Inquiry Usability Testing of the Programming Function of

Five Models of VCR’s

For the VCR Manufacture’s Association

Conducted by

Lee Ann Gillen

On

February 2 - 3, 2006
Executive Summary

This usability inquiry was designed to examine one particular function of a VCR system that often seems to present problems to VCR owners. That function was to program a VCR to record a program sometime in the immediate future. Because of the specific nature of this inquiry, the user group had to meet an initial criteria which was whether the participant believed they knew how to program their VCR to record a program sometime in the future.

The five individuals who participated were well educated and with the exception of one individual, were older than 30 years old. They all had owned a VCR for more than three years. In general, they felt confident in their ability to program their VCR for a future recording, and with the exception of one individual, they were successful in their assignment, which was to record a given show, at a particular time in the future, and to verify that they were successful with this task.

Although the five individuals represented five different models of VCR’s, all the individuals expressed a desire to be able to control the input of date, time and channel using numerical entries instead of cycling through a pre-set menu. The least amount of concern toward entering a setting was seen with the channel entry. This possibly reflected the lesser number of choices that the participant had to cycle through to find the correct selection.

Methods

The specialized user group for this study had to meet the criteria of familiarity with programming a VCR to record a show sometime in the future. In selecting this group for the study, several observations became prevalent. First, many individuals who were asked (10) had VCR’s but had never been able to figure out how to program them for future recording. Secondly, several individuals (3) no longer used VCR’s to record programs, but had TiVo systems instead. Thirdly, several individuals (4) had DVD’s and didn’t bother with VCR’s anymore. The remaining test group consisted of five individuals that met the required criteria.

This usability inquiry consisted of a questionnaire of 27 questions (see Appendix A) composed of a mix of multiple choice questions (16) and open-ended questions (11) that were sent by e-mail to three participants and delivered by hand to two participants. There was a 100% return rate on the questionnaire. The questionnaire was composed of three sections in order to collect different types of information. Section I was designed to collect some general information about the participants and consisted of four questions. Section 2 examined some specific information about the participants use of their VCR in general and their affective response (confidence level) to programming their VCR. It consisted of four questions. Section 3, with nineteen questions, examined the basic steps required to program a VCR, namely entering the date for recording, the starting time, the ending time and the channel entry. It contained a scenario for the participant to use, while they were answering the questions. The scenario gave them a real-life example to help them really focus on the steps that were needed to program their VCR. It also contained ten open-ended questions to attempt to elicit specific feedback from the participants. The response on these questions was adequate considering that there was no follow-up on their responses for further elucidation.
Results

The majority of participants were older than 30 years old with from 16 to greater than 20 years of education. All owned their VCR’s for more than three years. The brands represented were all different from each other and only two were from the same company, Panasonic. Because this was a small study, the specific results are tabulated and shown in Appendix B. The participants varied in their VCR programming usage - with once every few months being the most common. The majority were confident in their ability to program with belief in their total success or only experiencing minor failures. Only one individual felt that he had a hit or miss record of success. None of the participants felt that they needed to follow the instruction manual at this point in their experience, two of them had explicit knowledge because they felt the programming steps were obvious, and the three others had implicit knowledge because they had performed the tasks so many times, they didn’t need to see the instruction manual any more. It is interesting to note, that one of the two participants who felt that the steps were explicitly stated, failed in his attempt to record the show because the on-screen instructions failed to tell him to press a special button to activate the programming mode, once he had set up the parameters for the show to be recorded.

In examining the actual process of programming the VCR to record, examined in Section 3, several items are worth mentioning. In order to get to the programming menu itself, a minimum of two steps were required first of most of the participants. One individual had to go through at least three just to get to that menu. The feedback for accomplishing the various steps seemed to be adequate, with a flashing cursor over the step that needed to be entered. However, three of the participants had to push enter each time for the input to “take”, one had to manually move the cursor with an arrow key, and only one system automatically moved to the next input step on its own. Four of the five participants had an on-screen menu to guide them visually and give them feedback in their tasks. When the participants had to enter the data, three of them had default values of the current date, time and channel appear. They then had to cycle through a menu of choices to set the date, the starting and stopping time and the correct channel. One participant who did not have a default value appear was able to easily enter a complete date and a complete time with one series of key strokes, while the other participant who did not have a default value appear entered the month and the day, and the hour and the minutes separately with a series of separate steps.

