

**User Profile**

Human and Computer Interaction (CS-E)

FAST National University

**Submitted to**

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# User Category

User category includes childrenof age 4 to 7.

# User Characteristics

Users have the following characteristics:

|  |  |  |
| --- | --- | --- |
| Sr# | Good at | Bad at |
|  | Using tech devices like smart phones, laptops, tablets etc. | Memorization |
|  | Using colorful things | Typing speed |
|  | Enjoying and comprehending:   * animations, * musical sounds, * cartoons, * games, * puzzles, * pattern solving etc. | Reading skills |
|  | Trying multiple screen features | Understanding instructions  (e.g. long textual paragraphs) |
|  | Showing creativity and innovation in their approach towards things | Navigating |
|  | Learning more from images rather than texts | Maintaining focus |

# **Questionnaire**

Q1. What is your favoritetheme color?(To decide the UI theme)

1. Red
2. Green
3. Blue
4. Other (Please specify: \_\_\_\_\_\_\_\_\_\_\_\_\_)

Q2. Do you like to watch cartoons?(To check if simulations fascinate them or not)

1. Yes
2. No
3. No answer

Q3. Which of the following types of technology do you use?(Choose all that apply)

1. Smart Phone
2. Tablet
3. Laptop
4. Gaming Console
5. Desktop

Q4. How frequently do you use any tech device? (To check their level of interest/usage)

1. Do not have one
2. Rarely
3. Weekly
4. Daily

Q5. How often do the following happen?

1. I ask other people for help with computers
2. Never
3. Rarely
4. Sometimes
5. Often
6. Always
7. Other people ask me for help with computers
8. Never
9. Rarely
10. Sometimes
11. Often
12. Always

Q6. For what purpose, do you use tech devices?(Choose all that apply)

1. To play games
2. To download games and then play
3. To learn
4. Other (Please specify: \_\_\_\_\_\_\_\_\_\_\_\_\_)

Q7. Open an app which they do not have used earlier like Tumblr and see how they use it for the first time?

1. Trial and error
2. Asking for help
3. Reading instructions
4. Pressing different buttons
5. Other(Please specify: \_\_\_\_\_\_\_\_\_\_\_\_\_)

Q8. After showing them the steps to do navigation on an app like Tumblr, ask them to repeat the steps.(To check if they can memorize steps of performing an activity)

1. Could not repeat
2. Repeated some steps correctly
3. Successfully repeated all the steps

Q9. Type the following text on a word document.

I am a Pakistani. I live in Lahore. I love my parents.

Observe the typing speed of the child. (To check their typing speed)

1. Could not type
2. Slow
3. Average
4. Fast

Q10. Observe the kid’s attention when asked to play with Lego blocks. (To check how much attention they give to an activity and for how long)

1. Got distracted easily (< 15 seconds)
2. Took longer to be distracted (16-60 seconds)
3. Paid attention for a longer period (1-2 minutes)
4. Took a very long time to be distracted (> 2 minutes)

Q11.Provide many different kinds of shapes and ask them to group the same. (To check if they can easily discriminate b/w items)

1. Unable to group
2. Partially able
3. Grouped successfully

Q12. Which way story “The hare and the tortoise” fascinates the kid more from learning viewpoint? (This will help us in determining the way we should proceed to deliver lecture)

Video link: <https://www.youtube.com/watch?v=Sv5OItL7eWE>

Text Link: <http://www.kidsworldfun.com/shortstories_hareandtortoise.php>

1. Video explanation
2. Text explanation

Q13.



Spot the differences.(To check their power of observation)

1. Could not differentiate
2. Spotted some differences
3. Marked all differences

Q14. Which picture is better?

|  |  |
| --- | --- |
|  |  |
| Picture 1 | Picture 2 |

A. Picture 1

B. Picture 2

Q15. The answer to the question 4 + 3 - 8 equals to, posed to the child. (To check their + - use)

1. Approximately near to answer
2. Correct
3. Incorrect
4. Unable to answer

Q16. The answer to the question 0 \* 6 / 2 equals to, posed to the child. (To check their \* / skills)

1. Approximately near to answer
2. Correct
3. Incorrect
4. Unable to answer

Q17. How many numbers a kid could tell that sum up to 20?

1. None
2. 1 to 3
3. 4 to 6
4. 6 to 9
5. More

Q18. Play a game on <http://www.knowledgeadventure.com/games/math-lines/> and note the correct moves made by them.

