# Video Game Usability Testing – Answering the Why

## Timothy Ballew, MA

# A little bit about me...

▸ Started 8-bit Bear Consulting, in May 2008

▸ Hold an M.A. in Human Factors Psychology

▸ Currently finishing my Ph.D. in Human-Computer Interaction

◦ Specialty is VG Usability

▸ I have been a gamer all my life

# What is Usability?

▸ **Usability is defined in many different ways:**

◦ The capability of a system or software to be understood, learned, used and attractive to a user when interacted with under specified conditions.

◦ The efficiency with which a user can perform required/desired tasks with a product.

◦ The measure of a product's potential to accomplish the goals of the user.

# What is Usability? (cont'd)

- Objective measures of usability are obtained through real user testing

    - These measures include aspects such as performance errors, time on task and productivity

- Subjective measures of usability can be obtained through focus groups and/or surveys

    - These measures focus on aspects such as user preferences, competitive analysis and interface characteristics.

# Standard Usability vs. VG Usability

▸ **Both applications and games have features that benefit from standard usability testing:**

◦ Each has an interface that must clearly and quickly inform the user as to how they interact with the game/application.

◦ Each also has a set of inputs, be it keyboard or controller, that must in some manner reflect the expectations that the user has for interacting with the game/application.

▪ This gets more interesting with the novel game controllers available, but the overall purpose is still the same… inputs, controllers and configurations should be intuitive so that users should be able to complete at least basic tasks early on and with little to no instruction.

# Standard Usability vs. VG Usability

- **Know Thy User**

  - Important for both standard usability and VG usability that, when designing, the user is known.

    - Who is the user of Bejeweled or Halo 3?  Who uses Photoshop?

- **Readability**

  - Text should be large enough that users can read it on multiple types and sizes of displays

    - This was a problem with the text in "Dead Rising" when played on SD televisions.

    - Many websites also contain text that is too small when viewed on older monitors.

# Standard Usability vs. VG Usability

- **Goal Identification**

  - User goals are defined in game as a function of their design.

    - Users should have a purpose… a driving goal that motivates further play.

  - The goals of application software are defined by the outside environment.

    - When you open MS Word, Clippy does not present to you a goal for project completion.

- **Consistency vs. Variety**

  - In regular applications, features and options are found in the same place and tasks are completed in the same manner every time.

    - This was an issue for many users with the transition from Office 2003 to Office 2007.

  - In contrast, games (should) provide a variety of experiences and mechanisms so that a player's interest is kept.

# Standard Usability vs. VG Usability

- **Number of Alternatives**

  ◦ The alternatives to software applications are sparse.

    ▪ How many different word processors can you think of?

  ◦ With games, competition is fierce and alternatives are plenty.

    ▪ How many FPS games for the XBOX360 can you name?

- **Function vs. Mood**

  ◦ Productivity applications use sound and graphics to indicate function.

    ▪ Although we don't use floppy disks much anymore, we still recognize this:

  ◦ In games, sound an graphics are used to create a sense of environment.

    ▪ Do you make sure your 5.1 surround sound is setup when you open an Excel spreadsheet?

# What is Usability?

- The capability of a system or software to be understood, learned, used and attractive to a user when interacted with under specified conditions.

# QA – Answering the What…

- Quality Assurance is an important part of the development of any game

  ◦ Allows for playtesting to be conducted throughout the development cycle.

  ◦ Identifies the **WHAT**: in-game bugs, gameplay issues, enjoyment issues, etc.

  ◦ QA rarely, however, identifies the **WHY.**

    ▪ For example, a QA tester might report that a particular level is too difficult and that they were only able to complete it in 2 out of 10 attempts.

    ▪ Although this is useful information, it does not indicate **WHY** it is too difficult or **HOW** the difficulty should be addressed.

  ◦ QA testers that do play the game throughout the development cycle could be biased in their analysis toward the end of development

    ▪ This can cause serious issues in problem identification… it is better to use some fresh faces!

# VG Usability – Answering the Why…

▶ VG usability testing takes things a step further…

- User testing with the target audience, in conjunction with information garnered from QA testing, can help to answer the **WHY.**

    - Continuing with the previous example,  VG usability testing can help identify WHY the level is too difficult; Is it because of pathfinding issues?  Is it because the more powerful weapons are difficult to find?  Is it because there are too many enemies or the enemies are too powerful?

    - In all of scenarios, a balance must be met in order to appease both the designers and the players.

- VG usability testing also allows for the identification of unique solutions to issues

    - It is not uncommon during user testing for players to use games in ways that have not been considered during development.

# 8-bit Bear – Answering the How...

- What happens with the VG usability testing information?

