Usability Testing Basics

Usability

A project with good 'usability' allows its intended users to use it efficiently, effectively, and satisfactorily. Games are different - in a video game, good usability is much more about the user having a satisfactory experience, rather than an 'efficient' or 'effective'. To quote Marleigh, our interaction designer: "Make it easy, unless there's a reason to make it hard."

For computer games, especially those aimed at casual users, usability is key to getting players to play your game. Most casual users aren't interested in spending their time interpreting complicated interfaces or reading instruction pages; they want to sit down and play. That *doesn't* mean they don't want challenging games - *Tetris* can be very hard. What they want is to get to the core gameplay, to the fun, as quickly and as easily as possible..

Achieving this goal for computer games is surprisingly tricky. The game needs to share with new users its rules, goals, and intentions as smoothly and as clearly as possible. At the same time, the game wants to keep experienced players coming back, so there needs to be more to the game than what the novice sees in the first few moments of game play.

Good Usability is hard!

Good usability is not easy for any piece of software, and as the software gets more complicated, usability only gets harder. Go open up a type of program you've never used before, particularly one intended for professional use - if you are not an artist, try a professional modeling package, or a CAD (Computer Assisted Design) program. Alternatively, spend ten minutes doing a web search on "Microsoft Program Help" and see how many books have been written to assist users with some of the most common software available.

Part of the problem is that good programs - and games - are complicated systems, and explaining a complicated system is hard. Programs with a history - such as Microsoft Word - rely on their user's experience with related programs (earlier versions, other word processors) to help with usability. That works well for experienced users, but not for novices.

Another part of the problem - especially in game development - is that the team designing, implementing and testing the game quickly becomes the most experienced users in the world. However, the game's intended users - its audience - is not.

Many games take advantage of 'experienced users' by using common interface conventions (for example, how would you expect to maneuver a character in a 3D game using an XBOX controller?) but that approach can leave novice users behind. And games rely on new users voluntarily playing them - something that Microsoft Word, for example, doesn't have to worry about.

Good Usability - How?

- Research - how did other games solve these problems?
- Early stages: usability review.
- Our in house expert: Marleigh!
- Later stages: user testing.
- Test, observe, fix, and test again

While good design and frequent in-house testing help with usability, they don't solve everything. The best way to ensure good usability is user testing: test your game with genuine novice users, preferably from your intended audience, as soon as there's enough game to test.

Review what your users told you, and what you saw them struggling with. Sometime, it's hard to believe something that makes so much sense to you could make so little sense to another player. *If your users have problems with a part of your game, or with your interface, that means there is a problem with your game, not with the users!*

However, before you use up your stock of novice testers, the team should do its best to find any obvious issues it can on its own, by reviewing the design documents, testing early prototypes, and looking for potential usability errors. When done formally, this in house testing is called a 'usability review', and it's worth doing whenever the game design changes significantly.

In an ideal world, usability reviews are done by usability experts who have experience both in games and in usability. During the summer, the primary responsibility for usability review (and leading user testing) falls on the QA Lead. The GAMBIT Lab does have a usability expert on staff: Marleigh Norton. Talk to her!

There are two other major tools to assist with usability reviews. The first one is... Research. Spend time on the web, looking for casual games and games that are similar to yours. Play them, and analyze them. How did they solve usability problems? How easy were they to start playing? How long did it take you to understand how to play the game? Do you like their solutions?

Another possible approach is to use heuristics.

Using Heuristics

heuristic - 1. *a commonsense rule (or set of rules) intended to increase the probability of solving some problem.* 2. *A shortcut*

A set of heuristics is a set of general rules that can be applied to a problem. Usability heuristics serve as a collection of guidelines that outline a set of potential problems with usability- almost like a checklist. Unlike a checklist generated for a specific game, or set of features, a set of heuristics is much more general. Using them requires the user to think both about what a particular rule means, and what it means for this game specifically - and whether or not this particular heuristic should apply for this game at all. Heuristics can serve as guides, but they can't be used blindly.

When using a set of heuristics in a game review, the first thing to happen is selecting a set of relevant heuristics. In an ideal test, there are two or three reviewers using the heuristics set, each reviewing the game independently. After that, the tester reviews the game, (or design document) one heuristic at a time, asking him or herself the following questions:

- *Is this rule being followed everywhere I look in the game?*
- *If not... why not?*
- *Does that inconsistency enhance the game? If not, it's a problem.*

Every time the reviewer finds a spot where the heuristic test fails, he or she notes it, writing up a small report much like a bug report. Here's an example of information to include; some reports might require more. The goal is to make it obvious to another reviewer what the problem was, and why it was a problem.

- Which heuristic was I testing?

- Where was I in the game when it was broken?
- What was the effect of it being broken?
- How does that detract from the game?
- (Is there a simple solution to the problem?)

When the reviewers are done, they sit down and compare their results, and decide which of the issues they found are serious enough to merit work. Having independent reviewers to compare results helps weed out false alarms, and highlight serious issues - most likely, the most serious issues will be found by multiple testers.

After that, the surviving problems can be shared with the team. One list of game heuristics is included in the document, including a set of usability heuristics. Remember, they are only guidelines, and many of them may not apply to your game, or even worse, may apply poorly. Use with care, and common sense.

Usability Testing: What, Where, How?

Good usability is not the QA Lead's job; that falls most heavily on the shoulders of the designer, the artists, and the audio designer. Testing for good usability is the QA Lead's job, and communicating the testing results back to the team is crucial. Here are some thoughts on when and how to tackle usability testing.

At the design and prototyping stage: As soon as your team has a prototype you can show to other people, use it. Use the open testing session to have another QA lead play it, or grab someone from another team. How long does it take you to explain how to use the prototype? How hard is it for players to play it? Problems like that rarely disappear when put on a computer screen.

During first playable, as you approach the usability milestone: This is a good place to attempt a 'user review', possibly using yourself and the designer, or yourself and another QA Lead. Yes, this is before the usability review, so hopefully you can find all those spots that need feedback or are difficult to locate in time for the team to implement them. Think of the usability milestone as the first time when the staff is going to officially evaluate the usability of your game. Getting the bugs out ahead of time is always better.

During the usability review milestone: Time for another round of user testing, preferably with GAMBIT team members who haven't already played your game extensively.

Open House Focus Testing: GAMBIT will have 2 scheduled Focus Testing sessions. Be ready to observe, ask questions, and think about usability with genuine naïve users!

And remember our interaction design mentor Marleigh! She's good at this!

Heuristic and Description (from Using heuristics to evaluate the playability of games)

If you use these, first go through them and decide which applies to your game. For example, a brief game may not need to worry about player fatigue and replay may not be important to your Pwner's needs.

Table 1. Heuristics for Evaluating Playability (HEP)

Usability	
1	Provide immediate feedback for user actions.
2	The Player can easily turn the game off and on, and be able to save games in different states.
3	The Player experiences the user interface as consistent (in control, color, typography, and dialog design) but the game play is varied.
4	The Player should experience the menu as a part of the game.
5	Upon initially turning the game on the Player has enough information to get started to play.
6	Players should be given context sensitive help while playing so that they do not get stuck or have to rely on a manual.
7	Sounds from the game provide meaningful feedback or stir a particular emotion.
8	Players do not need to use a manual to play game.
9	The interface should be as non-intrusive to the Player as possible.
10	Make the menu layers well-organized and minimalist to the extent the menu options are intuitive.
11	Get the player involved quickly and easily with tutorials and/or progressive or adjustable difficulty levels.
12	Art should be recognizable to player, and speak to its function.