Appendices

Experiment 1
Stimulus Identification

SCREEN - ONE

Executable file for repeat program on desktop

SCREEN - TWO

WELCOME SCREEN

Hello ! You are welcome to a computarised simulation of an experiment on response time. This experiment is part of Ph.D. research titled "A computational approach to cognitive and affective factors of multiple task performance", being done by Mr. Rashmin Sompura. I express heartily thanks to you for your participation in the research !!!

Next
Exit

screen size	-	active desktop
screen background	-	blue color
screen font color	-	yellow color
screen font size	-	14
screen font type	-	times roman

SCREEN - THREE
INFORMATION SCREEN

Kindly give me your following details :

First Name :
Middle Name :
Surname :
Birth date :
Age :
Gender :
Class :
Date of experiment :

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

should we put data check / above data should be repeated against all the records / create a file name by first name

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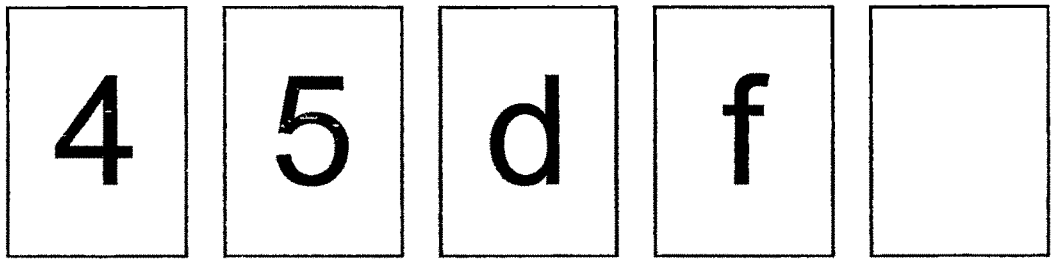
SCREEN - FOUR
INSTRUCTION SCREEN

This is a very simple experiment. Once you have understood the instruction, you shall be displayed a screen wherein you can press "START" to begin the trials. As soon as you press "START', a screen showing "GET READY" message will appear on the screen for about 5 seconds. Afterwards you shall be shown a screen with a rectangle on the screen centre. Please focus your attention on the centre of rectangle. The rectangle shall be displayed for about 2 seconds. Anytime during these 2 seconds any of the four characters i.e. '4', '5', 'd' or 'f' may be displayed withing the rectangle just for a part of a second or nothing may be displayed during these 2 seconds except the rectangle. Afterwards, you shall be asked to select the rectangle which has the character that you might have seen within the rectangle or to select the rectangle without any character in case nothing was displayed. You shall be asked to confirm whether the selected rectangel is the one that you show within the rectangle. If you click 'yes', you shall be given the next trial. Or else if you click 'no', you shall be allowed to reselect the appropriate rectangle and then you can click 'yes'. In all there shall be about two such blocks of trials. Is the instruction clear to you ?

Yes
No

screen as screen three/if yes 'go to get ready' screen / if no repeat instruction screen

SCREEN - FIVE
EXAMPLE SCREEN



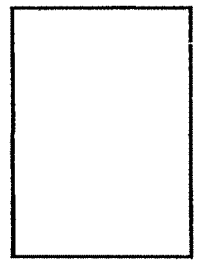
NEXT

SCREEN - SIX
GET READY SCREEN

Display 'Get Ready'

font size 25 / position - screen center / font - times roman / font size 20 / time - 5 seconds