Findings and Recommendations

The findings, with one exception, from this study based on the multiple choice responses recorded in Section 3, appear to be that there are a great number of steps and cycling necessary to program a show for recording. Are these steps considered excessive by the participants in the study? The responses to the open-ended questions indicate that they are. The most prevalent response to the questions focusing on both the “if you could design you own … “ and “what do you dislike about …” referred to entering data. The participants wanted the freedom to enter the date, times and channels themselves. Several of the participants felt that the interface used was easy to follow, but they did not want to cycle through a list of choices for any of these inputs. This response was consistent across all the data entry steps. In addition to entering the data manually, the participants all wanted to minimize the number of times they had to press “enter” or some other indicator that a number entry was accepted. The only system mentioned that
allowed for manual data entry and also appeared to minimize the number of “enter” commands that were needed because the system automatically advanced to the next input, was the Optimus 102 model. The other area of concern was the ability to correct data entry mistakes easily. Four of the five participants had to start over with the data entry process if there was a mistake made during input. Once again, only one of the participants had a system, the Optimus 102 model VCR, which allowed for corrections with an easy cancel or equivalent key press.

Based on this data there are two recommendations to be made to the VCR manufacture’s association for future product development.

1. Design the program data entry interface to allow manual input of the date, time and channel information.
2. Include some kind of a “cancel” or ‘backup’ key that allows for easy correction of a mistake in data entry, even if it is not discovered until several entries later.

See Appendices A & B for Questionnaire and Raw Data Results.
Appendix A

Questionnaire on Pre-programming Your VCR

This is a short questionnaire that I would like to be completed by the individual in the home who programs the VCR for recording a program in the future. It is designed to elicit information about features on a VCR that help or hinder the respondent in completing their task. I am doing this for a class project in ENG 508, Usability Testing. I appreciate your help and time in completing this questionnaire.

Instructions for completion: If you are completing this questionnaire using a paper format, than simply circle your chosen response. If you are filling this out online, please use this check mark: √ by copying it and pasting it next to your correct choice.

Section 1
These questions are designed to collect some information about the participant who is completing this survey.

1. Who is the respondent on this questionnaire?
   a. man older than 30
   b. woman older than 30
   c. individual between 18 and 30
   d. individual less than 18

2. How many years of formal education do you have?
   a. less than 12 years
   b. between 12 and 15 years
   c. between 16 and 20 years
   d. more than 20 years

3. How many years have you had a VCR?
   a. less than 1 year
   b. between 1 and 3 years
   c. more than three years

3a. What brand and model of VCR do you have and when approximately did you purchase it? (open-ended question)
Section 2

This section will look at some general information about your use of your VCR and how you feel about programming a show.

5. How often do you usually program your VCR to record a show?
   a. once a week
   b. more than once a week
   c. once a month
   d. once every three months

6. When you program your VCR, how often are you successful in recording the show that you want?
   a. never fail!
   b. bulls-eye most of the time
   c. hit or miss

7. Does your VCR allow you to program using the VCR codes found in the TV Guide/Channels, etc. listing?
   a. Yes
   b. No

8. Can you program a show to record on your VCR without looking at the instructions or do you follow a step-by-step procedure each time you want to program?
   b. I have the instructions I need to know written down and just read through those when I am ready to program.
   c. I don’t need an instruction manual, the steps are obvious
   d. I’ve done this so many times, I can do it in my sleep.
Section 3

These questions are designed to examine the basic steps that are required to program a VCR. They assume that you are familiar with the basic operation of your VCR which would include inserting a tape, and using your remote control.

