

PowerUp Games – Video Game Testing

(Lesson Plan)

PowerUp Games – Game Testing Certification

Rationale

With the competition heating up in all areas within the game industry, companies are requiring more from its hires even for game testing positions. This pressure is caused by the downsizing of the industry and the increasing complexity of development. Trends suggest that formal training in game testing is becoming a necessity in order to gain even an entry level position, and the pressure will only increase in the near future. Game testing is also a great way to gain experience, and even to earn those extra necessary funds perhaps to go back to school for a different or similar degree during those long summer months.

Objectives and Outcomes

The student will have a basic knowledge of game testing. It is hoped that with this basic knowledge, the odds for interviewing and then landing a game testing or other job in the video game industry will be improved and the potential to retain that position increased.

Teaching Methods

- The information will be presented in an on-line, interactive format.
- The materials are self paced.
- Extracurricular participation in projects is required.

Course Content:

The course covers the stages of game development and the roles and responsibilities of QA, the different types of bugs a game tester must understand and look for, how to write up a bug, the bug life cycle, different types of testing and much more.

Assessment:

- | | |
|---|-----|
| 1. Participation in Real world projects, class exercises: | 30% |
| 2. Final Exam | 70% |

Prerequisites:

- **None**

Introduction: Welcome to PowerUp Games

Goals:

To understand the course and read additional information on what it is to be a Video Game Tester.

Key Topics:

- To become more aware of what it is to get into and be in the video game industry.
- Learn how to use this course to help you break into the video game industry.

Lesson 1: The Stages of Game Development

Goals:

The game tester needs to understand how game testing fits into Game development. In this tutorial, the student will understand the different phases and process of game development. From pitching the game to its final release.

Key Topics:

Several topics will be covered including:

- Green light process
- Pitch document
- Pre-production
- Prototype
- Feature complete
- Milestones
- Release candidates
- Gold release
- The different phases of game development.

Lesson 2: Roles and Responsibilities of QA

Goals:

The students will become acquainted with the different tasks of a game tester and have an idea of what a Game Tester could do on the job.

Key Topics:

Several topics will be covered including:

- Defect
- Fun factor
- Playability
- Internal and external QA teams
- Localization tester
- Compliance tester
- Beta tester
- The importance of being a team player.

Lesson 3: Beta Testing

Goals:

To become familiar with what beta testing is and how it is used.

Key Topics:

Several topics will be covered including:

- Beta testing – what it is.
- Beta testing – how and when it is used.
- White box tests
- Black box tests
- Alpha version

Lesson 4 & 5: What Beta Testers Look For (I & II)

Goals:

To become aware of what a beta tester does and how they can contribute to a successful launch and also to become aware of why making a game more fun is beneficial to the game.

Key Topics:

Several topics will be covered including:

- Beta testing
- Game flow
- Target market audience
- Incremental progression

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test - Review the items on what makes a game fun and find a suggestion to make the game more fun. In a paragraph, describe how the game will appeal to its target audience and e-mail it to the teacher.

Lesson 6: Introduction to Bugs

Goals:

To learn about software bugs and what they are so you can spot them.

Key Topics:

Several topics will be covered including:

- The most important duty of a game tester
- Styles of testing
- Ad hoc testing
- Systematic testing
- Automated testing
- Stress testing

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test - find a bug/suggestion for a project. Write it up and e-mail it to the teacher.

Lesson 7: Stability Bugs

Goals:

To learn what software stability is so you can better test it and to realize what can cause stability issues so that you can look and test for them more easily.

Key Topics:

Several topics will be covered including:

- Corrupt or missing files
- System resources
- Exception handling code
- Debug code
- Asserts

Projects:

Install a game and force the system to try to run out of memory. Launch other applications until the system starts running slow. Launch and play the game and note the issues.

Lesson 8: Logic Bugs

Goals:

To learn where logic exists in the program. Understand how information is delivered in a game and how it affects the game.

Key Topics:

Several topics will be covered including:

- Artificial intelligence
- Consistency
- Blood-locking
- Pathfinding.

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test and spend at least 4 hours looking for potential logic issues.

Lesson 9: User Interface Bugs

Goals:

To help come to understand what a user interface does and what makes a good UI.

Key Topics:

Several topics will be covered including:

- UI – User Interface
- HUD-Heads up Display, .

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test and find a bug that can be considered to be a usability issue / concern.

Lesson 10: Text Bugs

Goals:

To recognize text issues where they occur, whether they be grammar, spelling, words out of context or words for international versions that may not work for the international community. Help issues are also covered later in the tutorials. In addition, student's should realize the importance of good text for story based games.

Key Topics:

Several topics will be covered including:

- Legacy Bugs and others.

