

Supplementary Material: Interface Design for Autism in an Ever-Updating World

Lewis D Sawyer 

BioSensing for Health Laboratory
School of Computing, University of Kent
Canterbury, United Kingdom
L.Sawyer@kent.ac.uk

Ramaswamy Palaniappan 

BioSensing for Health Laboratory
School of Computing, University of Kent
Canterbury, United Kingdom
R.Palani@kent.ac.uk

I. TASK FOR PARTICIPANTS

Participants completed the following task in each interface before being presented with the per-interface questionnaire:
Send an appointment to 'ls752@kent.ac.uk' with:

- *Subject: "Test Subject"*
- *Location: "Library"*
- *Start: 7th June 2024 at 15:00*
- *End: 7th June 2024 at 16:00*
- *Details can be left blank.*
- *Set the meeting as high importance*
- *Send the meeting request*

The wording of this task remained consistent throughout each test.

II. INTERFACE ITERATIONS

See next page.

Create a new Appointment

Send	Cancel	B Bold	<i>I</i> Italic	<u>U</u> Underline	High Importance	Low Importance	Request Response	Allow Proposal
------	--------	------------------	--------------------	-----------------------	-----------------	----------------	------------------	----------------

Invitees:

Subject:

Location:

Start:

Finish:

Details:

Fig. S1. Initial interface

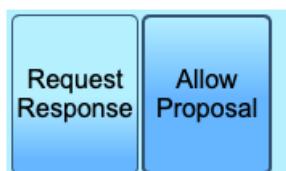


Fig. S2. Initial interface: button colour on mouse over

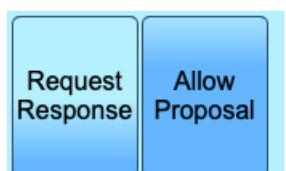


Fig. S3. Initial interface: button colour on click, selected toggle button colour

Create a new Appointment

Send	Cancel	B Bold	<i>I</i> Italic	<u>U</u> Underline	High Importance	Low Importance	Request Response	Allow Proposal
------	--------	------------------	--------------------	-----------------------	-----------------	----------------	------------------	----------------

Invitees:

Subject:

Location:

Start:

Finish:

Details:

Fig. S4. Change 1: Colour scheme

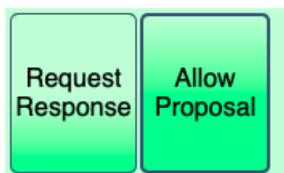


Fig. S5. Change 1: Button colour on mouse over

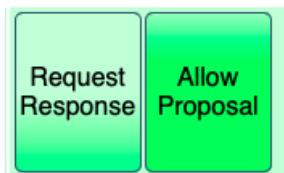


Fig. S6. Change 1: Button colour on click, selected toggle button colour

Create a new Appointment

Send	Cancel	B Bold	<i>I</i> Italic	<u>U</u> Underline	High Importance	Low Importance	Request Response	Allow Proposal
------	--------	------------------	--------------------	-----------------------	-----------------	----------------	------------------	----------------

Invitees:

Subject:

Location:

Start:

Finish:

Details:

Fig. S7. Change 2: Font face

Create a new Appointment

Submit	Clear	B Emphasise	<i>I</i> Italicise	<u>U</u> Line	Urgent	Low Priority	RSVP	Enable Proposal
--------	-------	-----------------------	-----------------------	------------------	--------	--------------	------	-----------------

To:

Title:

Venue:

Begins:

Ends:

Description:

Fig. S8. Change 3: Text wording

Create a new Appointment

Submit	Clear	B Emphasise	<i>I</i> Italicise	<u>U</u> Line	Urgent	Low Priority	RSVP	Enable Proposal
To:	<input type="text"/>							
Title:	<input type="text"/>							
Venue:	<input type="text"/>							
Begins:	<input type="text" value="18/04/2024, 12:30"/>							
Ends:	<input type="text" value="18/04/2024, 12:30"/>							
Description:	<input type="text"/>							

Fig. S9. Change 4: Button height (consistent sizing change)

Create a new Appointment

Submit	Clear	B Emphasise	<i>I</i> Italicise	<u>U</u> Line	Urgent	Low Priority	RSVP	Enable Proposal
To:	<input type="text"/>							
Title:	<input type="text"/>							
Venue:	<input type="text"/>							
Begins:	<input type="text" value="18/04/2024, 12:30"/>							
Ends:	<input type="text" value="18/04/2024, 12:30"/>							
Description:	<input type="text"/>							

Fig. S10. Change 5: Button width (inconsistent sizing change)

