Online Registration App

Group 3

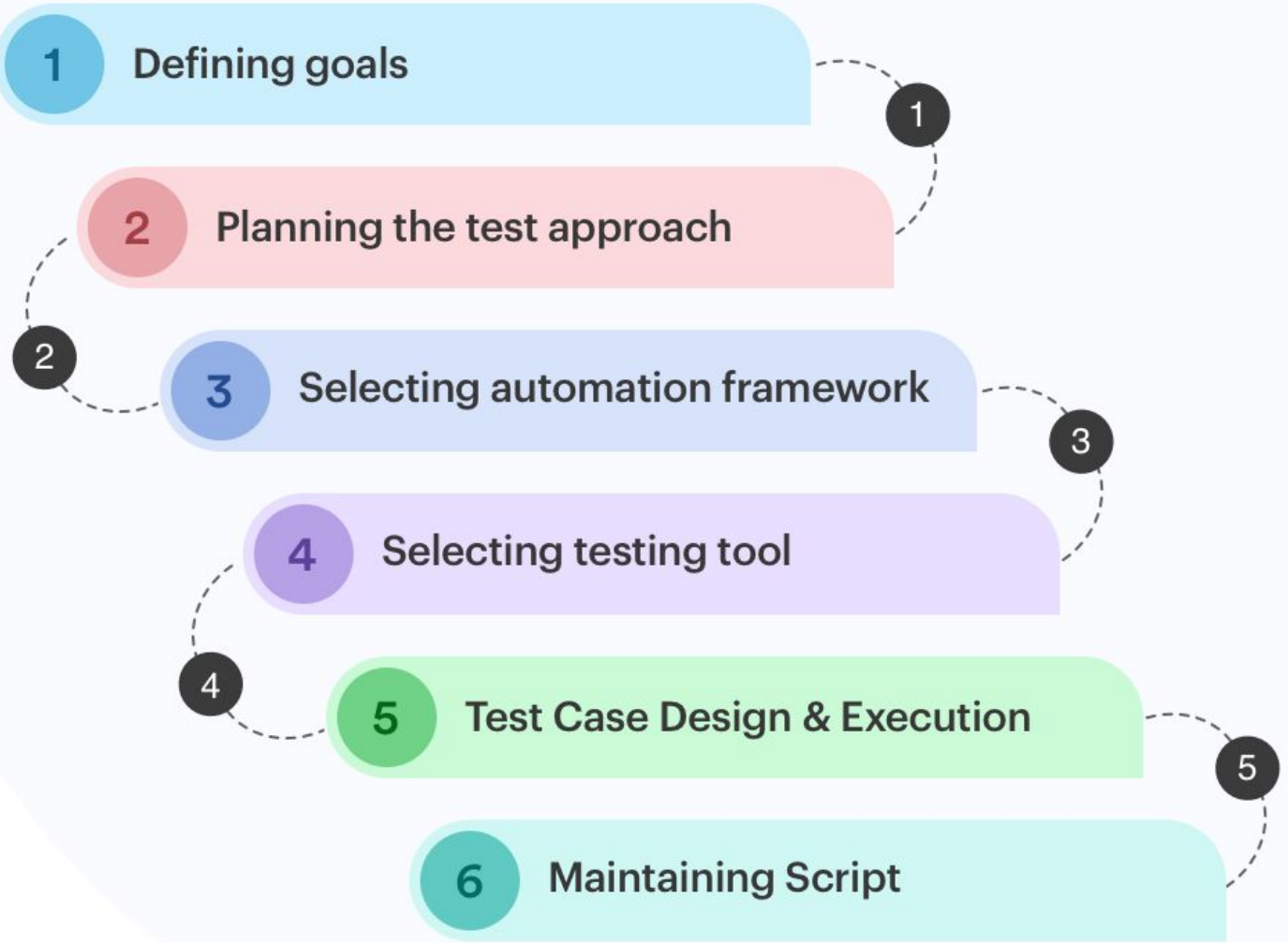
Introduction

- online registration app for students from grade 1 to 12. This is the platform where Parents of guardian register their children to enroll in school.
- The purpose of this app is to eliminate the manual registration process used in schools to save time and costs.
- Monitor the performance of students in class or at school.

