who performs:** Tester (QA)
- **Purpose:** This is a high-level test of the entire, fully integrated system, ensuring it meets all the functional and non-functional requirements specified in the project documentation. It focuses on the system's overall behavior and performance under realistic conditions.
- **Test types used:**
 - **Functional Testing** to ensure that all user-facing features work as intended.
 - **Non-functional Testing** to evaluate aspects such as performance, scalability, and reliability.
 - **Usability Testing** to determine how user-friendly and intuitive the system is for end-users.

- **Security Testing** to identify vulnerabilities, confirm correct access control, and verify data protection measures.
 - **Performance Testing** (including load, stress, and endurance tests) to assess system responsiveness and stability under different usage scenarios.
 - **Details:** At this stage, the QA team will execute test scenarios for [...], covering both normal and extreme usage conditions. This ensures that the product not only meets business requirements but also performs well under anticipated operational loads, remains secure, and provides a satisfactory user experience.
-

4. Acceptance Testing

- **Who performs:** Customer / End User / UAT (User Acceptance Testing) team
 - **Purpose:** This is the final validation step before the product is released or deployed. It confirms that the delivered system meets the customer's business needs and is ready for real-world use.
 - **Test types used:**
 - **Functional Testing** to verify that key workflows and business functions perform exactly as required.
 - **Usability Testing** to ensure that end-users can operate the system easily and efficiently without extensive training or confusion.
 - **Details:** During this stage, the customer will test [...], typically using real-world scenarios and data. The goal is to validate that the system aligns with agreed specifications, supports all critical business operations, and provides a satisfactory experience for its intended audience.
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Conclusion

By applying this structured approach — starting from **Unit Testing**, progressing through **Integration** and **System Testing**, and concluding with **Acceptance Testing** — the project [...] will benefit from a layered quality assurance process. This ensures defects are detected as early as possible, reduces the

risk of costly late-stage fixes, and provides confidence that the final product will meet or exceed customer expectations.

The graphic features a blue background with a digital circuit board pattern. In the top left is the FORU logo (a stylized 'F' inside a circle). In the top right is the text '# learn to know'. On the left, the text 'Uy tín chất lượng giá mềm' is displayed above a QR code. On the right, five white circles numbered 'Kỳ 1.' through 'Kỳ 5.' list course modules: 'MAE + PRF', 'PRO + MAD', 'LAB + CSD + DBI + WED201c + JPD113', 'PRJ + MAS + JPD + SWE', and 'FER + SWP391 + ISP392'. The bottom section contains social media links for Facebook (@FORUSER2761), Twitter (@FORUSER2761), and a website link (4USER.NET).

KỲ 1. MAE + PRF

KỲ 2. PRO + MAD

KỲ 3. LAB + CSD + DBI
+ WED201c + JPD113

KỲ 4. PRJ + MAS + JPD + SWE

KỲ 5. FER + SWP391 + ISP392

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