SCREEN - SEVEN
TEST SCREEN

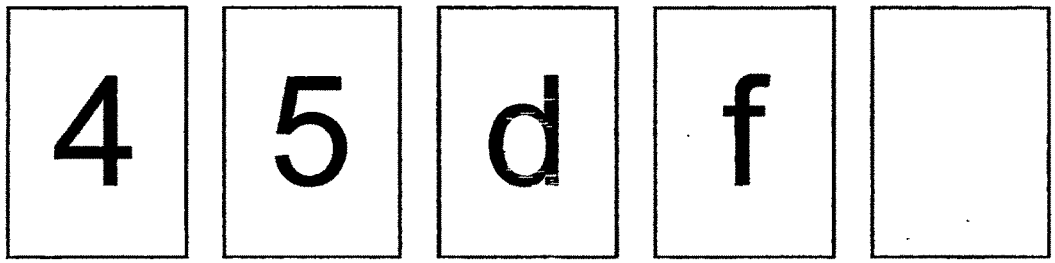


screen size - display size / font size - 100 / font type - times new roman / font color - yellow / background color - blue / rectangle line - grey / rectangle fill - transparent / rectangle size - 25 x 35 mm / characters to be displayed - '4', '5', 'd', 'f' and 'blank' / order of presentation - random / each character is to be displayed 10 times for 60 - 70 - 80 - 90 - 100 - 110 - 120 - 130 - 140 - 150 milliseconds / one such presentation is called as a block / two such blocks to be presented / store trial no. - character displayed - time of display

---

SCREEN - EIGHT
RESPONSE SCREEN

Click on the rectangle that displayed the character that you saw



select this rectangle in case you saw '4' | select this rectangle in case you saw '5' | select this rectangle in case you saw 'd' | select this rectangle in case you saw 'f' | select this rectangle in case you saw no character

Are you sure ? YES / No

if yes go to feedback screen / if no repeat the response screen / store the response character - correctness

SCREEN - NINE
FEEDBACK SCREEN

Good / Sorry
The character displayed was .....

varify the response / if correct print 'good' / if not print 'sorry' / display the actual character displayed along with rectangle

---

SCREEN - TEN
BLOCK ENDING SCREEN

Now let us have a break for a while, we shall begin whenever you are ready again for the second block

I am ready
Exit

font size 25 / position - screen center / when I am ready start a new file and repeat from get ready screen / else exit to discontinuation screen

SCREEN - ELEVEN
ENDING SCREEN

Thank you so much for your
participation and cooperation.
We shall continue the experiment some other time.

font size 25 / position - screen center /

SCREEN - TWELVE
ENDING SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center /

Experiment 2
Repetitive Response

SCREEN - ONE
Executable file for repeat program on desktop

SCREEN - TWO
WELCOME SCREEN

Hello ! You are welcome to a computarised simulation of an experiment on response time. This experiment is part of Ph.D. research titled "A computational approach to cognitive and affective factors of multiple task performance", being done by Mr. Rashmin Sompura. I express heartily thanks to you for your participation in the research !!!

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

SCREEN - THREE
INFORMATION SCREEN

Kindly give me your following details :

First Name :
Middle Name :
Surname :
Birth date :
Age :
Gender :
Class :
Date of experiment :

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

should we put data check / above data should be repeated against all the records / create a file name by first name

---

SCREEN - FOUR
INSTRUCTION SCREEN

Well, this is a very simple experiment. You just have to type a given key with a specified finger and hand as quickly as possible repetitively. For example, you might be asked to type digit 4 on numeric pad with the index finger of your right hand as quickly as possible repetitively, untill the screen displays message "STOP". In all we shall have following four combinations of key press, each to be done twice.

1. Type '4' with righthand index finger
2. Type '5' with righthand middle finger
3. Type 'f' with lefthand index finger
4. Type 'd' with lefthand middle finger

First you shall be show a screen saying "get ready for typing with your ..... finger of ..... hand. Afterwards within 1 minute you shall be given a signal to 'start'. As soon as you see 'start' immediately start typing the given letter with the specified finger and hand repetitively untill the screen shows 'stop'. Do you need any further clarification.

