

## Video Games Software Development Engineer in Test (SDET): the Challenge of Uncovering Gems in a Competitive Landscape

### Introduction

An SDET is responsible for planning, designing, executing, and automating tests to ensure the quality and stability of video games. They collaborate with the development team, report defects, and continuously improve the testing process to deliver a high-quality gaming experience to players.

TestFly SDETs possess several core strengths that contribute to their effectiveness in ensuring software quality and bridging the gap between testing and development. Here are some key strengths of TestFly's SDETs:

**Technical Proficiency:** SDETs have a strong foundation in software development, including programming languages, software design principles, and development methodologies. This technical expertise enables them to understand the intricacies of the codebase and design robust and efficient testing solutions.

**Quality Advocacy:** SDETs are advocates for quality within the development team. They actively promote quality-centric practices, participate in code reviews, and contribute to the overall improvement of development processes. Their commitment to delivering high-quality software drives the team towards excellence.

**Testing Expertise:** SDETs possess in-depth knowledge of various testing techniques, methodologies, and best practices. They understand the different types of testing, such as functional, integration, performance, and usability testing, and can apply them effectively to ensure comprehensive test coverage.

**Test Automation Skills:** SDETs excel in test automation, employing automation frameworks, scripting languages, and testing tools to develop scalable and maintainable automated test suites. This allows them to automate repetitive and time-consuming tests, enabling faster and more efficient testing cycles.

**Problem Solving and Debugging:** SDETs have strong analytical and problem-solving skills. They can identify, isolate, and debug issues effectively, whether it's a defect in the software or an error in the test scripts. Their ability to troubleshoot and resolve problems efficiently contributes to improving software quality.

**Collaboration and Communication:** SDETs possess excellent collaboration and communication skills, enabling them to work effectively with developers, designers, and other team members. They can articulate technical concepts, provide feedback, and facilitate open communication to ensure alignment between testing and development teams.

**Attention to Detail:** SDETs have a meticulous approach to testing, paying close attention to every detail of the software. They have a keen eye for identifying potential defects and verifying that the software meets the specified requirements. Their attention to detail ensures a high level of software quality.

**Continuous Learning and Adaptability:** SDETs embrace a mindset of constant learning and adaptability. They keep up with emerging technologies, industry trends, and advancements in testing methodologies. Their willingness to learn and adapt allows them to stay ahead in an ever-evolving software development landscape.

### SDET Challenge: finding the unicorn that bridges the testing & development worlds

A video game SDET is often called a "unicorn" due to the unique combination of skills and qualities they possess, making them relatively rare and highly sought after in the industry. In addition, their ability to combine testing and development excellence with domain-specific gaming industry knowledge makes them highly valued and sought after in the competitive landscape of video game development. Finding excellent video game SDETs can be challenging due to several factors:

**Specific Skill Set:** Video game development requires a unique combination of testing expertise, knowledge of game development frameworks and engines, and understanding of gaming platforms. Finding SDETs who possess a profound understanding of the intricacies and complexities of video game development, coupled with strong software testing skills, can be a challenging endeavor.

**Limited Talent Pool:** The pool of experienced and skilled video game SDETs may be relatively small compared to other software engineering roles. This scarcity makes it challenging to find candidates with the desired qualifications and experience in the gaming industry.

**Rapidly Evolving Technology:** The video game industry is renowned for its ever-changing technologies, platforms, and frameworks. To thrive in this dynamic landscape, SDETs must remain abreast of the latest tools and techniques tailored to game development. As such, it becomes vital to seek candidates who demonstrate adaptability and a commitment to continuous learning, ensuring they can effectively navigate the industry's rapid evolution.

**Niche Requirements:** Video game development often involves specialized requirements based on the genre, platform, or engine. Finding SDETs with experience in specific genres or engines, such as FPS (First-Person Shooter) games or Unreal Engine, can be challenging.

**Competition with Game Development Roles:** Skilled individuals who possess a passion for video games are often inclined towards game development roles, such as game designers, artists, or programmers. This preference can result in a narrower talent pool for SDET positions within the video game industry, further limiting the available resources for this specialized role.

**Limited Industry Experience:** Due to the relatively niche nature of video game development, some candidates may lack specific industry experience or have limited exposure to the unique challenges of testing video games. Finding candidates with solid software testing and video game development backgrounds can be a hurdle.

**High Demand:** The demand for excellent video game SDETs often outweighs the supply. As the gaming industry thrives and progresses, the demand for skilled SDETs who can guarantee game quality and stability is growing. Consequently, there is heightened competition among companies to attract top talent in this field, recognizing the pivotal role SDETs play in delivering exceptional gaming experiences.

### TestFly's SDET Development and Retention Best Practices

To overcome these challenges, TestFly invests in training and development programs, promotes cross-functional collaboration between development and testing teams, and actively seeks out individuals with transferable skills and a strong passion for testing and video games. Some of our best practices to resolve these issues include the following:

**Cultivate Internal Talent:** Identify potential candidates within the organization who exhibit the aptitude and interest in video game development and software testing. Provide training and development opportunities to nurture and transition their skills into video game SDET roles. This approach helps retain valuable employees while addressing the scarcity in the talent pool.

**We Promote Cross-Training and Skill Development:** We foster a culture of cross-training and skill development within TestFly, promoting collaboration between testers and developers. In addition to encouraging testers to gain exposure to game development concepts, we also recognize the importance of training developers on QA practices. Therefore, we provide opportunities for developers to learn and expand their knowledge of quality assurance through mentorship programs, workshops, and internal training initiatives. This balanced approach ensures that both testers and developers have a comprehensive understanding of game

development and QA practices, promoting effective collaboration and improving the overall quality of our video game projects.

**Develop Apprenticeship Programs:** We establish apprenticeship programs that provide hands-on training and mentorship to individuals interested in pursuing a career as video game SDETs. This can include offering paid internships, on-the-job training, and mentorship. Apprenticeship programs create a talent pipeline and address the shortage of experienced video game SDETs.

**Professional Development Budgets:** We allocate budgets specifically for professional development, allowing SDETs to attend relevant conferences, workshops, and training programs. This investment demonstrates the organization's commitment to supporting the continuous learning and growth of SDETs.

**Technology Assessments and Roadmaps:** We conduct regular technology assessments to evaluate the effectiveness and relevance of existing tools and frameworks. Develop technology roadmaps that outline plans for adopting new technologies and platforms, ensuring that SDETs have exposure to the latest advancements.

**Encourage Community Engagement:** We encourage SDETs to actively engage with online forums, discussion groups, and communities related to video game development and testing. This participation allows them to stay connected with industry experts, share knowledge, and learn from others' experiences.

In conclusion, creating a stimulating and rewarding work environment that fosters professional growth and encourages creativity is instrumental in attracting and retaining top video game SDET talent. By offering opportunities for learning, career advancement and recognizing the contributions of SDETs, TestFly is cultivating an environment that nurtures their skills and passion. This, in turn, not only attracts talented individuals but also motivates them to stay, contributing to the long-term success of our clients' video game development projects.