



# Memo

**To:** All Producers  
**From:** Blair Bullock  
**Date:** Sept 22, 1995  
**Re:** Guidelines for Submitting a Title Into Test

**cc:** Jon Correll

---

The following are guidelines for submitting a game into test:

1. When a producer determines his title is ready for submission into test for preliminary Development Guidelines checking, game balancing, initial bug identification, and comments, the submission must be accompanied by a formal statement of intent to the test manager in the form of a written request or e-mail.

In order to facilitate the lead tester in the creation of his test plan, when the title is approximately three weeks from reaching its official final test date, the producer will meet with the selected lead, provide all documentation and information on the game's content, and to the best of his ability, guide the lead tester in the establishment of the test plan. It is the producer's responsibility to oversee the creation of the test plan to his satisfaction and ensure its review (see attached document).

2. When a title is at beta, meaning full implementation of game play elements, graphics, and no known bugs by the developer, the game can be considered a candidate for final test. This is the target date which should be submitted and recorded on the Mgmt Software Release Schedule. At this time, the producer will submit a formal request to the test manager with a statement of intent in the form of a written request or e-mail. The test plan must be completed in its entirety at this time.

During final test, each revision of the software from the developer must be accompanied by a document detailing the changes and fixes in the software. Any revisions not accompanied by this document will go untested or tested at the department's earliest convenience pending available test resources.

Depending on the number of titles in test, failure to comply with the above requirements may result in an inability of the test department to test the product in a timely fashion.

## Test Plan Guidelines

by Blair Bullock

### **Introduction**

The purpose of this document is to promote open discussion regarding test plans and their use at Atari. I sincerely hope that these discussions will establish a set of guidelines which will enhance our work together and allow us to produce titles more effectively.

Over the years of leading games through test, I have given test plans considerable thought. As a result, I do have some definite ideas as to a test plan's value. The test plan can be as valuable a tool for the producer as it can for the lead who created it. The producer can use this opportunity to provide guidance to the lead and offer "inside" information on his product. As a result, the tester is fully briefed and the producer can sleep well at night knowing his title will be thoroughly tested. This interaction is essential to a successful test plan. Without this, the process of creating a plan can be frustrating and time-consuming for the tester selected to lead his project.

For a lead tester, a good test plan will be valuable for the exercise in process as well as in its implementation. The very act of preparing the written plan helps to order the tester's process. It causes the lead to consider every element of a game and is a quantifiable measure of his thoroughness. In addition, a good plan will provide accurate and consistent terms for bug writing and allow his support team to pursue bugs in an orderly fashion.

A poorly executed plan, particularly when it is too big, may squelch the tester's intuitive testing. Forcing a tester to repeatedly play the game as it is supposed to be played may catch game play inconsistencies, but rarely leads to a fatality. If it is too small or vague, due to a lack of information or commitment by the tester, the itinerant nature of software testing may lead to untested features of a game.

The idea is to strike a balance of intuitive testing in an informed, orderly fashion. I have found it best to create assignments related to a particular feature or option in the game. For instance, if the game has a Save/Load Option, the lead could ask the tester to play a level, save, power-down, re-load the game, and continue. Another assignment might be to exclusively use (or not use) a particular item or power-up during game play, like running or fighting with no weapon equipped, use only one weapon, trying every item at every puzzle, jumping into every pit or springing on every bouncy mushroom. In addition, assignments should be played under a particular set of Options to facilitate thoroughness and test with the variety of end-users in mind.

Assignments force the tester to play the game as it is not supposed to be played. In doing so, the tester will not only find most bugs relating to a particular feature, but also test game balance, minimize "running patterns" and reduce monotony.

## **The Elements of a Test Plan**

A good test plan should include the following:

- Identification of all game play elements and features in the game:

- Identify all options (preferably in a matrix):

- Save and Load Game Features

- Sound and Effects Options

- Difficulty Options Assignments (finish in all modes)

- Button Configuration Assignments

- Password Verification Tests

- Identify Game play Variants:

- PAL and NTSC Assignments

- Number of Player Assignments

- Character/Vehicle/Team Assignments

- Identify Problematic Elements (when applicable):

- Reset Test Assignments

- Text Checking Assignments

- Collision Detection Assignments

- Inventory and Item Use Test Assignments

- Rules Check Assignments

- Team & Player Correctness Verification (sports titles)

- Statistics Checking

- Unique Control Assignments (move vs. move)

- Cost vs. Gain Assignments

- Puzzle Solution and Ramification Testing

- Scoring Assignments:

- Point Value Assignment

- Rolling the Score

- Maximum Scoring

- Terminology Definition

- List All Levels, Stages, and Bonus Rounds:

- Cheat Codes - Access to Node Jumper

- List all Power-ups and Items (with their intended specs)

- List All Moves and Controls

- List All Enemies

- List All Scoring Values

## **Game Specific Test Requirements and Assignments**

As each type of game will contain varying elements, many assignments will need to be created to suit the individual game. However, each type of game, from platform hopper to fighting game may have very specific test requirements and assignments. For example:

- For fighting games, collision detection and move priority is critical. Therefore, a matrix of every character's move vs. every other character's move is essential. When performed simultaneously, this "move test" will provide a strong foundation for identifying collision and priority bugs.
- In sports titles, a matrix of every team playing every other team, particularly in season or league play will lead to very specific bugs. Scoring, rules, and statistics will need particular attention.
- Arcade style "shooters" will require focus on scoring verification and power-up effects.
- In immersive or "doom style" games, extensive collision detection assignments, particularly at the corners and "nooks" of walls, will facilitate the identification of discontinual game play crashes.
- Role playing games or any game with extensive items or complex puzzles should contain extensive assignments relating to item use and puzzle completion.
- Platform games should focus on platform and enemy collision detection, health, traps, power-up effects, etc.

## **Initiating a Test Plan**

When the title reaches alpha, and the producer wishes to submit the game into test for its initial review and preliminary Development Standards check, a test lead will be selected. At this time, the lead and producer should meet to discuss the test plan, set test objectives, and begin to develop the terminology lists. When the title is approximately one month from entering final test, the producer should ensure full disclosure regarding all pertinent information of the game, prompt the lead tester for the first assignments and begin finalizing the test plan document for review.

Test plan creation is in the producers best interest, and he should consider it a requirement of any test lead. Although it will be the tester's responsibility to create the plan under the test manager's guidance, it should be the producer's responsibility to see that it is done to his satisfaction and submitted for review.

## **Executing a Test Plan - The Master Plan**

When the test plan is fully developed, and the game is going through revisions, the test plan should be modified to account for any changes. The lead should create and distribute assignments a single tester can perform in an eight hour shift. During initial testing, as time permits, each section of the test plan needs to be completed in its entirety. As assignments are completed, the results of the tests should be compiled into a "master" test plan which will be kept in his project binder for reference and possible review.

The test plan must be completed at least twice. When the game reaches final test, the test plan needs to be completed again to ensure any changes have not altered the effectiveness of the plan. Finally, the Hardware Compatibility Test needs to be executed to form a completed final test plan and supplement the final test report for release and archiving.

## **Summary**

The test plan is not only a written guideline for the tester to follow, but an active document which facilitates thorough testing by the test lead and his support staff. It is an invaluable tool which initiates an open dialogue between the producer and his lead, and virtually eliminates any miscommunications or misconceptions as to the product's specifications.

It is my sincere hope that through careful consideration and willingness to establish a set of guidelines for creating useful test plans, the effectiveness (and peace of mind) of product development here at Atari will be enhanced.