1. 0 to 2
2. 3 to 4
3. 5 to 8
4. 9 to 10
5. More than 10

Q19.Following list was given at the start to the kid to remember. (To check their memory)

**List of words:**

1. Apple
2. Bat
3. Cat
4. Door
5. Potato
6. Tree
7. Purple
8. Ketchup
9. Lion
10. Table

Ask him to recall the list. Number of words recalled?

1. 0-2
2. 3-4
3. 5-6
4. 7-8
5. More than 8

# **Data Entry**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| User  Q# | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|  | B | C | C | A | B | C | B | C |
|  | A | C | A | A | A | A | A | A |
|  | A | A, C, D | A, C | B, C | B,E | A, C | A, C | C, D |
|  | D | D | C | B | D | D | D | D |
| 1. i. | D | D | C | D | D | C | C | D |
| ii. | A | B | C | A | A | D | B | C |
|  | A,C | C | B | A | B | A | A,C | A |
|  | D | D | A | D | B | B | A | D |
|  | B | B | C | B | C | C | B | B |
|  | C | A | B | A | B | B | B | A |
|  | A | A | D | A | C | B | A | A |
|  | C | C | C | B | C | C | C | C |
|  | A | A | A | A | A | B | A | A |
|  | C | C | C | B | B | B | B | C |
|  | B | B | B | B | B | B | B | B |
|  | B | B | A | B | D | B | A | B |
|  | D | B | C | C | C | A | C | C |
|  | D | B | D | A | A | B | A | D |
|  | B | B | D | B | B | B | B | B |
|  | C | C | C | A | E | E | C | A |

# **Summary**

Q1. What is your favorite theme color?

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Red | 1. Green | C. Blue | D. Other |
| 12.5% | 37.5% | 50% | 0% |

Q2. Do you like to watch cartoons?

|  |  |  |
| --- | --- | --- |
| 1. Yes | 1. No | C. No answer |
| 87.5% | 0% | 12.5% |

Q3. Which of the following types of technology do you use?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  Smart Phone | B.  Tablet | Laptop | Gaming Console | Desktop |
| 62.5% | 25% | 75% | 25% | 12.5% |

Q4. How frequently do you use any tech device?

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Do not have one | 1. Rarely | 1. Weekly | 1. Daily |
| 0% | 12.5% | 12.5% | 75% |

Q5. How often do the following happen?

1. I ask other people for help with computers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  Never | B.  Rarely | C.  Sometimes | D.  Often | E.  Always |
| 0% | 0% | 37.5% | 62.5% | 0% |

1. Other people ask me for help with computers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  Never | B.  Rarely | C.  Sometimes | D.  Often | E.  Always |
| 37.5% | 25% | 25% | 37.5% | 0% |

Q6. For what purpose, do you use tech devices?(Choose all that apply)

|  |  |  |  |
| --- | --- | --- | --- |
| To play games | B.  To download games and then play | C.  To learn | D.  Other |
| 62.5% | 25% | 37.5% | 0% |

Q7. Open an app which they do not have used earlier like Tumblr and see how they use it for the first time?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  Trial and error | B.  Ask for help | C.  Read instructions | D.  Pressing diff. buttons | E. Other |
| 25% | 25% | 0% | 50% | 0% |

Q8. After showing them the steps to do navigation on an app like Tumblr, ask them to repeat the steps.

|  |  |  |
| --- | --- | --- |
| A.  Could not | Repeated some | C.  Repeated all |
| 0% | 62.5% | 37.5% |

Q9. Type the following text on a word document.

I am a Pakistani. I live in Lahore. I love my parents.  
 Observe the typing speed of the child.(To check their typing speed)

|  |  |  |  |
| --- | --- | --- | --- |
| Could not type | 1. Slow | 1. Average | 1. Fast |
| 37.5% | 50% | 12.5% | 0% |

Q10. Observe the kid’s attention when asked to play with Lego blocks.(To check how much attention they give to an activity and for how long)

A. Got distracted easily (< 15 seconds)

B. Took longer to be distracted (16-60 seconds)

1. Paid attention for a longer period (1-2 minutes)
2. Took a very long time to be distracted (> 2 minutes)

|  |  |  |  |
| --- | --- | --- | --- |
| A | B | C | D |
| 62.5% | 12.5% | 12.5% | 12.5% |

Q11. Provide many different kinds of shapes and ask them to group the same.

|  |  |  |
| --- | --- | --- |
| 1. Unable | 1. Partially | 1. Grouped successfully |
| 0% | 12.5% | 87.5% |

Q12. Which way story “The hare and the tortoise” fascinates the kid more from learning viewpoint?