Create a new Appointment

Submit	Clear	<i>I</i> Italicise	B Emphasise	<u>U</u> Line	Low Priority	Urgent	Enable Proposal	RSVP
To:	<input type="text"/>							
Title:	<input type="text"/>							
Venue:	<input type="text"/>							
Begins:	<input type="text" value="18/04/2024, 12:30"/>							
Ends:	<input type="text" value="18/04/2024, 12:30"/>							
Description:	<input type="text"/>							

Fig. S11. Change 6: Button order

Create a new Appointment

To:

Title:

Venue:

Begins:

Ends:

I Italicise ****B**** Emphasise **U** Line **Low Priority** **Urgent** **Enable Proposal** **RSVP**

Description:

Submit **Clear**

Fig. S12. Change 7: Ribbon split

III. OVERALL INTERFACE COMMENT SENTIMENT SCORES PER-INTERFACE, PER-GROUP

Question ^a	Test group ^b	Control group ^b
COM0	Positive: 0 Neutral: 3 Negative: 1 <i>Resultant: -1</i>	Positive: 3 Neutral: 1 Negative: 1 <i>Resultant: 2</i>
COM1	Positive: 3 Neutral: 0 Negative: 3 <i>Resultant: 0</i>	Positive: 1 Neutral: 3 Negative: 1 <i>Resultant: 0</i>
COM2	Positive: 2 Neutral: 2 Negative: 1 <i>Resultant: 1</i>	Positive: 2 Neutral: 2 Negative: 2 <i>Resultant: 0</i>
COM3	Positive: 0 Neutral: 1 Negative: 6 <i>Resultant: -6</i>	Positive: 0 Neutral: 1 Negative: 7 <i>Resultant: -7</i>
COM4	Positive: 4 Neutral: 0 Negative: 0 <i>Resultant: 4</i>	Positive: 3 Neutral: 2 Negative: 0 <i>Resultant: 3</i>
COM5	Positive: 4 Neutral: 1 Negative: 0 <i>Resultant: 4</i>	Positive: 2 Neutral: 4 Negative: 0 <i>Resultant: 2</i>
COM6	Positive: 1 Neutral: 0 Negative: 3 <i>Resultant: -2</i>	Positive: 1 Neutral: 2 Negative: 2 <i>Resultant: -1</i>
COM7	Positive: 0 Neutral: 3 Negative: 1 <i>Resultant: -1</i>	Positive: 3 Neutral: 0 Negative: 2 <i>Resultant: 1</i>

^a 'COM x ' refers to the overall comment given for the interface tested, starting at 0 (initial interface).

^b Weightings for resultant score: positive = +1, neutral = 0, negative = -1.

IV. COMMENTS FROM AN AUTISTIC PARTICIPANT FOR CHANGE TEST 6 (BUTTON ORDER)

Question ^a	Comment
SUS6.6 - "I think there is too much inconsistency in this system" [1]	"The order changing from last time made me feel quite uncomfortable"
SUS6.7 - "I would imagine that most people would learn to use this system very quickly" [1]	"It took me a while to look and find the old button as I had gotten used to its old position"
SUS6.10 - "I would need to learn a lot of things before I could get going with this system" [1]	"I need to re-learn where the buttons are"
COM6 - "Are there any other comments you would like to share about this change, or how it made you feel?"	"I did not notice the change until focusing on finding the Urgent button, which made me feel quite confused until I had found it. It also seems like a pointless change which makes it slightly annoying"

^a 'SUS6. x ' refers to the SUS point for change test 6 (button order). COM6 refers to overall interface comment for change 6.

V. SUS-CMF CORRELATION PLOTS

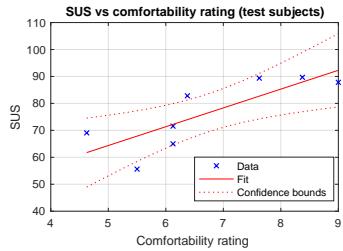


Fig. S13. Test group SUS-CMF correlation plot

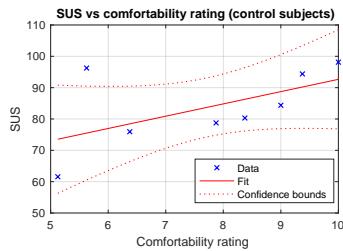


Fig. S14. Control group SUS-CMF correlation plot

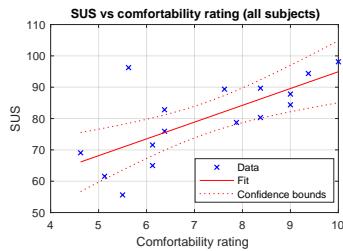


Fig. S15. Combined groups SUS-CMF correlation plot

REFERENCES

[1] J. Brooke, "SUS: A quick and dirty usability scale," *Usability Eval. Ind.*, vol. 189, 11 1995.