Yes
No

screen as screen three/if yes show next screen / if no repeat instruction screen

SCREEN - FIVE
GET READY SCREEN

get ready to type
number '4' on numeric key pad with
index finger of your right hand

font size 25 / position - screen center / display start after 5 second

---

SCREEN - SIX
START SCREEN

Display start

font size 25 / position - screen center / start displaying the letters typed by the 'P' / font size 14 / store time between 'start' signal and first key press / find the difference as the response time / let 'start' be removed with the first letter typed / store time for end of last key press and beginning of each key press / find the difference and treat it as a response time / also store all the information screen detail against each record / let the 'P' type 50 correct responses / in case of incorrect responses continue upto 50 correct responses / stop after 50th letter in the center / clear screen / display 'stop' / font size 25 / position - screen center / consider all typing beyond 50 as the extra typing until subject stops / may be displayed and saved on the screen and file respectively / find average time of all the correct response

fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / Number typed / finger and hand / trial no. / start time / end time / difference / correctness / average response time

SCREEN - SEVEN
FEEDBACK SCREEN

good ! your average response time is .....milliseconds

font size 25 / position - screen center /

SCREEN - EIGHT

Display repeat from screen 5 after 30 seconds
for 2, 3, and 4 combination and
then again 1, 2, 3, 4 combination

What is the effect of computer specifications esp.

1. cpu and control cyle
2. ram
3. bus
4. hard disk seek time
5. monitor type and refresh rate
6. keyboard and typematic rate
7. any other

SCREEN - NINE
ENDING SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center /

Experiment - 3
Simple Reaction Time

SCREEN - ONE
Menu option for Experiment Three

SCREEN - TWO
WELCOME SCREEN

Hello ! You are welcome to a computarised simulation of an experiment on response time. This experiment is part of Ph.D. research titled "A computational approach to cognitive and affective factors of multiple task performance", being done by Mr. Rashmin Sompura. I express heartily thanks to you for your participation in the research !!!

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

SCREEN - THREE
INFORMATION SCREEN

Kindly give me your following details :

First Name :
Middle Name :
Surname :
Birth date :
Age :
Gender :
Class :
Date of experiment :

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

put data check / above data should be repeated against all the records / create a file name by first name

---

SCREEN - FOUR
INSTRUCTION SCREEN

Well, this is a very simple experiment. First you may set your righthand index finger on the key '4' of numeric key pad. A screen shall be shown asking you are you ready ? Answer yes by pressing key 4 on the numeric pad. Afterwards, you shall be shown a screen saying "ready" at the top and a dot in the center of the screen. You are supposed to concentrate on that dot. After about one second either letter '4' or blank screen shall appear in place of the dot on the screen. If letter '4' appears on the screen you shall immediately press '4' on the nuneric pad. Whereas, if blank screen appears you shall not press any key.

Remember, this is a test of your speed of response, i.e. try to be as fast as possible in pressing key '4' whenever you see letter '4' displayed on the screen. I want to know how fast you can respond after seeing the letter '4'...faster the better.

Do you need any further clarification.

Yes
No

if yes show next screen / if no repeat instruction screen

SCREEN - FIVE
GET READY SCREEN

(set your righthand index finger on numeric pad key '4'

ARE YOU READY ?

press '4' if yes
exit

font size 25 / position - screen center / if yes show next screen / if exit get out of the experiment

---

SCREEN - SIX
START SCREEN

Display a dot in the center

font size 25 / position - screen center / after 1 second the stimulus is displayed / font size as per 2 experiment / stimulus display time is 500 msec / store time for display and response both / find the difference as the response time / also store all the information screen detail against each record

Here there are four possibilities

Stimulus display	*response*
4	4
blank screen	4 response
4	no response
blank screen	no response

in case of no response on part of the subject after 4 second go to the next screen

fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / stimulus displayed / display time / response time / difference of display and response / correctness

SCREEN - SEVEN
FEEDBACK SCREEN

good ! your response time is .....milliseconds
or
it was a blank screen

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - EIGHT
Repeat READY SCREEN

Get Ready !

