

The University of W.A.

## Software Quality and Measurement 400

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### Assignment Two (Part two) - Procedure Assessment

#### Programming a VCR

**This assignment is worth 10% of the final mark for this unit.  
It is to be completed on or before Monday 31st May 2004.**

#### **Preliminaries**

This trial is designed to assess the efficiency of sets of instructions in guiding non-computer literate people in programming a video cassette recorder.

The set of instructions was produced as an assignment earlier in the semester with possible extensions after (i) reading the efforts of other people, (ii) a desktop-checklist review, (iii) feedback from the lecturer and (iv) lectures and a laboratory class on the quality of user documentation.

#### **Hypothesis**

Define the null hypothesis. One possibility is that the effectiveness of the instructions is no better than what is expected from using the VCR manufacturer's User Guide. Prior to carrying out the trial, state the worst acceptable & planned levels of performance.

#### **Method**

Each student will persuade four or more friends or family members to act as subjects in programming your videocassette machine to record a half-hour programme.

The subjects must be between 15 and 50 years old and familiar with the technology, but should not have programmed this model of VCR before. It is important that the subjects know that it is the instructions and the machine that is being evaluated and that this is not a test of their programming ability. They should be given a short description of the trial. The benefit for the subjects is in gaining a set of clearer instructions and some training in how to use them. If they are doubtful or in any way negative towards the task, then they should be excused and a backup subject used.

Subjects must only be given the introduction written below plus the procedure. Subjects must not be allowed to communicate with each other until after the whole session is complete. Should there be any suspicion that the data may be contaminated, then the trial must be restarted with new subjects. Times, numbers and types of errors made, final result [task not completed within 15 minutes, task completed but did not correctly record required programme, programme correctly recorded] and subjects' comments on the usefulness of the instructions are to be written on the data sheet. After the conclusion of the trial, subjects should be provided with any further explanation or assistance they request.

### **Statistics**

Variation between results may be ascribed to differences between machines, between experimenters and between subjects. If the subjects are not allowed to communicate then there should be no learning effect. Large variation between machines and experimenters is expected.

Carry out an appropriate statistical test of the results, comparing them to the required performance level for the procedure.

### **Prior to starting:**

Check that TV and video recorder are working correctly, that the clock is set correctly, that they are switched on and that an appropriate, rewind, blank tape is loaded. Switch TV to video recorder channel. Switch video recorder to channel 10. Check you have a wristwatch, which measures in seconds.

### **Deliverable:**

At least four data sheets based on the pattern below should be completed and handed in together with a report commenting on the method, summarising results and discussing the quality of the instructions available. Specifically comment:

- (i) on what you would do to enhance your procedure and
- (ii) on how the trial could have been improved.

### **Instructions to subjects**

[Explain to the subject that it is important that everyone receives exactly the same information - which you will now read out]

"Thank you for taking part in this trial of video programming instructions. It should not take more than about twenty minutes of your time. The objective is for us to measure the ease of use of the machine and the effectiveness of the set of instructions in helping you to set up this video recorder. It is not our objective to check your performance and in fact we hope that this may be of some assistance to you in becoming familiar with this sort of machine. You will not be identified in any way in the results. A complete set of findings will be passed to you when completed in about a fortnight's time. We simply want to find out what sorts of instructions work best. OK?"

[Wait for assent]

"We would like you to use the instructions which I am about to give you to set up this machine to automatically record the broadcast on channel two, starting at 11.45 tonight and stopping the machine at 12.15am tomorrow. The machine is already switched on and there is a blank tape loaded inside. All you have to do is provide it with the correct instructions. There is no time limit and you may stop at any time if you think the instructions are insufficient. I cannot give you any assistance once you have started. Do you have any questions?"

[Answer any reasonable questions about the trial or the task, short of telling them how to do it. Reassure, if necessary, that we are not testing them.]

"OK - I suggest that you read right through the instructions before starting. Just to repeat, we want the machine to record:

## **Channel 2**

**Start recording 11.45pm tonight**

**Stop recording 12.15am tomorrow.**

[Upon completion or after about twenty minutes:]

"Thank you for helping us. Had you ever set up a video recorder before for automatic recording? If so, how long ago? Do you have any comments about these instructions?"

[Note answers]

## Data Collection Sheet

**Your (the experimenter's) name** \_\_\_\_\_

**Number of subject (1st, 2nd, 3rd, 4th, 5th)** \_\_\_\_\_

**Age (teens, twenties, over thirty)** \_\_\_\_\_

**Sex (male, female)** \_\_\_\_\_

**Time started** \_\_\_\_\_

**Time stopped** \_\_\_\_\_

**Announced that task completed (yes, no)** \_\_\_\_\_

**Programme correctly recorded (yes, no)** \_\_\_\_\_

**Number of errors made** \_\_\_\_\_

**Comments by subject**

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**Comments by experimenter**

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