iXie

Success Story

Automating Gaming Excellence: 3 Games, 12K Tests & Faster Efficiency

Mission Briefing

A Gaming giant specialised in social casino slot games since 2007 with 40M+ active customers a month across all games. They are managing 7+ unique themed casino slot games across android and iOS platforms.

Achievements Unlocked

- Test Automation
- Manual Functional Testing
- UAT
- API Testing (Automated and Manual)
- Performance Testing

Quest Milestones

- Key Success
  - Implemented Grafana dashboard with more than 20 panels for monitoring app performance using java and NewRelic Api client.
  - Supported various application releases by performing automation smoke, regression and slot integration checks across different games for both android and iOS platforms
  - Early defect identification

- Domain – Social casino slot games

- Duration – 1 year and 3 months

- **Tools and Technologies –** Java, Appium, GIT, Jenkins, Gradle, TestNG, Custom Framework (Web Socket), Allure Report, Vault, GSUtil, JMeter, Blazemeter, NewRelic, Grafana, Postman and influx DB

1 Client Profile

The client was a gaming giant who specialized in casino games. These casino games come in various themes and exciting slots, it including exciting classic slot machines, new video slots and features classic slot machines for the best online experience like no other and offers other cool features like seasonal missions, battle passes, piggy banks Daily bonus, etc. There are 5+ backend systems which control most of the parts of the application and contain the configuration that the game requires.

The Business Requirement

- Accelerate the application development life cycle by enforcing critical and inclusive test automation methods
- Achieve bug-free production game releases
- Perform end-to-end functional and automation regression test to ensure application quality
- Perform end-to-end performance test to ensure application stability & availability
- Understand NFRs, production user load mix, transaction data volumes and perform load testing activity in production replica environment to access the performance of the application and identify performance degrading areas and troubleshoot to fix them
- Provide sustainable and cost-effective solution for capturing application related metrics and retaining it for a longer duration while facilitating data visualisation

Roadblocks in the client's gaming journey

01 Enabling new builds to be downloaded and deploying for every CI and CD execution was a challenge

02 Difficulties in capturing application metrics stats for longer duration, server business transactions for mobile apps for load simulation

03 Measuring performance & device level metrics for UI of mobile gaming apps

04 Synchronisation issues when dealing with asynchronous responses from the web socket

05 Tackling difficulties in interacting with certain unity elements due to camera orientation in various android devices

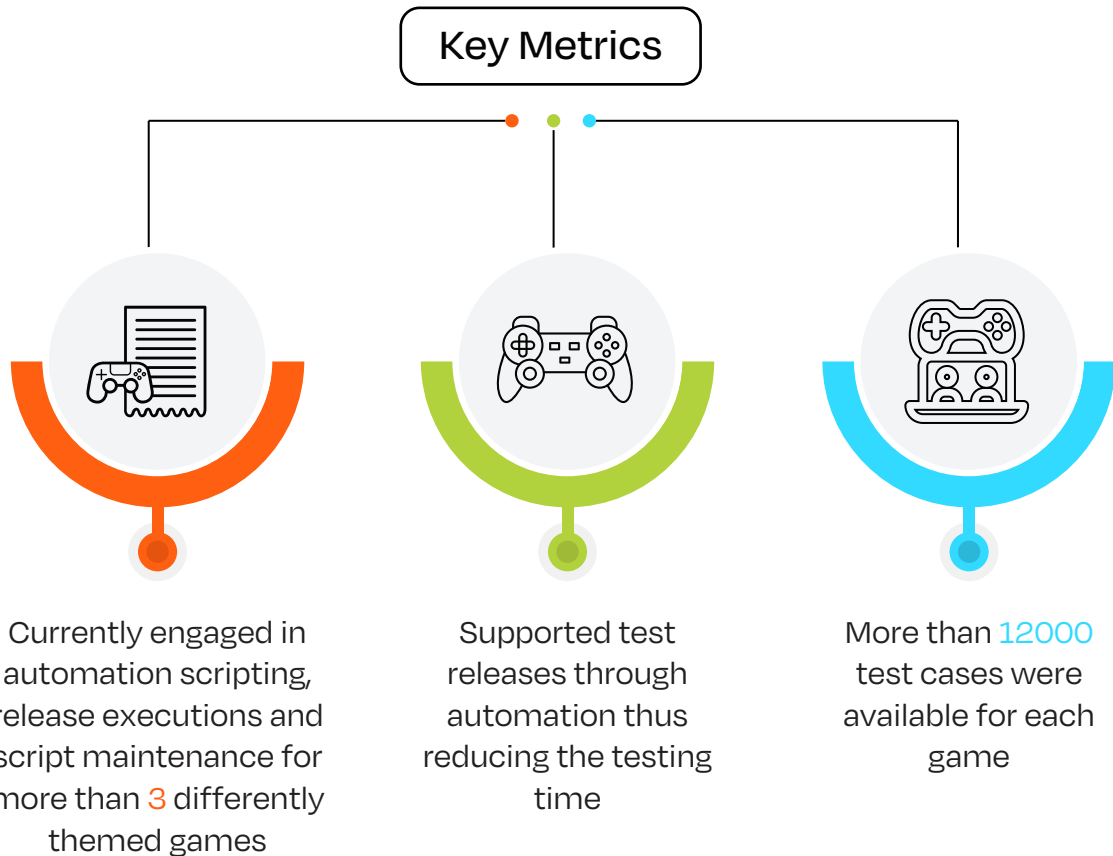**06** At the backend, creating/integrating the game configurations were tedious