exit

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds

SCREEN - NINE
STIMULUS SCREEN

GO BACK TO SCREEN SIX / SEVEN / EIGHT upto end of the stimulus list

---

SCREEN - TEN

REPEAT SCREENS FROM SCREEN - FOUR TO SCREEN SEVEN FOR DIGIT 5, LETTER D AND LETTER F

SCREEN - ELEVEN

ENDING SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center /

Experiment 4
Discrete Successive Choice Reaction Time - Serial

SCREEN - ONE
Menu option for Experiment Four

SCREEN - TWO
WELCOME SCREEN

This experiment is divided into three parts :
1. Discrete Successive Choice Reaction Time - Serial
2. Discrete Successive Choice Reaction Time - Reverse
3. Discrete Successive Choice Reaction Time - Alternate

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

SCREEN - THREE
INFORMATION SCREEN

Kindly give me your following details :

First Name :
Middle Name :
Surname :
Birth date :
Age :
Gender :
Class :
Date of experiment :

Next
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

put data check / above data should be repeated against all the records / create a file name by first name

---

SCREEN - FOUR
INSTRUCTION SCREEN - Serial

Well, this is a very simple experiment. First you may set your righthand index finger on the key '4' of numeric key pad and your right hand middle finger on the '5' of numeric key pad. A screen shall be shown asking you "are you ready ?" Answer 'yes' by pressing key '4' on the numeric pad. Afterwards, you shall be shown a screen saying "ready" at the top and a dot in the center of the screen. You are supposed to concentrate on that dot. After about one second either a number '4' or a number '5' shall appear in place of the dot on the screen. If letter '4' appears on the screen you shall immediately press '4' on the nuneric pad with your right hand index finger. Whereas, if '5' appears you shall press '5' on the numeric key pad with your right hand middle finger.

Remember, this is a test of your speed of response, i.e. try to be as fast as possible in pressing key '4' or '5' whenever you see number '4' or '5' displayed on the screen respectively. I want to know how fast you can respond after seeing the numbers '4' or '5'...faster the better.

Do you need any further clarification.

Yes
No

if yes show next screen / if no repeat instruction screen

SCREEN - FIVE
GET READY SCREEN

set your righthand index finger on numeric pad key '4'
and
set your righthand middle finger on numeric pad key '5'

ARE YOU READY ?

press '4' if yes
exit

font size 25 / position - screen center / if yes show next screen / if exit get out of the experiment

---

SCREEN - SIX
START SCREEN

Display a dot in the center

font size 25 / position - screen center / after 1 second the stimulus is displayed (menu driven) / font size as per 2 experiment / stimulus display time is 500 msec (to be menu driven) / store time for display and response both / find the difference as the response time / also store all the information screen detail against each record

Here there are four possibilities

Stimulus display	*response*	*correctness*
4	4	right
4	5	wrong
5	5	right
5	4	wrong
	all other responses	wrong

store right or wrong responses

fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / stimulus displayed / display time / response time / difference of display and response / correctness

SCREEN - SEVEN
FEEDBACK SCREEN

good ! your response time is .....milliseconds
and
your response was correct / wrong

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - EIGHT
Repeat READY SCREEN

Get Ready !

exit

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds

SCREEN - NINE
STIMULUS SCREEN

GO BACK TO SCREEN SIX / SEVEN / EIGHT upto end of the stimulus list

---

SCREEN - TEN
INSTRUCTION SCREEN - Serial

Now we shall make a little change here. First you may set your lefthand index finger on the key 'f' of numeric key pad and your left hand middle finger on the 'd' of numeric key pad. A screen shall be shown asking you "are you ready ?" Answer 'yes' by pressing key 'f' on the numeric pad. Afterwards, you shall be shown a screen saying "ready" at the top and a dot in the center of the screen. You are supposed to concentrate on that dot. After about one second either a letter 'f' or a letter 'd' shall appear in place of the dot on the screen. If letter 'f' appears on the screen you shall immediately press 'f' on the alphanuneric pad with your right hand index finger. Whereas, if 'd' appears you shall press 'd' on the alphanumeric key pad with your right hand middle finger.