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test and find a bug that can be considered to be a text bug.

Lesson 11: Art Bugs, Lesson 12: Art Bugs as Related to Level Editing & Lesson 13: Art – Lighting, Effects, Models and Animation

Goals:

The student will be able to look and test for art issues within video game development.

Key Topics:

Several topics will be covered including:

- Level geometry
- Collision gaps
- Polygons
- Pathability
- Polygon normals.

Projects:

- Find a screen capture program and practice using it. Submit a capture to your teacher.
- Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test – Review the items on the different types of art bugs and find a bug that can be classified as one of those types.

Lesson 14: Audio Bugs

Goals:

To help the student understand the pieces of audio that need to ‘fit’ into a game and how audio can be good or bad.

Key Topics:

Several topics will be covered including:

- Music
- Sound effects
- Ambient audio
- Voice over
- Ambient audio
- Lip-syncing

Lesson 15 & 16: Exploits and Multiplayer Exploits

Goals:

To help the student understand what exploits are and how you should test them.

Key Topics:

Several topics will be covered including:

- What can be considered as exploits
- What are overpowered characters
- Power-ups

Lesson 17: Introduction to Bug Reporting

Goals:

To become acquainted with what bug reporting is and how it applies to video game development.

Key Topics:

Several topics will be covered including:

- Bug life cycle
- Costs to fix a bug.

Lesson 18: Parts of a Bug Report,
Lesson 19: The Bug Database,
Lesson 20: Severity, Priority and Status Meanings,
Lesson 21: Titles and Descriptions &
Lesson 22: Writing Guidelines for Testers.

Goals:

To allow the student to create good bug reports and understand the purposes of bug reporting.

Key Topics:

Several topics will be covered including:

- Parts of a bug report (title, location, description, severity, priority, status, etc)
- What metrics you can get from a bug database and how they are useful.
- The different classifications for status, severity and priority.
- Help you act correctly when bug reporting and with the bug database.

Projects:

- Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project to test and submit 4 different bug reports.
- Review any bug reports you created for earlier projects and compare if still available

Lesson 23: Bug Submission, Reproduction and Regression

Goals:

To understand some basics of bug submission, such as checking for duplicates if possible. To understand how important it is to include good steps in a bug report so that bug reproduction and regression are easier.

Key Topics:

Several topics will be covered including:

- Bug Regression

Lesson 24: Reopening and Closing Bugs

Goals:

To help the student understand proper etiquette for reopening and closing bugs.

Key Topics:

Several topics will be covered including:

- When you should re-open a bug.
- Things to consider and/or do if you have to reopen a bug report.

Lesson 25: Introduction to Usability Testing

Goals:

To give the student more information on how to test for usability.

Key Topics:

Several topics will be covered including:

- Robustness
- Intuitiveness
- How to test for each

Projects:

Test a game for its usability. Submit a report.

Lesson 26: Tutorial and Help Functions

Goals:

To educate the student on things to look for when testing the tutorials or help functions.

Key Topics:

Several topics will be covered including:

- The basic concepts for help functions or tutorials.

Projects:

Test a game's Tutorial and Help functions. Submit a report.

Lesson 27: Intuitive and Fun Gameplay

Goals:

To provide more insight into what is necessary for fun game play.

Key Topics:

Several topics will be covered including:

- Beatable challenge
- Good consistent feedback,

Projects:

Test a game for intuitive and fun gameplay. Submit a report.

Lesson 28: Levels and Items, Lesson 29: Characters, Classes and Maps & Lesson 30: Game Balance

Goals:

To educate the student about the higher design issues of a fun game and some rules to look for when considering game balance.

Key Topics:

Several topics will be covered including:

- Game Balance
- Levels
- Characters
- Classes
- Maps

Projects:

Visit the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>). Sign up for a project. Play the game and look for game balance issues, verify the leveling or verify the character classes and maps for the project. Write up a report and submit it.

Lesson 31: Introduction to Test Plans, Lesson 32: Test Plans Continued & Lesson 33: Test Matrices

Goals:

To educate the student about Test plan and test matrices and how they can help the QA effort. The different parts of a standard test plan are covered.

Key Topics:

Several topics will be covered including:

- How a test plan can define the testing strategy for a project
- How test matrices can help remind the tester on what to test to ensure good coverage

Conclusion: Congratulations

Goals:

To have the student participate in a longer project so they know what it is like to be a game tester for an extended period of time.

Key Topics:

Several topics will be covered including:

- PowerUp Games Tester Certification

Projects:

Students should experience a longer term view of testing. Sign up for a game project via the PowerUp Games Website (accessible via your GameInstitute course classroom / portal or directly at <http://www.powerupgames.com/videogametester.html>) and participate in testing for at least one week.