07 Requirements for game configurations were missing on the requirement's Acceptance Criteria

Our Game Plan

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- Implemented **smart async wait wrapper** to ensure proper sync in the framework thus reducing the usage of states waits

- Implemented **"Gsutil"** and ensured **automatic build download from the repo** and **smooth automation execution**

- Insisted **certain code updates and written reusables** to deal with element interaction issues related to camera orientation

- **Integration of New Relic metrics with Grafana** was the solution adopted from automation team to address application metrics capture for longer duration

- For Server Side - **All API requests were captured** for the games using **JMeter load test tool** and tests were run in **BlazeMeter** to analyse performance. **Web Debugging tool viz fiddler** was used to capture actual mobile requests.

- For Client Side - **"Game Bench" tool** was used to analyse page rendering metrics, device performance related metrics etc

- **Improved the coordination with gaming team** to overcome the challenge of Game Configurations

- **Implemented the process of RTM tracking** to identify the missed requirements to improve process

Key Metrics

Currently engaged in automation scripting, release executions and script maintenance for more than 3 differently themed games

Supported test releases through automation thus reducing the testing time

More than 12000 test cases were available for each game

Our Value Adds

✳ Implemented Grafana dashboard that helped visualise past records and improved decision making by the stakeholders

✳ "Gsutil" helped fasten the process to download build versions automatically and use it in the script execution

✳ Continuous Server / Client-side performance testing aided us in bringing significant business value by improving customer retention, increasing revenue and conversions, driving cost savings and ensuring compliance

✳ Prepared the test data in various integrated applications for UAT and production release testing

4 The iXie Impact

Implementation of code effective and sustainable solution
Achieved data retention through Influx DB and data visualisation through Grafana at a comparatively lesser cost.

Achieved Tripled (3X) - BVT and Regression testing pace
The automation framework project successfully accelerated basic verification and regression testing by a factor of three, expediting development iterations.

Early defect validation at each layer
Through automated testing, defects were proactively identified across diverse game layers, mitigating risks, and reducing development costs by promptly addressing issues.

High test coverage - from UI Aspect - Level up modules:
Test automation ensured comprehensive coverage from UI elements to advanced game modules, enhancing quality assurance and player satisfaction through thorough, reliable testing.

Identified performance degrading areas in the application

A word from our customer

"Our journey with iXie over the course of this year has been exceptional. Their **professional attitude, short turnarounds, 24-hour support and outstanding flexibility** have set them apart from other companies."

- Stefan Irimia, QA Manager – Product Madness

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