Video link: <https://www.youtube.com/watch?v=Sv5OItL7eWE>

Text Link: <http://www.kidsworldfun.com/shortstories_hareandtortoise.php>

|  |  |
| --- | --- |
| 1. Video explanation | 1. Text explanation |
| 87.5% | 12.5% |

Q13.



Spot the differences.

|  |  |  |
| --- | --- | --- |
| 1. Could not | 1. Spotted some | 1. Marked all |
| 0% | 50% | 50% |

Q14. Which picture is better?

|  |  |
| --- | --- |
|  |  |
| Picture 1 | Picture 2 |

|  |  |
| --- | --- |
| 1. Picture 1 | 1. Picture 2 |
| 0% | 100% |

Q15. The answer to the question 4 + 8 - 0equals to, posed to the child.

|  |  |  |  |
| --- | --- | --- | --- |
| A.  Approximately near | B.  Correct | C.  Incorrect | D.  Unable to answer |
| 25% | 62.5% | 0% | 12.5% |

Q16. The answer to the question 0 \* 6 / 2 equals to, posed to the child.

|  |  |  |  |
| --- | --- | --- | --- |
| A.  Approximately near | B.  Correct | C.  Incorrect | D.  Unable to answer |
| 12.5% | 12.5% | 62.5% | 12.5% |

Q17. How many numbers a kid could tell that sum up to 20?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  None | B.  1-3 | C.  4-6 | D.  6-9 | E.  More |
| 37.5% | 25% | 0% | 37.5% | 0% |

Q18. Play a game on <http://www.knowledgeadventure.com/games/math-lines/> and note the correct moves made by them.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  0-2 | B.  3-4 | C  5-8 | D.  9-10 | E.  More than 10 |
| 0% | 87.5% | 0% | 12.5% | 0% |

Q19.Following list was given at the start to the kid to remember. (To check their memory)

**List of words:**

1. Apple
2. Bat
3. Cat
4. Door
5. Potato
6. Tree
7. Purple
8. Ketchup
9. Lion
10. Table

Ask him to recall the list. Number of words recalled?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| A.  0-2 | B.  3-4 | C  5-6 | D.  7-8 | E.  More than 8 |
| 25% | 0% | 50% | 0% | 25% |

## **Usability Requirements**

1. Web or mobile based applications

**Reason:** Statistics gathered from **Q3** and **Q4** show that children use phones and laptops the most.

2. Easy to learn

**Reason:** Statistics from**Q3** and **Q12** state that patterns and puzzles should be there in app as they make learning easier for children.

3. Easy to remember

**Reason:** Summary of **Q12**and **Q19** relates with this as it is easier for children to memorize and recognize images and videos rather than plain text.

4. Easy to use

**Reason:** Statistics gathered from **Q7**, **Q8** and **Q10** depicts the significance of easiness to use apps.

5. Minimal typing

**Reason:** Summary of **Q9** reveals its importance from children’ viewpoint.

6. Visual and audio aid

**Reason:** Statistics from **Q12** serve the motive.

7. Colorful, cartoonish and vibrant UI having green and blue color themes

**Reason:** Information assembled from **Q1**, **Q2** and **Q14** discloses that children are influenced highly by cartoons; animations etc. and adore green and blue as favorite theme colors.

8. Focus on arithmetic skills

**Reason:** Summary of **Q15**, **Q16** and **Q17** as children have basic concept of addition and subtraction but are usually weak in division and multiplication.

9. Consistency in navigation

**Reason:** Summary of **Q8** i.e. children maintain biased insight regarding navigation and always navigate or browse the app in same way.

10. Reinforce creative skills

**Reason:** Summary of **Q11**, **Q13** and **Q18**

11. Fewer memory based activities

**Reason:** Not all children have good memorization abilities as clarified from **Q19** so app should not contain activities requiring a lot of memory recall.

12. Essential functionalities on one page

**Reason:** Summary of **Q7** as children loves to try multiple things on the app screen and hence, they can get confused by too many navigation options on screen. Thus, minimal interface needs to be implemented to avoid confusion and distractions.

13. Short textual instructions

**Reason:** Summary of **Q7** as children are not in the habit of reading long paragraphs.

14. Implementation of help page

**Reason:** Summary of **Q5** as children may need help to have know-how regarding how to use app.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | UR  1 | UR  2 | UR  3 | UR  4 | UR  5 | UR  6 | UR  7 | UR  8 | UR  9 | UR  10 | UR  11 | UR  12 | UR  13 | UR  14 |
| 4-7 years children | XX | XX | XX | XX | X | X | X | \_ | \_ | X | X | \_ | XX | \_ |

(Here, – implies not important, X is for important and XX is for very important.)