In order to program a show for future recording, certain steps or items of information are needed by your VCR in order to perform this function. These are:

- the date for recording
- the starting time
- the ending time
- the channel

Please answer these questions as you go through the procedure of setting up a program to record. Here is the task that you want to accomplish:

Record on Friday afternoon, February 3, the News on CBS that runs from 5:00 pm to 5:30 pm. That will be on WRAL TV 5. You will need to look at the appropriate cable channel for that station if you have cable. If this time does not work with your schedule, please feel free to choose another time. However, I will need your response by noon on Saturday, February 4.

8. When you want to get to the menu on your VCR that allows you to actually input the information about the show you want to record, how many steps does it take to get there? i.e. one step would be to push a button on your remote to access one menu, a second step would be selecting an item from that menu to get to another menu, and so on.

   a. one step
   b. two steps
   c. three steps
   d. more than three steps

9. Does your programming menu appear on screen?

   a. Yes
   b. No

10. Does the menu, as you work through it entering dates, and times, etc., prompt you so you know where you are? There may be more than one answer here.

   a. flashes over the step that I am on.
   b. automatically moves to the step that I need to do next when I enter data
   c. I have to move the cursor to where I want to enter data using arrow keys
   d. I have to press enter after each step to get to the next step.
11. How do you enter the date that you want to record?
   a. I can enter manually the month, date and year in a 02/04/06 format, press enter
   b. by default, today’s date appears and I can press a button to advance the date to the one that I need.
   c. enter separately the month, the date and the year - three separate steps
   d. another method

12. If you could design your own date entry system, what would you like to see? (open-ended question)

13. What do you like about your date entry system? (open-ended question)

14. What do you dislike about your date entry system? (open-ended question)

15. How do you enter the start and stop time for your program?
   a. I can enter the times as 5:00 or 5:30 and then choose AM or PM
   b. I have to enter the time as a 24 hour clock, i.e. 17:00 or 17:30
   c. the current time is entered as a default and I have to walk up or down to my time using the arrow keys or something equivalent to the arrow keys
   d. I have to enter the hour and minutes separately

16. If you could design your own time entry system, what would you like to see? (open-ended question)

17. What do you like about your time entry system? (open-ended question)

18. What do you dislike about your time entry system? (open-ended question)

19. How do you enter the channel for your program?
   a. I can just enter the channel number
   b. the channel the VCR is on appears as a default and I have to move up or down with the arrow keys to my channel
   c. another method

20. If you could design your own channel entry system, what would you like to see? (open-ended question)
21. What do you like about your channel entry system? (open-ended question)

22. What do you dislike about your channel entry system? (open-ended question)

23. If you make a mistake on an entry, how do you correct it, especially if you have moved beyond that particular entry?
   a. I have to start over from the beginning
   b. I can back up using the cancel key (or an equivalent key)
   c. I have to cycle back to the beginning, but can use the enter key if I don’t want to change any information on a particular step
   d. I can’t correct a mistake

24. Once you have programmed your show, how many steps do you need to do to “set” the VCR so that it will come on automatically?
   a. one step
   b. two steps
   c. three steps
   d. more than three steps

25. Were you successful in your recording of this sample show?
   a. Yes
   b. No

25. Thank you for your participation in this questionnaire. Are there any other comments, suggestions, complaints or praises that you would like the manufacturer of your VCR to be aware of? (open-ended question)

Please return this questionnaire to me, Lee Ann Gillen by e-mail at lagillen@aol.com by Saturday, February 4 at noon, or I will pick up your paper copy from your home on either Friday night after 6:00 or on Saturday morning.

Again, thank you for your participation in this questionnaire.
Appendix B

Results from Questionnaire on Pre-programming Your VCR

This is a short questionnaire that I would like to be completed by the individual in the home who programs the VCR for recording a program in the future. It is designed to elicit information about features on a VCR that help or hinder the respondent in completing their task. I am doing this for a class project in ENG 508, Usability Testing. I appreciate your help and time in completing this questionnaire.

Instructions for completion: If you are completing this questionnaire using a paper format, than simply circle your chosen response. If you are filling this out online, please use this check mark: √ by copying it and pasting it next to your correct choice.