Remember, this is a test of your speed of response, i.e. try to be as fast as possible in pressing key 'f' or 'd' whenever you see letters 'f' or 'd' displayed on the screen respectively. I want to know how fast you can respond after seeing the letters 'f' or 'd'...faster the better.

Do you need any further clarification.

Yes
No

if yes show next screen / if no repeat instruction screen

SCREEN - ELEVEN
GET READY SCREEN

set your lefthand index finger on numeric pad key 'f'
and
set your lefthand middle finger on numeric pad key 'd'

ARE YOU READY ?

press 'f' if yes
exit

font size 25 / position - screen center / if yes show next screen / if exit get out of the experiment

---

SCREEN - TWELVE
START SCREEN

Display a dot in the center

font size 25 / position - screen center / after 1 second the stimulus is displayed (menu driven) / font size as per 2 experiment / stimulus display time is 500 msec (to be menu driven) / store time for display and response both / find the difference as the response time / also store all the information screen detail against each record

Here there are four possibilities

Stimulus display	*response*	*correctness*
f	f	right
f	d	wrong
d	d	right
d	f	wrong
	all other responses	wrong

store right or wrong responses

fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / stimulus displayed / display time / response time / difference of display and response / correctness

SCREEN - THIRTEEN
FEEDBACK SCREEN

good ! your response time is .....milliseconds
and
your response was correct / wrong

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - FOURTEEN
Repeat READY SCREEN

Get Ready !

exit

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds

SCREEN - FIFTEEN
STIMULUS SCREEN

GO BACK TO SCREEN SIX / SEVEN / EIGHT upto end of the stimulus list

---

SCREEN - SIXTEEN
INSTRUCTION SCREEN - Serial

Now we have one more change. First you may set your righthand index finger on the key '4' of numeric key pad and your right hand middle finger on the '5' of numeric key pad. Set your lefthand index finger on the key 'f' of alphanumeric keypad and your lefthand middle finger on the key 'd' alphanumeric keypad. A screen shall be shown asking you "are you ready ?" Answer 'yes' by pressing key '4' on the numeric pad. Afterwards, you shall be shown a screen saying "ready" at the top and a dot in the center of the screen. You are supposed to concentrate on that dot. After about one second either a number '4' or a number '5' or letter 'f' or letter 'd' shall appear in place of the dot on the screen. If letter '4' appears on the screen you shall immediately press '4' on the nuneric pad with your right hand index finger and if '5' appears you shall press '5' on the numeric key pad with your right hand middle finger. Whereas if letter 'f' appears on the screen you shall immediately press 'f' on the alphanuneric pad with your lefthand index finger and if 'd' appears you shall press 'd' on the alphanumeric key pad with your lefthand middle finger.

Remember, this is a test of your speed of response, i.e. try to be as fast as possible in pressing key '4', '5', 'f' or 'd' whenever you see number '4', '5', 'f' or 'd' displayed on the screen respectively. I want to know how fast you can respond after seeing the numbers '4' or '5', or letters 'f' or 'd'...faster the better.

Do you need any further clarification.

Yes
No

if yes show next screen / if no repeat instruction screen

SCREEN - SEVENTEEN
GET READY SCREEN

set your righthand index finger on numeric pad key '4'
set your righthand middle finger on numeric pad key '5'
set your lefthand index finger on numeric pad key 'f'
set your lefthand middle finger on numeric pad key 'd'
ARE YOU READY ?

press '4' if yes
exit

font size 25 / position - screen center / if yes show next screen / if exit get out of the experiment

---

SCREEN - EIGHTEEN
START SCREEN

Display a dot in the cente
font size 25 / position - screen center / after 1 second the stimulus is displayed (menu driven) / font size as per 2 experiment / stimulus display time is 500 msec (to be menu driven) / store time for display and response both / find the difference as the response time / also store all the information screen detail against each record
Here there are four possibilities