Automation Testing Life Cycle

Automation Testing Life Cycle - Automated testing is a process that validates if software is functioning appropriately and meeting requirements before it is released into production. This software testing method uses scripted sequences that are executed by testing tools. ... Automated tests can run repeatedly at any time of day

Test Automation Strategies



Determining the scope of Test automation

Which entities can be automated.

1. Signup Page(FirstName, LastName, Cellphone Number, EmailAdress, Nationality)
2. Login page(Username/Password)
3. Profile Page(Adress)

Which entities cannot be automated.

1. Identity Number or Passport Number

Tools to use and test Team

1. Katalon - Free testing tool used of automation
2. Selenium - open source and free used for automation.

3 Automation Testers

1. Lungile
2. Thato
3. Lebogang

Selection of the Appropriate Automation Tool for Test Automation

Selenium

1. Automation helps you find bugs at an early stage.
2. You can test 24*7 from a remotely–held device as well.
3. It makes the test scripts reusable – need new scripts every time even with changes in the version of the OS on the device and the tests can recur without any errors.
4. Most importantly, it enables testing in volumes. For instance, it allows you to run tests on thousands of mobile devices. Now, this is impossible with Manual Testing.
5. Manual intervention is less, so the possibility of errors diminishes.
6. It ensures higher ROI on the huge investments required initially.
7. Automated tests make the process more reliable and the tests more dependable.

Developing the Test Plan, Test Design and Test Strategy

We must perform API testing, unit testing, integration testing and system testing for the following reasons:

- **Integration testing**: for integrating all modules
- **System testing**: for testing the entire software application prior deploy
- **Regression testing:** For testing our software after making changes
- **Performance:** for testing responsiveness and stability
- **Compatibility :** for usability, reliability, and performance

The Test Environment should be Set Up

- A testing environment is a setup of software and hardware for the testing teams to execute test cases.

Areas	Description
Test Server	Every test may not be executed on a local machine. It may need establishing a test server, which can support applications. Fedora set up for PHP, Java-based applications with or without mail servers
Network	Network set up as per the test requirement. It includes, Internet setup, LAN Wifi setup, Private network setup
Test PC	For web testing, we need to set up different browsers for different testers. For Mobile App, We need Xcode, Android Studio, simulator/ Emulator installed and alternatively Android and Apple Phone
Bug Reporting	Bug reporting tools should be provided to testers. We can use different bug tools like Jira etc.
Test Data	Testers or developers can copy Production data to their individual test environment. They can modify it as per their requirement. This helps the tester, to detect the same issues as a live production server, without corrupting the production data.

Developing the Automation Test Script and its Execution

Writing Code Using the Programming Language:

Although, as a tester, you finally need to go beyond record/playback and learn how to code simple scripts. It is important to understand that you can choose your programming language even if your application is written in Java.

For example, to check the login function on a website, your test script might do the following:

- Specify how the automation tool can locate the “Username” and “Password” fields in the login screen. Let us say, by their CSS element IDs.
- Load the website homepage, then click on the “login” link. Verify that the Login screen that appears and the “Username” and “Password” fields are visible.
- Next, type the username “Charles” and password “123456” identify the “Confirm” button and click it.
- They need to specify how a user can locate the title of the Welcome screen that appears after login- say, by its CSS element ID.
- Verify that the title of the Welcome screen is visible.
- Read the title of the welcome screen.
- Insert that the title text is “Welcome Charles”.
- If the title text is as per the expectation, a record that the test passed. Otherwise, an album that the test failed.

Test Analysis and Generation of Test Results and Reports

Test Analysis in software testing is a process of checking and analysing the test artifacts in order to base the test conditions or test cases

The source from which you derive test information could be

- SRS (Software Requirement Specification)
- BRS (Business Requirement Specification)
- Functional Design Documents

Test Execution

- Understand the manual creating of the application
- Record the creation of the application using a browser-based tool e.g selenium etc.
- Write a test suite that will create an online application.
- Map defects to test cases in Requirement Tracing Matrix (RTM)
- Document test results, and log defects for failed cases

Deliverables

- Completed RTM with the execution status
- Test cases updated with results
- Failed test were reported to developers using bug reporting tool e.g. JIRA

Test Closure

- Project was done on given budget
- Project was completed in due time
- All User requirements were Met
  - User can register and Login to App
  - User can upload documents
  - User can create profile
  - User can enroll multiple children under one profile