Section 1
These questions are designed to collect some information about the participant who is completing this survey.

1. Who is the respondent on this questionnaire?
   a. man older than 30
   b. woman older than 30
   c. individual between 18 and 30
   d. individual less than 18

2. How many years of formal education do you have?
   a. less than 12 years
   b. between 12 and 15 years
   c. between 16 and 20 years
   d. more than 20 years

3. How many years have you had a VCR?
   a. less than 1 year
   b. between 1 and 3 years
   c. more than three years

3a. What brand and model of VCR do you have and when approximately did you purchase it? (open-ended question)

Toshiba SD-V280, Optimus 102, Panasonic (20 yrs. old), Panasonic OmniVision, Magnavox
Section 2

This section will look at some general information about your use of your VCR and how you feel about programming a show.

5. How often do you usually program your VCR to record a show?
   a. once a week 1
   b. more than once a week 1
   c. once a month 1
   d. once every three months 11

6. When you program your VCR, how often are you successful in recording the show that you want?
   a. never fail! 11
   b. bulls-eye most of the time 11
   c. hit or miss 1

7. Does your VCR allow you to program using the VCR codes found in the TV Guide/Channels, etc. listing?
   a. Yes
   b. No 11111

8. Can you program a show to record on your VCR without looking at the instructions or do you follow a step-by-step procedure each time you want to program?
   b. I have the instructions I need to know written down and just read through those when I am ready to program.
   c. I don’t need an instruction manual, the steps are obvious 11
   d. I’ve done this so many times, I can do it in my sleep. 111
Section 3

These questions are designed to examine the basic steps that are required to program a VCR. They assume that you are familiar with the basic operation of your VCR which would include inserting a tape, and using your remote control.

In order to program a show for future recording, certain steps or items of information are needed by your VCR in order to perform this function. These are:

a. the date for recording  
b. the starting time  
c. the ending time  
d. the channel

Please answer these questions as you go through the procedure of setting up a program to record. Here is the task that you want to accomplish:

Record on Friday afternoon, February 3, the News on CBS that runs from 5:00 pm to 5:30 pm. That will be on WRAL TV 5. You will need to look at the appropriate cable channel for that station if you have cable. If this time does not work with your schedule, please feel free to choose another time. However, I will need your response by noon on Saturday, February 4.

8. When you want to get to the menu on your VCR that allows you to actually input the information about the show you want to record, how many steps does it take to get there? i.e. one step would be to push a button on your remote to access one menu, a second step would be selecting an item from that menu to get to another menu, and so on.

a. one step 1  
b. two steps 11  
c. three steps 1  
d. more than three steps 1

9. Does your programming menu appear on screen?

a. Yes 1111  
b. No 1

10. Does the menu, as you work through it entering dates, and times, etc., prompt you so you know where you are? There may be more than one answer here.

a. flashes over the step that I am on. 111  
b. automatically moves to the step that I need to do next when I enter data 1  
c. I have to move the cursor to where I want to enter data using arrow keys 1  
d. I have to press enter after each step to get to the next step. 111
11. How do you enter the date that you want to record?
   a. I can enter manually the month, date and year in a 02/04/06 format, press enter
   b. by default, today’s date appears and I can press a button to advance the date to the one that I need.
   c. enter separately the month, the date and the year - three separate steps
   d. another method

12. If you could design your own date entry system, what would you like to see? (open-ended question)
   • Simple way to go back and correct mistakes (Toshiba)
   • I would like the current data to show, or the week or month’s calendar (Optimus)
   • No response (Panasonic)
   • I would like to be able to use the digit keys to enter the date (Magnavox)
   • I would like to be able to increase and decrease the date instead of having to cycle through (Panasonic OnmiVision)

13. What do you like about your date entry system? (open-ended question)
   • I can enter the whole date without having to press enter or advance with the arrow keys or something (Optimus)
   • No response (Panasonic, Toshiba)
   • The default date is the current date (Panasonic OnmiVision)
   • While it does not maximize user-friendliness, it is easy to follow (Magnavox)

