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Game Automation Testing: Things to Consider Before You Go to Market

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Can you imagine testing a game only by hand before releasing it to the market?

Testing modern games with high-quality visuals, sounds, and animations using manual methods would take an extremely long time.

According to a report published on **Market Watch**, the world market of gaming testing services is growing at a significant rate. In the year 2022, it was valued at around \$839 million. With a consistent growth rate of 10.28% CAGR, it is expected to reach a value of around \$1510 million by the year 2028.

Automated testing is important for testing games. It's not possible to test games only through manual methods. Using automated testing helps game releases meet project deadlines.

Mobile game market has seen a massive surge in



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the past 5 years or so. Phones have become very fast. As a matter of fact, smartphones are so capable that they can even be used to function like CPUs once connected to display screens.

It's mind-blowing. Isn't it?

Manufacturers are churning out devices dedicated to high-performance gaming. Mobile gaming and streaming online are even becoming mainstream careers for so many.

Quality mobile games have become huge profit sources for game development companies. What's even more interesting is the use of AI to make gaming performance better and better.

With so much going on in the gaming industry, late-release cycles are not an option. Games need to be tested fast and with extreme accuracy; this is where game automation testing shines.

Check out the table of contents below to see the key areas to focus on when testing games using automation.

7 Key Areas to Consider while Game Automation Testing

Let's look at the key areas that QA professionals and **automation testing companies** usually consider while they test mobile games through automated scripts and automation tools.

#1 - Dynamic Environments

Dynamic environments are one of the major areas to be tested for while game automation testing. It is very crucial for delivering a great gaming experience to the end users.

- Dynamic environments enhance game

realism, essential for creating an immersive player experience.

- Simulations are a great way to test for accuracy and consistency. This can be achieved using automation testing of games
- Dynamic environments are bound to provide opportunities to test edge cases. This helps in detection bugs and helps improve the

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- Thorough automation testing of different controls promotes confidence that particular features function smoothly and reliably.

#4 – VR Interaction

Virtual Reality (VR) testing in your game automation strategy ensures that games are up-to-date with market trends, intuitive, and technically sound.

- VR Interaction involves sharing virtual spaces. Automating game testing validates interactions for effective coordination for competitive gameplay.
- Automation thoroughly explores a wide range of VR interactions, including movements and gestures, which is challenging through manual testing and can be addressed by companies offering **VR app testing services**.
- Different VR platforms and hardware setups

comprise varying sensors and tracking capabilities.

#5 - Memory Optimization

Memory optimization in game automation testing helps in delivering high-performance gameplay by identifying memory leaks and increasing game responsiveness.

- Testing memory optimization prevents excessive memory consumption and helps manage resources efficiently.
- As the game features expand with new updates, memory optimization ensures scalability without affecting performance.
- Memory issues affect various game elements, including AI and graphics, which can be assessed by game testing **automation tools**.

#6 – Chaos Simulation

Check the below points to understand why chaos simulation is necessary for game automation testing.

- Chaos simulation exposes difficult scenarios that replicates real-world conditions. This can be addressed through non-functional tests like stress testing.
- It explores boundary conditions that can be a pain when implemented manual processes to uncover hidden bugs and issues.
- Chaos simulation validates whether the new feature enhances or disrupts the gameplay dynamics.
- It helps in identifying **common video game glitches** to remove them as soon as possible.

#7 – Real-World Integration

Real-world integration replicates the scenarios and how players engage with the game using various devices and platforms.

- Automation testing for real-world scenarios evaluates the usability of controls and user-friendliness.
- It assesses how the game elements such as UI, text, and graphics perform across different languages and regions.
- It also validates that your game meets player expectations, reducing the risk of design choices that can appear frustrating if not implemented properly.

Also Read: **Usability Testing in Mobile Game Testing: Why It's Important?**

Best Game Testing

Automation Tools You Need To Know About

Implementing the right tool is the key to successful game testing automation to cover crucial aspects. Take a look at the following tools that can be utilized. These tools are widely used by companies that provide **automation testing services** for testing games.

- **TestComplete**- TestComplete is an automated testing tool to support various game platforms, which includes mobile games, desktops, and the web.
- **LoadRunner**- It is ideal for stress and performance testing to assess how the game handles complex scenarios and high loads.
- **Appium**- One of the common open-source tools for automating mobile apps and games across different devices and platforms, including Android, iOS, and Windows.

- **Selenium**- **Selenium** was originally designed for **testing web applications** which can also be adapted for game testing.
- **Jenkins**- It is a widely popular tool utilized for CI/CD processes for automating significant aspects of game deployment.
- **Applitools**- This particular tool specializes in **visual testing** that UI game elements and graphics render correctly.
- **Cucumber**- It is primarily used for behavior-driven development for game automation testing using plain languages easily understood by everyone.

Utilize the above-mentioned game performance testing tools depending on the specifications for game development and testing requirements.

QAble's Expert Tips for Game Automation Testing

QAble recognizes the significant impact of software bugs. Our expertly planned and designed **QA consulting services** push conventional boundaries to provide a dynamic toolkit for evolving techniques.

We have also listed some essential tips that you must focus on while conducting game **automation testing**. Don't forget to implement them.

- **Multiplayer Simulations**– QA professionals must focus on creating automated scripts for multiplayer scenarios to validate connectivity, synchronization, and most importantly, fair gameplay.
- **Realistic Data Generation**– Generate realistic test data for simulating accurate player scenarios and robust testing.
- **Parallel Execution**– Utilize parallel testing approach to speed up test cycles validate multiple game aspects and save significant

resources, time, and effort.

- **Checking Version Compatibility**- Version compatibility ensures the game functions seamlessly across various versions without any compatibility or regression issues.
- **Dynamic Environment Simulation**- It is most important to create automated tests for validating readability, color contrast, accessibility, and interface elements.

Incorporating the above tips in your game automation testing strategy will help you design a robust plan to achieve enhanced coverage and accuracy.



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