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Kenny Bellew

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Topics in Technical Communication: User Research and Usability

with Professor Tori Sadler

### **Group 1's Test for Paper Prototyping**

Purpose of the plan: We will use paper prototyping to test the usability of the automated library checkout system.

Test objectives: To determine if users have difficulty using the automated library checkout system. The main objective is to uncover problems. Our goal is that the users will be able to scan their library card in less than 60 seconds and scan their first item in less than 60 seconds after scanning their library card.

Testing method(s): We will use the talk-aloud protocol and paper prototyping. We will measure two subtasks (timed events). We will videotape the test for further evaluation.

Task lists:

- Task 1: You are a student checking out a library book. You've just approached the checkout desk, and there are no librarian staff at the desk. You have never before used an automated checkout system. See if you can successfully checkout your book.
- Task 2: You've just approached the library desk, and you see that the desk has an automated checkout. You feel confident that you can figure out how to use it, because you have used them in other libraries. However, upon scanning your card, you discover that your card will not work on this library system. Your task is to resolve this.

Test environment: The test environment will be a classroom with several long tables. There will be multiple test groups present. The tester will potentially be distracted by discussions from other groups. The paper prototype will be placed on a long desk, and the participant will be seated in front of the paper prototype. The participant will see paper cutouts of a scanner, simulated laser lines, simulated books with titles, a library card, simulated receipts (one for each book), a fake payment check, a pen, questionnaire forms and small scraps of paper with words and numbers we will use during the test.

Test member rolls: Greg will be the test administrator. Kenny will be the timer and the computer. John will videotape the proceedings.

Data collected: We will collect pre-test data that will inform us of the user's experience with library checkout systems and the user's experience with computers. We will collect post-task data to determine if the user had difficulty at points where we expect the user may have trouble. We will collect post-test data to see how easy or hard the user felt each of the subtasks were.

**Performance Measures**

Product	Automated Library Checkout
General Concerns	<ul style="list-style-type: none"> <li>• Ease of use for users who have never used a checkout system before?</li> <li>• Will users be able to scan library card?</li> <li>• Will users be able to scan book barcode?</li> <li>• Will users be able to conclude checkout by pressing Finish button?</li> <li>• Will users take receipt?</li> </ul>
Measure	<ul style="list-style-type: none"> <li>• Time to scan card?</li> <li>• Time to scan book properly and conclude checkout?</li> <li>• M = Chooses incorrect menu item</li> <li>• S = Uses incorrect procedure for selecting menu choices</li> <li>• H = Asks for help</li> <li>• F = Expresses frustration</li> </ul>

### Pre-test Questionnaire

1. Do you have a library card?
  - Yes\_\_\_\_\_ No\_\_\_\_\_
2. From 1 to 5 (with 1 being never, 3 being yearly or more and 5 being monthly) How often do you pay library fines?
  - Circle one: 1 2 3 4 5
3. Have you ever used a library automated checkout system before?
  - Yes\_\_\_\_\_ No\_\_\_\_\_
4. If yes, from 1 to 5, with 1 being the least familiar and 5 being very familiar, how would you rate your experience with automated library checkout systems?
  - Circle one: 1 2 3 4 5
5. From 1 to 5 (with 1 being never and 5 being daily), how frequently do you use a computer system?
  - Circle one: 1 2 3 4 5

### Post-task questionnaire:

1. Did you have difficulty deciding between the ISBN barcode and the main barcode?
  - a. Yes\_\_\_\_\_ No\_\_\_\_\_
2. Were you confused about determining when the checkout process was completed?
  - a. Yes\_\_\_\_\_ No\_\_\_\_\_

### Post-test questionnaire

Please circle the number that represents the ease or difficulty you found the following tasks.

1= very easy

3 = moderate difficulty

5 = very difficult

Scanning your library card	1	2	3	4	5
Finding correct barcode on the book	1	2	3	4	5
Scanning the book	1	2	3	4	5
Concluding with Finish button	1	2	3	4	5
Taking the receipt	1	2	3	4	5

The following is the outline we will follow for the test.

1. Present the Informed Consent forms and video consent forms
2. Read the orientation script
3. Give the participants a pre-test questionnaire
4. Give the participant a task card
  - a. Task 1: You are a student checking out a library book. You've just approached the checkout desk, and there are no librarian staff at the desk. You have never before used an automated checkout system. See if you can successfully checkout your book.
  - b. Task 2: You've just approached the library desk, and you see that the desk has an automated checkout. You feel confident that you can figure out how to use it, because you have used them in other libraries. However, upon scanning your card, you discover that your card will not work on this library system. Your task is to resolve this.
5. Give the test participants each a library card
6. Give the participants a book
7. Allow the participant to attempt the book scan
8. Time how long it takes the user to scan library card and then scan a book
9. Give the participant a post-task questionnaire
10. Record any wrong choices or mistakes
11. Record observations of frustration, confusion or satisfaction
12. Wait for user to press Finish button
13. Give the participant a post-task questionnaire
14. Wait for participant to take receipt
15. Give the participant a post-test questionnaire