Stimulus display	*response*	*correctness*
4	4	right
4	5	wrong
5	5	right
5	4	wrong
	all other responses	wrong
f	f	right
f	d	wrong
d	d	right
d	f	wrong
	all other responses	wrong

store right or wrong responses
fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / stimulus displayed / display time / response time / difference of display and response / correctness

SCREEN - NINETEEN
FEEDBACK SCREEN

good ! your response time is .....milliseconds
and
your response was correct / wrong

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - TWENTY
Repeat READY SCREEN

Get Ready !

exit

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds

SCREEN - TWENTY ONE
STIMULUS SCREEN

GO BACK TO SCREEN SIX / SEVEN / EIGHT upto end of the stimulus list

---

SCREEN - TWENTY TWO

ENDING SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center /

Experiment 6
Matching Figures Test

SCREEN - ONE
Menu option for Experiment Four

SCREEN - TWO
WELCOME SCREEN

Hello ! You are welcome to a computarised simulation of an experiment on response time. This experiment is part of Ph.D. research titled "A computational approach to cognitive and affective factors of multiple task performance", being done by Mr. Rashmin Sompura. I express heartily thanks to you for your participation in the research !!!

Next
Exit

screen size	-	active desktop
screen background	-	blue color
screen font color	-	yellow color
screen font size	-	14
screen font type	-	times roman

SCREEN - THREE
INFORMATION SCREEN

Kindly give me your following details :

First Name :
Middle Name :
Surname :
Birth date :
Age :
Gender :
Class :
Date of experiment :

Next
Skip
Exit

screen size - active desktop
screen background - blue color
screen font color - yellow color
screen font size - 14
screen font type - times roman

put data check / above data should be repeated against all the records / create a file name by first name

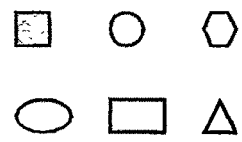
---

SCREEN - FOUR
INSTRUCTION SCREEN

Well, this is a very simple experiment. On following screens you shall be shown be shown some exercises in matching figures that are exactly the same in size and shape. You shall be shown a problem figure on the left side of screen and a set of answer figures on right side of screen as shown below. Your task shall be to find out a figure among the set of answer figures which is exactly the same as problem figure in size and shape. You shall just 'click' that figure indicating right answer according to you. First we shall do 8 sample exercises and then we shall proceed for the real test.

Problem Figure

Answer Figure



Now get ready. Adjust mouse for your convenience to respond as quickly as possible.

Next
Exit

SCREEN - FIVE
SAMPLE TEST SCREEN

1 x 8

font size 25 / position - screen center / if yes show next screen / if exit get out of the experiment

---

SCREEN - SIX
FEEDBACK SCREEN

If all correct :

Well done ! Now get ready for the real test. Remember it is important to do right as well as to be quick. So try to be as quick as possible and also correct !! Press Next to start the test.

NEXT

fields : First Name / Middle Name / Surname / Birth date / Age / Gender / Class / Date of experiment / stimulus displayed / display time / response time / difference of display and response / correctness

SCREEN - SEVEN
TEST SCREEN

15 x 4 = 60

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - EIGHT
THANKS SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds

Experiment 7
Embedded Figures Test

SCREEN - ONE
Menu option for Experiment Four

SCREEN - TWO
WELCOME SCREEN

Hello ! You are welcome to a computarised simulation of an experiment on response time. This experiment is part of Ph.D. research titled "A computational approach to cognitive and affective factors of multiple task performance", being done by Mr. Rashmin Sompura. I express heartily thanks to you for your participation in the research !!!

Next
Exit

screen size	-	active desktop
screen background	-	blue color
screen font color	-	yellow color
screen font size	-	14
screen font type	-	times roman

SCREEN - SEVEN
TEST SCREEN

64

font size 25 / position - screen center / go to next screen after 3 seconds

---

SCREEN - EIGHT
THANKS SCREEN

Thank you so much for your
participation and cooperation.
This experiment is over now.

font size 25 / position - screen center / if exit get out of the experiment / show stimulus screen after 3 seconds