14. What do you dislike about your date entry system? (open-ended question)
   • No response (Panasonic, Toshiba)
   • It doesn’t give me the current date - so I always have to get up and look at a calendar to know what date it is or when I have to record (Optimus)
   • If I accidentally hit the wrong button, I have to cycle through all of the date choices. (Magnavox)
   • I can not use the digit keys to enter the date. (Panasonic OnmiVision)

15. How do you enter the start and stop time for your program?
   a. I can enter the times as 5:00 or 5:30 and then choose AM or PM
   b. I have to enter the time as a 24 hour clock, i.e. 17:00 or 17:30
   c. the current time is entered as a default and I have to walk up or down to my time using the arrow keys or something equivalent to the arrow keys
   d. I have to enter the hour and minutes separately

16. If you could design your own time entry system, what would you like to see? (open-ended question)
   • No response (Panasonic, Toshiba)
   • 24 hour clock (Optimus)
• Same as date—I would like to be able to increase and decrease time instead of having to cycle through the whole hour. (Panasonic OnmiVision)
• I would like to be able to use the digit keys to enter the time. (Magnavox)

17. What do you like about your time entry system? (open-ended question)

• No response (Panasonic) 1
• Not much (Toshiba)
• It’s easy to use (Optimus)
• While it does not maximize user-friendliness, it is easy to follow. (Magnavox)
• The AM and PM settings are clear. (Panasonic OnmiVision)

18. What do you dislike about your time entry system? (open-ended question)

• No response (Panasonic) 1
• You have to scroll (Toshiba)
• I like it (Optimus)
• Having to cycle through the time without being able to increase and decrease hour and minutes. (Panasonic OnmiVision)
• I can not use the digit keys to enter the time. (Magnavox)

19. How do you enter the channel for your program?

a. I can just enter the channel number 11
b. the channel the VCR is on appears as a default and I have to move up or down with the arrow keys to my channel 11
c. another method 1

20. If you could design your own channel entry system, what would you like to see? (open-ended question)

• No response (Panasonic, Optimus) 11
• What I have is fine (Toshiba)
• This feature works well. (Panasonic OnmiVision)
• I would like to be able to use the digit keys to enter the channel. (Magnavox)

21. What do you like about your channel entry system? (open-ended question)

• No response (Panasonic) 1
• Simple (Toshiba)
• It’s easy to use (Optimus)
• While it does not maximize user-friendliness, it is easy to follow. (Magnavox)
• It gives me the choice to increase and decrease channels. (Panasonic OnmiVision)
22. What do you dislike about your channel entry system? (open-ended question)

- No response (Panasonic) 1
- Nothing (Toshiba, Optimus)
- This feature works well (Panasonic Omni-Vision)
- I can not use the digit keys to enter the channel (Magnavox)

23. If you make a mistake on an entry, how do you correct it, especially if you have moved beyond that particular entry?

   a. I have to start over from the beginning 1
   b. I can back up using the cancel key (or an equivalent key) 1
   c. I have to cycle back to the beginning, but can use the enter key if I don’t want to change any information on a particular step 111
   d. I can’t correct a mistake

24. Once you have programmed your show, how many steps do you need to do to “set” the VCR so that it will come on automatically?

   a. one step 11
   b. two steps 1
   c. three steps 11
   d. more than three steps

25. Were you successful in your recording of this sample show?

   a. Yes 1111
   b. No 1 (Toshiba)

25. Thank you for your participation in this questionnaire. Are there any other comments, suggestions, complaints or praises that you would like the manufacturer of your VCR to be aware of? (open-ended question)

   - No response (Panasonic, Optimus, Panasonic OmniVision, Magnavox) 1111
   - How was I to know to punch the Timer VCR button to set the VCR. It didn’t tell me on screen. (Toshiba)

Please return this questionnaire to me, Lee Ann Gillen by e-mail at lagillen@aol.com by Saturday, February 4 at noon, or I will pick up your paper copy from your home on either Friday night after 6:00 or on Saturday morning.

Again, thank you for your participation in this questionnaire.