  ◦ The information received from testing goes straight to the developers, producers and others involved.

    ▪ These people usually observe the testing, so they have an idea ahead of time as to what issues arise.

  ◦ Open discussions take place between these people and the consultants at 8-bit Bear about each issue discovered and each topic tested.

  ◦ Working together, decisions are made as to **HOW** each issue should be addressed and what should be modified in the game to eliminate the issue.

    ▪ Input from developers, programmers, producers, etc. are always considered in regard to issue resolution.

# Game companies active in video game usability testing:

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- **Microsoft Game Studios**

  ◦ Have a dedicated user experience lab for their gaming group in Redmond, WA

  ◦ Conduct 1-on-1 and group testing throughout the development cycle

  ◦ Have produced multiple publications about the need for VG usability testing

- **Electronic Arts**

  ◦ Consider usability testing to be paramount to successful game design

- **Others: THQ, Blizzard**

# Game companies active in video game usability testing:

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- Most game companies utilizing VG usability testing are large, with equally large development budgets.

- A lower overall budget causes many independent game developers to feel that they do not have the resources to conduct usability testing.

  ◦ This is not necessarily true, as there are multiple types of usability testing that can be conducted in order to get the most out of any budget.

# A few types of usability testing...

- Heuristic Analysis (HA)

  ◦ HA involves a usability expert evaluating the game in regard to aspects such as gameplay mechanics, difficulty and overall enjoyment.

    ▪ This is a mix of objective and subjective evaluation and can provide issue identification and resolution for some of the larger issues.

- Focus Groups

  ◦ Focus groups are really only useful in the prototyping or idea generation phases.

    ▪ Issues such as groupthink and conformity can decrease the utility derived from focus groups later in the development cycle.

- Real User Testing

  ◦ This type of testing can help identify more minute issues and provide unique opportunities for problem resolution.

    ▪ Real user testing is the best and most powerful usability tool.

# Usability testing in action…

▸ Microsoft Case Study 1: Halo

◦ Designers wanted a "close quarters combat" feel in the game.

◦ User testing was conducted that identified two issues inconsistent with what the designers wanted:

▪ Players were staying away from the enemies and shooting them from afar.

▪ Players were usually choosing only one of the many weapons in the game and using it throughout.

◦ Slight modifications to the interface and enemy AI alleviated these issues.

▪ These changes to the game allowed it to better meet the expectations of both the designers and the players.

# Usability testing in action…

- Microsoft Case Study 2: Combat Flight Simulator

  - Early stage mockups of the menu interface were presented to potential players.

    - These mockups were low-fidelity and, although they did not represent what the final design of the menu system would look like, it presented the same type of information as the final menu.

  - Participants had difficulty determining what the "AI" level meant in the options menu and were unclear as to how "Low", "Medium" and "High" were related to "AI".

    - Some participants mistook this to read "A1" due to font issues while others recognized the letters but had no idea what they meant.

  - In the final design, the main text was changed to "Enemy Level" an the options were changed to "Rookie", "Veteran" and "Ace."

# Usability testing in action…

- Richard Briggs – Producer on Dead Space (Electronic Arts)

    ◦ Responsible for scripted events, level driving, mechanics and managing market research/usability testing.

    ◦ Recently was a featured speaker at the Usability Professional's Association International Conference (June 8 – 12 2009)

    ◦ Quote: "Usability testing is incredibly important because you can look at the process that we used with Dead Space and the results and the way that we incorporated the feedback.  It is difficult to argue with the success… Usability testing is a big part of how we achieved that success."

# Links of Interest...

- ## Rich Briggs: Survey Says! (Blog Post)
  - http://deadspace.ea.com/blogs/blog-en-us/archive/2008/06/05/rich-briggs-survey-says.aspx?PageIndex=2

- ## *Halo 3*: How Microsoft Labs Invented a New Science of Play (Wired)
  - http://www.wired.com/gaming/virtualworlds/magazine/15-09/ff_halo?currentPage=all

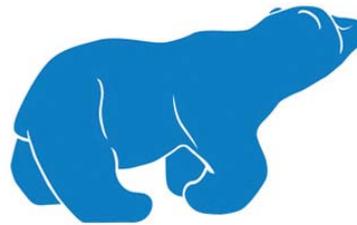- ## Usability Testing and Video Games: Designing for Fun (White Paper)
  - http://www.8-bitbearconsulting.com/papers/8-bit_Bear_Consulting-Video_Games.pdf

- ## Better Games Through Usability Evaluation and Testing (Gamasutra)
  - http://www.gamasutra.com/features/20050623/laitinen_pfv.htm

# Questions?

Timothy Ballew, MA
Contact: tim@8bitbearconsulting.com

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